



## University Courses & Curricula Committee 2018-2019

April 24, 2019  
 Talley Student Union 5101  
 12:45pm-2:45pm

### Call to Order 12:45pm

- Welcome from Chair Marta Klesath
- Remarks and Updates from OUCCAS/DASA
- Approval of UCCC April 10<sup>th</sup> 2019 Minutes
- Course and Curricular Business

### Old Business

Old Business			
Presenter	Reviewers	Action	Type
Rieder	Despain, Seracino, Merrill	<a href="#">ADN 202 Art + Design Sophomore Studio I</a>	Revisions: SLOs, title, description, hours. Return from April 10, 2019 meeting
Rieder	Muse, Kuzenski, Planchart	<a href="#">ADN 204 Art + Design Sophomore Studio III</a>	Revisions: SLOs, title, description, hours. Return from April 10, 2019 meeting
Rieder	Reynolds, Griffin Hillis, Roise	<a href="#">ADN 205 Art + Design Sophomore Studio IV</a>	New Course. Return from April 10, 2019 meeting
Muse	Simpson, Merrill, Seracino	<a href="#">MEA 409 Watershed Forensics</a>	New Course. Return from February 20, 2019 meeting

### New Business

Consent Agenda			
Action	Type	Notes	
<a href="#">AFS/HI 475 History of the Republic of South Africa</a>	Minor	Revisions: Requisites	
<a href="#">AFS/HI 476 Leadership in Modern Africa</a>	Minor	Revisions: Requisites	
<a href="#">AFS/HI 479 Africa (sub-Saharan) in the 20th Century</a>	Minor	Revisions: Requisites	
<a href="#">BME 481 Quality Management Systems for Engineers</a>	Minor	Revisions: Title, description	
<a href="#">BME 484 Fundamentals of Tissue Engineering</a>	Minor	Revisions: Title, requisites	
<a href="#">ECE 456/(556) Mechatronics</a>	Minor	Revisions: Requisites	
<a href="#">MEA 461 Undergraduate Cruise Experience</a>	Drop	Course being Dropped.	
<a href="#">MIE 418 Social Entrepreneurship Practicum</a>	Minor	Revisions: Requisites	
<a href="#">ZO 333 Captive Animal Biology</a>	Minor	Revisions: Grading to Graded S/U opt	
Design Studies Minor	Drop	Discontinuing Minor	
Environmental Engineering (BS) 14ENEBS	Minor	Revisions: adding a course	
Industrial Engineering (BS) 14IEBS	Minor	Revisions: Adding PHI 214 elective list	
Philosophy plans & sub-plans, Philosophy minor, IDS AFS sub-plans & AFS minor	Minor	Revisions: Add PHI 319 to lists	
Extension Education BS Agricultural and Natural Resources 11EXTEDBS-11EXTEDAEX	Minor	Revisions: 120 Credit Hours. Reducing Free Electives	
Extension Education BS Youth Leadership Development 11EXTEDBS-11EXTEDAEX	Minor	Revisions: 120 Credit Hours. Reducing Free Electives	

#### College of Sciences

Presenter	Reviewers	Action	Type
Planchart	Roise, Hergeth, Rieder	<a href="#">MEA 415/(515) Climate Dynamics</a>	Revisions: SLOs, description

#### Poole College of Management

Presenter	Reviewers	Action	Type
Kuzenski	Orphanides, Krause, Muse	<a href="#">M 380 Doing Business Globally</a>	Revisions: SLOs, description

#### University College

Presenter	Reviewers	Action	Type
Carlson Welch	Griffin Hillis, Reynolds, Bruce	<a href="#">USC 260 Research as a Profession</a>	New Course

College of Design			
Presenter	Reviewers	Action	Type
Rieder	Roise, Krause, Planchart	Art and Design Bachelor 12ADNB	Revisions (soph studio series)

College of Education			
Presenter	Reviewers	Action	Type
Hessling	Seracino, Despain, Carlson Welch	Mathematics Education (BS) Middle Grades	Revisions
Hessling	Domingue, Planchart, Kuzenski	Mathematics Education BS & Statistics BS (Double Major)	Revisions

College of Humanities and Social Sciences			
Presenter	Reviewers	Action	Type
Driscoll	Planchart, Hergeth, Reynolds	<a href="#">COM/HSS 392 International and Crosscultural Communication</a>	Revisions: SLOs, eval methods
Driscoll	Carlson Welch, Bruce, Orphanides	<a href="#">FLS 445/(545) Spanish Environmental Cultural Studies</a>	New Course
Driscoll	Muse, Simpson, Kuzenski	<a href="#">HI/AFS 275 Introduction to History of South and East Africa</a>	Revisions: SLOs, eval methods
Driscoll	Seracino, Roise, Domingue	<a href="#">HI/AFS 276 Introduction to History of West Africa</a>	Revisions: SLOs, eval methods
Driscoll	Rieder, Krause, Orphanides	<a href="#">HI/AFS 372 African-American History Through the Civil War, 1619-1865</a>	Revisions: SLOs, reqs, abbreviated title, eval methods
Despain	Simpson, Hergeth, Reynolds	<a href="#">HI/AFS 373 African-American History Since 1865</a>	Revisions: SLOs, reqs, eval methods
Despain	Griffin Hillis, Muse, Roise	<a href="#">IS 250 Globalizing North Carolina</a>	New Course
Despain	Planchart, Rieder, Merrill	<a href="#">LPS 315 Public Leadership</a>	Revisions: SLOs,
Despain	Merrill, Hessling, Simpson	<a href="#">PS 362 American Political Thought</a>	Revisions: SLOs, abbreviated title, eval methods

College of Agriculture and Life Sciences			
Presenter	Reviewers	Action	Type
Bruce	Simpson, Seracino, Kuzenski	<a href="#">ARE 475 Food Policy</a>	New Course
Bruce	Rieder, Orphanides, Domingue	<a href="#">BCH 452 Introductory Biochemistry Laboratory</a>	Revising: Schedule, SLOs, requisites, description
Merrill	Orphanides, Rieder, Muse	<a href="#">FS 416/(516) Quality Control in Food and Bioprocessing</a>	Revising: Schedule, SLOs, requisites, description, dual level

College of Natural Resources			
Presenter	Reviewers	Action	Type
Roise	Muse, Seracino, Driscoll	<a href="#">ES 111 Applications of Environmental Sciences</a>	New Course
Roise	Domingue, Driscoll, Krause	Environmental Science BS (15ENVSCBS)	Revisions
Roise	Despain, Reynolds, Merrill	Natural Recourses BS (2 subplans) Ecosystem Assessment (15NATRECO) Policy and Administration (15NATREPOL)	Revisions
Roise	Carlson Welch, Hessling, Driscoll	Paper Science & Engineering BS (15PSEBS) and Paper Science & Engineering (BS) & Chemical Engineering (BS) (15PSEBS-15PENDEM) (Dual Degree)	Revisions

College of Engineering			
Presenter	Reviewers	Action	Type
Reynolds	Roise, Despain, Hergeth	<a href="#">ISE 135 Computer-Based Modeling for Engineers</a>	New Course
Reynolds	Planchart, Bruce, Simpson	Civil Engineering (BS) 14CEBS	Revisions
Reynolds	Muse, Krause, Hergeth	Computer Science (BS) 14CSCBS	Revisions
Seracino	Griffin Hillis, Rieder, Planchart	Construction Engineering (BS): General Construction 14CONBS-14CONGEN	Revisions
Seracino	Hessling, Kuzenski, Driscoll	Electrical Engineering (BS) (14EEBS) & Electrical Engineering (BS) Renewable Electric Energy Systems (14EEBS-14EEREN)	Revisions
Seracino	Despain, Krause, Domingue	Computer Engineering (BS) 14CPEBS	Revisions

**SLO= Student Learning Outcomes**

**Discussion:** - Bret Smith will provide some updates on curricular process improvement.

**Notes:**

- All linked course actions are viewable in CIM.
- To view actions, please click on the hyperlink. You may need to use your Unity ID to log in.
- If you experience issues logging in, please go to <https://next-catalog.ncsu.edu/courseadmin/> and type the course prefix and number into the search bar.

***SLO = Student Learning Outcomes***

**University Courses and Curricula Committee**April 10, 2019  
Talley Student Union 5101  
Call to Order: 12:45 pm

**Members Present:** Chair Marta Klesath, Kanton Reynolds, Melissa Merrill, Scott Despain, Catherine Driscoll, Kathleen Rieder, Peter Hessling, Wendy Krause, Peggy Domingue, Andreas Orphanides, Antonio Planchart, Jackie Bruce, Spencer Muse, Melissa Merrill, Coleman Simpson, Joseph Roise, Jordan McMican (Proxy ACW), Tarek Aziz (Proxy RS)

**Members Absent:** Berkley Griffin Hillis, Annie Carlson Welch, Past Chair Helmut Hergeth, Chair Elect Rudi Seracino, John Kuzenski,

**Guests:** Tom Koch, Tsailu Liu, Kathryn Stevenson, Jillian Haeseler, Jason DeRousie, Larry Silverberg, Nolan Faher, Carolina Gill, Pamela Jennings, Tim Rose, Melissa Edward Smith, Andy Hale, Werner Dorgeloh,

**Ex-Officio Members Present:** Lexi Hergeth, Li Marcus, Tim Petty, Jordan Luzader, Kyle Pysher

**WELCOME AND INTRODUCTIONS**

- **Remarks from Chair** - Welcomed the committee members and introduced the guests and proxies and explained to the committee how they can extend the meeting if need be.
- **Remarks from Undergraduate Research**- Li Marcus responded to some of the questions that have come forward. Li indicated that she is meeting with Registration and Records and Admissions to provide better, more up to date documentation regarding the plan discontinuation process. Li also explained the letter of intent and what the committee is voting on for this type of action. Li also shared that some updates such as the PRRs are in the process of being reviewed and updated.
- **Approval of the Minutes from March 27<sup>th</sup> 2019 – Approved Unanimously**
  - Discussion: Member moved Catherine Driscoll to approve.

**Old BUSINESS**

- **BAE 451 Engineering Design I -Approved Pending**  
Discussion: Member Jackie Bruce moved to approve the course previously tabled at the November 28<sup>th</sup> 2018 UCCC meeting. Member commented that the computer use policy may conflict with the DRO statement, however the chair indicated while accommodations are respected and anonymity is the aim, anonymity is not guaranteed. The Office of Assessment had some concerns about the student learning outcomes. Guest Andy Hale indicated this was a cut and paste problem, the updated student learning outcomes are the same as BAE 452 and in the syllabus for BAE 451. Motion to amend the motion to approved pending the correct copying and pasting of the student learning outcomes to match.
- **BAE 452 Engineering Design II -Approved Pending with Friendly Suggestion**  
Discussion: Member Jackie Bruce moved to approve the course previously tabled at the November 28<sup>th</sup> 2018 UCCC meeting. Member indicated the student learning outcomes in the syllabus and in CIM need to match. Member indicated the last sentence in the attendance policy could use clarification, guest explained the intent of the policy about the points missed, this clarification is part of the pending motion. Member indicated the absences policy about unexcused absence policy should be separated because the excused and unexcused absence and for exams. Friendly suggestion to correct the spelling of “instructosr” in the syllabus.  
Member motioned to amend the motion to approved pending matching the syllabus and CIM outcomes. Guest indicated the student learning outcomes are correct in the syllabus but not in CIM.
- **EC 202 Principles of Macroeconomics -Approved Pending with Friendly Suggestion**  
Discussion: Member Antinio Planchart moved to approve the course previously tabled at the March 6<sup>th</sup> 2019 UCCC meeting. Member brought attention to the attendance policy where the “...at the end of the term, For the university...”, guest Jason DeRousie responded this will be addressed. Member brought attention to inconsistencies in CIM, EC 205 is a prerequisite, but that credit will not be provided for both EC 202 & 205.  
Member asked if the fact that recitation is not mention in the syllabus but “lab” is could be confusing for the students. Guest explained that this isn’t a change and explained how EC 202 and 205 generally are not both counted for credit but in rare cases could be. Member asked about the time for the credit/contact hours. Li Marcus responded that this breakdown is a common practice in cases where there are large lecture sections and recitation is when/if they would break out into smaller groups. Guest explained that the recitation is a lab in the syllabus and that this has been the case in the past. This was incorrectly labeled originally and should be corrected. Chair asked the committee if they had concerns about it being called something different in the syllabus. Member motioned to amend the motion to approved pending the correct labeling or the recitation in the syllabus. Member asked if using an approximate grading scale is

acceptable by university policy. Chair recapped the bell curve question from previous discussion, members indicated this is more clear. Members discussed that from the student perspective there isn't a way for the student to know what their grade would be, this grading scale seems to be unclear and the curve is also unclear. Member motioned to amend to approved pending the clarification of the grading statement and a friendly suggestion to add a minimum grade for a curve. The members made a friendly suggestion to remove "approximately" from the distribution percentages. Pending : Clarifying curve and correct component type in the syllabus.

## NEW BUSINESS

- **Consent Agenda** (ACC451,ARE309...CSSC490....HI207,PRT442...SSC495,TDE230...BS Soil and Land Science Dis...16WLM) -*Approved Unanimously*  
Discussion: Member Wendy Krause moved to approve.
- **ADN 202 Art + Design Sophomore Studio I- Tabled**  
Discussion: Member Kathleen Rieder presented the course action. Member indicated the course title in CIM doesn't match in the syllabus and CIM and suggested that the student learning outcomes have issues. Member indicated the SIS code needs to be in the CIM record. Grading system seems unacceptable and indicated the excused absence restriction was too strict and not in compliance with the university policy. Member moved to approved pending these statements. Members brought attention to the outcomes not being called outcomes in the syllabus. Member asked how students will prove the 'use' of various media. Guest Pamela Jennings explained that the syllabus provides the goals of the course and the outcomes are based off these. Member moved to amend the motion to tabled to the next meeting. Members had questions about the grading methods and asked for clarification and details on how the student will earn their grade. Member indicated the policy on incomplete grades needs clarification and should match the university policy. Guest explained that projects for studio courses often build off each other and blend together. Members discussed that there are usually multiple projects and that this is how the grading should be set up, members suggested indicating (multiple) when indicating projects. Replacing the current policy in the syllabus for incomplete grades with the university policy.
- **ADN 203 Art + Design Sophomore Studio II- Approved Pending with Friendly Suggestions**  
Discussion: Member Kathleen Rieder presented the new course action. Members indicated the title doesn't match in the syllabus and CIM and SIS code matching and motioned to approve pending. Member brought attention to the lack of textbook cost, the similar language in the grading policy, and putting "participation and critiques" and "participation and attendance". Member moved to amend the motion to approved pending the book cost, grading policy, SIS code and title matching. Member explained that "successful participation" would need an explanation, guest explained that participation is being gauged in the critics and that students wouldn't have success in the projects without participation. Member suggested adding "resources reassigned" in the CIM record. Member suggested labeling the "course outcomes" in the syllabus as "Student learning outcomes" and is also missing the meeting location and time as an example on the syllabus.
- **ADN 204 Art + Design Sophomore Studio III- Tabled**  
Discussion: Member Kathleen Rieder presented the course action. Member motioned to table for the same reasons for ADN 202, vote approved.
- **ADN 205 Art + Design Sophomore Studio IV- Tabled**  
Discussion: Member Kathleen Rieder presented the new course action. Member indicated the grading policy indicated the grade would be dependent on effort and expressed concerns with how that would be labeled. Member motioned to table the motion based on needed adjustment to the student learning outcomes to make them measurable. Members also indicated the title and SIS code should match. Member indicated removing the word effort would potentially fix the grading method, guests indicated they are working closely with students learning certain skills and progress. Member indicated they have no issue using "effort" in the grading method. Members argued how measuring a student's effort is done, member indicated progression would be a measure of effort for growth and improvement. Tabled for student learning outcome measurability, title and SIS code synchronization, and clarification of grading method.
- **Industrial Design (12IDB)- Approved Unanimously**  
Discussion: Member Kathleen Rieder presented the curricular action.
- **Art and Design minor (12DNM)- Approved Unanimously**  
Discussion: Member Kathleen Rieder presented the curricular action. Member brought attention to the description indicated a B or a C or better, guest indicated the "B or better" grade requirement for courses is to raise the standards. Member asked if the courses are for only ADN majors how can students outside of the major add the minor, guest explained the courses for the minor are not restricted to AND majors only.

- **E 480 Namibia Wildlife Aerial Observatory- *Approved with Friendly Suggestion***  
Discussion: Member Kanton Reynolds presented the course action. Member indicated the credit/contact hours calculate incorrectly, guest and member discussed and they do calculate correctly for a 12-week course. Member asked about the grading component of the course and asked if there are written tests, guest explained these are the “quizzes” indicated in the syllabus and the CIM GEP record. Guest Larry Silverberg explained that he used “tests” and “quizzes” interchangeably. Member indicated the wording in CIM and the syllabus should match to avoid confusion. Member made the friendly suggestion to make the formatting uniform.
- **PRT 385 Environmental Education in Practice- *Approved Pending with Friendly Suggestion***  
Discussion: Member Gary Blank (Proxy) presented the course action. Member made the friendly suggestion to expand the abbreviated title to “envi Ed in prac”. Member moved to amend to approve pending the pre-requisite clarification of “EMS XXX”.
- Move to combine ACC 295 and MIE 295
- **ACC 295 Special Topics in Accounting - *Approved both Unanimously***
- **MIE 295 Special Topics in MIE-**  
Discussion: Member Antonio Planchart presented the new course actions. Member indicated the range of credit hours, 3 is alright to leave as it is the default most common and ranges are not possible in SIS. Member indicated the lecture enrollment component as 45 students per section and guest has confirmed this is for the semester offering as well.
- **GC 420 Visual Thinking- *Approved Pending with Friendly Suggestions***  
Discussion: Member Peter Hessling presented the course action. Member indicated the student learning outcomes are unmeasurable, guest explained the outcomes are based on instruments used which satisfied the members. XONV member suggested “develop the ability to...” and leave “Utilize several vehicles of thought” and adjust to the most measurable verbiage. Members brought attention to the meeting times indicating less than the time outlined in the syllabus. Guest Nolan Fahrer indicated the normal time for meetings. Member moved to amend the motion to approved pending the update to the contact hours, explicitly saying lecture and lab in the syllabus, and confirming the contact hours. Member brought attention to the attendance indicated the unexcused absences policy is off, guest confirmed this will be corrected. Member indicated there are no listed consequences for tardiness and made the friendly suggestion to explain this in the syllabus.
- **GC 450 Advanced Graphics Usage with CAD- *Approved Pending with Friendly Suggestions.***  
Discussion: Member Peter Hessling presented the course action pending the participation portion of the grade and clarifying how this is calculated. Member indicated striking out “participation” would be adequate. Member made the friendly suggestion to label “Catalog” description under the syllabus’s first “course description”. Member suggested capitalizing “Cad” in the abbreviated title. Member indicated the pre-requisites in the syllabus and CIM don’t match, guest indicated the pre-req for the pre-req is indicated in the syllabus and will be removed as it is causing more confusion.
- **TDE 110 Materials & Processes Technology- *Approved Pending with Friendly Suggestion***  
Discussion: Member Peter Hessling presented the course action pending the safety glasses issue, using consistency that the safety glasses are provided to students at no additional cost. Member made the friendly suggestion in the syllabus grading section suggesting removing “get out what you put in”.
- **TDE 202 Introduction to Teaching Technology Engineering and Design Education- *Approved Unanimously***  
Discussion: Member Peter Hessling presented the course action.
- **TDE 359 Electronics Technology- *Approved with Friendly Suggestions***  
Discussion: Member Peter Hessling presented the course action. Member made the friendly suggestion to edit the syllabus referencing GC 359 and formatting structure.
- **Member Scott Despain motioned to expand the meeting until 3:30PM**
- **TDE 385 Robotics Education- *Approved Unanimously***  
Discussion: Member Wendy Krause presented the course action.
- **TDE 407 Field Work in Technology Education- *Approved Pending with Friendly Suggestions***  
Discussion: Member Wendy Krause presented the course action pending the schedule and transportation statement. Member indicated the PRRs need to be added to the syllabus. Member suggested expanding the abbreviated title and suggested changing “develop” to “demonstrate” and begin the d) outcome to “synthesize a broad...”. Member indicated

the “objectives” label in the syllabus should be changed to “outcomes”. Member indicated a calendar of a general outline would be helpful to students. Member suggested adding due dates as they are mentioned and the importance stated in the description. Transportation statement is needed in the syllabus. Guest explained the Moodle Page has more detailed information for the offerings. Member indicated there is no grading policy with student evaluation methods, members found the grading methods are in paragraph form and are not needed in another format.

- **TDE 457 Student Teaching in Technology Education- *Approved Pending with Friendly Suggestions***  
Discussion: Member Peter Hessling presented the course action pending the transportation statement being added. Member brought attention to needing the “objectives” label in the syllabus be changed to “outcomes”. Members discussed the various credit/contact hours for student teaching. XONV member indicated the minimum contact hours need to be met, and are by this course. Member made the friendly suggestion to look at making the credit/contact hours more detailed.
- **B.S. in Music Engineering Technology – *Approved Unanimously***  
Discussion: Member Peggy Domingue presented the curricular action’s Letter of Intent. Member asked if there has been consultation with the other colleges, XONV member and Department Chair Dan Monek explained this has been discussed at multiple colleges and is still in discussion at others.
- **ISE 437 Data Analytics for Industrial Engineering – *Approved Unanimously***  
Discussion: Member Kanton Reynolds presented the course action.
- **JEM 420 Mechatronics Systems Modeling – *Approved Unanimously***  
Discussion: Member Kanton Reynolds presented the course action.
- **JEM 455 Robotics and Autonomous Systems – *Approved with Friendly Suggestions***  
Discussion: Member Kanton Reynolds presented the course action. Member suggested uniform formatting throughout the syllabus. Member made the friendly suggestion to confirm that the abbreviated title is correct.
- **Engineering (BS) Mechatronics (Joint NC State and UNCA) (14EGRBS-14EGRJEM) – *Approved Unanimously***  
Discussion: Member Kanton Reynolds presented the curricular action.
- **FW 405 Tropical Wildlife Ecology- *Approved Unanimously***  
Discussion: Member Gary Blank (Proxy) presented the course action. Presenter explained this is to make the course more accessible to other countries outside the original country (Nicaragua). Member complimented the syllabus and prep description.
- **PRT 350 Outdoor Recreation Management – *Approved Unanimously***  
Discussion: Member Gary Blank (Proxy) presented the course action.
- **PSE 370 Pulp and Paper Products and Markets- *Approved Pending***  
Discussion: Member Gary Blank (Proxy) presented the course action. Member brought attention to the late assignment policy and that a laptop is required for the course but the expense is not indicated to students. Member indicated the college requirement to have a laptop as a student would be implied and not necessary to repeat in the syllabus. Member moved to amend to approve pending the modification of the late assignments policy has some kind of indication outlining when late assignments would be accepted.
- **Forest Management (BS) 15FORMTBS – *Approved Unanimously***  
Discussion: Member Joseph Roise presented the curricular action for the Production concentration and Ecology concentration.
- Motion to combine the first 5 actions
- **Creative Writing Minor (16CWM)- *Approved***  
Discussion: Member Scott Despain presented the curricular action.  
**16ENGLBA Core Electives - *Approved***  
Discussion: Member Scott Despain presented the curricular action.  
**16ENGLBA-16ENGLCRW, Creative Writing – *Approve***  
Discussion: Member Scott Despain presented the curricular action.  
**16ENGLBA-16ENGLFLM, Film - *Approved***  
Discussion: Member Scott Despain presented the curricular action.  
**16ENGLBA 16ENGLLWR, Language, Writing and Rhetoric – *Approved with Suggestion***  
Discussion: Member Scott Despain presented the curricular action. Member brought attention to ADN 202 on the “Arts

and Letters” list and asked for ADN 202 to be removed as it is restricted to ADN majors only.

- **English (BA) Linguistics (16ENGLBA-16ENGLLIN)- *Approved Unanimously***  
Discussion: Member Catherine Driscoll presented the curricular action.
- **16ENGLBA 16ENGLTED. Teacher Education – *Approved Pending***  
Discussion: Member Catherine Driscoll presented the curricular action pending the format B and Format A having an extra hour in it.
- **Motion to extend the meeting to 4 PM Approved**
- **Sociology BS (16SOCBS)- *Approved with Friendly Suggestion***  
Discussion: Member Catherine Driscoll presented the curricular action. Member asked for ADN 202 to be removed from the “Arts and Letters” elective list.
- **Teaching English as a Foreign Language Minor (16TEFLM)- *Approved Unanimously***  
Discussion: Member Catherine Driscoll presented the curricular action.
- **ARE 270 Principles of Agribusiness Entrepreneurship- *Approved Unanimously***  
Discussion: Member Jackie Bruce presented the new course action. Member suggested adjusting the abbreviated title to correct the spelling of entrepreneurship.
- **ARE 370 Agribusiness New Venture Development- *Approved Unanimously***  
Discussion: Member Melissa Merrill presented the new course action.
- **ARE 470 Agribusiness Entrepreneurship Clinical Skills Development- *Approved Unanimously***  
Discussion: Member Melissa Merrill presented the new course action.

Meeting adjourned at 3:35 pm

*Respectfully submitted by Lexi Hergeth*



April 4, 2019

[Back to Top \(Agenda\)](#)

To: University Courses and Curriculum Committee  
From: Pamela L. Jennings, PhD  
Head, Department of Art + Design  
College of Design, North Carolina State University  
[pljennin@ncsu.edu](mailto:pljennin@ncsu.edu)  
Re: Removal of Design Studies Minor Degree

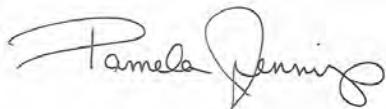
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This memo is submitted in support of removing the Department of Art + Design, Design Studies Minor Degree. The department will continue to honor the Design Studies minor degrees that are currently in progress until the students confer their Design Studies minor degree for their graduation.

The Department of Art + Design in the College of Design currently offers two minor degrees in Art + Design and Design Studies. During the Spring 2018 semester the two minor degrees were assessed as to their efficiencies in representing the department curriculum for non-majors. The conclusion was that the two degrees shared a full five courses to complete either degree and that the Department of Art + Design needed better differentiation between the two minor degrees. The College of Design Curriculum Committee recommended to drop some of those repeated courses from the Design Studies minor. But that suggestion would still leave a nine-credit hour overlap between the two degrees. As well, some of the courses offered by other programs that were once part of the Design Studies minor degree were no longer offered by those departments.

The Department of Art + Design curriculum committee voted unanimously to discontinue offering the Design Studies minor degree until we can review the degree and develop a revised list of required and elective courses for the Design Studies minor degree.

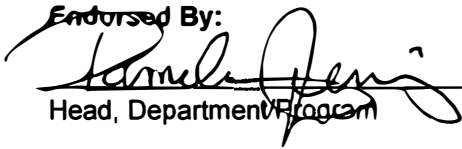
Regards,

A handwritten signature in black ink that reads "Pamela Jennings". The signature is written in a cursive style with a large, looped initial "P".

**North Carolina State University**

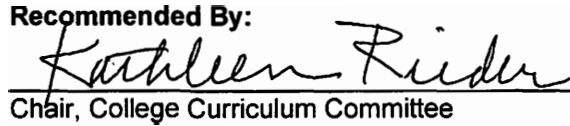
This request has been reviewed and approved by the appropriate campus committees and authorities.

**Endorsed By:**

  
Head, Department Program

4/3/19  
Date

**Recommended By:**

  
Chair, College Curriculum Committee

4/3/19  
Date

**Endorsed By:**

  
College Dean

4/3/19  
Date

**Recommended By:**

\_\_\_\_\_  
Vice Provost, DELTA (if DE degree/certificate)

\_\_\_\_\_  
Date

**Recommended By:**

\_\_\_\_\_  
Chair, University Courses & Curricula Committee

\_\_\_\_\_  
Date

**Approved By:**

\_\_\_\_\_  
Dean, (DASA or the Graduate School)

\_\_\_\_\_  
Date

**Recommended By:**

\_\_\_\_\_  
Dean's Council

\_\_\_\_\_  
Date

**Approved By:**

\_\_\_\_\_  
Executive Vice Chancellor and Provost

\_\_\_\_\_  
Date

**Approved By:**

\_\_\_\_\_  
Chancellor

\_\_\_\_\_  
Date

## MEMORANDUM

Date: March 27, 2019

To: Dr. Michael D. Mullen, Vice Chancellor and Dean for Division of Academic and Student Affairs

From: Dr. Rudolf Seracino, Associate Head, Department of Civil, Construction, and Environmental Engineering

Re: Curriculum Action for BS Environmental Engineering (**14ENEBS**)

### **Proposed Revisions and Justification:**

The primary revision to this curriculum is the addition of **PY 209 Physics for Engineers & Scientists II Lab** in the Fall Semester of Junior Year. While the Physics Department previously approved enrollment of students in the 14ENEBS curriculum in PY 208 Physics for Engineers & Scientists II without the co-requisite of the 1 credit hour laboratory (PY 209), they are no longer allowing this option. Hence, PY 209 is being added back into the 14ENEBS curriculum.

To balance credit hours, the HES XXX Phy Ed/Healthy Living Course is moved from Fall Semester of Junior Year to Spring Semester of Sophomore Year.

While submitting the above required revision, the list of approved courses in the **ENE Elective III** (Environmental General Elective) group in the Senior Year is being updated. The courses in this elective group were selected such that they add technical breadth in topics that supplement the technical environmental engineering content of the curriculum.

### **Proposed Changes in Format A eight semester display:**

See attached Format A display that highlights all of the proposed changes. Deleted or moved courses are identified by red color font with strikethrough, and revised courses are identified by red color font with underline.

### **Consultation with other Departments:**

PY 209 is being added back into the 14ENEBS curriculum at the request of the Physics Department.

All of the non-CE courses included in the **ENE Elective III** (Environmental General Elective) group were approved following consultation with the departments responsible for the course. Note that the ARC 5XX courses in the list were previously approved and no additional consultation was required.

### **Impact on Other Departments or Programs:**

Enrollment in the PY 209 lab sections will increase, but multiple sections are offered every semester and the revision is at the request of the Physics Department responsible for scheduling the lab sections.

Given the number of students on this curriculum and the number of approved elective courses in the **ENE Elective III** (Environmental General Elective) group there will be little impact on enrollment in non-CE courses.

**Proposed Effective Date for Revision:**

Immediately upon approval.

**RECOMMENDED BY:** for Rudolf Scrima 03/27/19  
Head, Department of Civil, Construction, and Environmental Engineering Date

**APPROVED BY:** [Signature] 1 Apr 19  
Chair, College Curriculum Committee Date

Jerome P. Fawelle 04/02/19  
College Dean Date

\_\_\_\_\_  
Chair, University Courses & Curricula Committee Date

\_\_\_\_\_  
Office of the Provost Date

**APPROVED EFFECTIVE DATE:** \_\_\_\_\_

FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: **X**

Proposed Effective Semester: **Fall 2018/2019**

Degree/Plan Title: **Bachelor of Science in Environmental Engineering**

Concentration/Subplan Title:

Plan SIS Code: **14ENEBS**

Subplan SIS Code:

New Degree Audit required? (Y or N) **Y**

**Critical Path Courses** - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 101 Chemistry - A Molecular Science <sup>1</sup>	3	CH 201 Chemistry – A Quantitative Science	3
CH 102 General Chemistry Laboratory <sup>1</sup>	1	EC 205 Fundamentals of Economics (GEP Req) *	3
E 101 Introduction to Engr & Prob. Solving <sup>1,2</sup>	1	MA 241 Calculus II <sup>1</sup>	4
E 115 Intro to Computing Environments <sup>1,2</sup>	1	PY 205 Physics for Engineers & Scientists I <sup>1</sup>	3
ENG 101 Academic Writing and Research <sup>1,2</sup>	4	PY 206 Physics for Engineers & Scientists I Lab <sup>1</sup>	1
MA 141 Calculus I <sup>1,2</sup>	4	E 102 Engineering in the 21 <sup>st</sup> Century (GEP Req) *	2
HESF 1XX Fitness & Wellness Course *	1		
<i>Total:</i>	15	<i>Total:</i>	16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 214 Engineering Mechanics – Statics	3 (CP)	BIO 183 Intro. Biology: Cellular and Molecular Bio.	4
CE 250 Introduction to Sustainable Infrastructure	3 (CP)	CE 373 Fundamentals of Environmental Eng	3 (CP)
CHE 205 Chemical Proc Principles	4	Earth Systems Chemistry Elective <sup>3</sup>	3
MA 242 Calculus III	4	MA 341 Applied Differential Equations I	3
CSC 111 Intro to Computing: PYTHON	3	CE 282 Hydraulics	3 (CP)
		<u>HES XXX Phys Ed/Healthy Living Course</u>	<u>1</u>
<i>Total:</i>	17	<i>Total:</i>	<del>16</del> 17
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 378 Environmental Chemistry & Microbiology	4	CE 381 Hydraulics Sys Meas Lab	1
TDE 220 Civil Engineering Graphics <b>OR</b>	3	CE 383 Hydrology & Urban Water Sys	3
GIS 280 Intro to Geographic Info Systems		CE 339 Civil Engineering Systems	3
PY 208 Physics for Engineers & Scientists II	3	MAE 201 Engr Thermodynamics I	3
<u>PY 209 Physics for Engineers &amp; Scientists II Lab</u>	<u>1</u>	PS 320 US Environ Law and Politics <b>OR</b>	3
ST 370 Probability & Statistics for Engr	3	PS 336 Global Envir Pol (GEP Req) *	
COM 110 Public Speaking (GEP Req) *	3	GEP Requirement *	3
<del>HES XXX Phys Ed/Healthy Living Course</del>	<del>1</del>		
<i>Total:</i>	17	<i>Total:</i>	16
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 488 Water Resource Engineering	3	CE 477 Solid Waste Engineering	3
CE 476 Air Pollution Control <b>OR</b>	3	CE 481 Environmental Engineering Project	3
CE 479 Air Quality		ENE Elective II <sup>4</sup>	3
ENE Elective I <sup>4</sup>	3	ENE Elective III <sup>4</sup>	3
CE 484 Water Supply & Waste Water Sys	3	GEP Requirement *	3
GEP Requirement *	3		
<i>Total:</i>	15	<i>Total:</i>	15
Minimum Credit Hours Required for Graduation *: <del>127</del> 128			

**Major/Program Footnotes:**

<sup>1</sup> Courses required for Change of Degree Audit (CODA). CH 101, 102; MA 141, 241; PY 205, 206 must be completed with C or higher.

<sup>2</sup> Minimum grade of C-, E 115 requires satisfactory completion (S).

<sup>3</sup> Select from MEA 323 or SSC 442

<sup>4</sup> ENE Elective – three electives in senior year

I. Select one: CE 435, CE 476, CE 478, CE 487, CE 479, or advised elective from CE course list.

II. Select another one course from I., or CE 499.

III. Select another one course from I., or one Environmental General Elective from [the approved list: ARC 521, ARC 522, or ARC 590](#)

\* Foreign Language Proficiency at the FL\_102 level is required for graduation.

**General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

**A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Fulfilled as part of Major requirements.*

**B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Fulfilled as part of Major requirements.*

**C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

**D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*EC205 (or EC201 or ARE201) taken as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.*

*PS320 or PS336 taken as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.*

**E. Health & Exercise Studies** (2 credit hours – at least one 100-level Fitness and Wellness Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

**F. Additional Breadth** (3 credit hours to be selected from the following checked University approved GEP course lists)

Humanities/Social Sciences/Visual and Performing Arts or  Mathematical Sciences/Natural Sciences/Engineering

*COM110 taken as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Additional Breadth - Visual and Performing Arts requirement.*

**G. Interdisciplinary Perspectives** (5 credit hours)

*E102 taken as part of the Major requirements satisfies 2 credit hours to fulfill the GEP Interdisciplinary perspectives requirement. Choose 3 credit hours from the University approved GEP Interdisciplinary perspectives course.*

**H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following Co-Requisites must be satisfied to complete the General Education Program requirements

**I. U.S. Diversity** (USD)

*Choose from the University approved GEP U.S. Diversity course list.*

**J. Global Knowledge** (GK)

*Choose from the University approved GEP Global Knowledge course list.*

**K. Foreign Language proficiency** – Proficiency at the FL\_102 level is required for graduation.

FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: **X**

Proposed Effective Semester: **Fall 2019**

Degree/Plan Title: **Bachelor of Science in Environmental Engineering**

Concentration/Subplan Title:

Plan SIS Code: **14ENEBS**

Subplan SIS Code:

New Degree Audit required? (Y or N) **Y**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 101 Chemistry - A Molecular Science <sup>1</sup>	3	CH 201 Chemistry – A Quantitative Science	3
CH 102 General Chemistry Laboratory <sup>1</sup>	1	EC 205 Fundamentals of Economics (GEP Req) <sup>*</sup>	3
E 101 Introduction to Engr & Prob. Solving <sup>1,2</sup>	1	MA 241 Calculus II <sup>1</sup>	4
E 115 Intro to Computing Environments <sup>1,2</sup>	1	PY 205 Physics for Engineers & Scientists I <sup>1</sup>	3
ENG 101 Academic Writing and Research <sup>1,2</sup>	4	PY 206 Physics for Engineers & Scientists I Lab <sup>1</sup>	1
MA 141 Calculus I <sup>1,2</sup>	4	E 102 Engineering in the 21 <sup>st</sup> Century (GEP Req) <sup>*</sup>	2
HESF 1XX Fitness & Wellness Course <sup>*</sup>	1		
<i>Total:</i>	15	<i>Total:</i>	16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 214 Engineering Mechanics – Statics	3 (CP)	BIO 183 Intro. Biology: Cellular and Molecular Bio.	4
CE 250 Introduction to Sustainable Infrastructure	3 (CP)	CE 373 Fundamentals of Environmental Eng	3 (CP)
CHE 205 Chemical Proc Principles	4	Earth Systems Chemistry Elective <sup>3</sup>	3
MA 242 Calculus III	4	MA 341 Applied Differential Equations I	3
CSC 111 Intro to Computing: PYTHON	3	CE 282 Hydraulics	3 (CP)
		HES XXX Phys Ed/Healthy Living Course	1
<i>Total:</i>	17	<i>Total:</i>	17
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 378 Environmental Chemistry & Microbiology	4	CE 381 Hydraulics Sys Meas Lab	1
TDE 220 Civil Engineering Graphics <b>OR</b>	3	CE 383 Hydrology & Urban Water Sys	3
GIS 280 Intro to Geographic Info Systems		CE 339 Civil Engineering Systems	3
PY 208 Physics for Engineers & Scientists II	3	MAE 201 Engr Thermodynamics I	3
PY 209 Physics for Engineers & Scientists II Lab	1	PS 320 US Environ Law and Politics <b>OR</b>	3
ST 370 Probability & Statistics for Engr	3	PS 336 Global Envir Pol (GEP Req) <sup>*</sup>	
COM 110 Public Speaking (GEP Req) <sup>*</sup>	3	GEP Requirement <sup>*</sup>	3
<i>Total:</i>	17	<i>Total:</i>	16
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 488 Water Resource Engineering	3	CE 477 Solid Waste Engineering	3
CE 476 Air Pollution Control <b>OR</b>	3	CE 481 Environmental Engineering Project	3
CE 479 Air Quality		ENE Elective II <sup>4</sup>	3
ENE Elective I <sup>4</sup>	3	ENE Elective III <sup>4</sup>	3
CE 484 Water Supply & Waste Water Sys	3	GEP Requirement <sup>*</sup>	3
GEP Requirement <sup>*</sup>	3		
<i>Total:</i>	15	<i>Total:</i>	15
Minimum Credit Hours Required for Graduation <sup>*</sup> : 128			

**Major/Program Footnotes:**

<sup>1</sup> Courses required for Change of Degree Audit (CODA). CH 101, 102; MA 141, 241; PY 205, 206 must be completed with C or higher.

<sup>2</sup> Minimum grade of C-, E 115 requires satisfactory completion (S).

<sup>3</sup> Select from MEA 323 or SSC 442

<sup>4</sup> ENE Elective – three electives in senior year

I. Select one: CE 435, CE 476, CE 478, CE 487, CE 479, or advised elective from CE course list.

II. Select another one course from I., or CE 499.

III. Select another one course from I., or one Environmental General Elective from the approved list

\* Foreign Language Proficiency at the FL\_102 level is required for graduation.

**General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

**A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Fulfilled as part of Major requirements.*

**B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Fulfilled as part of Major requirements.*

**C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

**D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*EC205 (or EC201 or ARE201) taken as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.*

*PS320 or PS336 taken as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.*

**E. Health & Exercise Studies** (2 credit hours – at least one 100-level Fitness and Wellness Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

**F. Additional Breadth** (3 credit hours to be selected from the following checked University approved GEP course lists)

Humanities/Social Sciences/Visual and Performing Arts or  Mathematical Sciences/Natural Sciences/Engineering

*COM110 taken as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Additional Breadth - Visual and Performing Arts requirement.*

**G. Interdisciplinary Perspectives** (5 credit hours)

*E102 taken as part of the Major requirements satisfies 2 credit hours to fulfill the GEP Interdisciplinary perspectives requirement. Choose 3 credit hours from the University approved GEP Interdisciplinary perspectives course.*

**H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following Co-Requisites must be satisfied to complete the General Education Program requirements

**I. U.S. Diversity** (USD)

*Choose from the University approved GEP U.S. Diversity course list.*

**J. Global Knowledge** (GK)

*Choose from the University approved GEP Global Knowledge course list.*

**K. Foreign Language proficiency** – Proficiency at the FL\_102 level is required for graduation.



**CURRICULUM REQUIREMENTS****Format B**

<b>Degree/Plan Title:</b> Bachelor of Science in Environmental Engineering	<b>Plan SIS Code:</b> 14ENEBS
<b>Concentration/Subplan Title:</b>	<b>Subplan SIS Code:</b>
<b>Indicate requirements status:</b> Current:                      Proposed: <b>X</b>	<b>Proposed Effective Semester:</b> <b>Fall 2019</b>
<b>New Degree Audit required?</b> (Y or N) <b>Yes</b>	
<b>Critical Path Courses</b> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b>Required Courses/Groups/ Electives:</b>	<b>Credit Hours</b>	<b>GEP category, if applicable</b>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<b>Math</b> MA 141, MA 241, MA 242, MA 341	15	Mathematics (6 hours)
<b>Sciences</b> BIO 183	4	
CH 101, CH 102, CH 201	7	Natural Sciences (4 hours)
PY 205, PY 206, PY 208, PY 209	8	Natural Sciences (3 hours)
<b>CE Major</b> CE 214 (C-wall)	3 (CP)	
CE 250 (C-wall)	3 (CP)	
CE 282 (C-wall)	3 (CP)	
CE 339	3	
CE 373 (C-wall)	3 (CP)	
CE 378	4	
CE 381	1	
CE 383	3	
CE 477	3	
CE 481	3	
CE 484	3	
CE 488	3	
GRP xxx (CE 476 or CE 479)	3	
GRP xxx ENE Electives (CE 435, CE 476, CE 478, CE479, CE 487, CE 499, advised elective from CE course list, or GRP xxx Environmental General Elective (choose up to one course from: ARC 521, ARC 522, ARC 523, ARE 336, BAE 331, BAE 376, BAE 472, BAE 473, BAE 474, (CH 220 + CE 222), ECE 331, ENG 331, ENG 333, FOR 353, GIS 510, GIS 512, GIS 521, MA 305, MA 427, MEA 411, MEA 460, MEA 485, MEA 473, ST 371, ST 372, ST 421, TOX 415 )	9	
<b>Other Major</b> CHE 205	4	
COM 110	3	Additional Breadth-Visual & Perf Arts (3 hours)
CSC 111	3	
MAE 201	3	
ST 370	3	
GRP xxx (TDE 220 or GIS 280)	3	
GRP xxx (PSE 320 or PSE 336)	3	Social Science (3 hours)
GRP xxx Earth Systems Chemistry Elective (MEA 323 or SSC 442)	3	

<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	106 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 and E 115	2	
<b>Other:</b> Economics Elective EC 205 (or EC 201 or ARE 201) E 102	3 2	Social Science (3 hours) Interdisciplinary Perspectives (2 hours)
<b>Total credit hours under College Requirements:</b>	7 hours	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		1 Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		2 Minimum requirements are satisfied by Major/College course requirements.
		3 Major/College course requirement satisfies <b>X</b> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
		4 Co-requisite is satisfied by a Major/College course requirement.
		5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
		6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) <i>(At least 1 course with MA or ST prefix)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major/College course requirements.</i>
<b>Natural Sciences</b> (7 credits) <i>(At least 1 lab course or course with a lab)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major/College course requirements.</i>
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) <i>(Courses from two different disciplines)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
<b>Social Sciences</b> (6 credits) <i>(Courses from two different disciplines)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major/College course requirements.</i>
<b>Additional Breadth</b> (3 credits) <i>(Choose approach that is different from the approach of the Major)</i> <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major/College course requirements.</i>
<b>Interdisciplinary Perspectives</b> (5 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	3	<i>Major/College course requirement satisfies 2 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Health and Exercise Studies</b> (2 credits) <i>(Including one Fitness and Wellness course)</i>	2	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	15 hours	

<b>GEP Co-Requisites:</b>			<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite</b>	(USD)	n/a	<i>(Choose statement 1 or 4)</i>
<b>Global Knowledge co-requisite</b>	(GK)	n/a	<i>(Choose statement 1 or 4)</i>
<b>Foreign Language Proficiency</b>		n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>			Place an <b>X</b> in the credit hour box to indicate below that the requirement is <b>"Satisfied by College/Program Requirements"</b>
<b>Communication in the Major (Advanced Communication)</b>		n/a	Satisfied by College/Program Requirements
<b>Technology Fluency</b>		n/a	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	128 Total hours		<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>



Campus Box 7906  
111 Lampe Drive, Daniels Hall, Room 441B  
Raleigh, NC 27695-7906  
919.515.2362

## Curriculum Action Memorandum

Adding Elective or Course Option to a Curriculum

To: University Courses and Curriculum Committee  
From: Edward P. Fitts Department of Industrial & Systems Engineering  
College of Engineering

### Affected Plans:

Industrial Engineering-BS (14IEBS)

### Revisions:

Students in Industrial Engineering have the following options to satisfy their Ethics requirement:

- IDS 201 – Environmental Ethics
- IDS 303 – Humans & the Environment
- STS 214 – Introduction to Science, Technology and Society
- STS 302 – Contemporary Science, Technology & Human Values
- STS 304 – Ethical Dimensions of Progress
- STS 322 – Technological Catastrophes
- STS 325 – Bio-Medical Ethics

We are proposing that students be permitted to take *PHI 214 – Issues in Business Ethics* in addition to the above courses.

### Justification:

Increasing numbers of Industrial Engineering students are opting for careers that are more in line with traditional business careers. Approximately 20% of our students accept positions with the job title of “business analyst”, “consultant”, “operations analyst” or “project manager”. Those job categories lend themselves to a different preparation as it relates to ethics than is currently available to our students.

### Impact to the programs:

There is no foreseeable impact to other departments. This is simply an additional option available to satisfy the requirement.

### Proposed effective date for revision:

Fall 2019 - 2198

SIGNATURE PAGE

CURRICULUM ACTION FOR 14 IEBS

RECOMMENDED By:

Julie L. Swan  
HEAD, DEPARTMENT / PROGRAM

3/27/19

DATE

ENDORSED By:

Carole Paul

1 April 19

CHAIR, COLLEGE COURSE & CURRICULA COMMITTEE

DATE

Jerome P. Favelle

04/02/19

COLLEGE DEAN

DATE

APPROVED By:

\_\_\_\_\_  
CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE

DATE

\_\_\_\_\_  
CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION

DATE

\_\_\_\_\_  
DEAN, DIVISION OF ACADEMIC AND STUDENT AFFAIRS (DASA)

DATE

APPROVED EFFECTIVE DATE \_\_\_\_\_

# Industrial Engineering (BS) (14IEBS)

## Freshman Year

Fall Semester	Credit	Spring Semester	Credit
CH 101 Chemistry, A Molecular Science <sup>1</sup>	3	EC 205 Economics (or EC 201 or ARE 201*)	3
CH 102 General Chemistry Lab <sup>1</sup>	1	MA 241 Calculus II <sup>1</sup>	4
E 101 Introduction to Engr & Prob Solv <sup>1,2</sup>	1	PY 205 Physics for Engr & Sc I <sup>1</sup>	3
E 115 Intro to Computing Environ <sup>1,2</sup>	1	PY 206 Physics for Engineers & Scientists I Lab <sup>1</sup>	1
ENG 101 Academic Writing and Research <sup>1,2</sup>	4	HES_*** Health & Exercise Studies Course	1
MA 141 Calculus I <sup>1</sup>	4	E 102 Engineering in the 21st Century (GEP-IP)	2
HES_*** Health & Exercise Studies Course*	1		
	15		14

## Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
MSE 200 Mechanical Properties of Structural Materials	3	ECE 331 Prin of Elect Engr	3
ISE 110 Comp Model for Engrs <sup>3</sup>	3	ISE 215 Product Specification	1
MA 242 Calculus III	4	ISE 216 Mfg Engr Practicum	3
PY 208 Physics for Engineers & Scientists II	3	MA 303 Linear Analysis	3
PY 209 Physics for Engineers & Scientists II Lab	1	ST 372 Intro Stat Infer & Regres	3
ST 371 Intro Prob & Dist Theory <sup>2</sup>	3	Engr Science Elect <sup>4</sup>	3
	17		16

## Junior Year

Fall Semester	Credit	Spring Semester	Credit
ENG 331 Tech Writing	3	ISE 352 Fundamentals of Human-Machine Systems Design	4
ISE 316 Mfg Engr I – Processes	3	ISE 362 Stochastic Models in IE	3
ISE 315 Product Specification II	1	ISE 443 Quality Control	3
ISE 441 Intro to Simulation	3	Technical Elective <sup>6</sup>	3
ISE 361 Deter Models in IE	3	CE 214 Engineering Mechanics – Statics	3
Ethics (GEP Req <sup>*</sup> )	3		
	16		16

## Senior Year

Fall Semester	Credit	Spring Semester	Credit
ISE 311 Engr Economic Analysis	3	ISE 498 Sr Design Proj	3
ISE 408 Cont of Prod & Ser Sys	3	Technical Elective <sup>6</sup>	3
Technical Elective <sup>6</sup>	3	GEP Requirement*	3
ISE 453 Production Systems Design	3	GEP Requirement*	3
GEP Requirement*	3	GEP Requirement*	3
	15		15

Minimum Credit Hours Required for Graduation:

124

### **Major/Program requirements and footnotes**

1 Courses required for Change of Degree Audit (CODA). CH101, 102; MA 141, 241; PY 205, 206 must be completed with a C or higher.

2 Grade of C- or better required, E 115 requires satisfactory completion (S).

3 ISE 110 must be completed with a C or higher.

4 Engineering science electives: CE 313, MAE 208, MAE 314, MAE 301 or MAE 308.

5 Ethics elective: IDS 201, IDS 303, STS 214, STS 302, STS 304, STS 322, or STS 325.

6 Technical Electives: ISE 416, ISE 417, ISE 452, ISE 462, ISE 495, MA 405, ST 4320, ST 431, MSE 465, MSE 485.

### **\*General Education Program (GEP) requirements**

\*To complete the requirements for graduation and the General Education Program, the following credit hours and co-requisites must be satisfied. University approved GEP course lists for each category can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

*Health & Exercise Studies* – 2 hours to be selected from the approved GEP Health & Exercise Studies list.

- a. One fitness and wellness course (any Health & Exercise Studies 100-level course).
- b. One additional credit hour of Health & Exercise Studies activity courses.

*Humanities* – 6 credits to be selected in two different disciplines (two different course prefixes) from the approved GEP Humanities list.

*Social Sciences* – 3 credits to be selected in a discipline other than economics from the approved GEP Social Sciences list. EC 205 taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement.

*Additional Breadth* – 3 credits to be selected from the approved GEP Humanities, Social Sciences or Visual and Performing Arts lists.

*Interdisciplinary Perspectives* – 5 credits to be selected from the approved GEP Interdisciplinary Perspectives list. Ethics course taken as part of the Major requirements satisfies 3 credit hours of the 5-6 credit hours needed to fulfill the GEP Interdisciplinary Perspectives requirement.

### **Co-requisites**

U.S. Diversity and Global Knowledge co-requisites must be satisfied to complete the General Education requirements. Choose course(s) that are identified on the approved GEP course lists as meeting the U.S. Diversity and Global Knowledge co-requisites.

Foreign Language proficiency at the FL\_102 level will be required for graduation.





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 101 Lampe Drive  
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TO: University Courses and Curricula Committee (UCCC) DATE: April 19, 2018  
 FROM: Professor Michael J. Pendlebury, Head  
 SUBJECT: Adding PHI 319 to designated curricula and as PHI 494 co-requisite

PHI 319 Africana Political Philosophy was approved on 2/21/18 by the UCCC and on 3/16/18 by CUE. In the action submitted in CIM, the course was designated, in consultation with Africana Studies, as an **elective** for the following programs:

SIS Program Code	Program Title
16PHILBA	B. A. In Philosophy
16IDSAFSC	Interdisciplinary Studies - BA Sub-Plan Africana Studies Com Stud Conc
16IDSAFS	Interdisciplinary Studies - BA Sub-Plan Africana Studies Concentration
16PHILETH	Philosophy-BA Sub-Plan Philosophy Ethics Concentration
16PHILLAW	Philosophy-BA Sub-Plan Philosophy of Law concentration
16PHILBS	Philosophy-BS
16PHILLOG	Philosophy-BS Sub-Plan Logic, Representation and Reason
16ASM	Minor in Africana Studies
16PHM	Minor in Philosophy

PHI 319 is an ethics course and should thus be among the co-requisites for PHI 494 Research and Writing in Ethics.

Please make it so. Details below and attached.

*We are very grateful to Ms. Hope Ziglar, Office of the Dean, Humanities and Social Sciences, for preparing almost all of the fifty (50) or more pages, including Format A's and Format B's, required for effecting these approved designated additions.*

SIS Program Code	Add to
16PHILBA	Value Theory
16IDSAFSC	Africa or Africa Diaspora
16IDSAFS	Africa or Africa Diaspora
16PHILETH	Ethics
16PHILLAW	<del>Value Theory</del> Junior Year PHI 309 or PHI 319
16PHILBS	Value Theory
16PHILLOG	Ethics
16ASM	Elective Courses
16PHM	3 credit hours in normative (ethics and ethics-related) philosophy

**PHI 494: Research and Writing in Ethics** Prerequisite: PHI 250 or LOG/MA 201 or LOG/MA 335 and one other [non PHI 250] PHI course. Corequisite: One of [PHI 298, 309, 310, 313, **319**, 325, 375, 376, 420, 475, or 498]

**FORMAT A**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

**Indicate display status:** Current:                      Proposed: X                      Proposed Effective Semester: **2191** (clean)

**Degree/Plan Title:** BA/Philosophy

**Concentration/Subplan Title:** No Subplan

**Plan SIS Code:** 16PHILBA

**Subplan SIS Code:** N/A

**New Degree Audit required?** (Y or N) N

**Critical Path Courses** - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Academic Writing and Research <sup>H</sup>	4	History II <sup>2</sup>	3
History I <sup>C, 1</sup>	3	Social Science <sup>D, 7</sup>	3
Social Science <sup>D, 7</sup>	3	GEP-Mathematics <sup>A</sup>	3
GEP-Mathematics <sup>A</sup>	3	GEP-Natural Science <sup>B</sup>	3
Foreign Language 201 <sup>K, 8</sup>	3	GEP-HES_*** Health & Exercise Studies Course <sup>E</sup>	1
GEP-HES_1** Fitness & Wellness Course <sup>E</sup>	1		
	<b>Total:17</b>		<b>Total:13</b>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Literature I <sup>3</sup>	3	Literature II <sup>4</sup>	3
Social Science <sup>7</sup>	3	Social Science <sup>7</sup>	3
GEP-Natural Science w/lab <sup>B</sup>	4	Logic <sup>10</sup>	3
HSS Philosophy <sup>C, 5</sup>	3	Free Elective <sup>9</sup>	3
Free Elective <sup>9</sup>	3	GEP-Additional Breadth <sup>F</sup>	3
	<b>Total:16</b>		<b>Total:15</b>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
History of Philosophy <sup>11</sup>	3	History of Philosophy <sup>11</sup>	3
Value Theory <sup>12</sup>	3	Contemporary Philosophy <sup>14</sup>	3
PHI 495 Writing in History of Philosophy <sup>13</sup>	1	PHI 496 Writing in Contemporary Philosophy <sup>13</sup>	1
Arts and Letters Elective <sup>6</sup>	3	GEP Interdisciplinary Perspectives <sup>G</sup>	2
Free Electives <sup>9</sup>	6	Free Electives <sup>9</sup>	6
	<b>Total:16</b>		<b>Total:15</b>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Philosophy Electives <sup>15</sup>	6	Philosophy Electives <sup>15</sup>	3
PHI 494 Writing in Ethics <sup>13</sup>	1	Free Electives <sup>9</sup>	9
GEP Interdisciplinary Perspectives <sup>G</sup>	3		
Free Electives <sup>9</sup>	6		
	<b>Total:16</b>		<b>Total:12</b>
<b>Minimum Credit Hours Required for Graduation <sup>*1, J, K, 16, 17, 18, 19</sup> : 120</b>			

**Major/Program Footnotes:** [https://www.acs.ncsu.edu/php/coursecat/degree\\_requirements.php](https://www.acs.ncsu.edu/php/coursecat/degree_requirements.php)

- History I** One 3-credit course required from the College-approved History I course list (a 200-level survey course covering a culture significantly different from our own, i.e., ancient or non-Western)
- History II** One 3-credit course required from the College-approved History II course list (a 200-level survey course covering our own or a similar culture, i.e., United States or other Western Culture)
- Literature I** One 3-credit hour course required from the College-approved Literature I list (a survey course covering literature outside the U.S. and prior to the 20th century)

4. **Literature II** One 3-credit hour course required from the College-approved Literature II list. (any course that meets the Literature I requirement; or a course in American or Twentieth Century Literature; or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language)
5. **HSS Philosophy** Any PHI course on the approved GEP-Humanities list will satisfy this College-level requirement.
6. **Arts and Letters** One 3-credit hour course is required from the College-approved Arts & Letters course list
7. **Social Sciences** Twelve (12) credit hours, selected from College-approved list, required from three different disciplines, six (6) must be on GEP-Social Sciences list.
8. **Foreign Language** Completion of FLx 201 or comparable proficiency as demonstrated by examination
9. **Free Electives** Maximum 12 credit hours of free electives may be taken for credit only (S/U)
10. **Logic**. Three hours. One course selected from department approved course list.
11. **History of Philosophy**: Six hours. Two courses selected from department approved list.
12. **Value Theory**: Three hours. One course selected from department approved course list
13. **Writing in Philosophy**: Three hours. All of PHI 494, PHI 495, and PHI 496. Students are strongly encouraged to take no more than one of these courses during any one term, and to use at least one 3 credit hour 400-level course as a co-requisite.
14. **Contemporary Philosophy**: Three hours. One course selected from department approved course list.
15. **Philosophy Elective**: Nine hours. Any PHI or LOG course or equivalent not already taken to satisfy another major requirement. At least one of the courses taken to satisfy this or other major requirements must be a 3 credit hour 400-level PHI or LOG course (other than PHI 498 and LOG 498).
16. Credit in the major will be given for PHI 205 only if it is the student's first PHI course.
17. The Department of Philosophy and Religion does not accept D grades (D-, D, D+) in courses taken to satisfy any major requirements or in ENG 101 taken to satisfy the Introduction to Writing GEP requirement.
18. A major GPA of at least 2.0 is required for graduation.
19. If a student takes a course that double counts in fulfilling more than one requirement, the student will need to take a free elective course(s) to meet the total of 120 credit hours for graduation.

#### **General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College's History I and Philosophy requirements.*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College's Social Sciences requirement*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
\_\_\_\_ Humanities/Social Sciences/Visual and Performing Arts or X Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

#### **The following Co-Requisites must be satisfied to complete the General Education Program requirements:**

- I. **U.S. Diversity (USD)**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- J. **Global Knowledge (GK)**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- K. **Foreign Language proficiency**- Proficiency at the FL\_102 level is required for graduation.

## CURRICULUM REQUIREMENTS

### Format B

<u>Degree/Plan Title:</u> BA/Philosophy	<u>Plan SIS Code:</u> 16PHILBA
<u>Concentration/Subplan Title:</u> No Subplan	<u>Subplan SIS Code:</u>
<u>Indicate requirements status:</u> Current:                      Proposed: X	<u>Proposed Effective Semester:</u> 2191
<u>New Degree Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
C- or better required		
Logic (Requirement 000020956) – LOG 201, 335, 435, MA 335	3	
Value Theory - (Requirement 000020957) – PHI 309, 313, [add PHI 319], 325, 375, 376, 420, 475, STS 325	3	
History of Philosophy (Requirement: 000020958) PHI 300, 301, 302, 303, 401	6	
Contemporary Philosophy - (Requirement 000020959) – PHI 320, 330, 331, 332, 333, 347, 425, 440, 447, PSY 425	3	
PHI 494	1	
PHI 495	1	
PHI 496	1	
PHI or LOG Electives - (Requirement 000020918) – LOG 201, 335, 430, 435, 498, MA 335, PHI 205, 210, 214, 221, 250, 298, 300, 301, 302, 303, 305, 309, 310, 312, 313, 319, 320, 325, 330, 331, 332, 333, 340, 347, 375, 376, 401, 420, 425, 440, 447, 475, 494, 495, 496, 497, 498, PSY 425, STS 325	9	
400-Level PHI/LOG Course - (Requirement 000032656) <i>This is a verify requirement and does not require additional hours. Courses that meet this requirement can also satisfy other academic requirements.</i> LOG 435, PHI 401, 420, 425, 440, 447, 475, PSY 425	Verify Req	
<u>Concentration Courses/Groups/Electives:</u>		
<u>Free Electives:</u> (12 Hr S/U Limit) Select any courses except the following: FLA 101, FLC 101, FLF 101, FLG 101, FLI 101, FLJ 101, FLN 101, FLP 101, FLR 101, FLS 101, FLS 105, GRK 101, LAT 101, MA 101, PER 101	33	
<b>Total credit hours under Major Field of Study:</b> <b>Minimum 27 hours required in program area.</b>	60	

COLLEGE REQUIREMENTS:		
<b><u>Orientation Course(s):</u></b>		
<b><u>Other:</u></b> <b>History I</b> (Requirement: 000019312) - A 200-level survey course covering a culture significantly different from our own, i.e., pre-industrial or non-Western required. Choose one 3-credit hour course from the College-approved History 1 list. <b>AFS 275, 276, HI 207, 214, 215, 216, 217, 232, 233, 263, 264, 270, 275, 276</b>	3	Humanities (3)
<b>History II</b> (Requirement: 000019313) - A 200-level survey course covering our own or a similar culture required. Choose one 3-credit hour course from the College-approved History 2 list <b>HI 205, 208, 209, 210, 221, 222, 251, 252, 253, 254</b>	3	
<b>Literature I</b> (Requirement: 000019314) - A survey course covering literature outside the U.S. and prior to the 20th century required. Choose one 3-credit hour course from the College-approved Literature 1 list. <b>CLA 210, 320, ENG 219, 220, 221, 222, 251, 255, 261 or 262 (but not both), 361, FL 219, 220, 221, 222, FLF 301, FLG 320, 325, FLJ 342, 344, FLR 303, FLS 340, 341, 342, 351, HON 202 HON 293 Honors Special Topics-Literature</b>	3	
<b>Literature II</b> (Requirement: 000019315)- Any course that meets the Literature I requirement, or a course in American or Twentieth Century Literature, or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language required. Choose one 3-credit hour course from the College-approved Literature list. <b>List A - AFS 248, 349, 448, CLA 210, 320, ENG 207, 208, 209, 219, 220, 221, 222, 223, 224, 232, 246, 248, 249, 251, 252, 261, 262, 265, 266, 267, 275, 305, 339, 340, 341, 342, 349, 361, 362, 369, 370, 372, 376, 377, 380, 382, 385, 390, 392, 393, 394, 398, 399, 406, 407, 410, 420, 439, 448, 449, 451, 452, 452, 460, 462, 463, 464, 465, 466, 468, 469, 470, 476, 486, 487, FL 219, 220, 221, 223, 224, 246, 392, 393, 394, 406, 407, FLN 301, 302, 401, WGS 305</b> <b>List B - ENG 219, 220, 221, 223, 224, 246, 255, 392, 393, 394, 406, FL 219, 220, 221, 222, 223, 224, 246, 392, 393, 394, 406, 407, FLF 302, 492, FLG 320, 323, 325, FLJ 342, 344, 345, FLN 301, 302, 401, FLR 303, 304, FLS 340, 341, 342, 343, 351, 352, 353, 492, HON 202, HON 293 Honors Special Topics-Literature</b>	3	
<b>Foreign Language 201</b> (Requirement: 000019319) <b>FLA 201, FLC 201, FLF 201, FLG 201, FLI 201, FLJ 201, FLN 201, FLP 201, FLR 201, FLS 201, 212, GRK 201, LAT 201, or PER 201</b>	3	
<b>Philosophy</b> (Requirement: 00019316) - Any PHI course on the approved GEP-Humanities list	3	Humanities (3)
<b>Arts and Letters</b> (Requirement: 000019317) – Choose one three credit hour course from the College approved Arts and Letters list.	3	

<p>ADN 111, 112, 202, 212, 219, 272, 273, 281, 311, 384, 386, 414, AFS 230, 260, 375, ARC 140, 141, ARS 251, 252, 259, 306, 351, 353, 354, CLA 210, COM 321, 364, 374, 411, D 231, DAN 272, 295, ENG 282, 321, 364, 374, 375, 411, 492, FL 216, FLF 318, FLG 318, FLS 360, GD 203, 303, HA 201, 202, 203, 240, 298, 395, 401, 404, 410, 498, HI 240, 320, 402, 407, 408, IDS 496, LAR 444, MUS 180, 181, 200, 201, 202, 205, 206, 230, 260, 306, 310, 315, 320, 330, 350, 360, REL 200, 210, 230, 298, 309, 311, 312, 314, 317, 320, 323, 327, 331, 332, 333, 334, 340, 350, 383, 402, 408, 412, 413, 423, 471, 472, 473, 482, 489, 491, 496, 498, SOC 309, STS 471, THE 103, 203, 233, 303, 323, 334, 340, WGS 360, 472, 473</p> <p><b>Social Science</b> (Requirements: 000020953)  <b>Additional Social Science</b> (Requirement: 000019365)  <i>(Choose three different disciplines)</i>  <b>Anthropology:</b> ANT 251, 252, 253, 254, 261, 295, 310, 315, 325, 330, 345, 346, 351, 354, 370, 371, 374, 389, 395, 411, 412, 416, 419, 421, 422, 424, 427, 428, 431, 433, 444, 450, 460, 464, 475, 483, 495, 496, 498, 501, 529, 585, 587, HI 587, SOC 261, WGS 444  <b>Agricultural Economics:</b> ARE 201, 201A, 215, 260, 301, 303, 304, 306, 309, 311, 312, 321, 323, 332, 336, 345, 404, 412, 413, 420, 425, 433, 444, 490, 492, 493, 494, 495, EC 301, 336, 436  <b>Economics:</b> ARE 301, 336, EC 201, 202, 205, 301, 302, 305, 336, 348, 351, 377, 404, 410, 413, 431, 436, 437, 449, 451, 474, 480, 490, 491, 495, 498  <b>Political Science:</b> AFS 409, LPS 315, PS 101, 102, 103, 201, 202, 203, 204, 231, 236, 241, 298, 301, 302, 303, 305, 306, 307, 308, 309, 310, 312, 313, 314, 320, 331, 335, 336, 339, 341, 342, 343, 345, 361, 362, 371, 391, 398, 401, 409, 411, 415, 418, 431, 432, 433, 437, 443, 445, 462, 463, 471, 490, 492, 498, 502, 506, 507, 530, 531, 532, 534, 536, 539, 540, 541, 542, 571, 585, SOC 413, 432, WGS 306, 418  <b>Psychology:</b> AFS 345, EDP 304, 476, 582, PSY 200, 230, 240, 241, 242, 243, 307, 311, 312, 313, 340, 345, 360, 370, 376, 400, 406, 410, 411, 416, 420, 425, 430, 431, 436, 470, 475, 491, 495, 498, 499, 502, 504, 508, 510, 511, 541, 553, 558, 758, WGS 406  <b>Sociology:</b> AFS 305, ANT 261, 428, GEO 220, PS 432, REL 309, SOC 202, 203, 203A, 204, 205, 206, 207, 220, 241, 241A, 261, 295, 300, 301, 304, 305, 306, 309, 311, 342, 350, 351, 381, 395, 400, 401, 402, 404, 405, 407, 410, 413, 414, 418, 425, 427, 428, 429, 430, 432, 440, 445, 450, 457, 465, 492, 493, 495, 498, 508, 509, 514, 533, 591, WGS 204, 304, 407  <b>Multidisciplinary:</b> ENG 210, GEO 220, SOC 220, STS 402</p>	<p>9 3</p>	<p>Social Science (6)</p>
<p><b>Total credit hours under College Requirements:</b></p>	<p>33</p>	

<p><b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b></p> <p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></b></p>		<p><b>At least one of the following must be listed:</b></p> <ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<p><b>General Education Program Requirements:</b>  <i>Minimum 39-40 hrs</i></p>	<p><i>Credit hours</i></p>	<p><i>How will the GEP requirement be met?</i>  <b><i>(Choose applicable statement from 1-6 listed above)</i></b></p>
<p><b>Mathematical Sciences</b> <span style="float: right;"><i>(6 credits)</i></span>  <b><i>(At least 1 course with MA or ST prefix)</i></b>  <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i></p>	<p>6</p>	<p><i>(Choose statement 1, 2 or 3)</i>          Choose course(s) from the University Approved GEP</p>

		course list for this category.
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	7	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>Interdisciplinary Perspectives</b> (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	5	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>Health and Exercise Studies</b> (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	27	
<b>GEP Co-Requisites:</b>		<b>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</b>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	(Choose statement 1 or 4)
<b>Global Knowledge co-requisite</b> (GK)	n/a	(Choose statement 1 or 4)
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>	X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	<b>120</b>	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>

FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current:                      Proposed: X                      Proposed Effective Semester: 2191 (clean)

Degree/Plan Title: BA/Philosophy

Concentration/Subplan Title: Philosophy Ethics Concentration

Plan SIS Code: 16PHILBA

Subplan SIS Code: 16PHILETH

New Degree Audit required? (Y or N) N

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Academic Writing and Research <sup>H</sup>	4	History II <sup>2</sup>	3
History I <sup>C, 1</sup>	3	Social Science <sup>D, 7</sup>	3
Social Science <sup>D, 7</sup>	3	Mathematics <sup>A</sup>	3
Mathematics <sup>A</sup>	3	Natural Science <sup>B</sup>	3
Foreign Language 201 <sup>K, 8</sup>	3	HES_*** Health & Exercise Studies Course <sup>E</sup>	1
HES_1** Fitness & Wellness Course <sup>E</sup>	1		
	<b>Total:17</b>		<b>Total:13</b>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Literature I <sup>3</sup>	3	Literature II <sup>4</sup>	3
Social Science <sup>2</sup>	3	Social Science <sup>7</sup>	3
Natural Science <sup>B</sup>	4	Logic <sup>10</sup>	3
HSS Philosophy <sup>C, 5</sup>	3	Intro Ethics <sup>10</sup>	3
Free Elective <sup>9</sup>	3	Free Elective <sup>9</sup>	3
	<b>Total:16</b>		<b>Total: 15</b>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
History of Philosophy <sup>12</sup>	3	History of Philosophy <sup>12</sup>	3
Intro Ethics <sup>11</sup>	3	Contemporary Philosophy <sup>14</sup>	3
PHI 495 Writing in History of Philosophy <sup>13</sup>	1	PHI 496 Writing in Contemporary Philosophy <sup>13</sup>	1
Arts and Letters Elective <sup>6</sup>	3	GEP Interdisciplinary Perspectives <sup>G</sup>	2
Free Electives <sup>9</sup>	3	Free Electives <sup>9</sup>	6
	<b>Total:13</b>		<b>Total:15</b>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Ethics Electives <sup>11</sup>	3	Ethics Elective <sup>11</sup>	3
PHI 494 Writing in Ethics <sup>13</sup>	1	GEP Additional Breadth <sup>F</sup>	3
GEP Interdisciplinary Perspectives <sup>G</sup>	3	Free Electives <sup>9</sup>	9
Free Electives <sup>9</sup>	9		
	<b>Total:16</b>		<b>Total:15</b>
<b>Minimum Credit Hours Required for Graduation <sup>*I, JK, L, 15, 16, 17, 120</sup></b>			

Major/Program Footnotes: [https://www.acs.ncsu.edu/php/coursecat/degree\\_requirements.php](https://www.acs.ncsu.edu/php/coursecat/degree_requirements.php)

- History I** One 3-credit course required from the College-approved History I course list (a 200-level survey course covering a culture significantly different from our own, i.e., ancient or non-Western)
- History II** One 3-credit course required from the College-approved History II course list (a 200-level survey course covering our own or a similar culture, i.e., United States or other Western Culture)
- Literature I** One 3-credit hour course required from the College-approved Literature I list (a survey course covering literature outside the U.S. and prior to the 20th century)



4. **Literature II** One 3-credit hour course required from the College-approved Literature II list. (any course that meets the Literature I requirement; or a course in American or Twentieth Century Literature; or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language)
5. **HSS Philosophy** Any PHI course on the approved GEP-Humanities list will satisfy this College-level requirement.
6. **Arts and Letters** One 3-credit hour course is required from the College-approved Arts & Letters course list
7. **Social Sciences** Twelve (12) credit hours, selected from College-approved list, required from three different disciplines, six (6) must be on GEP-Social Sciences list.
8. **Foreign Language** Completion of FLx 201 or comparable proficiency as demonstrated by examination
9. **Free Electives** Maximum 12 credit hours of free electives may be taken for credit only (S/U)
10. **Logic.** Three hours. One course selected from department approved course list.
11. **Ethics Electives:** Twelve hours. Select from department approved list, two courses from Intro. Ethics Group, and two courses from Ethics Electives Group. At least one of the courses taken to satisfy this or other major requirements must be a 3 credit hour 400-level PHI or LOG course (other than PHI 498 or LOG 498).
12. **History of Philosophy:** Six hours. Two courses selected from department approved list.
13. **Writing in Philosophy:** Three hours. All of PHI 494, PHI 495, and PHI 496. Students are strongly encouraged to take no more than one of these courses during any one term, and to use at least one 3 credit hour 400-level course as a co-requisite.
14. **Contemporary Philosophy:** Three hours One course selected from department approved course list.
15. The Department of Philosophy and Religion does not accept D grades (D-, D, D+) in courses taken to satisfy any major requirements or in ENG 101 taken to satisfy the Introduction to Writing GEP requirement.
16. A major GPA of at least 2.0 is required for graduation.
17. If a student takes a course that double counts in fulfilling more than one requirement, the student will need to take a free elective course(s) to meet the total of 120 credit hours for graduation.

**\*General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College's History I and Philosophy requirements.*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College's Social Sciences requirement*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
\_\_\_\_\_ Humanities/Social Sciences/Visual and Performing Arts or X Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

**The following Co-Requisites must be satisfied to complete the General Education Program requirements:**

- I. **U.S. Diversity (USD)**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- J. **Global Knowledge (GK)**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

# CURRICULUM REQUIREMENTS

## Format B

<u>Degree/Plan Title:</u> BA/Philosophy	<u>Plan SIS Code:</u> 16PHILBA
<u>Concentration/Subplan Title:</u> Philosophy Ethics Concentration	<u>Subplan SIS Code:</u> 16PHILETH
<u>Indicate requirements status:</u> Current:                      Proposed: X	<u>Proposed Effective Semester:</u> 2191
<u>New Degree Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
C- or better required		
<b>Logic</b> (Requirement 000020956) LOG 201, 335, 435, MA 335	3	
<b>History of Philosophy</b> - (Requirement 000020958) PHI 300, 301, 302, 401	6	
<b>Contemporary Philosophy</b> - (Requirement 000020959) PHI 330, 331, 332, 333, 347, 425, 440, 447, PSY 425	3	
<b>Intro Ethics</b> (Requirement 000022644) PHI 375, 376, 475	6	
<b>Ethics Electives</b> (Requirement 000022645) PHI 221, 309, 313, [add PHI 319], 325, 375, 376, 420, 475, STS 325	6	
<b>PHI 494</b>	1	
<b>PHI 495</b>	1	
<b>PHI 496</b>	1	
400-Level PHI/LOG Course - (Requirement 000032656) <i>This is a verify requirement and does not require additional hours. Courses that meet this requirement can also satisfy other academic requirements.</i> LOG 435, PHI 401, 420, 425, 440, 447, 475, PSY 425	Verify Req	
<b><u>Concentration Courses/Groups/Electives:</u></b>		
<b><u>Free Electives:</u></b> (12 Hr S/U Limit) Select any courses except the following: FLA 101, FLC 101, FLF 101, FLG 101, FLI 101, FLJ 101, FLN 101, FLP 101, FLR 101, FLS 101, FLS 105, GRK 101, LAT 101, MA 101, PER 101	33	
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	60	

<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b>		
<p><b>Other:</b></p> <p><b>History I</b> (Requirement: 000019312) - A 200-level survey course covering a culture significantly different from our own, i.e., pre-industrial or non-Western required. Choose one 3-credit hour course from the College-approved History 1 list.  <b>AFS 275, 276, HI 207, 214, 215, 216, 217, 232, 233, 263, 264, 270, 275, 276</b></p> <p><b>History II</b> (Requirement: 000019313) - A 200-level survey course covering our own or a similar culture required. Choose one 3-credit hour course from the College-approved History 2 list  <b>HI 205, 208, 209, 210, 221, 222, 251, 252, 253, 254</b></p> <p><b>Literature I</b> (Requirement: 000019314) - A survey course covering literature outside the U.S. and prior to the 20th century required. Choose one 3-credit hour course from the College-approved Literature 1 list.  <b>CLA 210, 320, ENG 219, 220, 221, 222, 251, 255, 261 or 262 (but not both), 361, FL 219, 220, 221, 222, FLF 301, FLG 320, 325, FLJ 342, 344, FLR 303, FLS 340, 341, 342, 351, HON 202 HON 293 Honors Special Topics-Literature</b></p> <p><b>Literature II</b> (Requirement: 000019315)- Any course that meets the Literature I requirement, or a course in American or Twentieth Century Literature, or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language required. Choose one 3-credit hour course from the College-approved Literature list.  <b>List A - AFS 248, 349, 448, CLA 210, 320, ENG 207, 208, 209, 219, 220, 221, 222, 223, 224, 232, 246, 248, 249, 251, 252, 261, 262, 265, 266, 267, 275, 305, 339, 340, 341, 342, 349, 361, 362, 369, 370, 372, 376, 377, 380, 382, 385, 390, 392, 393, 394, 398, 399, 406, 407, 410, 420, 439, 448, 449, 451, 452, 452, 460, 462, 463, 464, 465, 466, 468, 469, 470, 476, 486, 487, FL 219, 220, 221, 223, 224, 246, 392, 393, 394, 406, 407, FLN 301, 302, 401, WGS 305</b>  <b>List B - ENG 219, 220, 221, 223, 224, 246, 255, 392, 393, 394, 406, FL 219, 220, 221, 222, 223, 224, 246, 392, 393, 394, 406, 407, FLF 302, 492, FLG 320, 323, 325, FLJ 342, 344, 345, FLN 301, 302, 401, FLR 303, 304, FLS 340, 341, 342, 343, 351, 352, 353, 492, HON 202, HON 293 Honors Special Topics-Literature</b></p> <p><b>Foreign Language 201</b> (Requirement: 000019319)  <b>FLA 201, FLC 201, FLF 201, FLG 201, FLI 201, FLJ 201, FLN 201, FLP 201, FLR 201, FLS 201, 212, GRK 201, LAT 201, or PER 201</b></p> <p><b>Philosophy</b> (Requirement: 00019316) - Any PHI course on the approved GEP-Humanities list</p>	<p>3</p> <p>3</p> <p>3</p> <p>3</p> <p>3</p> <p>3</p>	<p>Humanities (3)</p> <p>Humanities (3)</p>

<p><b>Arts and Letters</b> (Requirement: 000019317) – Choose one three credit hour course from the College approved Arts and Letters list.</p> <p><b>ADN</b> 111, 112, 202, 212, 219, 272, 273, 281, 311, 384, 386, 414, <b>AFS</b> 230, 260, 375, <b>ARC</b> 140, 141, <b>ARS</b> 251, 252, 259, 306, 351, 353, 354, <b>CLA</b> 210, <b>COM</b> 321, 364, 374, 411, <b>D</b> 231, <b>DAN</b> 272, 295, <b>ENG</b> 282, 321, 364, 374, 375, 411, 492, <b>FL</b> 216, <b>FLF</b> 318, <b>FLG</b> 318, <b>FLS</b> 360, <b>GD</b> 203, 303, <b>HA</b> 201, 202, 203, 240, 298, 395, 401, 404, 410, 498, <b>HI</b> 240, 320, 402, 407, 408, <b>IDS</b> 496, <b>LAR</b> 444, <b>MUS</b> 180, 181, 200, 201, 202, 205, 206, 230, 260, 306, 310, 315, 320, 330, 350, 360, <b>REL</b> 200, 210, 230, 298, 309, 311, 312, 314, 317, 320, 323, 327, 331, 332, 333, 334, 340, 350, 383, 402, 408, 412, 413, 423, 471, 472, 473, 482, 489, 491, 496, 498, <b>SOC</b> 309, <b>STS</b> 471, <b>THE</b> 103, 203, 233, 303, 323, 334, 340, <b>WGS</b> 360, 472, 473</p> <p><b>Social Science</b> (Requirements: 000022638)  <b>Additional Social Science</b> (Requirement: 000019365)  <i>(Choose three different disciplines)</i></p> <p><b>Anthropology:</b> <b>ANT</b> 251, 252, 253, 254, 261, 295, 310, 315, 325, 330, 345, 346, 351, 354, 370, 371, 374, 389, 395, 411, 412, 416, 419, 421, 422, 424, 427, 428, 431, 433, 444, 450, 460, 464, 475, 483, 495, 496, 498, 501, 529, 585, 587, <b>HI</b> 587, <b>SOC</b> 261, <b>WGS</b> 444</p> <p><b>Agricultural Economics:</b> <b>ARE</b> 201, 201A, 215, 260, 301, 303, 304, 306, 309, 311, 312, 321, 323, 332, 336, 345, 404, 412, 413, 420, 425, 433, 444, 490, 492, 493, 494, 495, <b>EC</b> 301, 336, 436</p> <p><b>Economics:</b> <b>ARE</b> 301, 336, <b>EC</b> 201, 202, 205, 301, 302, 305, 336, 348, 351, 377, 404, 410, 413, 431, 436, 437, 449, 451, 474, 480, 490, 491, 495, 498</p> <p><b>Political Science:</b> <b>AFS</b> 409, <b>LPS</b> 315, <b>PS</b> 101, 102, 103, 201, 202, 203, 204, 231, 236, 241, 298, 301, 302, 303, 305, 306, 307, 308, 309, 310, 312, 313, 314, 320, 331, 335, 336, 339, 341, 342, 343, 345, 361, 362, 371, 391, 398, 401, 409, 411, 415, 418, 431, 432, 433, 437, 443, 445, 462, 463, 471, 490, 492, 498, 502, 506, 507, 530, 531, 532, 534, 536, 539, 540, 541, 542, 571, 585, <b>SOC</b> 413, 432, <b>WGS</b> 306, 418</p> <p><b>Psychology:</b> <b>AFS</b> 345, <b>EDP</b> 304, 476, 582, <b>PSY</b> 200, 230, 240, 241, 242, 243, 307, 311, 312, 313, 340, 345, 360, 370, 376, 400, 406, 410, 411, 416, 420, 425, 430, 431, 436, 470, 475, 491, 495, 498, 499, 502, 504, 508, 510, 511, 541, 553, 558, 758, <b>WGS</b> 406</p> <p><b>Sociology:</b> <b>AFS</b> 305, <b>ANT</b> 261, 428, <b>GEO</b> 220, <b>PS</b> 432, <b>REL</b> 309, <b>SOC</b> 202, 203, 203A, 204, 205, 206, 207, 220, 241, 241A, 261, 295, 300, 301, 304, 305, 306, 309, 311, 342, 350, 351, 381, 395, 400, 401, 402, 404, 405, 407, 410, 413, 414, 418, 425, 427, 428, 429, 430, 432, 440, 445, 450, 457, 465, 492, 493, 495, 498, 508, 509, 514, 533, 591, <b>WGS</b> 204, 304, 407</p> <p><b>Multidisciplinary:</b> <b>ENG</b> 210, <b>GEO</b> 220, <b>SOC</b> 220, <b>STS</b> 402</p>	<p>3</p> <p>9</p> <p>3</p>	<p>Social Science (6)</p>
<p><b>Total credit hours under College Requirements:</b></p>	<p><b>33</b></p>	

<p><b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b></p> <p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than <b>ENG 101</b>.</i></p>	<p><b>At least one of the following must be listed:</b></p> <ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<p><b>General Education Program Requirements:</b>  <i>Minimum 39-40 hrs</i></p>	<p><i>Credit hours</i>      <i>How will the GEP requirement be met?</i>  <b>(Choose applicable statement from 1-6 listed above)</b></p>

<b>Mathematical Sciences</b> (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	7	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	Minimum requirements are satisfied by Major/College course requirements.
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>Interdisciplinary Perspectives</b> (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	5	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>Health and Exercise Studies</b> (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	<b>27</b>	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	(Choose statement 1 or 4)
<b>Global Knowledge co-requisite</b> (GK)	n/a	(Choose statement 1 or 4)
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>	X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	<b>120</b>	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>

**FORMAT A**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

Indicate display status: Current: Proposed: X Proposed Effective Semester: 2191

Degree/Plan Title: BA/Philosophy

Concentration/Subplan Title: Philosophy of Law

Plan SIS Code: 16PHILBA

Subplan SIS Code: 16PHILLAW

New Degree Audit required? (Y or N) N

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Academic Writing and Research <sup>H</sup>	4	History II <sup>2</sup>	3
History I <sup>C, 1</sup>	3	Social Science <sup>D, 7</sup>	3
Social Science <sup>D, 7</sup>	3	Mathematics <sup>A</sup>	3
Mathematics <sup>A</sup>	3	Natural Science <sup>B</sup>	3
Foreign Language 201 <sup>K, 8</sup>	3	HES_*** Health & Exercise Studies Course <sup>E</sup>	1
HES_1** Fitness & Wellness Course <sup>E</sup>	1		
	<b>Total:17</b>		<b>Total:13</b>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Literature I <sup>3</sup>	3	Literature II <sup>4</sup>	3
Social Science <sup>7</sup>	3	Social Science <sup>7</sup>	3
Natural Science <sup>B</sup>	4	Logic <sup>11</sup>	3
Value Theory <sup>C, 5, 10</sup>	3	Free Elective <sup>9</sup>	3
Free Elective <sup>9</sup>	3	GEP-Additional Breadth <sup>F</sup>	3
	<b>Total:16</b>		<b>Total:15</b>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
History of Philosophy <sup>12</sup>	3	Contemporary Philosophy <sup>14</sup>	3
PHI 309	3	PHI 496 Writing in Contemporary Philosophy <sup>13</sup>	1
PHI 495 Writing in History of Philosophy <sup>13</sup>	1	PHI 312 <sup>G</sup>	3
Arts and Letters Elective <sup>6</sup>	3	Free Electives <sup>9</sup>	8
Free Electives <sup>9</sup>	3		
	<b>Total:13</b>		<b>Total:15</b>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PHI 313 <sup>G</sup>	3	Philosophy and Law Elective <sup>15</sup>	3
PHI 494 Writing in Ethics <sup>13</sup>	1	Free Electives <sup>9</sup>	12
Free Electives <sup>9</sup>	12		
	<b>Total:16</b>		<b>Total:15</b>
<b>Minimum Credit Hours Required for Graduation <sup>I, J, K, 16, 17, 18</sup> 120</b>			

Major/Program Footnotes: [https://www.acs.ncsu.edu/php/coursecat/degree\\_requirements.php](https://www.acs.ncsu.edu/php/coursecat/degree_requirements.php)

- History I** One 3-credit course required from the College-approved History I course list (a 200-level survey course covering a culture significantly different from our own, i.e., ancient or non-Western)
- History II** One 3-credit course required from the College-approved History II course list (a 200-level survey course covering our own or a similar culture, i.e., United States or other Western Culture)
- Literature I** One 3-credit hour course required from the College-approved Literature I list (a survey course covering literature outside the U.S. and prior to the 20th century)
- Literature II** One 3-credit hour course required from the College-approved Literature II list. (any course that meets the Literature I requirement; or a course in American or Twentieth Century Literature; or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language)

5. **HSS Philosophy** Minimum requirement satisfied by major required Value Theory elective.
6. **Arts and Letters** One 3-credit hour course is required from the College-approved Arts & Letters course list
7. **Social Sciences** Twelve (12) credit hours, selected from College-approved list, required from three different disciplines, six (6) must be on GEP-Social Sciences list.
8. **Foreign Language** Completion of FLx 201 or comparable proficiency as demonstrated by examination
9. **Free Electives** Maximum 12 credit hours of free electives may be taken for credit only (S/U)
10. **Value Theory:** Three hours. One course selected from department approved course list; also satisfies CHASS PHI requirement.
11. **Logic.** Three hours. One course selected from department approved course list.
12. **History of Philosophy:** Six hours. Two courses selected from department approved course list.
13. **Writing in Philosophy:** Three hours. All of PHI 494, PHI 495, and PHI 496. Students are strongly encouraged to take no more than one of these courses during any one term, and to use at least one 3 credit hour 400-level course as a co-requisite.
14. **Contemporary Philosophy:** Three hours. One course selected from department approved course list. At least one of the courses taken to satisfy this or other major requirements must be a 3 credit hour 400-level PHI or LOG course (other than PHI 498 and LOG 498). (The Comprehensive Articulation Agreement provides for automatic satisfaction of GEP requirements by designated transfer students under specified conditions. Although a course may serve the latter purpose, it may not thereby also satisfy college or major requirements unless it has already been designated as an equivalent. For a list of transfer equivalents, see <http://admissions.ncsu.edu/how-apply/admission-profile/course-equiv.php>).
16. The Department of Philosophy and Religion does not accept D grades (D-, D, D+) in courses taken to satisfy any major requirements or in ENG 101 taken to satisfy the Introduction to Writing GEP requirement.
17. A major GPA of at least 2.0 is required for graduation.
18. If a student takes a course that double counts in fulfilling more than one requirement, the student will need to take a free elective course(s) to meet the total of 120 credit hours for graduation.

**\*General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College's History I and department Value Theory elective*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College's Social Sciences requirement*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
\_\_\_\_\_ Humanities/Social Sciences/Visual and Performing Arts or X Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by major required courses, PHI 312 and 313.*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

**The following Co-Requisites must be satisfied to complete the General Education Program requirements:**

- I. **U.S. Diversity (USD)**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- J. **Global Knowledge (GK)**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

# CURRICULUM REQUIREMENTS

## Format B

<u>Degree/Plan Title:</u> <b>BA/Philosophy</b>	<u>Plan SIS Code:</u> <b>16PHILBA</b>
<u>Concentration/Subplan Title:</u> <b>Philosophy of Law Concentration</b>	<u>Subplan SIS Code:</u> <b>16PHILLAW</b>
<u>Indicate requirements status:</u> Current:                      Proposed: <b>X</b>	<u>Proposed</u> Effective Semester: <b>2191</b>
<u>New Degree Audit required?</u> (Y or N) <b>Y</b>	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>GEP category, if applicable</i></b>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
C- or better required		
Logic (Requirement 000023647) – LOG 201, 335, 435, 437, MA 335, PHI 250	3	
History of Philosophy (Requirement 000023648) – PHI 300, 301, 302, 401	3	Humanities (3)
Contemporary Philosophy (Requirement 000020959) – PHI 320, 330, 331, 332, 333, 347, 425, 440, 447, PSY 425	3	
Philosophy & Law Elective (Requirement 000023651) – ARE 301, EC 201, 205, 301, ENG 463, HI 221, 443, PHI 205, 214, 221, 325, PS 306, 307, 308, 431, 445, STS 325, WGS 306	6	
Value Theory (Requirement 000023650) – PHI 375, 376, 475	3	
PHI 309 or PHI 319 (Requirement: TBD) PHI 309, 319	3	
PHI 312	3	Interdisciplinary Perspectives (3)
PHI 313	3	Interdisciplinary Perspectives (2)
PHI 494	1	
PHI 495	1	
PHI 496	1	
400-Level PHI/LOG Course - (Requirement 000032656) <i>This is a verify requirement and does not require additional hours. Courses that meet this requirement can also satisfy other academic requirements</i> LOG 435, PHI 401, 420, 425, 440, 447, 475, PSY 425	Verify Req	
<b><u>Concentration Courses/Groups/Electives:</u></b>		
<b><u>Free Electives:</u></b> (12 Hr S/U Limit) Select any courses except the following: FLA 101, FLC 101, FLF 101, FLG 101, FLI 101, FLJ 101, FLN 101, FLP 101, FLR 101, FLS 101, FLS 105, GRK 101, LAT 101, MA 101, PER 101	<b>38</b>	



<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	<b>68</b>	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b>		
<p><b>Other:</b></p> <p><b>History I</b> (Requirement: 000019312) - A 200-level survey course covering a culture significantly different from our own, i.e., pre-industrial or non-Western required. Choose one 3-credit hour course from the College-approved History 1 list.  <b>AFS 275, 276, HI 207, 214, 215, 216, 217, 232, 233, 263, 264, 270, 275, 276</b></p> <p><b>History II</b> (Requirement: 000019313) - A 200-level survey course covering our own or a similar culture required. Choose one 3-credit hour course from the College-approved History 2 list  <b>HI 205, 208, 209, 210, 221, 222, 251, 252, 253, 254</b></p> <p><b>Literature I</b> (Requirement: 000019314) - A survey course covering literature outside the U.S. and prior to the 20th century required. Choose one 3-credit hour course from the College-approved Literature 1 list.  <b>CLA 210, 320, ENG 219, 220, 221, 222, 251, 255, 261 or 262 (but not both), 361, FL 219, 220, 221, 222, FLF 301, FLG 320, 325, FLJ 342, 344, FLR 303, FLS 340, 341, 342, 351, HON 202 HON 293 Honors Special Topics-Literature</b></p> <p><b>Literature II</b> (Requirement: 000019315)- Any course that meets the Literature I requirement, or a course in American or Twentieth Century Literature, or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language required. Choose one 3-credit hour course from the College-approved Literature list.  <b>List A - AFS 248, 349, 448, CLA 210, 320, ENG 207, 208, 209, 219, 220, 221, 222, 223, 224, 232, 246, 248, 249, 251, 252, 261, 262, 265, 266, 267, 275, 305, 339, 340, 341, 342, 349, 361, 362, 369, 370, 372, 376, 377, 380, 382, 385, 390, 392, 393, 394, 398, 399, 406, 407, 410, 420, 439, 448, 449, 451, 452, 452, 460, 462, 463, 464, 465, 466, 468, 469, 470, 476, 486, 487, FL 219, 220, 221, 223, 224, 246, 392, 393, 394, 406, 407, FLN 301, 302, 401, WGS 305</b>  <b>List B - ENG 219, 220, 221, 223, 224, 246, 255, 392, 393, 394, 406, FL 219, 220, 221, 222, 223, 224, 246, 392, 393, 394, 406, 407, FLF 302, 492, FLG 320, 323, 325, FLJ 342, 344, 345, FLN 301, 302, 401, FLR 303, 304, FLS 340, 341, 342, 343, 351, 352, 353, 492, HON 202, HON 293 Honors Special Topics-Literature</b></p> <p><b>Foreign Language 201</b> (Requirement: 000019319)  <b>FLA 201, FLC 201, FLF 201, FLG 201, FLI 201, FLJ 201, FLN 201, FLP 201, FLR 201, FLS 201, 212, GRK 201, LAT 201, or PER 201</b></p> <p><b>Arts and Letters</b> (Requirement: 000019317) – Choose one three credit hour course from the College approved Arts and Letters list.  <b>ADN 111, 112, 202, 212, 219, 272, 273, 281, 311, 384, 386,</b></p>	<p>3</p> <p>3</p> <p>3</p> <p>3</p> <p>3</p> <p>3</p>	<p>Humanities (3)</p>

<p>414, AFS 230, 260, 375, ARC 140, 141, ARS 251, 252, 259, 306, 351, 353, 354, CLA 210, COM 321, 364, 374, 411, D 231, DAN 272, 295, ENG 282, 321, 364, 374, 375, 411, 492, FL 216, FLF 318, FLG 318, FLS 360, GD 203, 303, HA 201, 202, 203, 240, 298, 395, 401, 404, 410, 498, HI 240, 320, 402, 407, 408, IDS 496, LAR 444, MUS 180, 181, 200, 201, 202, 205, 206, 230, 260, 306, 310, 315, 320, 330, 350, 360, REL 200, 210, 230, 298, 309, 311, 312, 314, 317, 320, 323, 327, 331, 332, 333, 334, 340, 350, 383, 402, 408, 412, 413, 423, 471, 472, 473, 482, 489, 491, 496, 498, SOC 309, STS 471, THE 103, 203, 233, 303, 323, 334, 340, WGS 360, 472, 473</p> <p><b>Social Science</b> (Requirements: 000023644) 9  <b>Additional Social Science</b> (Requirement: 000019365) 3  <i>(Choose three different disciplines)</i></p> <p><b>Anthropology:</b> ANT 251, 252, 253, 254, 261, 295, 310, 315, 325, 330, 345, 346, 351, 354, 370, 371, 374, 389, 395, 411, 412, 416, 419, 421, 422, 424, 427, 428, 431, 433, 444, 450, 460, 464, 475, 483, 495, 496, 498, 501, 529, 585, 587, HI 587, SOC 261, WGS 444</p> <p><b>Agricultural Economics:</b> ARE 201, 201A, 215, 260, 301, 303, 304, 306, 309, 311, 312, 321, 323, 332, 336, 345, 404, 412, 413, 420, 425, 433, 444, 490, 492, 493, 494, 495, EC 301, 336, 436</p> <p><b>Economics:</b> ARE 301, 336, EC 201, 202, 205, 301, 302, 305, 336, 348, 351, 377, 404, 410, 413, 431, 436, 437, 449, 451, 474, 480, 490, 491, 495, 498</p> <p><b>Political Science:</b> AFS 409, LPS 315, PS 101, 102, 103, 201, 202, 203, 204, 231, 236, 241, 298, 301, 302, 303, 305, 306, 307, 308, 309, 310, 312, 313, 314, 320, 331, 335, 336, 339, 341, 342, 343, 345, 361, 362, 371, 391, 398, 401, 409, 411, 415, 418, 431, 432, 433, 437, 443, 445, 462, 463, 471, 490, 492, 498, 502, 506, 507, 530, 531, 532, 534, 536, 539, 540, 541, 542, 571, 585, SOC 413, 432, WGS 306, 418</p> <p><b>Psychology:</b> AFS 345, EDP 304, 476, 582, PSY 200, 230, 240, 241, 242, 243, 307, 311, 312, 313, 340, 345, 360, 370, 376, 400, 406, 410, 411, 416, 420, 425, 430, 431, 436, 470, 475, 491, 495, 498, 499, 502, 504, 508, 510, 511, 541, 553, 558, 758, WGS 406</p> <p><b>Sociology:</b> AFS 305, ANT 261, 428, GEO 220, PS 432, REL 309, SOC 202, 203, 203A, 204, 205, 206, 207, 220, 241, 241A, 261, 295, 300, 301, 304, 305, 306, 309, 311, 342, 350, 351, 381, 395, 400, 401, 402, 404, 405, 407, 410, 413, 414, 418, 425, 427, 428, 429, 430, 432, 440, 445, 450, 457, 465, 492, 493, 495, 498, 508, 509, 514, 533, 591, WGS 204, 304, 407</p> <p><b>Multidisciplinary:</b> ENG 210, GEO 220, SOC 220, STS 402</p>		<p>Social Science (6)</p>
<p><b>Total credit hours under College Requirements:</b></p>	<p><b>30</b></p>	

<p><b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b></p> <p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>	<p><b>At least one of the following must be listed:</b></p> <ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<p><b>General Education Program Requirements:</b>  <i>Minimum 39-40 hrs</i></p>	<p><i>Credit hours</i>      <i>How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)</i></p>

<b>Mathematical Sciences</b> (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(6 credits)	6	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>Natural Sciences</b> (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(7 credits)	7	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>English 101</b> (C- or better required)	(4 credits)	4	ENG 101
<b>Humanities</b> (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(6 credits)	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Social Sciences</b> (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(6 credits)	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	(3 credits)	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>Interdisciplinary Perspectives</b> Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(5 credits)	X	(Choose statement 1, 2 or 3) <b>Minimum requirements are satisfied by Major/College course requirements.</b>
<b>Health and Exercise Studies</b> (Including one Fitness and Wellness course)	(2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>		<b>22</b>	
<b>GEP Co-Requisites:</b>			<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite</b> (USD)		n/a	(Choose statement 1 or 4)
<b>Global Knowledge co-requisite</b> (GK)		n/a	(Choose statement 1 or 4)
<b>Foreign Language Proficiency</b>		n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>			Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>		X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>		X	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.		<b>120</b>	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>

FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: 2191 (clean)

Degree/Plan Title: BS/Philosophy

Concentration/Subplan Title: No Subplan

Plan SIS Code: 16PHILBS

Subplan SIS Code: N/A

New Degree Audit required? (Y or N) N

**Critical Path Courses** - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Academic Writing & Research <sup>H</sup>	4	Natural Science <sup>1, B</sup>	4
Natural Science <sup>B, 1</sup>	4	Social Science <sup>2, D</sup>	3
Social Science <sup>D, 2</sup>	3	Mathematics <sup>3, A</sup>	3
Mathematics <sup>A, 3</sup>	3	HES_*** Health & Exercise Studies <sup>E</sup>	1
HES_*** Health & Exercise Studies <sup>E</sup>	1	Free Elective <sup>4</sup>	3
	<b>Total:15</b>		<b>Total:14</b>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Literature <sup>5</sup>	3	Natural Science <sup>1</sup>	4
Natural Science <sup>1</sup>	4	Arts and Letters <sup>7</sup>	3
Logic <sup>6</sup>	3	History <sup>8, C</sup>	3
Free Elective <sup>4</sup>	3	Social Science <sup>2</sup>	3
Mathematics <sup>3</sup>	3	History of Philosophy <sup>9, C</sup>	3
	<b>Total:16</b>		<b>Total:16</b>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Additional Breadth <sup>F</sup>	3	PHI or LOG Elective <sup>12</sup>	6
GEP Interdisciplinary Perspectives <sup>G</sup>	2	PHI 495 Writing in History of Philosophy <sup>13</sup>	1
Value Theory <sup>10</sup>	3	History of Philosophy <sup>9</sup>	3
Writing/Communication <sup>11</sup>	3	Philosophy of Science <sup>G, 14</sup>	3
Free Electives <sup>4</sup>	3	Advanced Science/Technology Requirement <sup>15</sup>	3
	<b>Total:14-15</b>		<b>Total:16</b>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Advanced Science/Technology Requirement <sup>15</sup>	6	Advanced Science/Technology Requirement <sup>15</sup>	6
PHI 494 Writing in Ethics <sup>13</sup>	1	PHI 496 Writing in Contemporary Philosophy <sup>13</sup>	1
Free Electives <sup>4</sup>	3	Contemporary Philosophy <sup>16</sup>	3
PHI or LOG Elective <sup>12</sup>	3	Free Electives <sup>4</sup>	6
	<b>Total:13</b>		<b>Total:16</b>
<b>Minimum Credit Hours Required for Graduation <sup>1, 1, K, 17, 18, 19, 20*</sup>: 120</b>			

**Major/Program Footnotes:**

- 1. Basic Science:** Twelve (12) hours from Natural Science Group 201 Basic Sciences. (Three basic laboratory science courses from the GEP list of Natural Science courses. One course each from three of the following areas: Biological Sciences, Chemistry, Earth Sciences, and Physics). Four (4) hours from Group 202 Science Electives (One additional laboratory science course from the GEP list of Natural Science courses). 16 credits.
- 2. Calculus:** Choose one course from the College approved list. 3-4 credits.
- 3. Math Electives:** Two additional math or statistics courses chosen from MA 114 and above or ST 305 and above. One of the courses must be selected from the GEP Mathematical Sciences list. 6 to 8 credits
- 4. Advanced Science/ Technology Requirement:** A 15-hour concentration in ONE area of science, technology, or mathematics is required. A minimum GPA of 2.0 is required in this group of courses. Approval of the selected courses will be indicated by the signature of the student, the student's advisor, the department's B.S. program coordinator (if different from the advisor), and the H&SS Associate/Assistant Dean.

5. **History:** Choose from the College approved list, one 3-credit 200-level survey course covering a culture significantly different from our own, i.e., ancient or non-Western, or one 3-credit 200-level survey course covering our own or a similar culture, i.e., United States or other Western Culture
6. **Literature:** Choose from the College approved list, one 3-credit survey course covering literature outside the U.S. and prior to the 20th century; or a course in American or Twentieth Century Literature; an upper division survey course; literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language.
7. **Writing and Communication:** One course in advanced writing, speech, or a 200-level foreign language course. 3 credits.
8. **Social Science:** Nine (9) credit hours, selected from College-approved list, required from three different disciplines, six (6) hours must be on GEP-Social Sciences list.
9. **Philosophy:** Any PHI course on the approved GEP-Humanities list. 3 credits
10. **Arts and Letters:** One 3-credit hour course is required from the College-approved Arts & Letters course list. 3 credits
11. **Free Elective:** Maximum 12 hours of free electives may be taken for credit only.
12. **Logic:** Three hours. One course from the following Group 409 list: LOG 201, 335, 435, 437.
13. **Arts and Letters:** Three hours. Choose from the College approved Arts and Letters course list.
14. **History of Philosophy:** Six hours. Two courses selected from department approved list.
15. **Value Theory:** Three hours. One course selected from department approved list
16. **Philosophy or Logic Electives:** Six hours. Any PHI or LOG course not already taken to satisfy another major requirement. At least one of the courses taken to satisfy this or other major requirements must be a 3 credit hour 400-level PHI or LOG course (other than PHI 498 and LOG 498).
17. **Writing in Philosophy:** Three hours. All of PHI 494, PHI 495, and PHI 496.
18. **Philosophy of Science:** Three hours. Select from department approved list.
19. **Contemporary Philosophy:** Three hours. Select from department approved list
20. The Department of Philosophy and Religion does not accept D grades (D-, D, D+) in courses taken to satisfy any major requirements or in ENG 101 taken to satisfy the Introduction to Writing GEP requirement.
21. A major GPA of at least 2.0 is required for graduation.
22. If a student takes a course that double counts in fulfilling more than one requirement, the student will need to take a free elective course(s) to meet the total of 120 credit hours for graduation.

#### General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill port or all of this requirement: Minimum requirements are satisfied by College Calculus and Math Electives requirements
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill port or all of this requirement: Minimum requirements are satisfied by College Basic Science requirement.
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill port or all of this requirement: Minimum requirements are satisfied by College History and Literature requirements
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill port or all of this requirement: Minimum requirements are satisfied by College Social Sciences requirement.
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
\_\_\_\_\_ Humanities/Social Sciences/Visual and Performing Arts or \_\_\_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill port or all of this requirement: PHI 312, PHI 313, PHI 331, PHI 332, PHI 340, PHI 425, PHI 440, PHI 447
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

#### The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity (USD)**  
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge (GK)**  
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

## CURRICULUM REQUIREMENTS

### Format B

<u>Degree/Plan Title:</u> Bachelor of Science in Philosophy	<u>Plan SIS Code:</u> 16PHILBS
<u>Concentration/Subplan Title:</u> No Subplan	<u>Subplan SIS Code:</u>
<u>Indicate requirements status:</u> Current:                      Proposed: X	<u>Proposed Effective Semester:</u> 2191
<u>New Degree Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<i>C- or better required</i>		
Logic (Requirement 000020956) LOG 201, 335, 435, MA 335	3	
Value Theory - (Requirement 000020957) PHI 309, 313, [add PHI 319], 325, 375, 376, 420, 475, STS 325	3	
History of Philosophy - (Requirement 000020958) PHI 300, 301, 302, 303, 401	6	
Contemporary Philosophy - (Requirement 000020959) PHI 320, 330, 331, 332, 333, 347, 425, 440, 447, PSY 425	3	
Philosophy of Science (Requirement 000024534) PHI 340, 440, 447	3	Interdisciplinary Perspectives (3 cr)
PHI 494	1	
PHI 495	1	
PHI 496	1	
PHI or LOG Electives (Requirement 000020918) - LOG 201, 335, 430, 435, 498, MA 335, PHI 205, 210, 214, 221, 250, 298, 300, 301, 302, 305, 309, 310, 312, 313, 320, 325, 330, 331, 332, 333, 340, 347, 375, 376, 401, 420, 425, 440, 447, 475, 494, 495, 497, 498, PSY 425, STS 325	9	
<b>400-level PHI/LOG Electives</b> [Verify Requirement- At least one of the courses taken to satisfy the 16PHILBS major requirements must be a 3 credit hour, 400-level PHI or LOG course (other than PHI/LOG 498.) LOG 435, PHI 401, 420, 425, 440, 447, 475, PSY 425	Verify Req	
<u>Concentration Courses/Groups/Electives:</u>		
<b>Free Electives: (12 Hr S/U Limit)</b> Select any courses except the following: FLA 101, FLC 101, FLF 101, FLG 101, FLI 101, FLJ 101, FLN 101, FLP 101, FLR 101, FLS 101, FLS 105, GRK 101, LAT 101, MA 101, PER 101	18	
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	<b>48</b>	

<b>COLLEGE REQUIREMENTS:</b>		
<b><u>Orientation Course(s):</u></b>		
<b><u>1-Mathematics</u></b> <b>Calculus</b> (Requirement: 000024349) <b>MA 121, 131, 141, 231, 241</b>	3	Mathematics (3)
<b>Math Electives</b> (Requirement: 00024392) <b>LOG 335, MA 114, 205, 231, 241, 335, ST 311, 312</b>	6	Mathematics (3)
<b><u>2-Basic Science</u></b> <b>Basic Science (3 diff)</b> (Requirement: 000024389) <i>Biology</i> - <b>BIO 105, 106, 140, 141, 181, 183</b> <i>Chemistry</i> – <b>CH 101, 102, 201, 202</b> <i>Earth Science</i> – <b>MEA 100, 101, 110, 130, 135, 150, 200, 202, 210, 211</b> <i>Physics</i> – <b>PY 123, 124, 125, 131, 201, 202, 203, 205, 206, 208, 209, 211, 212</b>	12	Natural Science (7)
<b>Science Electives</b> (Requirement: 000024390) – <b>BIO 105, 106, 140, 181, 183, 227, BIT 100, 210, 211, CH 100, 101, 102, 103, 104, 201, 202, 203, 204, CS 213, 312, ENT 402, 425, FOR 252, 318, 339, 402, HS 301, 303, 304, MB 210, 211, 351, MEA 100, 101, 110, 135, 150, 200, 202, 210, 211, NSGE 295, NSGK 295, PB 200, 220, 400, PO 201, 201A, 202, 202A, PP 318, PY 123, 124, 125, 131, 201, 202, 203, 205, 2063, 208, 209, 211, 212, SMT 202, SSC 200, 201, 421, TMS 211</b>	4	
<b>3-Advanced Science/Technology Requirement</b> (Requirement: 000024381) Please see advisor. A 15-hour concentration in ONE area of science, technology, or mathematics is required. A minimum GPA of 2.0 is required in this group of courses. Approval of the selected courses will be indicated by the signature of the student, the student's advisor, the department's B.S. program coordinator (if different from the advisor), and the H&SS Associate/Assistant Dean.	15	
<b><u>Other H&amp;SS:</u></b> <b>Arts and Letters</b> (Requirement: 000019317) – Choose one three credit hour course from the College approved Arts and Letters list. <b>ADN 111, 112, 202, 212, 219, 272, 273, 281, 311, 384, 386, 414, AFS 230, 260, 375, ARC 140, 141, ARS 251, 252, 259, 306, 351, 353, 354, CLA 210, COM 321, 364, 374, 411, D 231, DAN 272, 295, ENG 282, 321, 364, 374, 375, 411, 492, FL 216, FLF 318, FLG 318, FLS 360, GD 203, 303, HA 201, 202, 203, 240, 298, 395, 401, 404, 410, 498, HI 240, 320, 402, 407, 408, IDS 496, LAR 444, MUS 180, 181, 200, 201, 202, 205, 206, 230, 260, 306, 310, 315, 320, 330, 350, 360, REL 200, 210, 230, 298, 309, 311, 312, 314, 317, 320, 323, 327, 331, 332, 333, 334, 340, 350, 383, 402, 408, 412, 413, 423, 471, 472, 473, 482, 489, 491, 496, 498, SOC 309, STS 471, THE 103, 203, 233, 303, 323, 334, 340, WGS 360, 472, 473</b>	3	
<b>History</b> (Requirement: 000024520) <b>AFS 275, 276, HI 205, 207, 208, 209, 210, 215, 216, 217, 222, 233, 251, 252, 253, 254, 263, 264, 270, 275, 276</b>	3	Humanities (3)

<p><b>Literature</b> (Requirement: 000024384)  <b>List A</b> - AFS 248, 349, 448, ENG 206, 207, 208, 209, 219, 220, 221, 222, 223, 224, 232, 246, 248, 249, 251, 252, 261, 262, 265, 266, 275, 305, 339, 340, 341, 342, 349, 361, 362, 369, 370, 372, 376, 377, 380, 382, 385, 390, 394, 398, 399, 406, 407, 410, 420, 439, 448, 449, 451, 452, 452, 462, 463, 464, 465, 466, 468, 469, 470, 486, 487, FL 219, 220, 221, 223, 224, 246, 394, 406, 407, <b>WGS</b> 305, 410  <b>List B</b> - ENG 219, 220, 221, 223, 224, 394, 406, 407 FL 219, 220, 221, 222, 223, 224, 394, 406, 407, <b>FLF</b> 301, 302, 492, <b>FLG</b> 320, 323, 325, <b>FLR</b> 303, 304, <b>FLS</b> 341, 342, 343, 351, 352, 353, 492, <b>HON</b> 202</p>	3	Humanities (3)
<p><b>Writing and Communication</b> (Requirement: 000024386)  <i>Writing &amp; Communication</i>-COM 110, 112, 211, ENG 201, 287, 288, 289, 292, 316, 323, 3331, 332, 333  <i>Foreign Language 200-level</i>-FLA 201, FLC 201, FLF 201, FLG 201, FLI 201, FLG 305, FLI 201, FLJ 201, FLN 201, FLP 201, FLR 201, FLS 201, 212, GRK 201, LAT 201, PER 201</p>	3	
<p><b>Social Science</b> (3 diff disciplines) (Requirement: 000024524)  <b>Anthropology:</b> ANT 251, 252, 253, 254, 261, 295, 310, 315, 325, 330, 345, 346, 351, 354, 370, 371, 374, 389, 395, 411, 412, 416, 419, 421, 422, 424, 427, 428, 431, 433, 444, 450, 460, 464, 475, 483, 495, 496, 498, 501, 529, 585, 587, <b>FLI</b> 351, <b>HI</b> 587, <b>SOC</b> 261, <b>WGS</b> 444  <b>Agricultural Economics:</b> ARE 201, 201A, 215, 260, 301, 303, 304, 306, 309, 311, 312, 321, 323, 332, 336, 345, 404, 412, 413, 420, 425, 433, 444, 490, 492, 493, 494, 495, <b>EC</b> 301, 336, 436  <b>Economics:</b> ARE 301, 336, <b>EC</b> 201, 202, 205, 301, 302, 305, 336, 348, 351, 377, 404, 410, 413, 431, 436, 437, 449, 451, 474, 480, 490, 491, 495, 498  <b>Political Science:</b> AFS 409, LPS 315, PS 101, 102, 103, 201, 202, 203, 204, 231, 236, 241, 298, 301, 302, 303, 305, 306, 307, 308, 309, 310, 312, 313, 314, 320, 331, 335, 336, 339, 341, 342, 343, 345, 361, 362, 371, 391, 398, 401, 409, 411, 415, 418, 431, 432, 433, 437, 443, 445, 462, 463, 471, 490, 492, 498, 502, 506, 507, 530, 531, 532, 534, 536, 539, 540, 541, 542, 571, 585, <b>SOC</b> 413, 432, <b>WGS</b> 306, 418  <b>Psychology:</b> AFS 345, <b>EDP</b> 304, 476, 582, <b>PSY</b> 200, 230, 240, 241, 242, 243, 307, 311, 312, 313, 340, 345, 360, 370, 376, 400, 406, 410, 411, 416, 420, 425, 430, 431, 436, 470, 475, 491, 495, 498, 499, 502, 504, 508, 510, 511, 541, 553, 558, 758, <b>WGS</b> 406  <b>Sociology:</b> AFS 305, <b>ANT</b> 261, 428, <b>GEO</b> 220, <b>PS</b> 432, <b>REL</b> 309, <b>SOC</b> 202, 203, 203A, 204, 205, 206, 207, 220, 241, 241A, 261, 295, 300, 301, 304, 305, 306, 309, 311, 342, 350, 351, 381, 395, 400, 401, 402, 404, 405, 407, 410, 413, 414, 418, 425, 427, 428, 429, 430, 432, 440, 445, 450, 457, 465, 492, 493, 495, 498, 508, 509, 514, 533, 591, <b>WGS</b> 204, 304, 407  <b>Multidisciplinary:</b> ENG 210, <b>GEO</b> 220, <b>SOC</b> 220, <b>STS</b> 402</p>	9	Social Sciences (6)
<b>Total credit hours under College Requirements:</b>	<b>61</b>	

<p><b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b></p> <p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>	<p><b>At least one of the following must be listed:</b></p> <ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<b>General Education Program Requirements:</b>	<b>Credit</b> How will the GEP requirement be met?



<i>Minimum 39-40 hrs</i>	<i>hours</i>	<i>(Choose applicable statement from 1-6 listed above)</i>
<b>Mathematical Sciences</b> (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>Interdisciplinary Perspectives</b> (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	2	(Choose statement 1, 2 or 3) Major/College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Health and Exercise Studies</b> (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	<b>11</b>	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	(Choose statement 1 or 4)
<b>Global Knowledge co-requisite</b> (GK)	n/a	(Choose statement 1 or 4)
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>		Satisfied by College/Program Requirements
<b>Technology Fluency</b>		Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	<b>120</b>	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

**FORMAT A**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

Indicate display status: Current: Proposed: **X** Proposed Effective Semester: **2191**

Degree/Plan Title: **BS/Philosophy**

Concentration/Subplan Title: **Logic, Representation & Reasoning**

Plan SIS Code: **16PHILBS**

Subplan SIS Code: **16PHILLOG**

New Degree Audit required? (Y or N) **N**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Academic Writing & Research <sup>H</sup>	4	Natural Science w/ Lab <sup>B, 1</sup>	4
Natural Science w/ Lab <sup>B, 1</sup>	4	Social Science <sup>D, 8</sup>	3
Social Science <sup>D, 8</sup>	3	Mathematics Elective <sup>A, 3</sup>	3
Calculus <sup>A, 2</sup>	3	GEP Health & Exercise Studies <sup>E</sup>	1
GEP 100-level Health & Exercise Studies <sup>E</sup>	1	Free Elective <sup>11</sup>	3
	<i>Total:15</i>		<i>Total:14</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Literature <sup>6</sup>	3	Natural Science w/ Lab <sup>1</sup>	4
Natural Science w/ Lab <sup>1</sup>	4	Arts & Letters <sup>10</sup>	3
LOG 335 or MA 335	3	History <sup>C, 5</sup>	3
Philosophy <sup>C, 9</sup>	3	Social Science <sup>8</sup>	3
Mathematics Elective <sup>3</sup>	3	PHI 301 Early Modern Philosophy	3
	<i>Total:16</i>		<i>Total:16</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PHI 494 or PHI 495	1	Philosophy or Logic Elective <sup>16</sup>	3
Logic, Philosophy of Language & Cognition <sup>G, 14</sup>	3	Add'l Logic, Philosophy of Language & Cognition <sup>14</sup>	3
Ethics Elective <sup>13</sup>	3	History of Philosophy <sup>G, 12</sup>	3
Writing & Communication <sup>7</sup>	3	Philosophy of Science <sup>G, 15</sup>	3
Free Electives <sup>11</sup>	4	Advance Science/Technology <sup>4</sup>	3
	<i>Total:14</i>		<i>Total:15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Advanced Science/Technology <sup>4</sup>	6	Advanced Science/Technology <sup>4</sup>	6
PHI 496 Research & Writing in Contemporary Phil	1	PHI 497 Research & Writing in Logic,	1
Philosophy or Logic Elective <sup>16</sup>	3	Free Electives <sup>11</sup>	8
GEP Additional Breadth <sup>F</sup>	3		
Free Electives <sup>11</sup>	2		
	<i>Total:15</i>		<i>Total:15</i>
Minimum Credit Hours Required for Graduation <sup>9, 1, J, K, 17, 18, 19, 20:</sup> <b>120</b>			

**Major/Program Footnotes:**

1. **Basic Science:** Sixteen hours. Twelve hours from Natural Science Group 201 Basic Sciences. (Three basic laboratory science courses from the GEP list of Natural Science courses. One course each from three of the following areas: Biological Sciences, Chemistry, Earth Sciences, and Physics). Four hours from Group 202 Science Electives (One additional laboratory science course from the GEP list of Natural Science courses).

2. **Calculus:** Choose one course from the College approved list. 3-4 credits.

3. **Mathematics Electives:** Two additional math or statistics courses chosen from MA 114 and above or ST 305 and above. One of the courses must be selected from the GEP Mathematical Sciences list. 6 to 8 credits

4. **Advanced Science/ Technology Requirement:** A 15-credit hour concentration in one area of science, technology, or mathematics, selected by the student under the guidance of the student's major adviser. Titles and numbers of the selected courses will be recorded in a written document.

Approval of the selected courses will be indicated by the signature of the student, his or her advisor, the department's Bachelor of Science program coordinator (if applicable, and if a different person than the adviser), and a College of Humanities and Social Sciences Assistant Dean. Approval by these university officials is required for the option plan to be officially implemented. The completed document will be placed in the student's Dean's Office

and Departmental files. A minimum GPA of 2.0 in this group of courses is required for graduation.

5. **History:** Choose from the College approved History list. 3 credits
6. **Literature:** Choose from the College approved Literature course list. 3 credits
7. **Writing and Communication:** One course in advanced writing, speech, selected from College approved list, or a 200-level foreign language course. 3 credits.
8. **Social Science:** Nine (9) credit hours, selected from College-approved list, required from three different disciplines, six (6) hours must be on GEP-Social Sciences list.
9. **Philosophy:** Any three (3) credit hour PHI course from the University-approved GEP Humanities course list. Courses in logic (LOG) or religion (REL) may not be used to meet this requirement. This is not included in the 30 hours required in the departmental (major) requirements.
10. **Arts and Letters:** Choose from the College approved Arts and Letters course list. 3 credits
11. **Free Elective:** Maximum twelve hours of free electives may be taken for credit only.
12. **History of Philosophy:** Choose one course from department-approved list. 3 credits.
13. **Ethics Elective:** Choose one course from department-approved list. 3 credits.
14. **Logic, Philosophy of Language & Cognition** Two three (3) credit hour courses selected from department approved course list. At least one must be a PHI course. 6 credits.
15. **Philosophy of Science:** Choose one course from department-approved list. 3 credits.
16. **PHI or LOG Electives:** Choose one course from department-approved list. 3 credits.
17. **400-Level PHI/LOG Course:** At least one of the courses taken to satisfy the History of Philosophy, Ethics, Logic, Philosophy of Language and Cognition, Philosophy of Science, or Additional Courses in Logic and Cognition requirements must be a three-credit hour, 400-level PHI or LOG course (other than PHI 498 or LOG 498). (Note: "It is not necessary to take at least one 400-level course to satisfy each one of the listed requirements.")
18. The Department of Philosophy and Religious Studies does not accept D grades (D-, D, D+) in courses taken to satisfy any major requirements.
19. **Major Residency Requirements:** A minimum of 18 hours in the major must be completed at NC State.
20. **Grade Point Average (GPA) Requirements:** A major GPA of at least 2.0 is required for graduation.

#### General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College History I and Philosophy requirements.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College Social Sciences requirement.
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
\_\_\_\_ Humanities/Social Sciences/Visual and Performing Arts or X Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

#### The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity (USD)**  
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge (GK)**  
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

## CURRICULUM REQUIREMENTS

### Format B

<u>Degree/Plan Title:</u> Bachelor of Science/ Philosophy	<u>Plan SIS Code:</u> 16PHILBS
<u>Concentration/Subplan Title:</u> Logic, Representation and Reasoning	<u>Subplan SIS Code:</u> 16PHILLOG
<u>Indicate requirements status:</u> Current:                      Proposed: X	<u>Proposed Effective Semester:</u> 2191
<u>New Degree Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<i>C- or better required MGPA must be 2.0 or better</i>		
<b>PHI 301</b>	3	
<b>Writing in History or Ethics</b> [Requirement 000024989] PHI 494, 495	1	
<b>History of Philosophy</b> [Requirement 000024986] PHI 300, 302, 401, 501	3	
<b>Ethics</b> [Requirement 000033272] PHI 309, [add PHI 319], 375, 376, 420, 475, 520, 575	3	
<b>LOG 335 or MA 335</b> [Requirement 000033411] LOG 335, MA 335	3	
<b>Logic, Language &amp; Cognition</b> [Requirement 000033273] <i>At least one must be a PHI course.</i> LOG 430, 435, PHI 331, 332, 425, 525, PSY 425, 525	3	Interdisciplinary Perspectives (3 cr)
<b>Additional Logic, Language &amp; Cognition</b> [Requirement 000033274] - LOG 430, 435, 498, 530, 535, 598, PHI 331, 332, 347, 425, 440, 447, 498, 525, 540, 547, PSY 425, 525	3	
<b>Philosophy of Science</b> [Requirement 000024988] PHI 340, 440, 447, 540, 547	3	Interdisciplinary Perspectives (3 cr)
<b>PHI 496</b> Research & Writing in Contemporary Philosophy <b>PHI 497</b> Research & Writing in Logic, Representation & Reasoning	1 1	
<b>PHI or LOG Electives</b> [Requirement 000033275] LOG 201, 435, 535, PHI 210, 330, 331, 332, 333, 340, 347, 425, 440, 447, 525, 540, 547, PSY 425, 525	6	
<b>400-level PHI/LOG Electives</b> [Requirement 000032659] [Verify Requirement- At least one of the courses taken to satisfy the 16PHILBS major requirements must be a 3 credit hour, 400-level PHI or LOG course (other than PHI/LOG 498.) (NOTE "It is not necessary to take at least one 400-level course to	Verify Req.	

<i>satisfy each one of the listed requirements.</i> <b>LOG 435, 535, PHI 401, 420, 425, 440, 447, 475, 501, 520, 525, 540, 547, 575, PSY 425, 525</b>		
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives: : (12 Hr S/U Limit)</b> Select any courses except the following: FLA 101, FLC 101, FLF 101, FLG 101, FLI 101, FLJ 101, FLN 101, FLP 101, FLR 101, FLS 101, FLS 105, GRK 101, LAT 101, MA 101, PER 101	17	
<b>Total credit hours under Major Field of Study:</b> <b>Minimum 27 hours required in program area.</b>	47	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b>		
<b>Other:</b>		
<u>Mathematics</u> Calculus (Requirement 000024349) - MA 121, 131, 141, 231, 241, 242	3	Math (3 cr.)
Math Electives (Requirement 000024392) - MA 114, 205, 231, 241, ST 311, 312, 361	6	Math (3 cr.)
<u>Basic Science</u> <b>Basic Sciences [3 Different Disciplines]</b> (Requirement 000024389) BIO 105, 106, 140, 141, 181, 183, 212, CH 101, 102, 201, 202, BIO 120, MEA 100, 101, 110, 130, 135, 150, 200, 202, 210, 211, PY 123, 124, 125, 131, 201, 202, 203, 205, 206, 208, 209, 211, 212	12	Natural Science (7 cr.)
Science Electives (Requirement 000024390) ANS 322, BIO 105, 106, 120, 140, 141, 181, 183, 212, 227, BIT 100, 210, 211, CH 100, 102, 103, 104, 201, 202, 203, 204, CS 213, 312, ENT 402, 425, FOR 252, 318, 339, 402, FS 322, HS 301, 303, 304, MB 210, 211, 351, MEA 100, 101, 110, 130, 135, 150, 200, 202, 210, 211, NSGE 295, NSGK 295, PB 200, 220, 400, 405, PO 201, 201A, 202, 202A, 322, PP 318, PY 123, 124, 125, 131, 201, 202, 203, 205, 206, 208, 209, 211, 212, SMT 202, SSC 200, 201, 421, TMS 211	4	
<b>Advanced Sciences/Technology Requirement</b> A 15-hour concentration in ONE area of science, technology, or mathematics is required. A minimum GPA of 2.0 is required in this group of courses. Approval of the selected courses will be indicated by the signature of the student, his/her adviser, the department's B.S. program coordinator (if different from the adviser), and the college Associate/Assistant Dean of Undergraduate Academic Affairs.	15	
<u>Humanities &amp; Social Sciences</u> <b>Philosophy</b> (Requirement 000019316) <i>Any PHI course on the approved GEP-Humanities list</i>	3	Humanities (3 cr.)
<b>Arts and Letters</b> (Requirement 000019317) – Choose one three credit hour course from the college approved Arts and Letters list. ADN 111, 112, 202, 212, 219, 272, 273, 281, 311, 384, 386, 414, AFS 230, 260, 375, ARC 140, ARS 251, 252, 259, 306, 351, 353, CLA 210, COM 321, 364, 374, 411, D 231, DAN 272, 295, ENG 282, 375, 492, FL 216, FLF 318, FLG 318, FLS 360, GD 203, 303, HA 201, 202, 203, 240, 298, 395, 401, 404, 410, 498, HI 240, 320, 402, 407, 408, IDS 496, LAR 444, MUS 180, 200, 201, 202, 205, 206, 230, 260, 306, 310, 315, 320, 330, 350, 360, REL 200, 210, 230, 298, 309, 311, 312, 314, 317, 320, 323, 327, 331, 332, 333, 334, 340, 350, 383, 402, 408, 412,	3	

<p>413, 471, 473, 482, 489, 491, 496, 498, <b>SOC 309, STS 471, THE 203, 233, 303, 323, 334, 340, WGS 360, 472, 473</b></p> <p><b>History</b> (Requirement 000024520) – Choose one three credit hour course from the college approved History list.  <b>AFS 275, 276, HI 205, 207, 208, 209, 210, 215, 216, 221, 222, 233, 251, 252, 253, 254, 263, 264, 270, 275, 276</b></p> <p><b>Literature</b> (Requirement 000024384) - Choose one three credit hour course from the college approved Literature list.  <i>[List A]</i> <b>AFS 248, 349, 448, ENG 206, 207, 208, 209, 219, 220, 221, 222, 223, 224, 232, 233, 246, 248, 249, 251, 252, 261, 262, 265, 266, 305, 349, 362, 363, 369, 370, 371, 372, 373, 377, 380, 382, 385, 390, 394, 398, 399, 406, 407, 420, 439, 406, 407, 420, 439, 448, 449, 451, 452, 453, 462, 463, 464, 465, 468, 469, 470, 471, 486, 487, FL 219, 220, 221, 223, 224, 246, 394, 406, 407, WGS 305</b>  <i>[List B]</i> <b>ENG 219, 220, 221, 223, 224, 394, 406, 407, FL 219, 220, 221, 222, 223, 224, 394, 406, 407, FLF 301, 302, 414, 492, FLG 320, 323, 325, FLR 303, 304, FLS 341, 342, 343, 351,352, 353, 492, HON 202</b></p> <p><b>Writing and Communication</b> (Requirement 000024386)  <b>COM 110, 112, 211, ENG 201, 287, 288, 289, 292, 316, 323, 331, 332, 333</b>  <b>FLA 201, FLC 201, FLF 201, FLG 201, FLI 201, FLJ 201, FLN 201, FLP 201, FLR 201, FLS 201, GRK 201, LAT 201, PER 201</b></p> <p><b>Social Science</b> (Requirement 000024979) (<i>3 Different Disciplines</i>) – Nine (9) credit hours required from three different disciplines, six (6) must be on GEP-Social Sciences list  <b>Anthropology - ANT 251, 252, 253, 254, 261, 295, 310, 315, 325, 330, 345, 346, 351, 354, 370, 371, 374, 389, 395, 411, 412, 416, 419, 421, 424, 427, 431, 433, 444, 450, 460, 464, 475, 483, 495, 496, 498, FLJ 351, HI 587, SOC 261, WGS 444</b>  <b>Agricultural Economics -ARE 201, 201A, 215, 260, 301, 303, 304, 306, 309, 311, 312, 321, 323, 332, 336, 345, 404, 412, 413, 433, 444, 490, 492, 493, 494, 495, EC 301, 336, 436</b>  <b>Economics – ARE 301, 336, EC 201, 202, 205, 301, 302, 305, 336, 337, 348, 351, 377, 404, 410, 413, 431, 436, 437, 449, 451, 452, 474, 480, 490, 491, 495, 498</b>  <b>Political Science – AFS 409, LPS 315, PS 201, 202, 203, 204, 205, 231, 236, 241, 298, 301, 302, 303, 305, 306, 307, 308, 309, 310, 312, 313, 314, 320, 331, 335, 336, 339, 341, 342, 343, 345, 361, 362, 371, 391, 398, 401, 409, 411, 415, 418, 431, 432, 433, 437, 443, 445, 462, 463, 471, 490, 492, 498, SOC 413, 432, WGS 306, 418</b>  <b>Psychology – AFS 345, EDP 304, 476, 582, ISE 540, PHI 425, 525, PSY 200, 230, 240, 241, 242, 243, 307, 311, 312, 313, 340, 345, 360, 370, 376, 400, 406, 410, 411, 416, 420, 425, 430, 431, 436, 470, 475, 491, 495, 498, 499, , WGS 406</b>  <b>Sociology - AFS 305, ANT 261, GEO 220, PS 432, REL 309, SOC 202, 203, 203A, 204, 205, 206, 220, 241, 241A, 261, 295, 300, 301, 304, 305, 306, 309, 311, 342, 350, 351, 381, 395, 400, 401, 402, 404, 405, 407, 410, 413, 414, 418, 425, 427, 428, 429, 430, 432, 440, 445, 450, 457, 465, 492, 493, 495, 498, WGS 204, 304, 407</b>  <b>Multidisciplinary – ENG 210, GEO 220, SOC 220, STS 402</b></p>	<p>3</p> <p>3</p> <p>3</p> <p>9</p> <p>64</p>	<p>Humanities (3 cr.)</p> <p>Social Science (6 cr.)</p>
<p><b>Total credit hours under College Requirements:</b></p>	<p>64</p>	

<b>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<b>General Education Program Requirements:</b>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b>
<i>Minimum 39-40 hrs</i>		<b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from <b>two different</b> disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Social Sciences</b> (6 credits) (Courses from <b>two different</b> disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (3 credits) (Choose approach that is <b>different</b> from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course list for this category.
<b>Interdisciplinary Perspectives</b> (5 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Health and Exercise Studies</b> (2 credits) (Including one <i>Fitness and Wellness</i> course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	<b>9</b>	
<b>GEP Co-Requisites:</b>		<b>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</b>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	(Choose statement 1 or 4)
<b>Global Knowledge co-requisite</b> (GK)	n/a	(Choose statement 1 or 4)
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>		Satisfied by College/Program Requirements
<b>Technology Fluency</b>		Satisfied by College/Program Requirements

**Total credit hours required to complete Degree:**  
Total must be within 120-128 credit hours.

120

As applicable, indicate here the overall GPA requirement for degree completion including course completion.



# CURRICULUM REQUIREMENTS

Format B Minor Adapted

<u>Minor Plan Title:</u> <b>Philosophy</b>	<u>Plan SIS Code:</u> <b>16PHM</b>
<u>Concentration/Subplan Title:</u> n/a	<u>Subplan SIS Code:</u> n/a
<u>Indicate requirements status:</u> Current: Proposed: <b>X</b>	<u>Proposed Effective Semester:</u> <b>2191</b>
<u>New Minor Audit required?</u> (Y or N) <b>N</b>	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MINOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>Notes</i></b>
<p>Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.</p>		
<i>C- or better required</i>		
<i>Note: PHI 205 and PHI 250 may not both count towards minor requirements.</i>		
<u>1-Required Courses</u>		
<b>History of Philosophy</b> (Requirement: 000033299) PHI 300, 301, 302, 401	3	
<b>Normative Philosophy</b> (Requirement: 000033300) PHI 214, 221, 309, 312, 313, [add PHI 319], 325, 375, 376, 420, 475, STS 325	3	
<b>Philosophy Science</b> (Requirement: 000033301) PHI 205, 210, 250, 303, 305, 310, 320, 330, 331, 332, 333, 340, 347, 425, 440, 447, PSY 425	3	
<u>2-Elective Courses</u>		
<b>Elective Courses</b> (Requirement: 000033302) LOG 201, 335, 430, 435, 498, MA 335, PHI 205, 210, 214, 221, 250, 298, 300, 301, 302, 303, 305, 309, 310, 312, 313, 319, 320, 325, 330, 331, 332, 333, 340, 347, 375, 376, 401, 420, 425, 440, 447, 475, 494, 495, 496, 497, 498, PSY 425, STS 325	6	
<b>Total credit hours required to complete minor</b> <i>Minimum 15 hours required</i>	<b>15</b>	

# Philosophy (16PHM)

## Description

The Minor in Philosophy is designed to expose students to three fundamental areas of philosophy: history of philosophy, normative philosophy and contemporary discussion of issues in metaphysics and epistemology. It is a highly desirable minor because it reveals to employers, graduate schools, and professional schools a willingness to engage in theoretical reasoning.

Students can shape their minor in ways that complement their major fields of study. For example, science and engineering majors might include philosophy of science courses (PHI 340 and PHI 440) among their minor courses. Management students might include PHI 214 Business Ethics and PHI 450 Software and the Ethics of Ownership. *No courses for the minor may be taken for S/U credit.*

## Requirements

- The minor consists of 15 hours of credit ( 5 courses) including 9 hours of required courses and 6 hours of elective courses.
- A grade of 'C-' or better will be required for all courses taken to fulfill the minor requirements.
- A maximum of TWO (2) course may be used (double-counted) towards both departmental major requirements and minor requirements.

The department will determine whether courses which have been transferred from other institutions qualify for the minor. No more than two courses from other institutions may count toward the minor

## Required Courses (9 credit hours)

Nine (9) credit hours must be taken as follows:

Three (3) credit hours must be from the history of philosophy courses (select one):

- PHI 300 Ancient Philosophy
- PHI 301 Early Modern Philosophy
- PHI 302 19th Century Philosophy
- PHI 401 Kant's Critique of Pure Reason

Three (3) credit hours in normative (ethics and ethics-related) philosophy (select one):

- PHI 214 Issues in Business Ethics
- PHI 221 Contemporary Moral Issues
- PHI 309 Contemporary Political Philosophy

- PHI 312 Philosophy of Law
- PHI 313 Ethical Problems in the Law
- PHI 319 Africana Political Philosophy
- PHI 325 Bio-Medical Ethics
- PHI 375 Ethics
- PHI 376 History of Ethics
- PHI 420 Global Justice
- PHI 422 Philosophical Issues in Environmental Ethics
- PHI 475 Ethical Theory

Three (3) credit hours in another course other than one in the above categories (history of philosophy, normative philosophy) and excluding logic courses.

*PHI 205 and PHI 210 may not both be used toward the Minor.*

### **Elective Courses**

- Six (6) credit hours of PHI courses or LOG courses at the 200-level and above

### **Admissions and Certification of Minor**

In both instances, students should contact the person listed below. A [University Minor Declaration Form](#) should be submitted to Registration and Records for inclusion of the minor on the student's official record. The minor must be completed no later than the semester in which the student expects to graduate from his or her degree program. Paperwork for certification should be completed no later than during the registration period for the student's final semester at NC State.

### **Contact Persons**

Dr. John Carroll, Minor Advisor  
 Withers Hall 457  
 919.515.6140  
[John\\_carroll@ncsu.edu](mailto:John_carroll@ncsu.edu)

Joanna King, Student Services Associate  
 Department of Philosophy and Religious Studies  
 Withers Hall 340  
 919.515.6100  
[Joanna\\_king@ncsu.edu](mailto:Joanna_king@ncsu.edu)

**SIS Code: 16PHM**

# Philosophy (16PHM) *Current*

## Description

The Minor in Philosophy is designed to expose students to three fundamental areas of philosophy: history of philosophy, normative philosophy and contemporary discussion of issues in metaphysics and epistemology. It is a highly desirable minor because it reveals to employers, graduate schools, and professional schools a willingness to engage in theoretical reasoning.

Students can shape their minor in ways that complement their major fields of study. For example, science and engineering majors might include philosophy of science courses (PHI 340 and PHI 440) among their minor courses. Management students might include PHI 214 Business Ethics and PHI 450 Software and the Ethics of Ownership. No courses for the minor may be taken for S/U credit.

## Requirements

- The minor consists of 15 hours of credit ( 5 courses) including 9 hours of required courses and 6 hours of elective courses.
- A grade of 'C-' or better will be required for all courses taken to fulfill the minor requirements.
- A maximum of TWO (2) course may be used (double-counted) towards both departmental major requirements and minor requirements.

The department will determine whether courses which have been transferred from other institutions qualify for the minor. No more than two courses from other institutions may count toward the minor.

## Required Courses

Nine (9) credit hours must be taken as follows:

3 credit hours must be from the history of philosophy courses (select one):

- PHI 300 Ancient Philosophy
- PHI 301 Early Modern Philosophy
- PHI 302 19th Century Philosophy
- PHI 401 Kant's Critique of Pure Reason

3 credit hours in normative (ethics and ethics-related) philosophy (select one):

- PHI 214 Issues in Business Ethics
- PHI 221 Contemporary Moral Issues
- PHI 309 Contemporary Political Philosophy
- PHI 312 Philosophy of Law
- PHI 313 Ethical Problems in the Law
- PHI 325 Bio-Medical Ethics
- PHI 375 Ethics
- PHI 376 History of Ethics
- PHI 420 Global Justice
- PHI 422 Philosophical Issues in Environmental Ethics
- PHI 475 Ethical Theory

3 credit hours in another course other than one in the above categories (history of philosophy, normative philosophy) and excluding logic courses.

PHI 205 and PHI 210 may not both be used toward the Minor.

### **Elective Courses**

6 hours of PHI courses or LOG courses at the 200 level and above.

### **Admissions and Certification of Minor**

In both instances, students should contact the person listed below. The minor must be completed no later than the semester in which the student expects to graduate from his or her degree program. Paperwork for certification should be completed no later than during the registration period for the student's final semester at NC State.

### **Contact Persons**

*Dr. John Carroll, Minor Adviser*

*457 Withers Hall,*

*919-515-6140*

*[john\\_carroll@ncsu.edu](mailto:john_carroll@ncsu.edu)*

*Joanna King, Student Services Associate*

*Department of Philosophy and Religious Studies*

*Withers Hall 340*

*919.515.6100*

*[joanna\\_king@ncsu.edu](mailto:joanna_king@ncsu.edu)*

*Effective: 8/2011*

*SIS Code: 16PHM*

**FORMAT A**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

Indicate display status: Current:                      Proposed: **X**                      Proposed Effective Semester: **2191**

Degree/Plan Title: BA/Interdisciplinary Studies

Concentration/Subplan Title: Africana Studies Concentration

Plan SIS Code: 16IDSBA

Subplan SIS Code: 16IDSAFS

New Degree Audit required? (Y or N) **N**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Academic Writing and Research <sup>H</sup>	4	AFS 241 Introduction to African-American Studies <sup>I</sup>	3
AFS 240 African Civilization <sup>J</sup>	3	History I <sup>C, 1</sup>	3
GEP Mathematics <sup>A</sup>	3	GEP Mathematics <sup>A</sup>	3
Social Science <sup>D, 7</sup>	3	GEP Natural Science <sup>B</sup>	3
Foreign Language 201 Level <sup>K, 8</sup>	3	Philosophy <sup>C, 5</sup>	3
	<i>Total:16</i>		<i>Total:15</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
AFS Restricted Elective <sup>10</sup>	3	AFS Restricted Elective <sup>10</sup>	3
History II <sup>2</sup>	3	Arts and Letters <sup>6</sup>	3
Literature I <sup>3</sup>	3	Literature II <sup>4</sup>	3
GEP Natural Science w/ Lab <sup>B</sup>	4	GEP Interdisciplinary Perspectives <sup>G</sup>	2
Social Science <sup>D, 7</sup>	3	Social Science <sup>7</sup>	3
		GEP HESF 1** Fitness and Wellness <sup>E</sup>	1
	<i>Total:16</i>		<i>Total:15</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
AFS Restricted Elective <sup>10</sup>	3	AFS 342 Introduction to the African Diaspora	3
AFS Restricted Elective <sup>10</sup>	3	GEP Interdisciplinary Perspectives <sup>G</sup>	3
Social Science <sup>7</sup>	3	Free Electives <sup>9</sup>	9
GEP Additional Breadth (MS/NS/E) <sup>F</sup>	3		
Free Elective <sup>9</sup>	3		
	<i>Total:15</i>		<i>Total:15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
AFS Restricted Elective 400-level <sup>11</sup>	3	AFS 440 Senior Seminar in Africana Studies	3
GEP Health and Exercise Studies <sup>E</sup>	1	AFS Restricted Elective 400-level <sup>11</sup>	3
Free Electives <sup>9</sup>	9	Free Electives <sup>9</sup>	9
	<i>Total: 13</i>		<i>Total:15</i>
<b>Minimum Credit Hours Required for Graduation <sup>*K, 12, 13:</sup> 120</b>			

**Major/Program Footnotes:**

- History I** One 3-credit course required from the College-approved History I course list (a 200-level survey course covering a culture significantly different from our own, i.e., ancient or non-Western)
- History II** One 3-credit course required from the College-approved History II course list (a 200-level survey course covering our own or a similar culture, i.e., United States or other Western Culture)
- Literature I** One 3-credit hour course required from the College-approved Literature I list (a survey course covering literature outside the U.S. and prior to the 20th century)
- Literature II** One 3-credit hour course required from the College-approved Literature II list. (any course that meets the Literature I requirement; or a course in American or Twentieth Century Literature, or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language)
- Philosophy** Any PHI course on the approved GEP-Humanities list
- Arts and Letters** One 3-credit hour course is required from the College-approved Arts & Letters course list

7. **Social Sciences** Twelve (12) credit hours, selected from College-approved list, required from three different disciplines, six (6) must be on GEP-Social Sciences list.
8. **Foreign Language** Completion of FLx 201, or comparable proficiency as demonstrated by examination
9. **Free Electives** Only 12 credit hours of free electives may be taken for credit only (S/U)
10. **AFS Restricted Electives** Select 12 credits from department approved Africa Option and/or the African Diaspora Option lists. One course (300-level or above) must be taken from at least of the following disciplines: Anthropology, English, History, Political Science, **Philosophy**, Psychology, Sociology, and Social Work. ~~This course requirement may be met by courses selected from any courses listed under either the Africa or Africa Diaspora Options listed above.~~
11. **AFS Restricted Elective 400-level** Select six (6) credits from department approved Africa Option and/or the African Diaspora Option lists.
12. **Major Residency Requirements** A maximum of 15 hours of external transfer credit may be applied towards the major requirements.
13. **Major Grade Point Average (GPA) Requirements** 2.0 major required for graduation

**\*General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College History I and Philosophy requirements.*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College Social Sciences requirement.*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- E. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
\_\_\_\_\_ Humanities/Social Sciences/Visual and Performing Arts or X Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- L. **U.S. Diversity (USD)**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: AFS 242*
- L. **Global Knowledge (GK)**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: AFS 241*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

# CURRICULUM REQUIREMENTS

## Format B

<u>Degree/Plan Title:</u> BA/Interdisciplinary Studies	<u>Plan SIS Code:</u> 16IDSBA
<u>Concentration/Subplan Title:</u> Africana Studies Concentration	<u>Subplan SIS Code:</u> 16IDSAFS
<u>Indicate requirements status:</u> Current:      Proposed: <b>X</b>	<u>Proposed Effective Semester:</u> 2191
<u>New Degree Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>GEP category, if applicable</i></b>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<i>C- or better required</i>		
AFS 240	3	Global Knowledge (co-req) US Diversity (co-req)
AFS 241	3	
AFS 342	3	
AFS 440	3	
<b><u>Concentration Courses/Groups/Electives:</u></b>		
<i>C- or better required</i>		
<u>Restricted Electives</u>		
<b>Africa or Africa Diaspora</b> (Requirement 000032987)	12	
<i>Africa Option</i> - AFS 275, 276, 343, 349, 475, 476, 479, 490, 491, 497, ANT 330, ENG 349, HI 275, 276, 475, 476, 479, IDS 498		
<i>Africa Diaspora Option</i> – AFS 230, 248, 260, 344, 345, 346, 372, 373, 375, 442, 448, 455, 491, 497, ARS 346, ENG 248, 375, 448, HI 372, 373, 455, IDS 498, MUS 230, 260, [add PHI 319], PS 443, PSY 345, SW 413, THE 340		
<b>Africa or Diaspora 400-Level</b> (Requirement 000032988)	6	
<i>Africa Option</i> - AFS 475, 476, 479, 490, 491, 497, HI 475, 476, 479, IDS 498		
<i>Africa Diaspora Option</i> – AFS 409, 442, 448, 448, 455, 491, 497, ENG 448, HI 455, IDS 498, PS 409, 443, PSY 345, SW 413		
<b>Free Electives:</b> (Requirement: 000019326) (12 Hr S/U Limit)		
Select any courses except the following: FLA 101, FLC 101, FLF 101, FLG 101, FLI 101, FLJ 101, FLN 101, FLP 101, FLR 101, FLS 101, FLS 105, GRK 101, LAT 101, MA 101, PER 101	30	
<b>Total credit hours under Major Field of Study:</b> <b>Minimum 27 hours required in program area.</b>	60	



COLLEGE REQUIREMENTS:		
<b>Orientation Course(s):</b>		
<p><b>Other:</b>  <b>History I</b> (Requirement: 000019312) - A 200-level survey course covering a culture significantly different from our own, i.e., pre-industrial or non-Western required. Choose one 3-credit hour course from the College-approved History 1 list.  <b>AFS 275, 276, HI 207, 214, 215, 216, 232, 233, 263, 264, 270, 275, 276</b></p>	3	Humanities (3)
<p><b>History II</b> (Requirement: 000019313) - A 200-level survey course covering our own or a similar culture required. Choose one 3-credit hour course from the College-approved History 2 list  <b>HI 205, 208, 209, 210, 221, 222, 251, 252, 253, 254</b></p>	3	
<p><b>Literature I</b> (Requirement: 000019314) - A survey course covering literature outside the U.S. and prior to the 20th century required. Choose one 3-credit hour course from the College-approved Literature 1 list.  <b>CLA 210, 320, ENG 219, 220, 221, 222, 251, 255, 261 or 262 (but not both), 361, FL 219, 220, 221, 222, FLF 301, FLG 320, 325, FLJ 342, 344, FLR 303, FLS 340, 341, 342, 351, HON 202 HON 293 Honors Special Topics-Literature</b></p>	3	
<p><b>Literature II</b> (Requirement: 000019315)- Any course that meets the Literature I requirement, or a course in American or Twentieth Century Literature, or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language required. Choose one 3-credit hour course from the College-approved Literature list.  <b>List A - AFS 248, 349, 448, CLA 210, 320, ENG 207, 208, 209, 219, 220, 221, 222, 223, 224, 232, 246, 248, 249, 251, 252, 261, 262, 265, 266, 267, 275, 305, 339, 340, 341, 342, 349, 361, 362, 369, 370, 372, 376, 377, 380, 382, 385, 390, 392, 393, 394, 398, 399, 406, 407, 410, 420, 439, 448, 449, 451, 452, 460, 462, 463, 464, 465, 466, 468, 469, 470, 476, 486, 487, FL 219, 220, 221, 223, 224, 246, 392, 393, 394, 406, 407, FLN 301, 302, 401, WGS 305</b>  <b>List B - ENG 219, 220, 221, 223, 224, 246, 255, 392, 393, 394, 406, FL 219, 220, 221, 222, 223, 224, 246, 392, 393, 394, 406, 407, FLF 302, 414, 492, FLG 320, 323, 325, FLJ 342, 344, 345, FLN 301, 302, 401, FLR 303, 304, FLS 340, 341, 342, 343, 351, 352, 353, 492, HON 202</b></p>	3	
<p><b>Foreign Language 201</b> (Requirement: 000019319)  <b>FLA 201, FLC 201, FLF 201, FLG 201, FLI 201, FLJ 201, FLN 201, FLP 201, FLR 201, FLS 201, 212, GRK 201, LAT 201, or PER 201</b></p>	3	
<p><b>Philosophy</b> (Requirement: 00019316) - Any PHI course on the approved GEP-Humanities list</p>	3	Humanities (3)
<p><b>Arts and Letters</b> (Requirement: 000019317) – Choose one three credit hour course from the College approved Arts and Letters list.  <b>ADN 111, 112, 202, 212, 219, 272, 273, 281, 311, 384, 386,</b></p>	3	

<p>414, AFS 230, 260, 375, ARC 140, 141, ARS 251, 252, 259, 306, 351, 353, 354, CLA 210, COM 321, 364, 374, 411, D 231, DAN 272, 295, ENG 282, 321, 364, 374, 375, 411, 492, FL 216, FLF 318, FLG 318, FLS 360, GD 203, 303, HA 201, 202, 203, 240, 298, 395, 401, 404, 410, 498, HI 240, 320, 402, 407, 408, IDS 496, LAR 444, MUS 180, 181, 200, 201, 202, 205, 206, 230, 260, 306, 310, 315, 320, 330, 350, 360, REL 200, 210, 230, 298, 309, 311, 312, 314, 317, 320, 323, 327, 331, 332, 333, 334, 340, 350, 383, 402, 408, 412, 413, 423, 471, 472, 473, 482, 489, 491, 496, 498, SOC 309, STS 471, THE 103, 203, 233, 303, 323, 334, 340, WGS 360, 472, 473</p> <p><b>Social Science</b> (Requirement: 000019364)  <b>Additional Social Science</b> (Requirement: 000019365)  <i>(Choose three different disciplines)</i></p> <p><b>Anthropology:</b> ANT 251, 252, 253, 254, 261, 295, 310, 315, 325, 330, 345, 346, 351, 354, 370, 371, 374, 389, 395, 411, 412, 416, 419, 421, 422, 424, 427, 428, 431, 433, 444, 450, 460, 464, 475, 483, 495, 496, 498, 501, 529, 585, 587, HI 587, SOC 261, WGS 444</p> <p><b>Agricultural Economics:</b> ARE 201, 201A, 215, 260, 301, 303, 304, 306, 309, 311, 312, 321, 323, 332, 336, 345, 404, 412, 413, 420, 425, 433, 444, 490, 492, 493, 494, 495, EC 301, 336, 436</p> <p><b>Economics:</b> ARE 301, 336, EC 201, 202, 205, 301, 302, 305, 336, 348, 351, 377, 404, 410, 413, 431, 436, 437, 449, 451, 474, 480, 490, 491, 495, 498</p> <p><b>Political Science:</b> AFS 409, LPS 315, PS 101, 102, 103, 201, 202, 203, 204, 231, 236, 241, 298, 301, 302, 303, 305, 306, 307, 308, 309, 310, 312, 313, 314, 320, 331, 335, 336, 339, 341, 342, 343, 345, 361, 362, 371, 391, 398, 401, 409, 411, 415, 418, 431, 432, 433, 437, 443, 445, 462, 463, 471, 490, 492, 498, 502, 506, 507, 530, 531, 532, 534, 536, 539, 540, 541, 542, 571, 585, SOC 413, 432, WGS 306, 418</p> <p><b>Psychology:</b> AFS 345, EDP 304, 476, 582, PSY 200, 230, 240, 241, 242, 243, 307, 311, 312, 313, 340, 345, 360, 370, 376, 400, 406, 410, 411, 416, 420, 425, 430, 431, 436, 470, 475, 491, 495, 498, 499, 502, 504, 508, 510, 511, 541, 553, 558, 758, WGS 406</p> <p><b>Sociology:</b> AFS 305, ANT 261, 428, GEO 220, PS 432, REL 309, SOC 202, 203, 203A, 204, 205, 206, 207, 220, 241, 241A, 261, 295, 300, 301, 304, 305, 306, 309, 311, 342, 350, 351, 381, 395, 400, 401, 402, 404, 405, 407, 410, 413, 414, 418, 425, 427, 428, 429, 430, 432, 440, 445, 450, 457, 465, 492, 493, 495, 498, 508, 509, 514, 533, 591, WGS 204, 304, 407</p> <p><b>Multidisciplinary:</b> ENG 210, GEO 220, SOC 220, STS 402</p>	<p>9 3</p>	<p>Social Science (6)</p>
<p><b>Total credit hours under College Requirements:</b></p>	<p>33</p>	

<p><b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b></p> <p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></b></p>	<p><b>At least one of the following must be listed:</b></p> <ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<p><b>General Education Program Requirements:</b></p>	<p><b>Credit</b>      <b>How will the GEP requirement be met?</b></p>

<i>Minimum 39-40 hrs</i>	<i>hours</i>	<b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	<small>(Choose statement 1, 2 or 3)</small> Choose course(s) from the University Approved GEP course list for this category.
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	7	<small>(Choose statement 1, 2 or 3)</small> Choose course(s) from the University Approved GEP course list for this category.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	<small>(Choose statement 1, 2 or 3)</small> Minimum requirements are satisfied by Major/College course requirements.
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	<small>(Choose statement 1, 2 or 3)</small> Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	<small>(Choose statement 5 or 6)</small> Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>Interdisciplinary Perspectives</b> (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	5	<small>(Choose statement 1, 2 or 3)</small> Choose course(s) from the University Approved GEP course list for this category.
<b>Health and Exercise Studies</b> (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	27	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	<small>(Choose statement 1 or 4)</small> Co-requisite is satisfied by a Major/College course requirement.
<b>Global Knowledge co-requisite</b> (GK)	n/a	<small>(Choose statement 1 or 4)</small> Co-requisite is satisfied by a Major/College course requirement.
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>		Satisfied by College/Program Requirements
<b>Technology Fluency</b>		Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	<b>120</b>	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>

FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: **X** Proposed Effective Semester: **2191**

Degree/Plan Title: **BA/Interdisciplinary Studies**

Concentration/Subplan Title: **Africana Studies Community Studies**

Plan SIS Code: **16IDSBA**

Subplan SIS Code: **16IDSAFSC**

New Degree Audit required? (Y or N) **N**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Academic Writing and Research <sup>H</sup>	4	AFS 241 Introduction to African-American Studies <sup>I</sup>	3
AFS 240 African Civilization <sup>J</sup>	3	History I <sup>C, 1</sup>	3
GEP Mathematics <sup>A</sup>	3	GEP Mathematics <sup>A</sup>	3
Social Science <sup>D, 7</sup>	3	GEP Natural Science <sup>B</sup>	3
Foreign Language 201 Level <sup>K, B</sup>	3	Philosophy <sup>C, 5</sup>	3
	<b>Total:16</b>		<b>Total:15</b>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
AFS Restricted Elective <sup>10</sup>	3	AFS Restricted Elective <sup>10</sup>	3
History II <sup>2</sup>	3	Arts and Letters <sup>6</sup>	3
Literature I <sup>3</sup>	3	Literature II <sup>4</sup>	3
GEP Natural Science w/ Lab <sup>B</sup>	4	GEP Interdisciplinary Perspectives <sup>G</sup>	2
Social Science <sup>D, 7</sup>	3	Social Science <sup>7</sup>	3
		GEP HESF 1** Fitness and Wellness <sup>E</sup>	1
	<b>Total:16</b>		<b>Total:15</b>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
AFS Restricted Elective <sup>10</sup>	3	AFS 342 Introduction to the African Diaspora	3
Social Science <sup>7</sup>	3	GEP Interdisciplinary Perspectives <sup>G</sup>	3
GEP Additional Breadth (MS/NS/E) <sup>F</sup>	3	Free Electives <sup>9</sup>	9
Free Electives <sup>9</sup>	6		
	<b>Total:15</b>		<b>Total:15</b>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
AFS 490 Africana Studies & Community Involvement	3	AFS 440 Senior Seminar in Africana Studies	3
AFS Restricted Elective 400-level <sup>11</sup>	3	IDS 498 Independent Study <sup>12</sup>	3
GEP HES_ Health and Exercise Studies <sup>E</sup>	1	Free Electives <sup>9</sup>	9
Free Electives <sup>9</sup>	6		
	<b>Total:13</b>		<b>Total:15</b>
<b>Minimum Credit Hours Required for Graduation <sup>K, 13, 14</sup>: 120</b>			

**Major/Program Footnotes:**

- History I** One 3-credit course required from the College-approved History I course list (a 200-level survey course covering a culture significantly different from our own, i.e., ancient or non-Western)
- History II** One 3-credit course required from the College-approved History II course list (a 200-level survey course covering our own or a similar culture, i.e., United States or other Western Culture)
- Literature I** One 3-credit hour course required from the College-approved Literature I list (a survey course covering literature outside the U.S. and prior to the 20th century)
- Literature II** One 3-credit hour course required from the College-approved Literature II list. (any course that meets the Literature I requirement; or a course in American or Twentieth Century Literature, or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language)
- Philosophy** Any PHI course on the approved GEP-Humanities list

6. **Arts and Letters** One 3-credit hour course is required from the College-approved Arts & Letters course list
7. **Social Sciences** Twelve (12) credit hours, selected from College-approved list, required from three different disciplines, six (6) must be on GEP-Social Sciences list.
8. **Foreign Language** Completion of FLx 201, or comparable proficiency as demonstrated by examination
9. **Free Electives** Only 12 credit hours of free electives may be taken for credit only (S/U)
10. **AFS Restricted Electives** Select 9 credits from department approved Africa Option and/or the African Diaspora Option lists. One course (300-level or above) must be taken from at least of the following disciplines: Anthropology, English, History, Political Science, **[add Philosophy]**, Psychology, Sociology, and Social Work. ~~This course requirement may be met by courses selected from any courses listed under either the Africa or Africa Diaspora Options listed above.~~
11. **AFS Restricted Elective 400-level** Select three (3) credits department approved Africa Option and/or the African Diaspora Option list.
12. **IDS 498** Africana Studies students in the Community Studies concentration are required to take three credit hours of IDS 498. See department for policies regarding enrolling in independent study.
13. **Major Residency Requirements** A maximum of 15 hours of external transfer credit may be applied towards the major and departmental requirements.
14. **Major Grade Point Average (GPA) Requirements** 2.0 major and cumulative GPA required for graduation

#### General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College History I and Philosophy requirements.*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: Minimum requirements are satisfied by College Social Sciences requirement.*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
\_\_\_\_ Humanities/Social Sciences/Visual and Performing Arts or X Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity (USD)**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: AFS 242*
- J. **Global Knowledge (GK)**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: AFS 241*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

# CURRICULUM REQUIREMENTS

## Format B

<u>Degree/Plan Title:</u> BA/Interdisciplinary Studies	<u>Plan SIS Code:</u> 16IDSBA
<u>Concentration/Subplan Title:</u> Africana Studies Community Studies Conc	<u>Subplan SIS Code:</u> 16IDSAFSC
<u>Indicate requirements status:</u> Current:    Proposed: <b>X</b>	<u>Proposed Effective Semester:</u> 2191
<u>New Degree Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>GEP category, if applicable</i></b>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<i>C- or better required</i>		
AFS 240	3	Global Knowledge (co-req) US Diversity (co-req)
AFS 241	3	
AFS 342	3	
AFS 440	3	
AFS 490	3	
IDS 498 (Requirement: 000031642) IDS 498	3	
<b><u>Concentration Courses/Groups/Electives:</u></b>		
<i>C- or better required</i>		
<u>Restricted Electives</u>		
<b>Africa or Africa Diaspora</b> (Requirement: 000032990) <i>Africa Option</i> - AFS 275, 276, 343, 349, 475, 476, 479, 490, 491, 497, ANT 330, ENG 349, HI 275, 276, 475, 476, 479, IDS 498 <i>Africa Diaspora Option</i> – AFS 230, 248, 260, 344, 345, 346, 372, 373, 375, 442, 448, 455, 491, 497, ARS 346, ENG 248, 375, 448, HI 372, 373, 455, IDS 498, MUS 230, 260, [add PHI 319], PS 443, PSY 345, SW 413, THE 340	9	
<b>Africa or Diaspora 400-Level</b> (Requirement 000032991) <i>Africa Option</i> - AFS 475, 476, 479, 490, 491, 497, HI 475, 476, 479, IDS 498 <i>Africa Diaspora Option</i> – AFS 409, 442, 448, 448, 455, 491, 497, ENG 448, HI 455, IDS 498, PS 409, 443, PSY 345, SW 413	6	
<b>Free Electives:</b> (Requirement: 000019326) (12 Hr S/U Limit) Select any courses except the following: FLA 101, FLC 101, FLF 101, FLG 101, FLI 101, FLJ 101, FLN 101, FLP 101, FLR 101, FLS 101, FLS 105, GRK 101, LAT 101, MA 101, PER 101	30	
<b>Total credit hours under Major Field of Study:</b> <b>Minimum 27 hours required in program area.</b>	60	
<b>COLLEGE REQUIREMENTS:</b>		

<b>Orientation Course(s):</b>		
<p><b>Other:</b>  <b>History I</b> (Requirement: 000019312) - A 200-level survey course covering a culture significantly different from our own, i.e., pre-industrial or non-Western required. Choose one 3-credit hour course from the College-approved History 1 list.  <b>AFS 275, 276, HI 207, 214, 215, 216, 232, 233, 263, 264, 270, 275, 276</b></p>	3	Humanities (3)
<p><b>History II</b> (Requirement: 000019313) - A 200-level survey course covering our own or a similar culture required. Choose one 3-credit hour course from the College-approved History 2 list  <b>HI 205, 208, 209, 210, 221, 222, 251, 252, 253, 254</b></p>	3	
<p><b>Literature I</b> (Requirement: 000019314) - A survey course covering literature outside the U.S. and prior to the 20th century required. Choose one 3-credit hour course from the College-approved Literature 1 list.  <b>CLA 210, 320, ENG 219, 220, 221, 222, 251, 255, 261 or 262 (but not both), 361, FL 219, 220, 221, 222, FLF 301, FLG 320, 325, FLJ 342, 344, FLR 303, FLS 340, 341, 342, 351, HON 202 HON 293 Honors Special Topics-Literature</b></p>	3	
<p><b>Literature II</b> (Requirement: 000019315)- Any course that meets the Literature I requirement, or a course in American or Twentieth Century Literature, or an upper division survey course or literature course in a period, genre, or major figure in English, a foreign language in English translation, or the original foreign language required. Choose one 3-credit hour course from the College-approved Literature list.  <b>List A - AFS 248, 349, 448, CLA 210, 320, ENG 207, 208, 209, 219, 220, 221, 222, 223, 224, 232, 246, 248, 249, 251, 252, 261, 262, 265, 266, 267, 275, 305, 339, 340, 341, 342, 349, 361, 362, 369, 370, 372, 376, 377, 380, 382, 385, 390, 392, 393, 394, 398, 399, 406, 407, 410, 420, 439, 448, 449, 451, 452, 452, 460, 462, 463, 464, 465, 466, 468, 469, 470, 476, 486, 487, FL 219, 220, 221, 223, 224, 246, 392, 393, 394, 406, 407, FLN 301, 302, 401, WGS 305</b>  <b>List B - ENG 219, 220, 221, 223, 224, 246, 255, 392, 393, 394, 406, FL 219, 220, 221, 222, 223, 224, 246, 392, 393, 394, 406, 407, FLF 302, 492, FLG 320, 323, 325, FLJ 342, 344, 345, FLN 301, 302, 401, FLR 303, 304, FLS 340, 341, 342, 343, 351, 352, 353, 492, HON 202, HON 293 Honors Special Topics-Literature</b></p>	3	
<p><b>Foreign Language 201</b> (Requirement: 000019319)  <b>FLA 201, FLC 201, FLF 201, FLG 201, FLI 201, FLJ 201, FLN 201, FLP 201, FLR 201, FLS 201, 212, GRK 201, LAT 201, or PER 201</b></p>	3	
<p><b>Philosophy</b> (Requirement: 00019316) - Any PHI course on the approved GEP-Humanities list</p>	3	Humanities (3)
<p><b>Arts and Letters</b> (Requirement: 000019317) – Choose one three credit hour course from the College approved Arts and Letters list.  <b>ADN 111, 112, 202, 212, 219, 272, 273, 281, 311, 384, 386, 414, AFS 230, 260, 375, ARC 140, 141, ARS 251, 252, 259,</b></p>	3	

<p>306, 351, 353, 354, <b>CLA</b> 210, <b>COM</b> 321, 364, 374, 411, <b>D</b> 231, <b>DAN</b> 272, 295, <b>ENG</b> 282, 321, 364, 374, 375, 411, 492, <b>FL</b> 216, <b>FLF</b> 318, <b>FLG</b> 318, <b>FLS</b> 360, <b>GD</b> 203, 303, <b>HA</b> 201, 202, 203, 240, 298, 395, 401, 404, 410, 498, <b>HI</b> 240, 320, 402, 407, 408, <b>IDS</b> 496, <b>LAR</b> 444, <b>MUS</b> 180, 181, 200, 201, 202, 205, 206, 230, 260, 306, 310, 315, 320, 330, 350, 360, <b>REL</b> 200, 210, 230, 298, 309, 311, 312, 314, 317, 320, 323, 327, 331, 332, 333, 334, 340, 350, 383, 402, 408, 412, 413, 423, 471, 472, 473, 482, 489, 491, 496, 498, <b>SOC</b> 309, <b>STS</b> 471, <b>THE</b> 103, 203, 233, 303, 323, 334, 340, <b>WGS</b> 360, 472, 473</p> <p><b>Social Science</b>(Requirement: 000019364)  <b>Additional Social Science</b> (Requirement: 000019365)  <i>(Choose three different disciplines)</i>  <b>Anthropology:</b> <b>ANT</b> 251, 252, 253, 254, 261, 295, 310, 315, 325, 330, 345, 346, 351, 354, 370, 371, 374, 389, 395, 411, 412, 416, 419, 421, 422, 424, 427, 428, 431, 433, 444, 450, 460, 464, 475, 483, 495, 496, 498, 501, 529, 585, 587, <b>HI</b> 587, <b>SOC</b> 261, <b>WGS</b> 444  <b>Agricultural Economics:</b> <b>ARE</b> 201, 201A, 215, 260, 301, 303, 304, 306, 309, 311, 312, 321, 323, 332, 336, 345, 404, 412, 413, 420, 425, 433, 444, 490, 492, 493, 494, 495, <b>EC</b> 301, 336, 436  <b>Economics:</b> <b>ARE</b> 301, 336, <b>EC</b> 201, 202, 205, 301, 302, 305, 336, 348, 351, 377, 404, 410, 413, 431, 436, 437, 449, 451, 474, 480, 490, 491, 495, 498  <b>Political Science:</b> <b>AFS</b> 409, <b>LPS</b> 315, <b>PS</b> 101, 102, 103, 201, 202, 203, 204, 231, 236, 241, 298, 301, 302, 303, 305, 306, 307, 308, 309, 310, 312, 313, 314, 320, 331, 335, 336, 339, 341, 342, 343, 345, 361, 362, 371, 391, 398, 401, 409, 411, 415, 418, 431, 432, 433, 437, 443, 445, 462, 463, 471, 490, 492, 498, 502, 506, 507, 530, 531, 532, 534, 536, 539, 540, 541, 542, 571, 585, <b>SOC</b> 413, 432, <b>WGS</b> 306, 418  <b>Psychology:</b> <b>AFS</b> 345, <b>EDP</b> 304, 476, 582, <b>PSY</b> 200, 230, 240, 241, 242, 243, 307, 311, 312, 313, 340, 345, 360, 370, 376, 400, 406, 410, 411, 416, 420, 425, 430, 431, 436, 470, 475, 491, 495, 498, 499, 502, 504, 508, 510, 511, 541, 553, 558, 758, <b>WGS</b> 406  <b>Sociology:</b> <b>AFS</b> 305, <b>ANT</b> 261, 428, <b>GEO</b> 220, <b>PS</b> 432, <b>REL</b> 309, <b>SOC</b> 202, 203, 203A, 204, 205, 206, 207, 220, 241, 241A, 261, 295, 300, 301, 304, 305, 306, 309, 311, 342, 350, 351, 381, 395, 400, 401, 402, 404, 405, 407, 410, 413, 414, 418, 425, 427, 428, 429, 430, 432, 440, 445, 450, 457, 465, 492, 493, 495, 498, 508, 509, 514, 533, 591, <b>WGS</b> 204, 304, 407  <b>Multidisciplinary:</b> <b>ENG</b> 210, <b>GEO</b> 220, <b>SOC</b> 220, <b>STS</b> 402</p>	<p>9 3</p>	<p>Social Science (6)</p>
<p><b>Total credit hours under College Requirements:</b></p>	<p>33</p>	

<p><b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b></p> <p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b>Specific courses should not be listed in any of the fields below other than ENG 101.</b></p>	<p><b>At least one of the following must be listed:</b></p> <ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <b>X</b> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<p><b>General Education Program Requirements:</b></p>	<p><b>Credit</b>    <b>How will the GEP requirement be met?</b></p>



<i>Minimum 39-40 hrs</i>	<i>hours</i>	<b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	7	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>Interdisciplinary Perspectives</b> (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	5	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>Health and Exercise Studies</b> (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	27	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	(Choose statement 1 or 4)
<b>Global Knowledge co-requisite</b> (GK)	n/a	(Choose statement 1 or 4)
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>		Satisfied by College/Program Requirements
<b>Technology Fluency</b>		Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	<b>120</b>	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>

## CURRICULUM REQUIREMENTS

Format B Minor Adapted

<u>Minor Plan Title:</u> <b>Africana Studies</b>	<u>Plan SIS Code:</u> <b>16ASM</b>
<u>Concentration/Subplan Title:</u> n/a	<u>Subplan SIS Code:</u> n/a
<u>Indicate requirements status:</u> Current: Proposed: <b>X</b>	<u>Proposed Effective Semester:</u> <b>2191</b>
<u>New Minor Audit required?</u> (Y or N) <b>N</b>	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses that represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MINOR FIELD OF STUDY REQUIREMENTS:</b>		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>Notes</i>
<b>Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.</b>		
<i>Minimum Grade Points Required 2.00</i>		
<u>Required Courses</u>		
AFS 240	3	
AFS 241	3	
AFS 342	3	
<b>Elective Courses (Requirement: 000031787)</b>		
AFS 275, 276, 305, 342, 343, 344, 345, 346, 372, 373, 409, 442, 448, 455, 475, 476, 479, 491, ANT 330, ARS 346, ENG 248, 349, 375, 448, HI 275, 276, 372, 373, 455, 475, 476, 479, [add PHI 319], PS 409, PSY 345, SOC 305, SW 413, THE 340	6	
<b>Total credit hours required to complete minor</b> <i>Minimum 15 hours required</i>	<b>15</b>	

# Africana Studies (16ASM)

## Description

The Africana Studies minor provides a comparative and interdisciplinary study of the Black experience in Africa and the Americas. Three required courses include an introduction to African Civilizations (AFS 240), Introduction to African American Studies (AFS 241), and Introduction to the African Diaspora (AFS 342). Two elective courses are to be selected from a list of designated courses in such disciplines as Anthropology, Communication, English, History, Political Science, Philosophy, Psychology, Social Work, and Sociology. The minor is designed to bring together students from diverse backgrounds and curricula who share a common interest in the global experience of African people. *No courses for the minor may be taken for S/U credit.*

## Requirements

- Completion of 15 hours
- A minimum grade of 'C' (2.0) or better must be achieved in each course counting towards the minor.
- A maximum of ONE (1) course may be used (double-counted) towards both departmental major requirements and minor requirements.

## Required Courses (9 credit hours)

- AFS 240 Africana Civilizations
- AFS 241 Introduction to African American Studies
- AFS 342 Introduction to the African Diaspora

## Elective Courses (6 credit hours)

- AFS/ENG 248 Survey of African-American Literature
- AFS/HI 275 Introduction to History of South and East Africa
- AFS/HI 276 Introduction to History of West Africa
- AFS/SOC 305 Race and Ethnic Relations
- AFS 343 African Religions
- AFS 344 Leadership in the African American Communities
- AFS/PSY 345 Psychology and the African American Experience
- AFS 346 Black Popular Culture
- AFS/ENG 349 African Literature in English
- AFS/HI 372 African-American History Through the Civil War, 1619-1865
- AFS/HI 373 African-American History Since 1865
- AFS/ENG 375 African American Cinema
- AFS/PS 409 Black Political Participation in America
- AFS 442 Issues in African Diaspora
- AFS/ENG 448 African-American Literature

- AFS/HI 455 History of the Civil Rights Movement
- AFS/HI 475 History of the Republic of South Africa
- AFS/HI 476 Leadership in Modern Africa
- AFS/HI 479 Africa (sub-Saharan) in the Twentieth Century
- AFS 491 Study Abroad in Africana Studies
- ANT 330 Peoples and Cultures of Africa
- PHI 319 Africana Political Philosophy
- SW 413 African American Families: History, Tradition, and Community

## **Admissions**

Students interested in pursuing the Africana Studies minor should contact the minor advisor listed below.

## **Certification**

A [University Minor Declaration Form](#) should be submitted to Registration and Records for inclusion of the minor on the student's official record. Paperwork for certification should be completed no later than during the registration period for the student's final semester at NC State. The minor must be completed no later than the semester in which the student expects to graduate from their degree program.

## **Contact Person**

Dr. Stephen Ferguson  
Withers Hall, 446  
919.515.0306  
[scferqus@ncsu.edu](mailto:scferqus@ncsu.edu)

**SIS Code: 16ASM**

# Africana Studies (16ASM)

Current

## Description

The Africana Studies minor provides a comparative and interdisciplinary study of the Black experience in Africa and the Americas. Three required courses include an introduction to African Civilizations (AFS 240), Introduction to African American Studies (AFS 241), and Introduction to the African Diaspora (AFS 342). Two elective courses may be selected from a list of designated courses in such disciplines as anthropology, communication, English, history, political science, psychology, social work, and sociology. The minor is designed to bring together students from diverse backgrounds and curricula who share a common interest in the global experience of African people. No courses for the minor may be taken for S/U credit.

## Requirements

- Completion of 15 credit hours.
- A minimum grade of 'C' (2.0) or better must be achieved in each course counting towards the minor.
- A maximum of ONE (1) course may be used (double-counted) towards both departmental major requirements and minor requirements.

## Required Courses (9 credit hours)

- AFS 240 African Civilizations
- AFS 241 Introduction to African American Studies
- AFS 342 Introduction to the African Diaspora

## Elective Courses (6 credit hours)

- AFS 240 African Civilizations
- AFS 241 Introduction to African American Studies
- AFS/ENG 248 Survey of African American Literature
- AFS/HI 275 History of South and East Africa
- AFS/HI 276 History of West Africa
- AFS/SOC 305 Race and Ethnic Relations
- ~~AFS/COM 340 African American Theater~~
- AFS 342 Introduction to the African Diaspora
- AFS 343 African Religions
- AFS 344 Leadership in the African American Communities
- AFS/PSY 345 Psychology and the African American Experience
- AFS 346 Black Popular Culture
- AFS/ENG 349 African Literature in English
- AFS/HI 372 African American History through 1865
- AFS/HI 373 African American History after 1865
- AFS/ENG 375 African American Cinema
- AFS/PS 409 Black Political Participation in America
- AFS 442 Issues in African Diaspora Studies
- AFS/ENG 448 African American Literature
- AFS/II 455 History of the Civil Rights Movement
- AFS/II 475 History of South Africa
- AFS/II 476 Leadership in Modern Africa
- AFS/II 479 Africa (sub-Saharan) in the 20th C.

- AFS 491 Study Abroad in Africana Studies
- ANT 330 Peoples and Cultures of Africa
- ~~MUS 351~~ Music of Africa & the Americas
- SW 413 African American Families: History, Tradition, and Community

### **Admissions**

Students interested in pursuing the African-American Studies minor should consult with Dr. Stephen Ferguson as listed below.

### **Certification**

Dr. Ferguson will certify completion of the minor. The minor must be completed no later than the semester in which the student expects to graduate from his or her degree program. Paperwork for certification should be completed no later than during the registration period for the student's final semester at NC State.

### **Contact Person**

Change to:  
Dr. Stephen Ferguson  
Withers 446  
919.515.0306  
[scfergus@ncsu.edu](mailto:scfergus@ncsu.edu)

**SIGNATURE PAGE FOR  
Curriculum Updates for PHI 319**

#

**RECOMMENDED BY:**



Michael J. Pendlebury, HEAD, Philosophy & Religious Studies

9/25/2018

DATE

**ENDORSED BY:**



CHAIR, H&SS COURSES & CURRICULA COMMITTEE

DATE



H&SS DEAN

11/5/18

DATE

**APPROVED BY:**

DEAN, DIVISION OF ACADEMIC AND STUDENT AFFAIRS (DASA)

DATE

APPROVED EFFECTIVE DATE \_\_\_\_\_

COLLEGE OF EDUCATION, NCSTATE UNIVERSITY  
SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION DEPARTMENT

MATHEMATICS EDUCATION – MIDDLE GRADES (BS): 13MTHEDBS-13MTHEDMSM AND  
MATHEMATICS EDUCATION – MATHEMATICS EDU & STATISTICS (DUAL MAJOR) (BS): 13MTHEBS – 13MTHEDBS-  
13MTHEDSD

RECOMMENDED BY:

  
\_\_\_\_\_  
HEAD, DEPARTMENT/PROGRAM DATE 4/2/19

ENDORSED BY:

  
\_\_\_\_\_  
CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE DATE 4/3/19

  
\_\_\_\_\_  
COLLEGE DEAN DATE 4/8/19

APPROVED BY:

\_\_\_\_\_  
CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE DATE

\_\_\_\_\_  
CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION DATE

\_\_\_\_\_  
DEAN, DIVISION OF ACADEMIC AND STUDENT AFFAIRS (DASA) DATE

APPROVED EFFECTIVE DATE \_\_\_\_\_



**NC STATE**

Office of Courses &amp; Curricula &lt;courses-curricula@ncsu.edu&gt;

**Re: 120 credit hour for Extension Education**[Back to Top \(Agenda\)](#)

1 message

**Li Marcus** <lamarcus@ncsu.edu>

Wed, Apr 17, 2019 at 8:00 AM

To: John Dole &lt;jmdole@ncsu.edu&gt;

Cc: Travis Park &lt;tdpark@ncsu.edu&gt;, Lexi Hergeth &lt;courses-curricula@ncsu.edu&gt;

Thank you both!

Li

Sent from my iPhone

On Apr 17, 2019, at 7:00 AM, John Dole &lt;jmdole@ncsu.edu&gt; wrote:

Li,

I approve. Thanks for helping us.

John

On Tue, Apr 16, 2019 at 10:37 PM Travis Park &lt;tdpark@ncsu.edu&gt; wrote:

Li and John,

For extension education, we'll reduce the free electives by 6 credits.

John, according to a voicemail from Li, if you approve via email, we'll be in business.

Unfortunately, I'm in Murphy, NC, supervising a couple of student teachers tomorrow and then in Canton tomorrow. I can be available on my cell phone at 919.802.2219 as needed.

Thank you,

*Travis*

Travis Park  
Associate Professor  
NC Teach Ag Coordinator  
Editor, *Career and Technical Education Research*

**Agricultural and Human Sciences**

**NC State University**  
Campus Box 7607 NCSU  
1 Lampe Drive, 216 Ricks Hall  
Raleigh, NC 27695-7607

t: 919.515.9441  
f: 919.513.1169  
m: 919.802.2219

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4/17/2019

North Carolina State University Mail - Re: 120 credit hour for Extension Education

John M. Dole  
Associate Dean & Director, Academic Programs  
College of Agriculture and Life Sciences  
111 Patterson Hall, Campus Box 7642  
North Carolina State University  
Raleigh, NC 27695-7642  
[919-515-2614](tel:919-515-2614) (phone)  
<https://cals.ncsu.edu/>

**Art and Design (Bachelor) 12ADNB, Fall 2019**

**List of the revision(s) being proposed and reason for each revision.**

The Department of Art and Design is proposing a structural change to the required sophomore studios. These updates will provide a sophomore year series of foundation studios that address and respond to student learning objectives and skills requirements as they progress through the program into intermediate and advanced level studio and elective courses in their junior and senior years.

In the current 12ADNB curriculum the six-credit studio, ADN 202 is required in the sophomore fall semester and the six-credit hour studio ADN 400 is required in the sophomore spring semester. Although these two studios share and build upon student learning objectives, they do not cover the technical and creative foundations required for intermediate and advanced level studios and electives digital media, interactive media, or animation.

With the mandated reduction of credit hours for degree completion to 120 credit hours, the department is not able to add required courses to support the students' progression through these critical learning paths.

The proposed curriculum revision reduces the credit hours of ADN 202 and ADN 400 to three credit hours each. And reassigns two courses that were previously advised electives to be additional required three-credit studies.

The proposed required sophomore studios will be ADN 202 and ADN 203 in the fall semester and ADN 204 (formerly AND 400) and ADN 205 in the spring semester.

	<b>CURRENT 12ADNB Curriculum</b>	<b>PROPOSED 12ADNB Curriculum</b>
<b>FALL SEMESTER</b>	ADN 202 Visual Composition	ADN 202 Visual Composition
		ADN 203 Sequential Imaging
<b>SPRING SEMESTER</b>	ADN 400 Applied Creative Processes	ADN 204 Applied Creative Processes
		ADN 205 Interactive Media

**Impact of the revision on other departments/programs.**

The proposed revisions do not impact other departments or programs.

**Statement on how the revision will impact current students in the program.**

Recognizing that the new course number ADN 203 is based on an advised elective ADN 226 that has been taken primarily by juniors and seniors due to the old curriculum constraints, an additional section of that course is being offered in the Fall 2019 for juniors and seniors only. The fall 2019 semester will be the only year this additional course offering will be required as all incoming Fall 2019 freshman will be under the revised curriculum as proposed.

Current rising sophomores have been advised to enroll in the studio ADN202 and ADN226 for the Fall 2019 semester. When the curriculum changes, they will be in the correct courses ADN202 and 203 that have been submitted in CIM and awaits UCCC approval.

The department will work with the College of Design Student Services to update all rising sophomore student degree audits to the proposed curriculum.

**Proposed effective date for the revision.**

The revisions are proposed to be in effect for the Fall 2019 semester.

FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Back to Top (Agenda)

Indicate display status: Current: Proposed: **x** Proposed Effective Semester: **Fall 2019**

Degree/Plan Title: Art and Design (Bachelor)

Concentration/Subplan Title:

Plan SIS Code:

Subplan SIS Code:

New Degree Audit required? (Y or N) **Y**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
D 100 Design Thinking	3	D 105 First Year Studio II <sup>1,9</sup>	6
D 104 First Year Studio I <sup>1,9</sup>	6	MA 111 Precalculus, Algebra and Trigonometry <sup>A</sup>	3
ENG 101 Acad. Writing & Research <sup>9,H</sup>	4	ADN 281 Drawing I <sup>2,9</sup>	3
ADN 219 Digital Imaging <sup>2,9</sup>	3	GEP Health and Exercise Studies Course <sup>E</sup>	1
<i>Total:16</i>		<i>Total:13</i>	
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN 202 Sophomore Practicum section I & II <sup>1,9</sup>	6	ADN 203 Sophomore Practicum section I & II <sup>1,9</sup>	6
ADN 202 Sophomore Studio Series <sup>1,9</sup>	3	ADN 204 Sophomore Studio Series <sup>1,9</sup>	3
ADN 203 Sophomore Studio Series <sup>1,9</sup>	3	ADN 205 Sophomore Studio Series <sup>1,9</sup>	3
ADN Advised Elective <sup>3,4</sup> <del>Drawing<sup>4</sup></del>	3	ADN Advised Elective <sup>3,4</sup> <del>Digital Media<sup>3</sup></del>	3
Advanced Writing <sup>6</sup>		History of Art, History of Design <sup>5</sup>	
GEP Mathematical Sciences Requirement <sup>A</sup>		GEP Natural Sciences Requirement <sup>B</sup>	
<i>Total:15</i>		<i>Total:15</i>	
JUNIOR YEAR - <i>International Experience<sup>8</sup> recommended at this time</i>			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN Studio <sup>1,9</sup>	6	ADN Studio <sup>1,9</sup>	6
GEP Natural Sciences Requirement <sup>B</sup>	4	GEP Social Sciences Requirement <sup>D</sup>	3
ADN Advised Elective <sup>7</sup>	3	GEP Humanities Requirement <sup>C</sup>	3
GEP Social Sciences Requirement <sup>D</sup>	3	ADN 418 Contemporary Issues in Art & Design <sup>2,9</sup>	3
Free Elective	2		
<i>Total:18</i>		<i>Total:15</i>	
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN Studio <sup>1,9</sup>	6	ADN Studio <sup>1,9</sup>	6
ADN Advised Elective <sup>7</sup>	3	ADN Advised Elective <sup>7</sup>	3
ADN 493 Art + Design Senior Lecture <sup>2,9</sup>	3	GEP Humanities Requirement <sup>C</sup>	3
GEP Addl. Breadth Requirement <sup>F</sup>	3	GEP Health & Exercise Studies Course <sup>E</sup>	1
<i>Total:15</i>		<i>Total:13</i>	
Minimum Credit Hours Required for Graduation <sup>G,I,J,K</sup> : 120			

**Bachelor of Art and Design Major/Program Footnotes:**

**Total requirements for graduation:** 120 credit hours

**Art and Design Critical Path:** 84 credit hours

**Art and Design Studio: 48 credit hours**

- One (1) six-credit-hour studio or two (2) three-credit hour studios is required each semester; no more than six-credit hours of studio may be taken in any semester. Thirty-six (36) credit hours of studios beyond required First Year Experience (D 104, D 105) are required for a total of forty-eight (48) studio credit hours. All sections of ADN 202, AND 203, ADN 204, and ADN 205 must be taken sophomore year to complete the Sophomore Studio Series. The Art + Design Sophomore Studio Series focuses on the creative disciplines foundations taught at the intermediate and advance level Art + Design electives and studios. The Sophomore Studio Series courses include: Visual Composition (ADN 202); Sequential Imaging (ADN 203); Applied Creative Processes (ADN 204); and Interactive

**Media (ADN 205)** The other four (4) studio courses may be selected from ADN 460, ADN 470, ADN 480, ADN 490, ADN 560, ADN 570, or one swing studio course from: ARC 400, GD 201, GD 202, ID 201, or LAR 400. No more than one non-ADN studio course can fulfill the studio requirement.

#### Art and Design Required Core Classes: 24 credit hours

2. Twelve (12) credit hours of required Art and Design Core courses include: ADN 219, ADN 281, ADN 418, and ADN 493.
3. An additional three (3) credit hours of Digital Media **or Fibers and Textiles** Elective beyond ADN 219 is required, selected from: ADN 311, ADN 319, ADN 419, ADN 411, ADN 492, ID 215, ID 315, ID 415, ARC 251, or TAM 271.
4. An additional three (3) credit hours of Drawing Elective beyond ADN 281 are required, selected from ADN 411, ADN 481, ADN 492, ID 318, ID 418, and ARC 251.
5. One survey course (3 credit hours) in Art History or Design History is required. Select from the following: ADN 475, ADN 492, HA 202, HA 203, HA 298, ARC 141, GD 203, ID 244 or LAR 444.
6. Advanced Writing (3 credit hours) select one: ENG 287, 288, 292, 316, 323, 325.

#### Art and Design Advised Electives: 9 credit hours

7. Nine (9) hours of ADN Advised Electives required in addition to the required first year ADN 281, ADN 219, and second year ADN Advised Electives in Drawing and Digital Media. Select courses from ADN 112, 212, 220, 221, 224, 226, 272, 273, 276, 274, 292, 311, 312, 319, 372, 384, 386, 411, 414, 415, 419, 423, 481, and 494.

#### International Experience Requirement

8. The Spring semester of Junior year opens the opportunity to fulfill the College's International Experience requirement. Please consult your advisor and the Department Head.
9. A grade of C- or higher is required.

#### **General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – *Includes recommended MA 111 and one course from the University approved GEP Mathematical Sciences course list*).
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- E. **Health and Exercise Studies** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Humanities/Social Sciences/Visual and Performing Arts or  Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements (**but do not count towards minimum credit hours**):

- I. **U.S. Diversity** (USD)  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- J. **Global Knowledge** (GK)  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

# CURRICULUM REQUIREMENTS

## Format B

<u>Degree/Plan Title:</u> Art and Design (Bachelor)	<u>Plan SIS Code:</u>
<u>Concentration/Subplan Title:</u>	<u>Subplan SIS Code:</u>
<u>Indicate requirements status:</u> Current:                      Proposed: X <u>Proposed Effective Semester:</u> Fall 2019	
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>	<b>Credit Hours</b>	<b>GEP category, if applicable</b>
<b><i>Required Courses/Groups/ Electives:</i></b>		
<b>Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.</b>		<b>List GEP category and hours satisfied by a Major requirement</b>
<b>Art and Design Studio: 48 credit hours</b> 1. One (1) six-credit-hour studio or two (2) three-credit hour studios is required each semester; no more than six-credit hours of studio may be taken in any semester. Thirty-six (36) credit hours of studios beyond required First Year Experience (D 104, D 105) are required for a total of forty-eight (48) studio credit hours. All sections of ADN 202, ADN 203, ADN 204, and ADN 205 must be taken sophomore year to complete the Sophomore Studio Series. The Art + Design Sophomore Studio Series focuses on the creative disciplines foundations taught at the intermediate and advance level Art + Design electives and studios. The Sophomore Studio Series courses include: Visual Composition (ADN 202); Sequential Imaging (ADN 203); Applied Creative Processes (ADN 204); and Interactive Media (ADN 205). The other four (4) studio courses may be selected from ADN 460, ADN 470, ADN 480, ADN 490, ADN 560, ADN 570, or one swing studio course from: ARC 400, GD 201, GD 202, ID 201, or LAR 400. No more than one non-ADN studio course can fulfill the studio requirement.	48	C-wall for all Art and Design Studios
<b>Art and Design Required Core Classes: 24 credit hours</b> 2. Twelve (12) credit hours of required Art and Design Core courses include: ADN 219, ADN 281, ADN 418, and ADN 493. 3. An additional three (3) credit hours of Digital Media or Fibers and Textiles Elective beyond ADN 219 is required, selected from: ADN 311, ADN 319, ADN 419, ADN 411, ADN 492, ID 215, ID 315, ID 415, ARC 251, or TAM 271. 4. An additional three (3) credit hours of Drawing Elective beyond ADN 281 are required, selected from ADN 411, ADN 481, ADN 492, ID 318, ID 418, and ARC 251. 5. One survey course (3 credit hours) in Art History or Design History is required. Select from the following: ADN 475, ADN 492, HA 202, HA 203, HA 298, ARC 141, GD 203, ID 244 or LAR 444. 6. Advanced Writing (3 credit hours) select one: ENG 287, 288, 292, 316, 323, 325.	24	C-wall for all Art and Design Required Core Classes
<b>Art and Design Advised Electives: 9 credit hours</b> 7. Nine (9) hours of ADN Advised Electives required in addition to the required first year ADN 281, ADN 219, and second year ADN Advised Electives in Drawing and Digital Media. Select courses from ADN 112, 212, 220, 221, 224, 226, 272, 273, 276, 274, 292, 311, 312, 319, 372, 384, 386, 411, 414, 415, 419, 423, 481, and 494.	9	
<b><u>Concentration Courses/Groups/Electives:</u></b>		
<b><u>Free Electives:</u></b>	2	

<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	83	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b>		
<b>Other:</b> D100	3	
<b>Total credit hours under College Requirements:</b>	86	

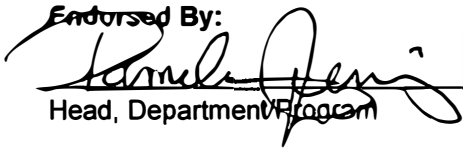
<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		1 Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		2 Minimum requirements are satisfied by Major/College course requirements.
		3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
		4 Co-requisite is satisfied by a Major/College course requirement.
		5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
		6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<b>How will the GEP requirement be met?</b> <b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) <i>(At least 1 course with MA or ST prefix)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	<i>(Choose statement 1, 2 or 3)</i> 3 hours of this requirement is satisfied by the Mathematics requirement in the major. Choose an additional course(s) from the University Approved GEP course list for this category.
<b>Natural Sciences</b> (7 credits) <i>(At least 1 lab course or course with a lab)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	7	<i>(Choose statement 1, 2 or 3)</i> Choose course(s) from the University Approved GEP course list for this category.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) <i>(Courses from two different disciplines)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	<i>(Choose statement 1, 2 or 3)</i> Choose course(s) from the University Approved GEP course list for this category.
<b>Social Sciences</b> (6 credits) <i>(Courses from two different disciplines)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	<i>(Choose statement 1, 2 or 3)</i> Choose course(s) from the University Approved GEP course list for this category.
<b>Additional Breadth</b> (3 credits) <i>(Choose approach that is different from the approach of the Major)</i> <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	<i>(Choose statement 5 or 6)</i> Choose course(s) from the University Approved GEP course list for this category.
<b>Interdisciplinary Perspectives</b> (5 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>		<i>(Choose statement 1, 2 or 3)</i>
<b>Health and Exercise Studies</b> (2 credits) <i>(Including one Fitness and Wellness course)</i>	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	34	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>

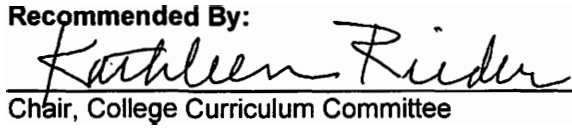
<b>U.S. Diversity co-requisite</b>	(USD)	n/a	<i>(Choose statement 1 or 4)</i>
<b>Global Knowledge co-requisite</b>	(GK)	n/a	<i>(Choose statement 1 or 4)</i>
<b>Foreign Language Proficiency</b>		n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>			Place an <b>X</b> in the credit hour box to indicate below that the requirement is <b>"Satisfied by College/Program Requirements"</b>
<b>Communication in the Major (Advanced Communication)</b>			Satisfied by College/Program Requirements
<b>Technology Fluency</b>			Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.		120	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>



**North Carolina State University**

This request has been reviewed and approved by the appropriate campus committees and authorities.

**Endorsed By:**  
  
Head, Department Program  
Date: 4/3/19

**Recommended By:**  
  
Chair, College Curriculum Committee  
Date: 4/3/19

**Endorsed By:**  
  
College Dean  
Date: 4/3/19

**Recommended By:**  
\_\_\_\_\_  
Vice Provost, DELTA (if DE degree/certificate) Date

**Recommended By:**  
\_\_\_\_\_  
Chair, University Courses & Curricula Committee Date

**Approved By:**  
\_\_\_\_\_  
Dean, (DASA or the Graduate School) Date

**Recommended By:**  
\_\_\_\_\_  
Dean's Council Date

**Approved By:**  
\_\_\_\_\_  
Executive Vice Chancellor and Provost Date

**Approved By:**  
\_\_\_\_\_  
Chancellor Date

**College of Education**  
Department of Science, Technology, Engineering & Mathematics Education

Mathematics Education Program

Dr. Cyndi Edgington  
Campus Box 7801  
Raleigh, NC 27695

P: 919.515.1754

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## MEMORANDUM

To: University Course and Curriculum Committee

From: Cyndi Edgington, Undergraduate Program Coordinator,  
Mathematics Education

Date: February 26, 2019

RE: Mathematics Education: minor revisions to Middle Grades and major revisions to the Statistics Dual Degree

To whom it may concern,

The program has updated the curricula for two Mathematics Education degree options: Mathematics Education and Statistics (Dual Major) (BS), and Mathematics Education (BS): Middle Grades. Adjustments to the Statistics Dual Degree are based on changes in the course offerings by the Statistics Department, in consultation with Dr. Spencer Muse (see attached email correspondence). Changes to the Middle Grades options were made so that that degree option is more in line with the other Mathematics Education degree options, as detailed below.

Here is an outline of the changes:

1. Courses in the Middle Grades option were rearranged so that students complete EMS 471: Student Teaching during the spring semester of the senior year. This is in line with the other degree options in the STEM Education Department.
2. In the Statistics Dual Degree, the Statistics Department will no longer offer ST 305, so this was removed from the degree audit.
3. In the Statistics Dual Degree, ST 311, ST 312, and ST 308, and an advanced Statistics Elective were added to be in line with the Statistics (BS) degree.
4. In the Statistics Dual Degree, EMS 471 was changed to 10 hours and EMS 495 (2 hours) were added to be in line with other Mathematics Education degree options. This does not change the total number of hours.

A record of these revisions is provided as tracked version of each curriculum display.

Sincerely,

Cyndi Edgington

From: **Spencer Muse** <[muse@ncsu.edu](mailto:muse@ncsu.edu)>  
Date: Thu, Jan 24, 2019 at 11:12 AM  
Subject: Re: Math Ed/Stat double degree  
To: Karen Hollebrands <[kfholleb@ncsu.edu](mailto:kfholleb@ncsu.edu)>  
Cc: Dennis Boos <[boos@ncsu.edu](mailto:boos@ncsu.edu)>

Hi Karen. I have new updates for you about this dual degree plan. The short version is that we may want to temporarily halt new admissions to the program for a semester or so.

On Friday our faculty approved some pretty substantial changes to the ST undergraduate degree. I'm attaching a Format A document that illustrates the changes. Blue highlights are deletions or previous locations of moved courses, yellow ones are either additions or new locations. IN other words, if you just ignore the blue things you will have our new 8-semester display.

From the dual degree perspective, the biggest impact is going to be our replacement of the 4-credit ST 305 with the 6-credit pair of ST 311 + 312. The reason for this is that over 75% of our students are now entering with AP Stat credit for ST 311, and they were seeing no benefit from that. I suspect that many/most dual degree students will have AP credit, and thus the *\*practical\** result of the change is a reduction of one NCSU credit (from 4 to 3), since most will only need to take 312. On paper it obviously is an increase from 4 to 6, though.

Along with this change is a plan to stop teaching ST 305, with the final offering hopefully being Fall 2019. We will send out a formal consult request about this when we initiate the paperwork for deleting 305 from the catalog.

My suggestions in terms of adjustments to the dual degree plan (references are to our previously adjusted plan, which I've reattached here)

- + Add ST 311 to FR Fall (+3 credits, but many will have AP credit for this)
- Remove ST 114 from curriculum (-3 credits)
  
- Remove ST 305 from FR Spring (-4 credits)
- + Add ST 312 to FR Spring (+ 3 credits)
  
- + Add ST 308 to SO Fall (+1 credit- this helps offset the loss of statistical computing exposure in ST 114)

Those changes will keep the total plan at 128 credits, but keeps the main flavor of our ST curriculum (with the exception of significantly reducing the statistical computing elements. One of the other approved changes was adding a new Computational Statistics requirement, which I have not suggested for inclusion in the dual degree. Thus, dual degree students will have 6 fewer credits in statistical computing than their ST counterparts.)

If you have any questions or if you'd like to get together to discuss things, let me know.

Thanks-  
Spencer

**FORMAT A**  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

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Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2019

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Middle Grades

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDMSM

New Degree Audit required? (Y or N) N

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 141, Calculus I <sup>A,6</sup>	4 (CP)	MA 241, Calculus II <sup>A,2</sup>	4 (CP)
CH 100, Chemistry and Society <sup>B,1</sup> OR CH 101/102 Chemistry: A Molecular Science <sup>B,1</sup> /General Chemistry Laboratory <sup>B,1</sup>	4	BIO 105, Biology in the Modern World <sup>B,1</sup> BIO 106 Biology in the Modern World Lab <sup>B,1</sup>	3 1
ENG 101, Academic Writing & Research <sup>H</sup>	4	COM 112 Interpersonal Communication <sup>D</sup>	3
HES ***Health & Exercise Studies Course <sup>E</sup>	1	GEP Interdisc. Persp. Req <sup>G,I,J</sup>	3
ED 100 Intro. to Education <sup>5</sup>	2	HES ***Health & Exercise Studies Course <sup>E</sup>	1
	<i>Total:15</i>		<i>Total:15</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 225, Foundations of Adv Math <sup>2,6</sup>	3 (CP)	MA Linear Algebra Elective <sup>2,7</sup>	3
PY 131, Conceptual Physics <sup>B,1</sup>	4	Discrete Mathematics <sup>2,3</sup> or Science Elective <sup>1,8</sup>	3
EMS 204 Intro to Teaching Math <sup>5</sup>	2 (CP)	Mathematics <sup>2,4</sup> or Science Elect. <sup>1,8</sup>	3
ED 204 Intro to 21st Cent. Teaching <sup>5</sup>	2 (CP)	EDP 304 Educational Psychology <sup>5,D</sup>	3
GEP Humanities Req <sup>C,I,J</sup>	3	ECI 309 Teaching in Middle Grades <sup>5</sup>	3
Free Elective	2	GEP Humanities Req <sup>C,I,J</sup>	3
	<i>Total:16</i>		<i>Total:18</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 403 Intro to Modern Algebra <sup>2</sup>	3	MA 408 Foundations of Euclidean Geometry <sup>2</sup>	3
ELP 344 School and Society <sup>5</sup>	3	ECI 306 Reading and Writing in Middle Years <sup>5</sup>	3
ED 311 Class. Assess. Princ. & Pract. <sup>5</sup>	2	ECI 416 Teaching Except. Students <sup>5</sup>	3
ED 312 Class. Assess. Princ. & Pract.: Prof. Learn. Lab <sup>5</sup>	1	EMS 480 Teaching Math with Technology	3
ST 311 Introduction to Statistics <sup>2</sup>	3	Mathematics Elective <sup>2,4</sup> or EMS 375	3
GEP Addtl. Breadth Req <sup>F,I,J</sup> (HUM/SS/VPA) <sup>F,I,J</sup>	3		
	<i>Total:15</i>		<i>Total:15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
EMS 474 Teach Math Topics in Mid Years <sup>5</sup>	3	EMS 471: Student Teaching <sup>5</sup>	10
EMS 470: Methods & Materials for Teaching Math <sup>5</sup>	3	EMS 495: Seminar <sup>5</sup>	2
EMS 490 School Mathematics from and Advanced Perspective	3		
Mathematics <sup>2,4</sup> or Science Elect. <sup>1,8</sup>	3		
GEP Interdisciplinary Perspectives Req <sup>G,I,J</sup>	2		
	<i>Total:14</i>		<i>Total:12</i>
Minimum Credit Hours Required for Graduation*: 120			

**Major/Program Footnotes:**

1. At most one grade below a C- is permitted in the courses satisfying the science requirements for a student intending to license in mathematics. For a student intending to license in mathematics and science, no grades below a C are permitted in the courses satisfying the science requirements.

2. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
3. One discrete mathematics elective must be selected from MA 103, MA 105, or MA 114
4. Math electives must be chosen from the following, if appropriate prerequisites have been met: MA 116, ST 312, MA 242, MA 325, MA 335, MA 341, MA 351, MA 402, MA 410, MA 416, MA 421, MA 425, MA 427, MA 430, MA 432, MA 433, MA 435, MA 437, LOG 335.
5. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, ED courses.
6. Grade below a C is not permitted in MA 141 or MA 225.
7. Linear algebra Elective can be selected from MA 205, MA 305, or MA 405.
8. To be eligible for a teaching license in mathematics only, either mathematics or science courses may be selected. (See footnote 4 for mathematics choices and see below for science choices.) To be eligible for teaching licenses in both mathematics and science, two science elective courses must be selected from EMS 375, PY 124, MEA 130 or MEA 101 and one must be chosen from PY 123, MEA 130, MEA 101, ES 100, ES 200, or ES 300. Grades below C are not permitted in these science courses.

#### **General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **MA 141, MA 241**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 100, OR CH 101/CH 102, BIO 105/106, PY 131**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **COM 112, EDP 304**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Humanities/Social Sciences/Visual and Performing Arts or \_\_\_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **none**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

#### **The following Co-Requisites must be satisfied to complete the General Education Program requirements:**

- I. **U.S. Diversity (USD)**  
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**
- J. **Global Knowledge (GK)**  
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

**FORMAT A**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2019

Degree/Plan Title: Mathematics Education Concentration/Subplan Title: Middle Grades

Plan SIS Code: 13MTHEDBS Subplan SIS Code: 13MTHEDMSM

New Degree Audit required? (Y or N) N

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 141, Calculus I <sup>A,6</sup>	4 (CP)	MA 241, Calculus II <sup>A,2</sup>	4 (CP)
CH 100, Chemistry and Society <sup>B,1</sup> OR CH 101/102 Chemistry: A Molecular Science <sup>B,1</sup> /General Chemistry Laboratory <sup>B,1</sup>	4	BIO 105, Biology in the Modern World <sup>B,1</sup>	3
ENG 101, Academic Writing & Research <sup>H</sup>	4	BIO 106 Biology in the Modern World Lab <sup>B,1</sup>	1
HES ***Health & Exercise Studies Course <sup>E</sup>	1	COM 112 Interpersonal Communication <sup>D</sup>	3
ED 100 Intro. to Education <sup>5</sup>	2	GEP Interdisc. Persp. Req. <sup>G,I,J</sup>	3
		HES ***Health & Exercise Studies Course <sup>E</sup>	1
	<b>Total:15</b>		<b>Total:15</b>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
<del>MA 225, Foundations of Adv Math<sup>2,6</sup></del>	<del>3 (CP)</del>	<del>MA 225, Foundations of Adv Math<sup>2,6</sup></del>	<del>3</del>
<del>MA Linear Algebra Elective<sup>2,2</sup></del>	<del>3</del>	<del>MA Linear Algebra Elective<sup>2,7</sup></del>	<del>3</del>
PY 131, Conceptual Physics <sup>B,1</sup>	4	Discrete Mathematics <sup>2,3</sup> or Science <sup>4,8</sup> Elective <sup>1,8</sup>	3
EMS 204 Intro to Teaching Math <sup>5</sup>	2 (CP)	Mathematics <sup>2,4</sup> or Science Elect. <sup>1,8</sup>	3
ED 204 Intro to 21st Cent. Teaching <sup>5</sup>	2 (CP)	EDP 304 Educational Psychology <sup>5,D</sup>	3
GEP Humanities Req. <sup>C,I,J</sup>	3	ECI 309 Teaching in Middle Grades <sup>5</sup>	3
Free Elective	2	GEP Humanities Req. <sup>C,I,J</sup>	3
	<b>Total:16</b>		<b>Total:18</b>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 403 Intro to Modern Algebra <sup>2</sup>	3	MA 408 Foundations of Euclidean Geometry <sup>2</sup>	3
ELP 344 School and Society <sup>5</sup>	3	<del>EMS 474 Teach Math Topics in Mid Years<sup>5</sup></del>	<del>3</del>
ED 311 Class. Assess. Princ. & Pract. <sup>5</sup>	2	<del>EMS 470 Methods &amp; Materials for Teaching Math<sup>5</sup></del>	<del>3</del>
ED 312 Class. Assess. Princ. & Pract.: Prof. Learn. Lab <sup>5</sup>	1	<del>ECI 306 Reading and Writing in Middle Years<sup>5</sup></del>	<del>3</del>
ST 311 Introduction to Statistics <sup>2</sup>	3	<del>ECI 416 Teaching Except. Students<sup>5</sup></del>	<del>3</del>
GEP Addtl. Breadth Req.(HUM/SS/VPA) <sup>F,I,J</sup>	3	EMS 480 Teaching Math with Technology Mathematics Elective <sup>2,4</sup> or EMS 375	3
	<b>Total:15</b>		<b>Total:15</b>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
<del>EMS 474 Teach Math Topics in Mid Years<sup>5</sup></del>	<del>3</del>	EMS 471: Student Teaching <sup>5</sup>	10
<del>EMS 470: Methods &amp; Materials for Teaching Math<sup>5</sup></del>	<del>3</del>	EMS 495: Seminar <sup>5</sup>	2
<del>EMS 490 School Mathematics from and Advanced Perspective<sup>5</sup></del>	<del>3</del>	Mathematics <sup>2,4</sup> or Science Elect. <sup>1,8</sup>	3
<del>Mathematics<sup>2,4</sup> or Science Elect.<sup>1,8</sup></del>	<del>3</del>	ECI 306 Reading and Writing in Middle Years <sup>5</sup>	3
<del>GEP Interdisciplinary Perspectives Req<sup>G,I,J</sup></del>	<del>2</del>	ECI 416 Teaching Except. Students <sup>5</sup>	3
<del>EMS 471: Student Teaching<sup>5</sup></del>	<del>3</del>	EMS 490 School Mathematics from and Advanced Perspective	3
EMS 495: Seminar <sup>5</sup>	2	GEP Interdisciplinary Perspectives Req <sup>G,I,J</sup>	2-3
	<b>Total:14<sup>2</sup></b>		<b>Total:124- 15</b>

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Minimum Credit Hours Required for Graduation*: 120
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**Major/Program Footnotes:**

1. At most one grade below a C- is permitted in the courses satisfying the science requirements for a student intending to license in mathematics. For a student intending to license in mathematics and science, no grades below a C are permitted in the courses satisfying the science requirements.
2. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
3. One discrete mathematics elective must be selected from MA 103, MA 105, or MA 114
4. Math electives must be chosen from the following, if appropriate prerequisites have been met: MA 116, ST 312, MA 242, MA 325, MA 335, MA 341, MA 351, MA 402, MA 410, MA 416, MA 421, MA 425, MA 427, MA 430, MA 432, MA 433, MA 435, MA 437, LOG 335.
5. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, ED courses.
6. Grade below a C is not permitted in MA 141 or MA 225.
7. Linear algebra Elective can be selected from MA 205, MA 305, or MA 405.
8. To be eligible for a teaching license in mathematics only, either mathematics or science courses may be selected. (See footnote 4 for mathematics choices and see below for science choices.) To be eligible for teaching licenses in both mathematics and science, two science elective courses must be selected from EMS 375, PY 124, MEA 130 or MEA 101 and one must be chosen from PY 123, MEA 130, MEA 101, ES 100, ES 200, or ES 300. Grades below C are not permitted in these science courses.

**\*General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **MA 141, MA 241**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 100, OR CH 101/CH 102, BIO 105/106, PY 131**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **COM 112, EDP 304**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Humanities/Social Sciences/Visual and Performing Arts or  Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **none**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

**The following Co-Requisites must be satisfied to complete the General Education Program requirements:**

- I. **U.S. Diversity (USD)**  
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**
- J. **Global Knowledge (GK)**  
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**
- K. **Foreign Language Proficiency** - Proficiency at the FL\_102 level is required for graduation.

**CURRICULUM REQUIREMENTS****Format B**

<u>Degree/Plan Title:</u> BS Mathematics Education	<u>Plan SIS Code:</u> 13MTHEDBS
<u>Concentration/Subplan Title:</u> Middle Grades	<u>Subplan SIS Code:</u> 13MTHEMMSM
<u>Indicate requirements status:</u> Current:                      Proposed: x	<u>Proposed Effective Semester:</u> 8.2019
<u>New Degree Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>GEP category, if applicable</i></b>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<b>Mathematical Sciences</b>		
<u>Statistics:</u> ST 311 (C or better)	3	
<u>Mathematics:</u>		
MA 141( C- or better required)	4 (CP)	GEP MA
MA 241	4 (CP)	GEP MA
MA 225 (C-or better required)	3 (CP)	
MA 403	3	
MA 408	3	
(at most one grade below a C is permitted in required and elective math, statistics, and computer science courses)		
<u>Linear Algebra Elective:</u> Choose from MA 205, 305 or 405 (at most one grade below a C is permitted in required and elective math, statistics, and computer science courses)	3	
<u>Discrete Math Elective:</u> Choose from MA 103, 105 or 114 (at most one grade below a C is permitted in required and elective math, statistics, and computer science courses)	3	
<u>Sciences:</u>		
(At most one grade below a C- is permitted in the courses satisfying the science requirement for a student intending to license in mathematics. For a student intending to license in mathematics and science, no grades below a C are permitted in the required science courses)		
CH 100 or CH 101/102	4	GEP Natural Science
BIO 105 and BIO 106	4	GEP Natural Science
PY 131	4	GEP Natural Science
Science elective (ES 100, ES 200, ES 300, MEA 101, MEA 130, PY 123)	3	
<u>Additional MA and SCI electives:</u>		
MA 116, ST 312, MA 242, MA 325, 335, 341, 351, 402, 410, 416, 421, 425, 427, 430, 432, 435, 437, LOG, 335, PY 124, MEA 130, MEA 101, EMS 375	6	
To be eligible for a teaching license in <u>mathematics only</u> , either mathematics or science courses may be selected. To be eligible for teaching licenses in <u>both mathematics and science</u> , two science elective courses must be selected from EMS 375, PY 124, MEA 130 or MEA 101 and one must be chosen from PY 123, MEA 130, MEA 101, ES 100, ES 200, or ES 300. Grades below a C are not permitted in these sciences courses. (at most one grade below a C is permitted in required and elective math,		



statistics, and computer science courses)		
Communication: COM 112	3	GEP Social Science
<b>Professional Education:</b> EMS 204 (B- or higher) ED 204 (C or higher) (C- not acceptable) EDP 304 (C or higher) (C- not acceptable) ECI 309 (C or higher) (C- not acceptable) ECI 306 (C or higher) (C- not acceptable) ELP 344 (C or higher) (C- not acceptable) EMS 480 (C or higher) (C- not acceptable) ED 311 (C or higher) (C- not acceptable) ED 312 (C or higher) (C- not acceptable) EMS 474 (C or higher) (C- not acceptable) EMS 470 (C or higher) (C- not acceptable) EMS 471 (C or higher) (C- not acceptable) EMS 495 (C or higher) (C- not acceptable) EMS 490 (C or higher) (C- not acceptable) ECI 416 (C or higher) (C- not acceptable)	2 (CP) 2 (CP) 3 3 3 3 3 2 1 3 3 3 10 2 3 3	GEP Social Science
<b>Free Electives:</b>	2	
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	98 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> ED 100- Introduction to Education (Req. for freshmen)	2	
<b>Total credit hours under College Requirements:</b>	2 Hours	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not</u> be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></b></p>		<ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b><i>(Choose applicable statement from 1-6 listed above)</i></b>
<b>Mathematical Sciences</b> (6 credits) <b>(At least 1 course with MA or ST prefix)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> <b>MA 141, MA 241</b>		(Choose statement 1, 2 or 3) 2
<b>Natural Sciences</b> (7 credits) <b>(At least 1 lab course or course with a lab)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> <b>CH 100, OR CH 101/102, BIO 105/106, PY 131</b>		(Choose statement 1, 2 or 3) 2
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101

<b>Humanities</b> (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. (6 credits)	6	(Choose statement 1, 2 or 3) 1
<b>Social Sciences</b> (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. COM 112, EDP 304 ( 6 credits)		(Choose statement 1, 2 or 3) 2
<b>Additional Breadth</b> (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and on AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites. (3 credits)	3	(Choose statement 5 or 6) 5
<b>Interdisciplinary Perspectives</b> Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. ( 5 credits)	5	(Choose statement 1, 2 or 3) 1
<b>Health and Exercise Studies</b> (Including one Fitness and Wellness course) (2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	20 hours	
<b>GEP Co-Requisites:</b>		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
<b>U.S. Diversity co-requisite</b> (USD)	n/a	(Choose statement 1 or 4) 1
<b>Global Knowledge co-requisite</b> (GK)	n/a	(Choose statement 1 or 4) 1
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>	x	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	x	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

**FORMAT A**  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Back to Top (Agenda)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2019

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Mathematics Education and Statistics  
(Dual Major)

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDBS-13MTHEDSD

New Degree Audit required? (Y or N) Y

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

Fall Semester	Credits	Spring Semester	Credits
MA 141, Calculus I <sup>A,4</sup>	4 (CP)	MA 241, Calculus II <sup>A,4</sup>	4 (CP)
ENG 101, Academic Writing & Research <sup>H</sup>	4	Science <sup>1,B,3</sup>	4
ST 311 Introduction to Statistics <sup>4</sup>	3 (CP)	ST 312 Introduction to Statistics II <sup>4</sup>	3
HES_*** Health & Exercise Studies Course <sup>E</sup>	1	COM 112 Interpersonal Communication <sup>D</sup>	3
ED 100 Intro to Teaching in 21st Century <sup>2</sup>	2	ST 307 Introduction to Statistical Programming- SAS <sup>4</sup>	1
	Total: 14		Total: 15
Fall Semester	Credits	Spring Semester	Credits
MA 242, Calculus III <sup>4</sup>	4 (CP)	ST 445 Intro Stat Comp & Data Mgmt <sup>4</sup>	3 (CP)
MA 225, Foundations of Advanced Math <sup>4</sup>	3 (CP)	MA 405, Linear Algebra and Matrices <sup>4</sup>	3
Science <sup>1,B,3</sup>	4	Science <sup>1,B,3</sup>	3
ST 308 Introduction to Statistical Programming- R <sup>4</sup>	1	GEP Interdisc. Persp. Req <sup>t. G</sup>	2
EMS 204 Intro to Teaching Math <sup>2</sup>	2 (CP)	GEP Humanities Req <sup>t. C</sup>	3
ED 204 Intro to 21st Century Teaching <sup>2</sup>	2 (CP)	GEP Humanities Req <sup>t. C</sup>	3
HES_*** Health & Exercise Studies Course <sup>E</sup>	1		
	Total: 17		Total: 17
Fall Semester	Credits	Spring Semester	Credits
ST 421 Intro to Math. Statistics I <sup>4</sup>	3	ST 422 Intro to Math. Statistics I <sup>4</sup>	3
MA 403 Intro to Modern Algebra <sup>4</sup>	3	ST 432 Intro to Survey Sampling <sup>4</sup>	3
ELP 344 School and Society <sup>2</sup>	3	EMS 480 Teaching Mathematics with Technology <sup>2</sup>	3
EDP 304 Educ. Psychology <sup>D,2</sup>	3	ST 431 Intro to Exp. Design <sup>4</sup>	3
ECI 416 Teaching Exceptional Students <sup>2</sup>	3	ED 311 Class. Assess. Princ. & Pract. <sup>2</sup>	2
ST 430 Intro to Regression Analysis <sup>4</sup>	3	ED 312 Class. Assess. Princ & Pract.: Prof. Lab <sup>2</sup>	1
	Total: 18	GEP Interdisc. Perspect. Req <sup>t. G</sup>	3
	Total: 18		Total: 18
Fall Semester	Credits	Spring Semester	Credits
MA 408 Found of Euclidean Geometry <sup>4</sup>	3		
EMS 472 Teaching Math Topics in High School <sup>2</sup>	3	EMS 471 Student Teaching <sup>2</sup>	10
EMS 470: Methods & Materials for Teaching Math <sup>2</sup>	3		
Advanced Statistics Elective <sup>4,5</sup>	3	EMS 495 Seminar <sup>2</sup>	2
GEP Addtl Breadth Req. (HUM/SS/VPA) <sup>F</sup>	3		
EMS 490 School Math from an Adv. Persp. <sup>2</sup>	3		
	Total: 18		Total: 12
Total Credit Hours: 129			

**Major/Program Footnotes:**

1. To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the GEP list of approved science courses.
2. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.

3. At most one grade below a C- is permitted in the courses satisfying the science requirement.
4. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses. A C- or better is required in ST 421.
5. Advanced Statistics Elective must be ST-labeled course at the 400 or 500 level.

**\*General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/102 and CH 201/202; or BIO 181/183; or PY 201/202 or PY 205/208 or PY 211/212*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: ED 304, COM 112*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Humanities/Social Sciences/Visual and Performing Arts or \_\_\_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity (USD)**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- J. **Global Knowledge (GK)**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

**FORMAT A**  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2019

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Mathematics Education and Statistics  
(Dual Major)

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDBS-13MTHEBSD

New Degree Audit required? (Y or N) Y

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

Fall Semester	Credits	Spring Semester	Credits
MA 141, Calculus I <sup>A,44</sup>	4 (CP)	MA 241, Calculus II <sup>A,44</sup>	4 (CP)
Science <sup>A,44</sup>	4	Science <sup>A,44</sup>	4
ENG 101, Academic Writing & Research <sup>H</sup>	4	ST 312 Introduction to Statistics II <sup>4</sup>	3
ST 311 Introduction to Statistics <sup>4</sup>	3 (CP)	ST 101H, Statistics by Example <sup>5</sup>	
E 115 Introduction to Computing Environments <sup>4</sup>	1	COM 112 Interpersonal Communication <sup>D</sup>	3
HES *** Health & Exercise Studies Course <sup>F</sup>	1	ST 307 Introduction to Statistical Programming- SAS <sup>4</sup>	1
ED 100 Intro to Teaching in 21st Century <sup>2,2</sup>	2	HES *** Health & Exercise Studies Course <sup>6</sup>	
	Total: 14 <del>5</del>		Total: 15
Fall Semester	Credits	Spring Semester	Credits
MA 242, Calculus III <sup>45</sup>	4 (CP)	ST 445 Intro Stat Comp & Data Mgmt <sup>45</sup>	3 (CP)
MA 225, Foundations of Advanced Math <sup>46</sup>	3 (CP)	MA 405, Linear Algebra and Matrices <sup>45</sup>	3
Science <sup>1,B,3</sup>	4	Science <sup>1,B,3,4</sup>	3
ST 308 Introduction to Statistical Programming- R <sup>4</sup>	1	GEP Interdisc. Persp. Req. <sup>G</sup>	2 <del>3</del>
ST 305 Statistical Methods <sup>4</sup>	2 (CP)	GEP Humanities Req. <sup>C</sup>	3
EMS 204 Intro to Teaching Math <sup>2</sup>	2 (CP)	GEP Humanities Req. <sup>C</sup>	3
ED 204 Intro to 21st Century Teaching <sup>2</sup>	1		
HES *** Health & Exercise Studies Course <sup>E</sup>			
	Total: 17 <del>6</del>		Total: 17 <del>8</del>
Fall Semester	Credits	Spring Semester	Credits
ST 421 Intro to Math. Statistics I <sup>35</sup>	3	ST 422 Intro to Math. Statistics I <sup>35</sup>	3
MA 403 Intro to Modern Algebra <sup>44</sup>	3	ST 432 Intro to Survey Sampling <sup>25</sup>	3
ELP 344 School and Society <sup>2</sup>	3	EMS 480 Teaching Mathematics with Technology <sup>2</sup>	3
EDP 304 Educ. Psychology <sup>D,2,2</sup>	3	ST 431 Intro to Exp. Design <sup>35</sup>	3
EC1 416 Teaching Exceptional Students <sup>3,2</sup>	3	ED 311 Class. Assess. Princ. & Pract. <sup>3,2</sup>	2
ST 430 Intro to Regression Analysis <sup>4,3</sup>	3	ED 312 Class. Assess. Princ & Pract.: Prof. Lab <sup>3,2</sup>	1
	Total: 18	GEP Interdisc. Perspect. Req. <sup>G</sup>	3
			Total: 18
Fall Semester	Credits	Spring Semester	Credits
MA 408 Found of Euclidean Geometry <sup>44</sup>	3		
EMS 472 Teaching Math Topics in High School <sup>4,2</sup>	3	EMS 471: Student Teaching <sup>4,2</sup>	12 <del>0</del>
EMS 470: Methods & Materials for Teaching Math <sup>4,2</sup>	3		
Advanced Statistics Elective <sup>4, 5</sup>	3	EMS 495 Seminar <sup>2</sup>	2
GEP Addtl Breadth Req. (HUM/SS/VPA) <sup>F</sup>	3		
EMS 490 School Math from an Adv. Persp. <sup>3,5</sup>			
	Total: 18 <del>5</del>		Total: 12
Total Credit Hours: 129 <del>6</del>			

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Major/Program Footnotes:

1. To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the GEP list of approved science courses.
2. ~~Introduction to programming course must be selected from MA 116, CSC 112, CSC 114, or CSC 116. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.~~
3. At most one grade below a C- is permitted in the courses satisfying the science requirement.
4. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses. A C- or better is required in ST 421.
5. ~~A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses. Advanced Statistics Elective must be ST-labeled course at the 400 or 500 level.~~

**General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/wap/academic-standards/gep/course-lists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/102 and CH 201/202; or BIO 181/183; or PY 201/202 or PY 205/208 or PY 211/212
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: ED 304, COM 112
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
X Humanities/Social Sciences/Visual and Performing Arts or \_\_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

**The following Co-Requisites must be satisfied to complete the General Education Program requirements:**

- I. **U.S. Diversity** (USD)  
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge** (GK)  
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

**CURRICULUM REQUIREMENTS****Format B**

<u>Degree/Plan Title:</u> BS Mathematics Education	<u>Plan SIS Code:</u> 13MTHEDBS
<u>Concentration/Subplan Title:</u> Mathematics Education and Statistics Dual Major	<u>Subplan SIS Code:</u> 13MTHEDMS-13MTHEDSD
<u>Indicate requirements status:</u> Current:                      Proposed: x	<u>Proposed Effective Semester:</u> 8.2019
<u>New Degree Audit required?</u> (Y or N) y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>GEP category, if applicable</i></b>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<b>Mathematical Sciences</b>		
<b><u>Statistics:</u></b>		
ST 311	3 (CP)	
ST 312	3	
ST 307	1	
ST 308	1	
ST 421	3	
ST 422	3	
ST 430	3	
ST 431	3	
ST 432	3	
ST 445	3 (CP)	
(at most one grade below a C is permitted in required and elective math, statistics, and computer science courses; A C- or better is required in ST 421)		
<b><u>Mathematics:</u></b>		
MA 141( C or better required)	4 (CP)	GEP MA
MA 241	4 (CP)	GEP MA
MA 242	4 (CP)	
MA 225 (C or better required)	3 (CP)	
MA 403	3	
MA 405	3	
MA 408	3	
(at most one grade below a C is permitted in required and elective math, statistics, and computer science courses)		
<b><u>Advanced Statistics Elective</u></b>		
Choose one ST-labeled 400 or 500 level course from ST 401, ST 404, ST 405, ST 412, ST 413, ST 433, ST 434, ST 437, ST 440, ST 442, ST 491, ST 495, ST 498, ST 501, ST 502, ST 503, ST 505, ST 506, ST 507, ST 508, ST 511, ST 512, ST 513, ST 514, ST 515, ST 516, ST 517, ST 519, ST 520, ST 524, ST 533, ST 535, ST 537, ST 540, ST 544, ST 546, ST 555, ST 556, ST 557, ST 561, ST 562, ST 563, ST 590	3	
<b><u>Sciences:</u></b>		
(To satisfy the science requirement, a sequence of two lab-based science courses must be taken. The third science may be selected from the GEP list of approved science courses)		
Choose from CH 101/102 and CH 201/202 OR BIO 181 and BIO 183 OR PY 201 and PY 202 OR PY 204 and PY 208 OR PY 211 and PY 212	4	GEP Natural Science
	4	GEP Natural Science

Science elective (At most one grade below a C- is permitted in the courses satisfying the science requirement)	3	GEP Natural Science
<u>Communication</u> : COM 112	3	GEP Social Science
<b>Professional Education:</b> EMS 204 (B- or higher) ED 204 (C or higher) (C- not acceptable) EDP 304 (C or higher) (C- not acceptable) ELP 344 (C or higher) (C- not acceptable) EMS 480 (C or higher) (C- not acceptable) ED 311 (C or higher) (C- not acceptable) ED 312 (C or higher) (C- not acceptable) EMS 472 (C or higher) (C- not acceptable) EMS 470 (C or higher) (C- not acceptable) EMS 471 (C or higher) (C- not acceptable) EMS 490 (C or higher) (C- not acceptable) EMS 495 (C or higher) (C- not acceptable) ECI 416 (C or higher) (C- not acceptable)	2 (CP) 2 (CP) 3 3 3 2 1 3 3 10 3 2 3	GEP Social Science
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	107 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> ED 100	2	
<b>Other:</b>		
<b>Total credit hours under College Requirements:</b>	2 Hours	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		1 Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		2 Minimum requirements are satisfied by Major/College course requirements.
		3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
		4 Co-requisite is satisfied by a Major/College course requirement.
		5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
		6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. MA 141, MA 241		(Choose statement 1, 2 or 3) 2
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. CH 101/102, CH 201/202, BIO 181/183, PY 201/202, PY 205/208, PY 211/212		(Choose statement 1, 2 or 3) 2
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines)	6	(Choose statement 1, 2 or 3)



Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.		1
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. COM 112, EDP 304		(Choose statement 1, 2 or 3) 2
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) 5
<b>Interdisciplinary Perspectives</b> (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	5	(Choose statement 1, 2 or 3) 1
<b>Health and Exercise Studies</b> (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	20 hours	
<b>GEP Co-Requisites:</b>		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
<b>U.S. Diversity co-requisite</b> (USD)	n/a	(Choose statement 1 or 4) 1
<b>Global Knowledge co-requisite</b> (GK)	n/a	(Choose statement 1 or 4) 1
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>	X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	129 Total hours	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>



[Back to Top \(Agenda\)](#)

2019 March 29

To: University Courses & Curriculum Committee  
  
From: Dr. George Hess, Director  
Environmental Sciences Program  
Department of Forestry & Environmental Resources  
  
Re: Proposed changes to Environmental Sciences Curriculum

To whom it may concern,

Please find attached a request to change the Environmental Sciences curriculum in the Department of Forestry & Environmental Resources to be effective fall semester 2019.

The changes are in response to creation of an Environmental First Year program and evolving student needs in the Environmental Sciences program.

Please find attached the following:

- Summary of Changes
- Revised Format A for Environmental Sciences (ES), with track changes
- Revised Format B for Environmental Sciences (ES), with track changes

Approval Signatures:

  
\_\_\_\_\_  
Chair of the CNR Academic Affairs Committee

12 April 2019  
Date

  
\_\_\_\_\_  
Dean of the College of Natural Resources

12 April 2019  
Date

\_\_\_\_\_  
Chair, University Courses & Curricula Committee

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dean, Undergraduate Academic Program

\_\_\_\_\_  
Date

## Summary of Changes with Rationale

- Eliminate MEA100 as it is largely redundant with ES100. (-4 credits)
- Add ENV100 & ENV101 to bring students into our Environmental First Year program, focused on student success and designed to help students find the appropriate home among the numerous environment-related majors. (+3 credits)
- Add ES111, a new course restricted to Environmental Sciences majors to provide deeper exploration of topics presented in ES100 and to build relationships among students in the major, ES graduates, and professional organizations. (+1 credit) When ES100 was first created, it comprised largely ES majors in small classroom settings. This facilitated in-depth discussion of environmental issues and the building of *esprit de corps* among students in the major. ES100 is now taught in large sections of 200-400 students of which ES majors are a small portion. Our majors have lamented both the loss of depth and networking opportunities with other majors; ES111 is designed to restore those functions that ES100 was originally designed to serve.

1. Proposed Semester-by-Semester Curriculum Display

FRESHMAN YEAR					
FALL SEMESTER		CREDITS	SPRING SEMESTER		CREDITS
ENG 101	Academic Writing and Research <sup>H,9</sup>	4	CH 101	Chemistry – A Molecular Science	3
<del>ES 100</del>	<del>Intro to Environmental Sciences<sup>2</sup></del>	<del>1</del>	CH 102	General Chemistry Lab	1
	Student Success in Environmental 1 <sup>st</sup> Year	2 <sup>3</sup>	MA 231	Calculus for Life & Mngnt Sciences B <sup>1</sup>	3
<del>ENV 101</del>	<del>Exploring the Environment</del>	<del>4</del>	<del>ES 100</del>	<del>Intro to Environmental Sciences<sup>2</sup></del>	<del>4</del>
BIO 181	Intro Biology: Ecol, Evol & Biodiversity	3	<del>MEA 100</del>	<del>Earth System Science: Expl Connections</del>	<del>1</del>
MA 131	Calculus for Life & Mngnt Sciences A <sup>1</sup>	1	<del>ES 111</del>	<del>Applications of Environmental Sciences</del>	<del>3</del>
	GEP Physical Education/Healthy Living* <sup>E</sup>			GEP Humanities Elective * <sup>C,9</sup>	
		Total:15			Total:14
SOPHOMORE YEAR					
FALL SEMESTER		CREDITS	SPRING SEMESTER		CREDITS
PY 211	College Physics I <sup>1</sup>	4	PY 212	College Physics II <sup>1</sup>	4
CH 220	Introductory Organic Chemistry	4	ST 311	Introduction to Statistics <sup>5</sup>	3
ES 200	Climate Change & Sustainability <sup>2</sup>	3	BIO/PB 360	Ecology <sup>1</sup>	4
	Free Elective	3		Communications requirement <sup>3</sup>	3
1xx	GEP Physical Education/Healthy Living* <sup>E</sup>	1		Free Elective	3
		Total:15			Total:17
JUNIOR YEAR					
FALL SEMESTER		CREDITS	SPRING SEMESTER		CREDITS
ES 300	Energy and the Environment <sup>2,G,J</sup>	3		Focal Area II <sup>5</sup>	3
ARE 201	Intro Agric & Resource Economics* <sup>D,1</sup>	3		Advised Elective II <sup>4</sup>	3
	Advised Elective I <sup>4</sup>	3	SSC 200	Soil Science	4
	Communications requirement <sup>3</sup>	3		GEP Additional Breadth (Hum/SocSci/VPA)* <sup>F</sup>	3
	Focal Area I <sup>5</sup>	3		Free Elective	3
		Total:15			Total:16
SENIOR YEAR					
FALL SEMESTER		CREDITS	SPRING SEMESTER		CREDITS
ES 400	Analysis of Environmental Issues <sup>2</sup>	3		External Learning Experience <sup>7</sup>	3
PS 320	U.S. Environmental Law and Politics* <sup>1,D</sup>	3		Analytical Skills requirement <sup>6</sup>	3
	Focal Area III <sup>5</sup>	3		Focal Area IV <sup>5</sup>	3
	Advised Elective III <sup>4</sup>	3		Focal Area V <sup>5</sup>	3
	GEP Humanities Elective* <sup>C</sup>	3		Free Elective	1
		Total:15			Total:13
Minimum Credit Hours Required for Graduation <sup>1,K,8</sup> : 120					

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**Major/Program Footnotes:**

<sup>1</sup>The following substitutions are acceptable: MA 141 for MA 131; MA 241 for MA 231; PY 205 for PY 211; PY 208 for PY 212; EC 201 or EC 205 for ARE 201; PS 336 for PS 320; BIO 183 for BIO/PB 360.

<sup>2</sup>All ES courses must be completed with a grade of C- or better.

<sup>3</sup>6 credit hours are required. One course must be an ENG course and the other must be a COM course. ENG 331, 332, or 333 are recommended.

<sup>4</sup>Advised Electives (9 credit hours) are to be selected in consultation with your adviser. At least 6 hours must be at the 400-level or above.

<sup>5</sup>See adviser to determine a relevant focal area and related course selections (15 credit hours).

<sup>6</sup>6 credit hours required. ST 311 satisfies 3 hours of the 6 credit hour Analytical Skills requirement. Choose the additional 3 hours from the following: CSC 214, CSC 224, ST 312, PRT 461, CE 201, CE 203, BUS 340, BUS 360, LAR. Note: Student must be admitted into the BUS minor in order to enroll in BUS courses.

<sup>7</sup>External Learning experience: 3 credit hour requirement to be chosen from ES 496, 497, 498, or 499.

<sup>8</sup>Minimum 2.0 GPA required for graduation.

<sup>9</sup>If not able to take ENG 101 in the Fall semester, take the GEP Humanities elective course in the Fall and then ENG 101 in the Spring.

**General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*This requirement is satisfied by the mathematics requirements in the major.*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*This requirement is satisfied by the natural sciences requirements in the major.*
- C. **Humanities** (6 credit hours selected from **two different disciplines/course** prefixes)  
*Choose from the University approved GEP Humanities course list in two different disciplines.*
- D. **Social Sciences** (6 credit hours selected from **two different disciplines/course** prefixes)  
*This requirement is satisfied by course requirements in the major: ARE 201 OR EC 201 or EC 205; PS 320 OR PS 336*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Humanities/Social Sciences/Visual and Performing Arts
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*This requirement is satisfied by course requirements in the major: ES 200, ES 300*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity (USD)**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*
- J. **Global Knowledge (GK)**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.  
The following course(s) completed as part of the Major requirements may fulfill this requirement:  
ES 200 or 300, PS 320 or 336*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

2. CURRICULUM REQUIREMENTS

Format B effective 2008

<b>Degree Title:</b> Environmental Science
<b>Curriculum Code:</b>
<b>Proposed Effective Date:</b> Fall <del>2010</del> 2019

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
MA 131 Calculus for Life and Management Sciences A OR MA 141 Calculus I	3	Mathematical Sciences
MA 231 Calculus for Life and Management Sciences B OR MA 241 Calculus II	3	Mathematical Sciences
BIO 181 Introductory Biology: Ecol., Evol., Biodiversity	4	Natural Sciences
CH 101 Chemistry- A Molecular Science	3	Natural Sciences
CH 102 General Chemistry Laboratory	1	Natural Sciences
<del>MEA 100 Earth System Science: Exploring the Connections</del>	<del>4</del>	<del>Natural Sciences</del>
PY 211 College Physics OR PY 205	4	Natural Sciences
PY 212 College Physics II OR PY 208	4	Natural Sciences
SSC 200 Soil Science	4	Natural Sciences
ARE 201 OR EC 201 OR EC 205	3	Social Sciences
ENV 100 Student Success in Environmental 1 <sup>st</sup> Year	1	
ENV 101 Exploring the Environment	2	
ES 100 Introduction to Environmental Sciences (C-wall)	3	Global Knowledge
ES 111 Applications of Environmental Science (C-wall)	1	
ES 200 Climate Change and Sustainability (C-wall)	3	Interdisciplinary-Interdisc. Perspective,
ES 300 Energy and the Environment (C-wall)	3	Global Knowledge
ES 400 Analysis of Environmental Issues (C-wall)	3	
ST 311 Introduction to Statistics	3	Interdisciplinary-Interdisc. Perspective,
PS 320 U.S. Environmental Law OR PS 336	3	Global Knowledge
BIO/PB 360 or BIO 183 or BIO260 or ZO 260	4	
Analytical Skills Course: (CSC 214, 224, ST 312, PRT 461, CE 201, CE 203, BUS 340, BUS 360, LAR)	3	Mathematical Sciences Social Sciences
External Learning Experience (ES 496, 497, 498, 499)	3	
CH 220 Introductory Organic Chemistry	4	
Communication Skills (One ENG course, One COM course)	6	

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<b>Concentration Courses/Groups/Electives:</b>		
<b>Relevant Minor or ES Focal Area or Create Your Own</b>	15	
<b>Free Electives:</b>		
<b>10 Cr Free Electives</b>	19	
<b>9 Cr Advised Electives</b>		
<b>Total credit hours under Major Field of Study:</b>	105	
<i>Minimum 27 hours required in program area.</i>		
<b>COLLEGE REQUIREMENTS:</b>		
<b>Other:</b> A C- or better in all ES required courses, and an overall GPA of a 2.0 or higher to graduate.		
<b>Other:</b>		
12 total Credit hours at the 400 level are required to		

complete this degree		
<b>Total credit hours under College Requirements:</b>		

<p><b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b></p> <p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<p><b>At least one of the following must be listed:</b></p> <ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<p><b>General Education Program Requirements:</b></p> <p>Minimum 39-40 hrs</p>	<p><b>Credit hours</b></p>	<p><b>How will the GEP requirement be met?</b></p> <p><i>(Choose applicable statement from 1-6 listed above)</i></p>
<p><b>Mathematical Sciences</b> (6 credits) <b>(At least 1 course with MA or ST prefix)</b></p> <p><i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i></p>	0	<p>Minimum requirements are satisfied by Major/College course requirements.</p>
<p><b>Natural Sciences</b> (7 credits) <b>(At least 1 lab course or course with a lab)</b></p> <p><i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i></p>	0	<p>Minimum requirements are satisfied by Major/College course requirements.</p>
<p><b>English 101 (C- or better required)</b> (4 credits)</p>	4	ENG 101
<p><b>Humanities</b> (6 credits) <b>(Courses from two different disciplines)</b></p> <p><i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i></p>	6	<p><i>Choose course(s) from the University Approved GEP course list for this category.</i></p>
<p><b>Social Sciences</b> (6 credits) <b>(Courses from two different disciplines)</b></p> <p><i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge</i></p>	0	<p>Major/College course requirement satisfies <b>3</b> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</p>



or U.S. Diversity co-requisites.		
<b>Additional Breadth</b> (3 credits) (Choose approach that is <i>different</i> from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	Choose course(s) from the University Approved GEP course lists for the Humanities/Social Sciences/ Visual & Performing Arts.
<b>Interdisciplinary Perspectives</b> (5-6 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	Minimum requirements are satisfied by Major/College course requirements.
<b>Physical Education/Healthy Living</b> (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	15	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite (USD)</b>	0	Choose course(s) from the University Approved GEP course list for this category.
<b>Global Knowledge co-requisite (GK)</b>	0	Minimum requirements are satisfied by Major/College course requirements.
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>	x	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	x	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree: Total must be within 120-128 credit hours.</b>	<input type="checkbox"/>	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>

**3. Catalog Description of Proposed Curriculum**

- a. The B.S. in Environmental Sciences degree will focus on the understanding of environmental systems and earth processes, human impact on the environment, and connecting sound scientific understanding to environmental policies. The curriculum will allow students to satisfy General Education Program requirements, and will ensure students have a broad background in life, physical and social sciences. In addition, all students will develop academic strength equivalent to the course work required for minors.

**4. Number of Majors and Number of Graduates in Current Curriculum in Each of the Past Five Years**

<b>DEGREE</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2008</b>
ESA (Air Quality)	4	3	5	3	3
ESC (Ecology)*	34	25	23	13	17

ESE (Economic Policy)	10	6	4	3	11
ESG (Geology)	7	8	9	4	5
ESH (Watershed Hydrology)	21	21	17	14	9
ESS (Soil Science)	12	10	6	6	4
EST (Statistics)	2	1	2	3	2
<b>TOTAL # STUDENTS</b>	<b>90</b>	<b>74</b>	<b>66</b>	<b>46</b>	<b>51</b>

\* Ecology concentration is being transformed into a Biology degree and will not allow any more students entry into the degree program. The number of students enrolled is **actually** 34.

**5. Projected Enrollment**

- a. The Environmental Sciences Academic Program should have about 200 students, with a new class of 50 students per year. The ES Program should directly recruit students.

**6. Statement about Discontinuation of Current Concentration**

- a. Upon approval of the revised degree, the existing seven Environmental Sciences concentrations will be discontinued in a process that includes:
  - i. No new students will be enrolled in the existing Environmental Sciences concentrations.
  - ii. Students currently enrolled in the existing Environmental Sciences concentrations can choose to finish the current form of their academic program.
  - iii. Students currently enrolled in the existing Environmental Sciences concentrations can choose to transfer to the revised degree.
  - iv. When all students are finished from the existing Environmental Sciences concentrations, and adequate time passes, the above concentrations will be discontinued.

**7. Statement on Other Departments Likely to be Affected and Summary of Consultations with those Departments.**

- a. Consultations currently being sought:
  - i. Concurrence on the process leading to discontinuation of existing ES concentrations
  - ii. Concerns about effects of courses required in the revised ES curriculum on impact of student credit hours.

~~\* CURRENT \*~~

**College of Natural Resources, NCSU  
Forestry and Environmental Resources Department  
Environmental Sciences  
Effective: 08/2010**

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Academic Writing & Research <sup>H,9</sup>	4	CH 101 Chemistry- A Molecular Science	3
ES 100 Introductions to Natural Resources <sup>2</sup>	3	CH 102 General Chemistry Lab	1
BIO 181 Introductory Biology, Ecology, Evolution, and Biodiversity	4	MA 231 Calculus for Life & Management Sciences <sup>B,1</sup>	3
MA 131 Calculus for Life/Mgmt. Sci. A <sup>1</sup>	3	MEA 100 Earth System Science: Exploring the Connections	4
HES_***Health & Exercise Studies Course* <sup>E</sup>	1	GEP Humanities Elective* <sup>C,9</sup>	3
	<i>Total:15</i>		<i>Total:14</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PY 211 College Physics I <sup>1</sup>	4	PY 212 College Physics II <sup>12</sup>	4
CH 220 Introductory Organic Chemistry	4	ES 200 Climate Change & Sustainability <sup>2</sup>	3
Communications Requirement <sup>3</sup>	3	ST 311 Introduction to Statistics <sup>6</sup>	4
Free Elective	3	BIO 183 Introductory Biology: Cellular & Molecular <sup>1</sup>	3
HES_***Health & Exercise Studies Course* <sup>E</sup>	1	Free Elective	3
	<i>Total:15</i>		<i>Total:17</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ES 300 Energy & the Environment <sup>2,G,J</sup>	3	Focal Area II <sup>5</sup>	1
ARE 201 Introduction to Agricultural & Resource Economics* <sup>D,1</sup>	3	Advised Elective II <sup>4</sup>	3
Advised Elective I <sup>4</sup>	3	SSC 200 Soil Science	3
Communications Requirement <sup>3</sup>	3	SSC 201 Soil Science Laboratory	1
Focal Area I <sup>5</sup>	3	GEP Additional Breadth (HUM/SS/VPA)* <sup>F</sup>	3
		Free Elective	3
	<i>Total:15</i>		<i>Total:16</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PS 320 U.S. Environmental Law & Politics* <sup>1,D</sup>	3	ES 400 Analysis of Environmental Issues <sup>2</sup>	3
External Learning Experience <sup>7</sup>	3	Analytical Skills Requirement <sup>6</sup>	3
Focal Area III <sup>5</sup>	3	Focal Area IV <sup>5</sup>	3
Advised Elective III <sup>4</sup>	3	Focal Area V <sup>5</sup>	3
GEP Humanities Elective* <sup>C</sup>	3	Free Elective	1
	<i>Total:15</i>		<i>Total:13</i>
Minimum Credit Hours Required for Graduation* <sup>I,J,K,8</sup> : 120			

### Major/Program Footnotes:

<sup>1</sup>The following substitutions are acceptable: MA 141 and 241 for MA 131 and MA 231; PY 205/PY 206 and PY 208/PY 209 for PY 211 and PY 212; EC 201 or EC 205 for ARE 201; PS 336 for PS 320; BIO 183 for BIO/PB 360.

<sup>2</sup>All ES courses must be completed with a grade of C- or better.

<sup>3</sup>Six credit hours are required. One 3-credit course must be an ENG course and the other must be a COM or ENG course beyond ENG 101. Consult with adviser.

<sup>4</sup>Advised Electives (9 credit hours) are to be selected in consultation with your adviser and need to focus on Environmental Science. At least 6 hours must be at the 400-level or above.

<sup>5</sup>See adviser to determine a relevant focal area and related course selections (15 credit hours).

<sup>6</sup>Six (6) credit hours are required. ST 311 is required and satisfies 3 hours of the 6 credit hour Analytical Skills requirement. ST 312 is recommended to complete the requirement, but substitutions involving analytical skills such as Computer Science, Geographic Information Systems, Building and Landscape Design and Engineering are permitted with adviser consent.

<sup>7</sup>External Learning experience: 3 credit hour requirement to be chose from ES 496, 497, 498, 499.

<sup>8</sup>Minimum 2.0 GPA required for graduation.

<sup>9</sup>If not able to take ENG 101 in the Fall semester, take the GEP Humanities elective course in the Fall and then ENG 101 in the spring.

### \*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://oucc.ncsu.edu/gen-courses>.

- A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 121 or MA 131 and ST 301 or ST 311*
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: BIO 181 and CH 101/102*
- C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list.*
- D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: EC 201 or EC 205 or ARE 201. Select an additional course other than Economics.*
- E. Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
**X** Humanities/Social Sciences/Visual and Performing Arts.
- G. Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: IDS 201 or STS 302 or PHI 340*
- H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

#### The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- I. U.S. Diversity** (USD)  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*
- J. Global Knowledge** (GK)  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: IDS 201 or STS 302 or PHI 340*
- K. Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.



College of Natural Resources  
Department of Forestry and Environmental Resources  
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**Back to Top (Agenda)**

22 February 2019

To: University Courses & Curriculum Committee  
  
From: Dr. Gary B. Blank  
Director of Undergraduate Programs  
Department of Forestry & Environmental Resources  
  
Re: Proposed changes to Natural Resources Curricula

Please find attached a request to the Natural Resources curricula in the Department of Forestry & Environmental Resources to be effective fall semester 2019.

Changes respond to creation of an Environmental First Year program and alterations in scheduling of several courses. Changes included are consistent with requirements of the Society of American Foresters, the accrediting body for natural resources management programs.

Please find attached the following:

- Summary of Changes
- Format A for Natural Resources Policy and Administration (NRP) concentration
- Format B for Natural Resources Policy and Administration (NRP) concentration
- Format A for Natural Resources Ecosystem Assessment (NRE) concentration
- Format B for Natural Resources Ecosystem Assessment (NRE) concentration

Approval Signatures:

  
\_\_\_\_\_  
Chair of the CNR Academic Affairs Committee

12 April 2019  
Date

  
\_\_\_\_\_  
Dean of the College of Natural Resources

12 April 2019  
Date

\_\_\_\_\_  
Chair, University Courses & Curricula Committee

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dean, Undergraduate Academic Program

\_\_\_\_\_  
Date

Revision of the Natural Resources curricula was necessitated by creation of the Environmental First Year program to replace the introductory course, NR 100, and the curricula had to be reduced from 127 credits to meet the mandated cap of 120 hours. Other changes shown here evolved from program assessment and faculty decisions concerning timing of course offerings.

The majority of students in the natural resources curricula have transferred into the curriculum after beginning study in a variety of majors or first-year programs. Therefore flexibility in several places in the curricula was created by this revision. Changes are the following:

ENV 100 and ENV 101 replace NR 100 and add 1 credit.

Math electives have been expanded to provide for the range of transferred courses students bring.

The second chemistry course is now an elective, removing 4 credits.

Technical elective credits were reduced to meet the 120-hour cap.

NR 401 is removed because it is no longer taught, removing 1 credit.

**FORMAT A**  
**SEMESTER-BY-SEMESTER DISPLAY**  
 Current: **15 NATREECO**                      Effective Semester: 08/2019  
 DEGREE TITLE: B.S. In Natural Resources  
 CONCENTRATION TITLE: Ecosystem Assessment

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
BIO 181 Intro Biol: Ecology, Evolution, Biodiversity	4	CH 101 Chemistry-A Molecular Science	3
HES_ *** Health & Exercise Studies (1)	1	CH 102 General Chemistry Lab	1
ENG 101 Acad. Writing & Research (1)	4	Math Elective (2)	3
Math Elective (2)	3	ARE 201 Intro to Agric & Resource Econ or	3
ENVF 100 Environmental First Year Success	1	EC 201 Principles of Microeconomics	2
ENVF 101 Exploring the Environment	2	FOR 150 Critical Thinking & Data Analysis	3
		General Education Electives (1)	3
	<b>Total: 15</b>		<b>Total:15</b>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Physics Elective (3)	4	FOR 252 Introduction to Forest Science	3
FOR 339 Dendrology	4	SSC 200 Soil Science	4
General Education Electives (1)	3	PS 201 Intro to American Government or	3
HES_ *** Health & Exercise Studies (1)	1	PS 202 State and Local Government	3
		COM 110 Public Speaking or	3
		COM 112 Interpersonal Comm.	3
	<b>Total: 12</b>		<b>Total:13</b>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Ecology Elective (4)	4	ARE 336 Agricultural & Resource Economics	3
NR 301 Practicum for Prof. Development I (5)	1	ENG 333 Comm. For Science & Research	3
Spatial Technology Elective (6)	3	NR 300 Natural Resource Measurements	4
ST 311 Introduction to Statistics	3	General Education Elective (1)	2
Technical Elective (7)	4	Technical Elective (7)	3
	<b>Total:15</b>		<b>Total:15</b>
SUMMER			
NR360 Internship Experience (5)	<b>3</b>		
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
NR 460 Renew Resource Pol. & Mgmt.	3	NR 400 Natural Resources Management	4
NR 484 Practice of Environ Impact Assessment	4	General Education Elective (1)	3
Wildlife Elective (8)	3	Technical Electives (7)	9
Technical Elective (7)	6		
	<b>Total: 16</b>		<b>Total:16</b>
<b>Minimum Credit Hours Required for Graduation: 120</b>			



**(1) General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at

<http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

**Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Curriculum requirements automatically fulfill this category.*

**Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Curriculum requirements automatically fulfill this category.*

**Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*

**Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*Curriculum requirements in economics and political science automatically fulfill this category.*

**Health & Exercise Studies** (2 credit hours – at least one 100-level Fitness and Wellness Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

**Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)

**X** Humanities/Social Sciences/Visual and Performing Arts

**Interdisciplinary Perspectives** (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list. ARE 336 meets 3 hours of this requirement..*

**Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

**The following Co-Requisites must be satisfied to complete the General Education Program requirements:**

**U.S. Diversity (USD)**

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*

**Global Knowledge (GK)**

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.*

**Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

(2) Math Elective – 6 credit hours from: MA 114, MA 121, MA 131, MA 141, MA 231, MA 241

(3) Physics Elective – 4 credit hours from: PY 131, PY 205+206, PY 211.

(4) Ecology Elective – 4 credit hours from: BIO 360, FOR 260, PB 360

(5) A professional development program integrated into the curriculum consists of a required summer work experience between the junior and senior years and a professional development course. Students take NR 301 in the junior year to prepare for NR 360 and seek an internship experience during a subsequent semester. A member of the teaching faculty will assist students in finding an appropriate internship.

(6) Spatial Technology Elective – 3 credit hours from: FOR 353, GIS 410, SSC 440.

(7) Technical Electives – 22 credit hours: Ecosystem Assessment students select 16 credit hours from the resource science courses and 6 credit hours from the management science courses shown on the following table, selecting at least one course from each of the resource science categories. Policy & Administration students select 6 credit hours from the resource science courses and 16 credit hours from the management science courses, selecting at least one course from each of the management science categories.

(8) Wildlife Elective – 3 credit hours from: FW 333, FW 353, FW 404.

For elective categories 2-5, 7-9, students may select courses not shown in these lists after consulting with and receiving permission from their academic advisors prior to enrolling in the course.

# TECHNICAL ELECTIVES

## RESOURCE SCIENCES

### Flora

CS 414 Weed Science  
FOR 204 Silviculture\*  
FOR 261 Forest Communities\*  
FOR 265 Fire Management\*  
FOR 273 Mapping & Mensuration\*  
FOR 303 Silvics & Forest Tree Phys.\*  
FOR 330 North Carolina Forests  
FOR 411 Forest Tree Genetics/Biology  
PB 220 Local Flora  
PB 345 Economic Botany  
PB 400 Plant Structure & Diversity  
PB 403 Systematic Botany  
PB 405 Wetland Flora  
PB 421 Plant Physiology  
PB 464 Rare Plants of North Carolina  
PP 318 Forest Pathology

### Fauna

AEC 419 Freshwater Ecology  
AEC 420+423 Fisheries Science + Lab  
AEC 441+442 Biology of Fishes + Lab  
AEC 460 Field Ecology & Methods  
AEC 501 Ornithology  
AEC 586 Aquaculture I  
BIO 333 Captive Animal Biology  
ENT 425 General Entomology  
FOR 264 Forest Wildlife\*  
FOR 402 Forest Entomology  
FOR 430 Forest Health & Protection  
FW 311 Fisheries & Wildlife Inventory & Management\*\*  
FW 312 Fisheries Techniques \*\*  
FW 313 Mountain Wildlife Ecology\*\*  
FW 314 Marine Fisheries\*\*  
FW 353 Wildlife Management  
FW 373 Vertebrate Natural History  
FW 403 Urban Wildlife Management  
FW 404 Wildlife Habitat Management  
FW 405 Tropical Wildlife Ecology in Nicaragua  
FW 444 Mammalogy  
MEA 220 Marine Biology  
ZO 509 Biology of Aquatic Insects

### Earth Sciences

AEC 380 Water Resources  
CH 201+202 Quantitative Chemistry  
CH 220 Intro Organic Chemistry  
CH 221+222 Organic Chemistry  
ES 113 Earth from Space  
ES 150 Water & the Environment  
ES 200 Climate Change & Sustainability  
GEO 200 Principles of Geography  
MEA 101/110 Geology & Lab  
MEA 200/210 Intro. Oceanography/Lab  
MEA 250/251 Intro. Coastal Environments & Lab  
MEA 300 Environmental Geography  
NR 420 Watershed & Wetlands Hydrology  
NR 421 Wetland Assessment, Delineation and Regulation  
SSC 361 Role of Soils in Envir. Mgmt.  
SSC 442 Soil & Envir. Biogeochemistry  
SSC 452 Soil Classification  
SSC 455 Soils, Envir. Quality, & Global Challenges  
SSC 461 Soil Phys. Properties & Plant Growth  
SSC 470 Wetland Soils

\* These courses are part of the 9-credit Forest Management summer camp series.

\*\* These courses are part of the 6-credit Fisheries, Wildlife, & Conservation Biology summer camp series.

## MANAGEMENT SCIENCES

### Management

ACC 200 Managerial Accounting  
FOR 221 Conservation of Natural Resources  
FOR 248 Forest History, Technology, and Society  
FOR 430 Forest Health & Protection  
FW 333 Conservation Biology in Practice  
LAR 430 Site Planning  
GIS 295 GIS Concepts  
GIS 280 Introduction to GIS  
NR 406 Conservation of Biodiversity  
NR 350 International Sustainable Resources Use  
PRT 350 Outdoor Recreation Management  
PRT 451 Recreation Planning/Facility Development

### Economics

ARE 301 Intermediate Microeconomics  
ARE 304 Agribusiness Management  
ARE 436 Environmental Economics  
EC 348 Intro. to Int'l Economics  
EC 410 Public Finance  
EC 448 International Trade  
FOR 319 Forest Economics  
NR 219 Natural Resource Investments

### Policy

ARE 309 Env. Law & Econ. Policy  
BUS 305 Legal & Regulatory Envir.  
CNR 250 Diversity & Environmental Justice  
FOR 414 World Forestry  
FW 411 Human Dimensions & Wildlife  
PS 201 Intro. To American Government  
PS 202 State & Local Government  
PS 203 Introduction to Nonprofits  
PS 312 Intro. To Public Administration  
PS 320 US Environmental Law & Politics  
PS 336 Global Environmental Politics  
PS 401 American Parties & Interest Groups  
PS 408 Urban Politics

**CURRICULUM REQUIREMENTS**

Format B effective 2019

**Degree Title:** Natural Resources Ecosystem Assessment**Curriculum Code:** 15NATRECO**Proposed Effective Date:** August 2019

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>GEP category, if applicable</i></b>
<b><u>Indicate if course or course groupings have a C-wall or MGPA requirement</u></b>		<b><u>List GEP category and hours satisfied by a Major requirement</u></b>
FOR 150, ENVF 100, ENVF 101, NR 300, NR 301, NR 360, NR 400, NR 460, NR 484	24	
ST 311 and (6 hours from MA 114, MA 121, MA 131, MA 141, MA 231, MA 241)	9	Mathematical Sciences (6 hours)
BIO 181, FOR 339, FOR 252, SC200 CH101/102 (3 hours from FOR353, GIS410, SSC440) (3 hours from FW 333, FW 353, or FW404) (4 hours from BIO 360, FOR260, PB 360) (4 hours from PY 131, PY 205+206, PY 211)	33	Natural Sciences (7 hours)
ARE 201 or EC201	3	Social Sciences (3 hours)
ARE 336	3	Interdisciplinary Perspectives (3 hours)
PS 201 or PS 202	3	Social Sciences (3 hours)
COM 110 or COM 112	3	
ENG 333	3	
<b><u>Concentration Courses/Groups/Electives:</u></b> <b><u>Resource Sciences Technical Electives</u></b> Flora: CS414, FOR204, FOR261, FOR265, FOR273, FOR303, FOR318, FOR 330, FOR411, PB220, PB345, PB400, PB403, PB405, PB421, PB464 Fauna: AEC419, AEC420+423, AEC441+442, AEC460, AEC501, AEC586, BIO333, ENT425, FOR264, FOR402, FOR430, FW311, FW312, FW313, FW314, FW353, FW373, FW403, FW404, FW405, FW444, MEA220, ZO509 Earth Sciences: AEC389, ES150, ES200, GEO200, MEA101+110, MEA200+210, MEA250+251, MEA300, NR420, NR421, SSC361, SSC442, SSC452, SSC455, SSC461, SSC470	16	
<b><u>Management Sciences Technical Electives</u></b> Management: ACC220, FOR220, FOR221, FOR248, FOR430, FW333, LAR430, GIS295, GIS410, NR 350, PRT350, PRT451 Economics: ARE301, ARE304, ARE436, EC348, EC410, EC448, FOR319 Policy: ARE309, BUS305, FOR414, FW411, NR406, PS201, PS 202, PS203, PS312, PS320, PS336, PS401, PS408	6	

<b>Free Electives:</b>	0	
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	103	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b>		
<b>Other:</b>		
<b>Total credit hours under College Requirements:</b>	103	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b>Specific courses should not be listed in any of the fields below other than ENG 101.</b></p>		<ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<b>How will the GEP requirement be met?</b> <b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) <b>(At least 1 course with MA or ST prefix)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>(Choose statement 1, 2 or 3)</i> Minimum requirements are satisfied by Major/College course requirements.
<b>Natural Sciences</b> (7 credits) <b>(At least 1 lab course or course with a lab)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>(Choose statement 1, 2 or 3)</i> Minimum requirements are satisfied by Major/College course requirements.
<b>English 101 (C- or better required)</b> (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) <b>(Courses from two different disciplines)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	<i>(Choose statement 1, 2 or 3)</i> Choose course(s) from the University Approved GEP course list for this category.
<b>Social Sciences</b> (6 credits) <b>(Courses from two different disciplines)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>(Choose statement 1, 2 or 3)</i> Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (3 credits) <b>(Choose approach that is different from the approach of the Major)</b> <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	<i>(Choose statement 5 or 6)</i> Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
<b>Interdisciplinary Perspectives</b> (5-6 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	2	<i>(Choose statement 1, 2 or 3)</i> Major/College course requirement satisfies <u>3</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Physical Education/Healthy Living</b> (2 credits) <b>(Including one Fitness and Wellness course)</b>	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	17	
<b>GEP Co-Requisites:</b>		<b>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</b>

<b>U.S. Diversity co-requisite</b>	(USD)	n/a	7 <small>(Choose statement 1 or 4)</small> Choose course(s) from the University Approved GEP course list for this category.
<b>Global Knowledge co-requisite</b>	(GK)	n/a	<small>(Choose statement 1 or 4)</small> Choose course(s) from the University Approved GEP course list for this category.
<b>Foreign Language Proficiency</b>		n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>			Place an <b>X</b> in the credit hour box to indicate below that the requirement is <b>"Satisfied by College/Program Requirements"</b>
<b>Communication in the Major (Advanced Communication)</b>		X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>		X	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.		120	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>

**FORMAT A**  
**SEMESTER-BY-SEMESTER DISPLAY**  
 Current: **15 NATREPOL**                      Effective Semester: 08/2019  
 DEGREE TITLE: B.S. In Natural Resources  
 CONCENTRATION TITLE: Policy & Administration

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
BIO 181 Intro Biol: Ecology, Evolution, Biodiversity	4	CH 101 Chemistry-A Molecular Science	3
HES_ *** Health & Exercise Studies (1)	1	CH 102 General Chemistry Lab	1
ENG 101 Acad. Writing & Research (1)	4	Math Elective (2)	3
Math Elective (2)	3	ARE 201 Intro to Agric & Resource Econ or	3
ENVF 100 Environmental First Year Success	1	EC 201 Principles of Microeconomics	
ENVF 101 Exploring the Environment	2	FOR 150 Critical Thinking & Data Analysis	2
		General Education Electives (1)	3
	<b>Total: 15</b>		<b>Total:15</b>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Physics Elective (3)	4	FOR 252 Introduction to Forest Science	3
FOR 339 Dendrology	4	SSC 200 Soil Science	4
General Education Electives (1)	3	PS 201 Intro to American Government or	3
HES_ *** Health & Exercise Studies (1)	1	PS 202 State and Local Government	
		COM 110 Public Speaking or	3
		COM 112 Interpersonal Comm.	
	<b>Total: 12</b>		<b>Total:13</b>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Ecology Elective (4)	4	ARE 336 Agricultural & Resource Economics	3
NR 301 Practicum for Prof. Development I (5)	1	ENG 333 Comm. For Science & Research	3
Spatial Technology Elective (6)	3	NR 300 Natural Resource Measurements	4
ST 311 Introduction to Statistics	3	General Education Elective (1)	2
Technical Elective (7)	4	Technical Elective (7)	3
	<b>Total:15</b>		<b>Total:15</b>
SUMMER			
NR360 Internship Experience (5)	<b>3</b>		
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
NR 460 Renew Resource Pol. & Mgmt.	3	NR 400 Natural Resources Management	4
NR 484 Practice of Environ Impact Assessment	4	General Education Elective (1)	3
Wildlife Elective (8)	3	Technical Electives (7)	9
Technical Elective (7)	6		
	<b>Total: 16</b>		<b>Total:16</b>
<b>Minimum Credit Hours Required for Graduation: 120</b>			

**(1) General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

**Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Curriculum requirements automatically fulfill this category.*

**Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Curriculum requirements automatically fulfill this category.*

**Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*

**Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*Curriculum requirements in economics and political science automatically fulfill this category.*

**Health & Exercise Studies** (2 credit hours – at least one 100-level Fitness and Wellness Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

**Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)

**X** Humanities/Social Sciences/Visual and Performing Arts

**Interdisciplinary Perspectives** (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list. ARE 336 meets 3 hours of this requirement..*

**Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

**The following Co-Requisites must be satisfied to complete the General Education Program requirements:**

**U.S. Diversity (USD)**

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*

**Global Knowledge (GK)**

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.*

**Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

(2) Math Elective – 6 credit hours from: MA 114, MA 121, MA 131, MA 141, MA 231, MA 241

(3) Physics Elective – 4 credit hours from: PY 131, PY 205+206, PY 211.

(4) Ecology Elective – 4 credit hours from: BIO 360, FOR 260, PB 360

(5) A professional development program integrated into the curriculum consists of a required summer work experience between the junior and senior years and a professional development course. Students take NR 301 in the junior year to prepare for NR 360 and seek an internship experience during a subsequent semester. A member of the teaching faculty will assist students in finding an appropriate internship.

(6) Spatial Technology Elective – 3 credit hours from: FOR 353, GIS 410, SSC 440.

(7) Technical Electives – 22 credit hours: Ecosystem Assessment students select 16 credit hours from the resource science courses and 6 credit hours from the management science courses shown on the following table, selecting at least one course from each of the resource science categories. Policy & Administration students select 6 credit hours from the resource science courses and 16 credit hours from the management science courses, selecting at least one course from each of the management science categories.

(8) Wildlife Elective – 3 credit hours from: FW 333, FW 353, FW 404.

For elective categories 2-5, 7-9, students may select courses not shown in these lists after consulting with and receiving permission from their academic advisors prior to enrolling in the course.

# TECHNICAL ELECTIVES

## RESOURCE SCIENCES

### Flora

CS 414 Weed Science  
FOR 204 Silviculture\*  
FOR 261 Forest Communities\*  
FOR 265 Fire Management\*  
FOR 273 Mapping & Mensuration\*  
FOR 303 Silvics & Forest Tree Phys.\*  
FOR 330 North Carolina Forests  
FOR 411 Forest Tree Genetics/Biology  
PB 220 Local Flora  
PB 345 Economic Botany  
PB 400 Plant Structure & Diversity  
PB 403 Systematic Botany  
PB 405 Wetland Flora  
PB 421 Plant Physiology  
PB 464 Rare Plants of North Carolina  
PP Forest Pathology

### Fauna

AEC 419 Freshwater Ecology  
AEC 420+423 Fisheries Science + Lab  
AEC 441+442 Biology of Fishes + Lab  
AEC 460 Field Ecology & Methods  
AEC 501 Ornithology  
AEC 586 Aquaculture I  
BIO 333 Captive Animal Biology  
ENT 425 General Entomology  
FOR 264 Forest Wildlife\*  
FOR 402 Forest Entomology  
FOR 430 Forest Health & Protection  
FW 311 Fisheries & Wildlife Inventory & Management\*\*  
FW 312 Fisheries Techniques \*\*  
FW 313 Mountain Wildlife Ecology\*\*  
FW 314 Marine Fisheries\*\*  
FW 353 Wildlife Management  
FW 373 Vertebrate Natural History  
FW 403 Urban Wildlife Management  
FW 404 Wildlife Habitat Management  
FW 405 Tropical Wildlife Ecology in Nicaragua  
FW 444 Mammalogy  
MEA 220 Marine Biology  
ZO 509 Biology of Aquatic Insects

### Earth Sciences

AEC 380 Water Resources  
CH 201+202 Quantitative Chemistry  
CH 220 Intro Organic Chemistry  
CH 221+222 Organic Chemistry  
ES 113 Earth from Space  
ES 150 Water & the Environment  
ES 200 Climate Change & Sustainability  
GEO 200 Principles of Geography  
MEA 101/110 Geology & Lab  
MEA 200/210 Intro. Oceanography/Lab  
MEA 250/251 Intro. Coastal Environments & Lab  
MEA 300 Environmental Geography  
NR 420 Watershed & Wetlands Hydrology  
NR 421 Wetland Assessment, Delineation and Regulation  
SSC 361 Role of Soils in Envir. Mgmt.  
SSC 442 Soil & Envir. Biogeochemistry  
SSC 452 Soil Classification  
SSC 455 Soils, Envir. Quality, & Global Challenges  
SSC 461 Soil Phys. Properties & Plant Growth  
SSC 470 Wetland Soils

\* These courses are part of the 9-credit Forest Management summer camp series.

\*\* These courses are part of the 6-credit Fisheries, Wildlife, & Conservation Biology summer camp series.

## MANAGEMENT SCIENCES

### Management

ACC 200 Managerial Accounting  
FOR 220 Urban & Community Forestry  
FOR 221 Conservation of Natural Resources  
FOR 248 Forest History, Technology, and Society  
FOR 430 Forest Health & Protection  
FW 333 Conservation Biology in Practice  
GIS 295 Special topics in GIS  
GIS 280 Introduction to GIS  
LAR 430 Site Planning  
NR 406 Conservation of Biodiversity  
NR 350 International Sustainable Resources Use  
PRT 350 Outdoor Recreation Management  
PRT 451 Recreation Planning/Facility Development

### Economics

ARE 301 Intermediate Microeconomics  
ARE 304 Agribusiness Management  
ARE 436 Environmental Economics  
EC 348 Intro. to Int'l Economics  
EC 410 Public Finance  
EC 448 International Trade  
FOR 319 Forest Economics  
NR 219 Natural Resource Investments

### Policy

ARE 309 Envir. Law & Econ. Policy  
BUS 305 Legal & Regulatory Envir.  
CNR 250 Diversity & Environmental Justice  
FOR 414 World Forestry  
FW 411 Human Dimensions & Wildlife  
PS 201 Intro. To American Government  
PS 202 State & Local Government  
PS 203 Introduction to Nonprofits  
PS 312 Intro. To Public Administration  
PS 320 US Environmental Law & Politics  
PS 336 Global Environmental Politics  
PS 401 American Parties & Interest Groups  
PS 408 Urban Politics



**CURRICULUM REQUIREMENTS**

Format B effective 2019

**Degree Title:** Natural Resources Policy & Administration**Curriculum Code:** 15NATREPOL**Proposed Effective Date:** August 2019

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>GEP category, if applicable</i></b>
<b><u>Indicate if course or course groupings have a C-wall or MGPA requirement</u></b>		<b><u>List GEP category and hours satisfied by a Major requirement</u></b>
FOR 150, ENVF 100, ENVF 101, NR 300, NR 301, NR 360, NR 400, NR 460, NR 484	24	
ST 311 and (6 hours from MA 114, MA 121, MA 131, MA 141, MA 231, MA 241)	9	Mathematical Sciences (6 hours)
BIO 181, FOR 339, FOR 252, SC200 CH101/102 (3 hours from FOR353, GIS410, SSC440) (3 hours from FW 333, FW 353, or FW404) (4 hours from BIO 360, FOR260, PB 360) (4 hours from PY 131, PY 205+206, PY 211)	33	Natural Sciences (7 hours)
ARE 201 or EC201	3	Social Sciences (3 hours)
ARE 336	3	Interdisciplinary Perspectives (3 hours)
PS 201 or PS 202	3	Social Sciences (3 hours)
COM 110 or COM 112	3	
ENG 333	3	
<b><u>Concentration Courses/Groups/Electives:</u></b> <b><u>Resource Sciences Technical Electives</u></b> Flora: CS414, FOR204, FOR261, FOR265, FOR273, FOR303, FOR318, FOR 330, FOR411, PB220, PB345, PB400, PB403, PB405, PB421, PB464 Fauna: AEC419, AEC420+423, AEC441+442, AEC460, AEC501, AEC586, BIO333, ENT425, FOR264, FOR402, FOR430, FW311, FW312, FW313, FW314, FW353, FW373, FW403, FW404, FW405, FW444, MEA220, ZO509 Earth Sciences: AEC389, ES150, ES200, GEO200, MEA101+110, MEA200+210, MEA250+251, MEA300, NR420, NR421, SSC361, SSC442, SSC452, SSC455, SSC461, SSC470	6	
<b><u>Management Sciences Technical Electives</u></b> Management: ACC220, FOR220, FOR221, FOR248, FOR430, FW333, LAR430, GIS295, GIS410, NR 350, PRT350, PRT451 Economics: ARE301, ARE304, ARE436, EC348, EC410, EC448, FOR319 Policy: ARE309, BUS305, FOR414, FW411, NR406, PS201, PS 202, PS203, PS312, PS320, PS336, PS401, PS408	16	

<b>Free Electives:</b>	0	
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	103	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b>		
<b>Other:</b>		
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<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b>Specific courses should not be listed in any of the fields below other than ENG 101.</b></p>		<ol style="list-style-type: none"> <li>1 Choose course(s) from the University Approved GEP course list for this category.</li> <li>2 Minimum requirements are satisfied by Major/College course requirements.</li> <li>3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>4 Co-requisite is satisfied by a Major/College course requirement.</li> <li>5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<b>How will the GEP requirement be met?</b> <b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) <b>(At least 1 course with MA or ST prefix)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Natural Sciences</b> (7 credits) <b>(At least 1 lab course or course with a lab)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>English 101 (C- or better required)</b> (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) <b>(Courses from two different disciplines)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
<b>Social Sciences</b> (6 credits) <b>(Courses from two different disciplines)</b> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.
<b>Additional Breadth</b> (3 credits) <b>(Choose approach that is different from the approach of the Major)</b> <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
<b>Interdisciplinary Perspectives</b> (5-6 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	2	(Choose statement 1, 2 or 3) Major/College course requirement satisfies <u>3</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Physical Education/Healthy Living</b> (2 credits) <b>(Including one Fitness and Wellness course)</b>	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	17	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>

<b>U.S. Diversity co-requisite</b>	(USD)	n/a	7 <small>(Choose statement 1 or 4)</small> Choose course(s) from the University Approved GEP course list for this category.
<b>Global Knowledge co-requisite</b>	(GK)	n/a	<small>(Choose statement 1 or 4)</small> Choose course(s) from the University Approved GEP course list for this category.
<b>Foreign Language Proficiency</b>		n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>			Place an <b>X</b> in the credit hour box to indicate below that the requirement is <b>"Satisfied by College/Program Requirements"</b>
<b>Communication in the Major (Advanced Communication)</b>		X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>		X	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.		120	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>



College of Natural Resources  
Department of Forest Biomaterials

Paper Science and Engineering  
Sustainable Materials & Technology  
Wood Products Extension

<https://cnr.ncsu.edu/fb>

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[Back to Top \(Agenda\)](#)

March 20, 2019

To: University Courses and Curriculum Committee

From: Med Byrd  
Director of Undergraduate Programs  
Paper Science and Engineering

Subject: Change to the Curricula 15PSEBS and 15PSENDM

By means of this memorandum and the attached documents, the Department of Forest Biomaterials (Paper Science & Engineering) proposes to update both the single- and dual-degree curricula with the changes summarized in the table below.

**Changes to 15PSEBS**

<b>Proposed Change</b>	<b>Justification</b>
1. Add new course PSE 370 (Pulp and Paper Products and Markets) to Semester 6 (spring of junior year)	PSE faculty approves of new course that will add value to students' education
2. Delete Advised Elective (3 cr) currently showing in Semester 6 (spring of junior year)	New course PSE 370 will replace this Advised Elective.
3. Update footnotes 1-7	PSE-CHE dual degree was updated last year, and at that time the display footnotes were updated to be more accurate and more consistent with policy. The single PSE footnotes are now updated to be consistent with the dual degree.

**Justification/Impacts/Consultation**

The PSE faculty, in concert with the PSE program advisory board, has for many years wanted a core course that helps students understand the growth segments of the pulp and paper industry. Unfortunately, there was no room in the PSE-CHE dual degree curriculum for a new course. This changed last year when an action approved by the PSE and Chemical Engineering programs allowed a core CHE course (CHE 450) to be replaced by a Technical Elective. This new action converts that Technical Elective into the new course and converts one of three Advised Electives for the single PSE degree students into the new course.

The net impact is that students pursuing the single PSE degree will now have two 3-credit Advised Electives, instead of three. The third one is now replaced with the new course PSE 370. There is no change in the minimum hours required for the degree.

A new faculty member, Dr. Nathalie Lavoine, was hired in mid-2018, and she will be the instructor for this course. No additional resources are required.

No consultations are required.

### **Changes to 15PSENDM**

<b>Proposed Change</b>	<b>Justification</b>
1. Add new course PSE 370 (Pulp and Paper Products and Markets) to Semester 6 (spring of junior year)	PSE faculty approves of new course that will add value to students' education
2. Move GEP Requirement (3 cr) currently in Semester 6 (spring of junior year) to Semester 9 (fall of fifth year).	With addition of PSE 370 to Semester 6, this move avoids an 18-hour load in that semester.
3. Delete Technical Elective (3 cr) in Semester 9 (fall of fifth year)	This elective was replaced by new course PSE 370

### **Justification/Impacts/Consultation**

The PSE faculty, in concert with the PSE program advisory board, has for many years wanted a core course that helps students understand the growth segments of the pulp and paper industry. Unfortunately, there was no room in the PSE-CHE dual degree curriculum for a new course. This changed last year when an action approved by the PSE and Chemical Engineering programs allowed a core CHE course (CHE 450) to be replaced by a Technical Elective. This new action converts that Technical Elective into the new course and converts one of three Advised Electives for the single PSE degree students into the new course.

The net impact is that students pursuing the dual PSE-CHE degree will no longer have a Technical Elective in Semester 9 and instead will have the new course PSE 370 in Semester 6. There is no change in minimum hours required for the degree.

A new faculty member, Dr. Nathalie Lavoine, was hired in mid-2018, and she will be the instructor for this course. No additional resources are required.

Because this change affects students seeking both PSE and chemical engineering degrees, a consultation with the Department of Chemical and Biomolecular Engineering is required. The following email was received from Dr. Lisa Bullard on February 17:

*Med, the CBE Course and Curriculum Committee has approved your proposed changes for the PSE/CHE dual major. We will share this with the CBE faculty at the next scheduled faculty meeting.*

*Regards,*

*Lisa Bullard*

*CBE CCC Chair*

On Thu, Feb 14, 2019 at 3:48 PM Med Byrd <[medbyrd@ncsu.edu](mailto:medbyrd@ncsu.edu)> wrote:

Lisa --

*We are proposing to modify both of our degrees to include a new course being piloted this spring. The changes most relevant to the PSE-CHE dual degree are highlighted in red in the table below. I have also attached a draft showing how the new dual degree curriculum display would look with these changes.*

*I have confirmed that the time slot for the course (Spring, Junior year, MW 11:45-12:35 and F 10:40-12:30) does not conflict with core CHE courses.*

*Please review and comment. Thanks.*

*Med*

**Proposed Effective Date: 8/1/2019**

**Endorsed By:**

Head, Paper Science & Engineering

3/26/2019

Date

**Recommended By:**

Chair, CNR Academic Affairs Committee

12 April 2019

Date

**Endorsed By:**

College Dean

12 April 2019

Date

**Recommended By:**

Vice Provost, DELTA (if DE degree/certificate)

Date

**Recommended By:**

Chair, University Courses & Curricula Committee

Date

# Paper Science & Engineering (BS) (15PSEBS)

## Freshman Year

Fall Semester	Credit	Spring Semester	Credit
CH 101 Chemistry A Molecular Science <sup>1</sup>	3	CH 201 Chemistry, A Quant Sci <sup>2</sup>	3
CH 102 General Chemistry Lab <sup>1</sup>	1	CH 202 Quantitative Chemistry Lab	1
E 101 Introduction to Engr & Prob Solv <sup>2</sup>	1	EC 205 Economics (or EC 201 or ARE 201)*	3
E 115 Intro to Computing Envir	1	MA 241 Calculus II <sup>1</sup>	4
ENG 101 Academic Writing & Research <sup>2</sup>	4	PY 205 Physics Engr & Scientists I <sup>1</sup>	3
MA 141 Calculus I <sup>1</sup>	4	PY 206 Physics for Engineers & Scientists I Lab <sup>1</sup>	1
Health & Exercise Studies Elective (HESF 1xx course)*	1	PSE 201 Pulping & Papermaking Technology <sup>2</sup>	3
	15		18

## Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
CH 221 Organic Chemistry I <sup>2</sup>	3	CH 223 Organic Chemistry II	3
CH 222 Organic Chemistr I Lab 1	1	CH 224 Organic Chemistr II Lab	1
CHE 205 Chemical Proc Prin	4	PY 208 Physics for Engr & Scientists II 3	3
MA 242 Calculus III	4	PY 209 Physics for Engineers & Scientists II Lab	1
PSE 212 Paper Properties <sup>2</sup>	4	PSE 371 Pulping Process Analysis <sup>2</sup>	3
		Advised Elective <sup>3</sup>	3
		Health & Exercise Studies Elective*	1
	16		15



## Junior Year

Fall Semester	Credit	Spring Semester	Credit
MAE 201 Engineering Thermodynamics I	3	PSE 332 Wood & Pulping Chemistry	3
Engineering Elective <sup>4</sup>	3	PSE 360 Pulp & Paper Unit Proc II	3
PSE 211 Pulp & Paper Internship <sup>5</sup>	1	Advised Elective <sup>3</sup>	3
PSE 322 Wet End/Polymer Chemistry	4	GEP Requirement*	3
PSE 355 Pulp & Paper Unit Proc. I <sup>2</sup>	3	GEP Requirement*	3
GEP Requirement*	3		
	17		15

## Senior Year

Fall Semester	Credit	Spring Semester	Credit
PSE 415 Paper Industry Strat. Proj. Analy.	3	PSE 416 Project Design & Analysis	3
PSE 417 Process Design & Analy Lab	3	PSE 465 Paper Physics & Product Design	3
PSE 425 Bioenergy & Biomaterials Engr.	3	PSE 472 Paper Process Analysis	3
PSE 475 Process Control	3	Advised Elective <sup>3</sup>	3
GEP Requirement*	3	GEP Requirement*	3
		GEP IP Requirement*	2-3
	15		17-18

Minimum Credit Hours Required for Graduation\*<sup>I,J,K</sup>:

128

## Major/Program Footnotes

1 Minimum grade of C (2.0).

2 Minimum grade of C minus (C-).

3 Advised Electives: See the online degree audit for a list or consult your advisor.

4 Engineering Electives: CE 214, CHE 225, ECE 331, MAE 206, MSE 201, or TE 200.

5 There is one required internship in industry. PSE 211 should be taken the first semester upon returning from that internship.

### \*General Education Program (GEP) requirements and GEP Footnotes

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://oucc.dasa.ncsu.edu/general-education-program/>.

#### **A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Fulfilled as part of the Major requirements.*

#### **B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Fulfilled as part of the Major requirements.*

#### **C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

#### **D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*Choose 3 credits from the University approved GEP Social Sciences course list in a discipline other than Economics. Economics 205 (or EC 201 or ARE 201) taken as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Social Sciences Requirement.*

#### **E. Health and Exercise Studies** (2 credit hours – at least one 100-level HESF (Fitness and Wellness) course. Choose from the University approved GEP Health and Exercise Studies course list.

#### **F. Additional Breadth** – (3 credit hours to be selected from the following checked University approved GEP course lists)

XX Humanities/Social Sciences/Visual and Performing Arts

#### **G. Interdisciplinary Perspectives** (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*

#### **H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements

#### **I. U.S. Diversity (USD)**

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*

#### **J. Global Knowledge (GK)**

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*

#### **K. Foreign Language proficiency** – Proficiency at the FL\_102 level is required for graduation.

**Paper Science & Engineering (BS) (15PSEBS)**

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**Freshman Year**

Fall Semester	Credit	Spring Semester	Credit
CH 101 Chemistry A Molecular Science <sup>1</sup>	3	CH 201 Chemistry, A Quant Sci <sup>2</sup>	3
CH 102 General Chemistry Lab <sup>1</sup>	1	CH 202 Quantitative Chemistry Lab	1
E 101 Introduction to Engr & Prob Solv <sup>2</sup>	1	EC 205 Economics (or EC 201 or ARE 201)*	3
E 115 Intro to Computing Envir	1	MA 241 Calculus II <sup>1</sup>	4
ENG 101 Academic Writing & Research <sup>2</sup>	4	PY 205 Physics Engr & Scientists I <sup>1</sup>	3
MA 141 Calculus I <sup>1</sup>	4	PY 206 Physics for Engineers & Scientists I Lab <sup>1</sup>	1
Health & Exercise Studies Elective (HESF 1xx course)*	1	PSE 201 Pulping & Papermaking Technology <sup>2</sup>	3
	15		18

**Sophomore Year**

Fall Semester	Credit	Spring Semester	Credit
CH 221 Organic Chemistry I <sup>2</sup>	3	CH 223 Organic Chemistry II	3
CH 222 Organic Chemistr I Lab	1	CH 224 Organic Chemistr II Lab	1
CHE 205 Chemical Proc Prin	4	PY 208 Physics for Engr & Scientists II	3
MA 242 Calculus III	4	PY 209 Physics for Engineers & Scientists II Lab	1
PSE 212 Paper Properties <sup>2</sup>	4	PSE 371 Pulping Process Analysis <sup>2</sup>	3
		Advised Elective <sup>3</sup>	3
		Health & Exercise Studies Elective*	1
	16		15

## Junior Year

Fall Semester	Credit	Spring Semester	Credit
MAE 201 Engineering Thermodynamics I	3	PSE 332 Wood & Pulping Chemistry	3
Engineering Elective <sup>4</sup>	3	PSE 360 Pulp & Paper Unit Proc II	3
PSE 211 Pulp & Paper Internship <sup>5</sup>	1	<del>Advised Elective<sup>3</sup></del>	<del>3</del>
PSE 322 Wet End/Polymer Chemistry	4	PSE 370 Pulp & Paper Prod. & Mkts.	3
PSE 355 Pulp & Paper Unit Proc. I <sup>2</sup>	3	GEP Requirement*	3
GEP Requirement*	3	GEP Requirement*	3
	17		15

## Senior Year

Fall Semester	Credit	Spring Semester	Credit
PSE 415 Paper Industry Strat. Proj. Analy.	3	PSE 416 Project Design & Analysis	3
PSE 417 Process Design & Analy Lab	3	PSE 465 Paper Physics & Product Design	3
PSE 425 Bioenergy & Biomaterials Engr.	3	PSE 472 Paper Process Analysis	3
PSE 475 Process Control	3	Advised Elective <sup>3</sup>	3
GEP Requirement*	3	GEP Requirement*	3
		GEP IP Requirement*	2-3
	15		17-18

Minimum Credit Hours Required for Graduation<sup>\*I,J,K</sup>:

128

## Major/Program Footnotes

- ~~1 Minimum grade of C (2.0).~~
- ~~2 Minimum grade of C minus (C-).~~
- ~~3 Advised Electives: See the online degree audit for a list or consult your advisor.~~
- ~~4 Engineering Electives: CE 214, CHE 225, ECE 331, MAE 206, MSE 201, or TE 200.~~
- ~~5 There is one required internship in industry. PSE 211 should be taken the first semester upon returning from that internship.~~

- 1 Minimum grade of C- required.
- 2 There is one required internship in industry. PSE 211 should be taken the first semester upon returning from that internship.
- 3 Grade of C (2.0) or higher required.
- 4 CH 225/226 may substitute for CH 221/222 and CH 227/228 may substitute for CH 223/224.
- 5 CH 103/104 may substitute for CH 101/102 and CH 203/204 may substitute for CH 201/202.
- 6 Consult with your adviser for course options.
- 7 Choose from the following: CE 214, CHE 225, ECE 331, MAE 206, MSE 201, or TE 200.

### \*General Education Program (GEP) requirements and GEP Footnotes

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://oucc.dasa.ncsu.edu/general-education-program/>.

#### A. Mathematical Sciences (6 credit hours – one course with MA or ST prefix)

*Fulfilled as part of the Major requirements.*

#### B. Natural Sciences (7 credit hours – include one laboratory course or course with a lab)

*Fulfilled as part of the Major requirements.*

#### C. Humanities (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

#### D. Social Sciences (6 credit hours selected from two different disciplines/course prefixes)

*Choose 3 credits from the University approved GEP Social Sciences course list in a discipline other than Economics. Economics 205 (or EC 201 or ARE 201) taken as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Social Sciences Requirement.*

#### E. Health and Exercise Studies (2 credit hours – at least one 100-level HESF (Fitness and Wellness) course. Choose from the University approved GEP Health and Exercise Studies course list.

#### F. Additional Breadth – (3 credit hours to be selected from the following checked University approved GEP course lists)

XX Humanities/Social Sciences/Visual and Performing Arts

#### G. Interdisciplinary Perspectives (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*

#### H. Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements

**I. U.S. Diversity (USD)**

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*

**J. Global Knowledge (GK)**

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:*

**K. Foreign Language proficiency** – Proficiency at the FL\_102 level is required for graduation.

**FORMAT A**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

**Indicate display status:**      **Current:**      **Proposed:** X      **Proposed Effective Semester:** 8/2019

**Degree/Plan Title:** Degree in Paper Science & Engineering

**Concentration/Subplan Title:** N/A

**Plan SIS Code:** 15PSEBS

**Subplan SIS Code:** N/A

**New Degree Audit required? (Y or N)** Y

**Freshman Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
CH 101 Chemistry, A Molecular Science <sup>3, 5</sup>	3	CH 201 Chemistry, A Quant Science <sup>1, 5</sup>	3
CH 102 General Chemistry Lab <sup>3, 5</sup>	1	CH 202 Quantitative Chemistry Lab <sup>5</sup>	1
E 101 Introduction to Engr & Prob Solv <sup>1</sup>	1	EC 205 Economics (or EC 201 or ARE 201)*	3
E 115 Intro to Computing Environ	1	MA 241 Calculus II <sup>3</sup>	4
ENG 101 Academic Writing and Research <sup>1</sup>	4	PY 205 Physics Engr & Scientists I <sup>3</sup>	3
MA 141 Calculus I <sup>3</sup>	4	PY 206 Physics for Engineers & Scientists I Lab <sup>3</sup>	1
HES_1** Health & Exercise Studies Course*	1	PSE 201 Pulping & Papermaking Technology <sup>1</sup>	3 (CP)
	15		18

**Sophomore Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
CH 221 Organic Chemistry I <sup>4, 1</sup>	3	CH 223 Organic Chemistry II <sup>4</sup>	3
CH 222 Organic Chemistry I Lab <sup>4</sup>	1	CH 224 Organic Chemistry II Lab <sup>4</sup>	1
CHE 205 Chemical Proc Princ <sup>1</sup>	4	PY 208 Physics for Engr & Scientists II	3
MA 242 Calculus III <sup>1</sup>	4	PY 209 Physics for Engr & Scientists II Lab	1
PSE 212 Paper Properties <sup>1</sup>	4 (CP)	PSE 371 Pulping Process Analysis <sup>1</sup>	3 (CP)
		Advised Elective <sup>6</sup>	3
		HES_*** Health & Exercise Studies Course*	1
	16		15

### **Junior Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
MAE 201 Engineering Thermo. I	3	PSE 332 Wood & Pulping Chemistry	3
Engineering Elective <sup>7</sup>	3	PSE 360 Pulp & Paper Unit Proc. II	3
PSE 211 Pulp & Paper Internship <sup>2</sup>	1	PSE 370 Pulp & Paper Prod. & Mkts.	3
PSE 322 Wet End/Polymer Chemistry	4	GEP Requirement*	3
PS 355 Pulp & Paper Unit Proc. I	3	GEP Requirement*	3
GEP Requirement*	3		
	17		15

### **Senior Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
PSE 415 Paper Industry Strat. Proj. Analy.	3	PSE 416 Project Design and Analysis	3
PSE 417 Process Design & Analy. Lab	3	PSE 465 Process Engineering	3
PSE 425 Bioenergy & Biomaterials Engr	3	PSE 472 Paper Process Analysis	3
PSE 475 Process Control	3	Advised Elective <sup>6</sup>	3
GEP Requirement*	3	GEP Requirement*	3
		GEP IP Requirement*	2-3
	15		17-18

**Minimum Credit Hours Required for Graduation\*<sup>l,j,k</sup>:**

**128**



## Major/Program requirements and footnotes

<sup>1</sup> Minimum grade of C- required.

<sup>2</sup> There is one required internship in industry. PSE 211 should be taken the first semester upon returning from that internship.

<sup>3</sup> Grade of C (2.0) or higher required.

<sup>4</sup> CH 225/226 may substitute for CH 221/222 and CH 227/228 may substitute for CH 223/224.

<sup>5</sup> CH 103/104 may substitute for CH 101/102 and CH 203/204 may substitute for CH 201/202.

<sup>6</sup> Consult with your adviser for course options.

<sup>7</sup> Choose from the following: CE 214, CHE 225, ECE 331, MAE 206, MSE 201, or TE 200.

### \*General Education Program (GEP) requirements and GEP Footnotes

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

**A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Fulfilled as part of the Major requirements.*

**B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Fulfilled as part of the Major requirements.*

**C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

**D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Social Sciences course list in a discipline other than Economics. Economics 205 (or EC 201 or ARE 201), taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences Requirement.*

**E. Health & Exercise Studies** (2 credit hours – at least one 100-level Health & Exercise Studies Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

**F. Additional Breadth** – (3 credit hours to be selected from the following checked University approved GEP course lists)

XX Humanities/Social Sciences/Visual and Performing Arts

**G. Interdisciplinary Perspectives** (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list.*

**H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements

**I. U.S. Diversity** (USD)

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*

**J. Global Knowledge** (GK)

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.*

**K. Foreign Language proficiency** – Proficiency at the FL\_102 level is required for graduation.

## GEP FORMAT B – CURRICULUM REQUIREMENTS

<b>Degree Title:</b> Bachelor of Science in Paper Science and Engineering – Paper Science & Engineering
<b>Current Degree Key:</b> 15PSEBS2161
<b>Effective Date of Revision:</b> 8/2019

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>	<b>Credit Hours</b>	<b>GEP category, if applicable</b>
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<b>Math</b> MA 141 (C), MA 241 (C), MA 242	12	Mathematics (6 hours)
<b>Sciences</b> CH 101 (C), CH 102 (C) PY 205 (C), PY 206 (C), PY 208, PY 209 CH 201 (C-), CH 202 CH 221 (C-), CH 222 CH 223, CH 224	4 8 4 4 4	Natural Sciences (4 hours) Natural Sciences (3 hours)
<b>PSE Major</b> PSE 201 (C-) PSE 211 PSE 212 (C-) PSE 322 PSE 332 PSE 355 (C-) PSE 360 PSE 370 PSE 371 (C-) PSE 415 PSE 416 PSE 417 PSE 425 PSE 465 PSE 472 PSE 475	3 (CP) 1 4 (CP) 4 3 3 3 3 3 (CP) 3 3 3 3 3 3 3	
<b>Other Major</b> MAE 301 CHE 205 <b>GRP 701</b> (ACC 200, ACC 210, ACC 310, ACC 311, ACC 340, ACC 411, BBS 201, BBS 425, BCH 451, BUS 201, BUS 305, BUS 320, BUS 330, BUS 335, CH 315, CH 331, CH 401, CH 431, CH 437, CHE 225, CHE 311, CHE 312, CHE 315, CHE 316, EC 301, EC 302, EC 303, EC 310, EC 336, ET 310, ET 320, ET 410, ISE 311, MA 225, MA 301, MA 303, MA 305, MA 325, MA 351, MA 401, MA 402, MA 403, MA 407, MA 408, MA 410, MA 421, MA 425, MA 426, MA 430, MIE 201, MIE 305, MIE 330, MIE 335, MSE 201, ST 311, ST 361, ST 370, ST 371, ST 431, ST 435) <b>GRP 750</b> (CE 214, CHE 225, ECE 331, MAE 206, MSE 201, OR TE 200)	3 4 2(3) = 6 3	
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	100 hours	
<b>COLLEGE REQUIREMENTS:</b>		

<b>Orientation Course(s):</b> E 101 (C-) and E 115	2	E115 satisfies Technology Fluency requirement
<b>Other:</b> (ex: Adv Communication courses) Economics Elective (EC 205 or EC 201 or ARE 201)	3	Social Science
<b>Total credit hours under College Requirements:</b>	<b>5 hours</b>	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<sup>1</sup> Choose course(s) from the University Approved GEP course list for this category. <sup>2</sup> Minimum requirements are satisfied by Major/College course requirements. <sup>3</sup> Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. <sup>4</sup> Co-requisite is satisfied by a Major/College course requirement. <sup>5</sup> Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual & Performing Arts. <sup>6</sup> Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b>(choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (minimum of 6 credits) (at least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>Natural Sciences</b> (minimum of 7 credits) (at least 1 laboratory) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>English 101</b>	4	<b>ENG 101</b>
<b>Humanities</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Social Sciences</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	<i>Major/College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Additional Breadth</b> (minimum of 3 credits) (Choose AB course list that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>	3	<i>Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts</i>
<b>Interdisciplinary Perspective</b> (minimum of 5-6 credits) <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	5	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Physical Education/Healthy Living</b> (including one Fitness and Wellness course)	2	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	23 hours	
<b>GEP Co-Requisites:</b>		<b><i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</i></b>
<b>U.S. Diversity co-requisite*</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Global Knowledge co-requisite**</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Foreign Language Proficiency</b>	n/a	<b>FL_102</b>
<b>The following requirements must be satisfied within the College/Program:</b>		

<b>Advanced Communication</b>	X	Minimum requirements are satisfied by College/Program requirements
<b>Technology Fluency</b>	X	Minimum requirements are satisfied by College/Program requirements

<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	<b>128 Total hours</b>	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>
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**FORMAT A**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

**Indicate display status:**      **Current: X**    **Proposed:**              **Effective Semester: 8/2018**

**Degree/Plan Title: Dual Degree in Paper Science & Engineering and Chemical Engineering**

**Concentration/Subplan Title: N/A**

**Plan SIS Code: 15PSEBS-15PSENDM**

**Subplan SIS Code: N/A**

**New Degree Audit required? (Y or N)    Y**

**Freshman Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
CH 101 Chemistry, A Molecular Science <sup>3, 5</sup>	3	CH 201 Chemistry, A Quant Science <sup>1, 5</sup>	3
CH 102 General Chemistry Lab <sup>3, 5</sup>	1	CH 202 Quantitative Chemistry Lab <sup>5</sup>	1
E 101 Introduction to Engr & Prob Solv <sup>1</sup>	1	EC 205 Economics (or EC 201 or ARE 201)*	3
E 115 Intro to Computing Environ	1	MA 241 Calculus II <sup>3</sup>	4
ENG 101 Academic Writing and Research <sup>1</sup>	4	PY 205 Physics Engr & Scientists I <sup>3</sup>	3
MA 141 Calculus I <sup>3</sup>	4	PY 206 Physics for Engineers & Scientists I Lab <sup>3</sup>	1
HES_*** Health & Exercise Studies Course*	1	PSE 201 Pulping & Papermaking Technology <sup>1</sup>	3 (CP)
	15		18

**Sophomore Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
CH 221 Organic Chemistry I <sup>4, 1</sup>	3	CH 223 Organic Chemistry II <sup>4</sup>	3
CH 222 Organic Chemistry I Lab <sup>4</sup>	1	CH 224 Organic Chemistry II Lab <sup>4</sup>	1
CHE 205 Chemical Proc Princ <sup>1</sup>	4	CHE 225 Chemical Proc Systems <sup>1</sup>	3
MA 242 Calculus III <sup>1</sup>	4	MA 341 Applied Differential Eq <sup>1</sup>	3
PSE 212 Paper Properties <sup>1</sup>	4 (CP)	PY 208 Physics for Engr & Scientists II	3
HES_*** Health & Exercise Studies Course	1	PY 209 Physics for Engineers & Scientists II Lab	1
	17	PSE 371 Pulping Process Analysis <sup>1</sup>	3 (CP)
	17		17

### **Junior Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
Chemistry Elective <sup>6</sup>	4	CHE 312 Transport Processes II	3
CHE 311 Transport Processes I <sup>1</sup>	3	CHE 316 Thermo of Chem & Phase Eq	3
CHE 315 Chem Process Thermo <sup>1</sup>	3	PSE 332 Wood & Pulping Chemistry	3
PSE 211 Pulp & Paper Internship <sup>2</sup>	1	PSE 360 Pulp & Paper Unit Proc. II	3
PSE 322 Wet End/Polymer Chemistry	4	GEP Requirement*	3
GEP Requirement*	3		
	18		15

### **Senior Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
PSE 415 Paper Industry Strat. Proj. Analy.	3	PSE 416 Project Design and Analysis	3
PSE 417 Process Design & Analy. Lab	3	PSE 465 Process Engineering	3
PSE 425 Bioenergy & Biomaterials Engr	3	PSE 472 Paper Process Analysis	3
PSE 475 Process Control	3	GEP Requirement*	3
GEP Requirement*	3	GEP IP Requirement*	2-3
GEP Requirement*	3		
	18		14-15

### **Fifth Year**

<b>Fall Semester</b>	<b>Credit</b>
CHE 330 CHE Lab I	4
CHE 446 Design & Analysis Chem Reac	3
Technical Elective <sup>7</sup>	3
ECE 331 Intro Elect Circuits or MSE 201 Intro Material Sci Engr.	3
	13

**Minimum Credit Hours Required for Graduation\*<sup>l,j,k</sup>:**

**145**

## Major/Program requirements and footnotes

<sup>1</sup> Minimum grade of C- required.

<sup>2</sup> There is one required internship in industry. PSE 211 should be taken the first semester upon returning from that internship.

<sup>3</sup> Grade of C (2.0) or higher required.

<sup>4</sup> CH 225/226 may substitute for CH 221/222 and CH 227/228 may substitute for CH 223/224.

<sup>5</sup> CH 103/104 may substitute for CH 101/102 and CH 203/204 may substitute for CH 201/202.

<sup>6</sup> Choose from the following: BCH 351; BCH 451; BIO 183; CH 315/316; CH 331; CH 335; CH 437; FS 402; FS 403; PCC 461/464; PSE 335

<sup>7</sup> Consult with your adviser for course options

### \*General Education Program (GEP) requirements and GEP Footnotes

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

**A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Fulfilled as part of the Major requirements.*

**B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Fulfilled as part of the Major requirements.*

**C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

**D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Social Sciences course list in a discipline other than Economics. Economics 205 (or EC 201 or ARE 201), taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences Requirement.*

**E. Health & Exercise Studies** (2 credit hours – at least one 100-level Health & Exercise Studies Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

**F. Additional Breadth** – (3 credit hours to be selected from the following checked University approved GEP course lists)

**XX** Humanities/Social Sciences/Visual and Performing Arts

**G. Interdisciplinary Perspectives** (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list.*

**H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements

**I. U.S. Diversity** (USD)

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*

**J. Global Knowledge** (GK)

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.*

**K. Foreign Language proficiency** – Proficiency at the FL\_102 level is required for graduation.

**FORMAT A (Marked Up Copy)**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

**Back to Top (Agenda)**

**Indicate display status:**      **Current: X**    **Proposed:**      **Effective Semester: 8/2018**

**Degree/Plan Title: Dual Degree in Paper Science & Engineering and Chemical Engineering**

**Concentration/Subplan Title: N/A**

**Plan SIS Code: 15PSEBS-15PSENDM**

**Subplan SIS Code: N/A**

**New Degree Audit required? (Y or N) Y**

**Freshman Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
CH 101 Chemistry, A Molecular Science <sup>3, 5</sup>	3	CH 201 Chemistry, A Quant Science <sup>1, 5</sup>	3
CH 102 General Chemistry Lab <sup>3, 5</sup>	1	CH 202 Quantitative Chemistry Lab <sup>5</sup>	1
E 101 Introduction to Engr & Prob Solv <sup>1</sup>	1	EC 205 Economics (or EC 201 or ARE 201)*	3
E 115 Intro to Computing Environ	1	MA 241 Calculus II <sup>3</sup>	4
ENG 101 Academic Writing and Research <sup>1</sup>	4	PY 205 Physics Engr & Scientists I <sup>3</sup>	3
MA 141 Calculus I <sup>3</sup>	4	PY 206 Physics for Engineers & Scientists I Lab <sup>3</sup>	1
HES_*** Health & Exercise Studies Course*	1	PSE 201 Pulping & Papermaking Technology <sup>1</sup>	3 (CP)
	15		18

**Sophomore Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
CH 221 Organic Chemistry I <sup>4, 1</sup>	3	CH 223 Organic Chemistry II <sup>4</sup>	3
CH 222 Organic Chemistry I Lab <sup>4</sup>	1	CH 224 Organic Chemistry II Lab <sup>4</sup>	1
CHE 205 Chemical Proc Princ <sup>1</sup>	4	CHE 225 Chemical Proc Systems <sup>1</sup>	3
MA 242 Calculus III <sup>1</sup>	4	MA 341 Applied Differential Eq <sup>1</sup>	3
PSE 212 Paper Properties <sup>1</sup>	4 (CP)	PY 208 Physics for Engr & Scientists II	3
HES_*** Health & Exercise Studies Course	1	PY 209 Physics for Engineers & Scientists II Lab	1
	17	PSE 371 Pulping Process Analysis <sup>1</sup>	3 (CP)
			17



## Junior Year

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
Chemistry Elective <sup>6</sup>	4	CHE 312 Transport Processes II	3
CHE 311 Transport Processes I <sup>1</sup>	3	CHE 316 Thermo of Chem & Phase Eq	3
CHE 315 Chem Process Thermo <sup>1</sup>	3	PSE 332 Wood & Pulping Chemistry	3
PSE 211 Pulp & Paper Internship <sup>2</sup>	1	PSE 360 Pulp & Paper Unit Proc. II	3
PSE 322 Wet End/Polymer Chemistry	4	<del>GEP Requirement*</del>	<del>3</del>
GEP Requirement*	3	PSE 370 Pulp & Paper Prod. & Mkts.	3
	18		15

## Senior Year

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
PSE 415 Paper Industry Strat. Proj. Analy.	3	PSE 416 Project Design and Analysis	3
PSE 417 Process Design & Analy. Lab	3	PSE 465 Process Engineering	3
PSE 425 Bioenergy & Biomaterials Engr	3	PSE 472 Paper Process Analysis	3
PSE 475 Process Control	3	GEP Requirement*	3
GEP Requirement*	3	GEP IP Requirement*	2-3
GEP Requirement*	3		
	18		14-15

## Fifth Year

<b>Fall Semester</b>	<b>Credit</b>
CHE 330 CHE Lab I	4
CHE 446 Design & Analysis Chem Reac	3
<del>Technical Elective<sup>7</sup></del>	<del>3</del>
ECE 331 Intro Elect Circuits or MSE 201 Intro Material Sci Engr.	3
<del>GEP Requirement*</del>	<del>3</del>
	13

**Minimum Credit Hours Required for Graduation\*<sup>I,J,K</sup>:**

## Major/Program requirements and footnotes

<sup>1</sup> Minimum grade of C- required.

<sup>2</sup> There is one required internship in industry. PSE 211 should be taken the first semester upon returning from that internship.

<sup>3</sup> Grade of C (2.0) or higher required.

<sup>4</sup> CH 225/226 may substitute for CH 221/222 and CH 227/228 may substitute for CH 223/224.

<sup>5</sup> CH 103/104 may substitute for CH 101/102 and CH 203/204 may substitute for CH 201/202.

<sup>6</sup> Choose from the following: BCH 351; BCH 451; BIO 183; CH 315/316; CH 331; CH 335; CH 437; FS 402; FS 403; PCC 461/464; PSE 335

<sup>7</sup> Consult with your adviser for course options

### \*General Education Program (GEP) requirements and GEP Footnotes

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

#### A. Mathematical Sciences (6 credit hours – one course with MA or ST prefix)

*Fulfilled as part of the Major requirements.*

#### B. Natural Sciences (7 credit hours – include one laboratory course or course with a lab)

*Fulfilled as part of the Major requirements.*

#### C. Humanities (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

#### D. Social Sciences (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Social Sciences course list in a discipline other than Economics. Economics 205 (or EC 201 or ARE 201), taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences Requirement.*

#### E. Health & Exercise Studies (2 credit hours – at least one 100-level Health & Exercise Studies Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

#### F. Additional Breadth – (3 credit hours to be selected from the following checked University approved GEP course lists)

XX Humanities/Social Sciences/Visual and Performing Arts

#### G. Interdisciplinary Perspectives (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list.*

#### H. Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements

#### I. U.S. Diversity (USD)

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*

#### J. Global Knowledge (GK)

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.*

#### K. Foreign Language proficiency – Proficiency at the FL\_102 level is required for graduation.

**FORMAT A**  
**(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)**

**Indicate display status:**      **Current:**      **Proposed: X**      **Proposed Effective Semester:** 8/2019

**Degree/Plan Title:** Dual Degree in Paper Science & Engineering and Chemical Engineering

**Concentration/Subplan Title:** N/A

**Plan SIS Code:** 15PSEBS-15PSENDM

**Subplan SIS Code:** N/A

**New Degree Audit required? (Y or N)** Y

**Freshman Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
CH 101 Chemistry, A Molecular Science <sup>3, 5</sup>	3	CH 201 Chemistry, A Quant Science <sup>1, 5</sup>	3
CH 102 General Chemistry Lab <sup>3, 5</sup>	1	CH 202 Quantitative Chemistry Lab <sup>5</sup>	1
E 101 Introduction to Engr & Prob Solv <sup>1</sup>	1	EC 205 Economics (or EC 201 or ARE 201)*	3
E 115 Intro to Computing Environ	1	MA 241 Calculus II <sup>3</sup>	4
ENG 101 Academic Writing and Research <sup>1</sup>	4	PY 205 Physics Engr & Scientists I <sup>3</sup>	3
MA 141 Calculus I <sup>3</sup>	4	PY 206 Physics for Engineers & Scientists I Lab <sup>3</sup>	1
HES_*** Health & Exercise Studies Course*	1	PSE 201 Pulping & Papermaking Technology <sup>1</sup>	3 (CP)
	15		18

**Sophomore Year**

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
CH 221 Organic Chemistry I <sup>4, 1</sup>	3	CH 223 Organic Chemistry II <sup>4</sup>	3
CH 222 Organic Chemistry I Lab <sup>4</sup>	1	CH 224 Organic Chemistry II Lab <sup>4</sup>	1
CHE 205 Chemical Proc Princ <sup>1</sup>	4	CHE 225 Chemical Proc Systems <sup>1</sup>	3
MA 242 Calculus III <sup>1</sup>	4	MA 341 Applied Differential Eq <sup>1</sup>	3
PSE 212 Paper Properties <sup>1</sup>	4 (CP)	PY 208 Physics for Engr & Scientists II	3
HES_*** Health & Exercise Studies Course	1	PY 209 Physics for Engineers & Scientists II Lab	1
	17	PSE 371 Pulping Process Analysis <sup>1</sup>	3 (CP)
	17		17

### Junior Year

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
Chemistry Elective <sup>6</sup>	4	CHE 312 Transport Processes II	3
CHE 311 Transport Processes I <sup>1</sup>	3	CHE 316 Thermo of Chem & Phase Eq	3
CHE 315 Chem Process Thermo <sup>1</sup>	3	PSE 332 Wood & Pulping Chemistry	3
PSE 211 Pulp & Paper Internship <sup>2</sup>	1	PSE 360 Pulp & Paper Unit Proc. II	3
PSE 322 Wet End/Polymer Chemistry	4	PSE 370 Pulp & Paper Prod. & Mkts.	3
GEP Requirement*	3		
	18		15

### Senior Year

<b>Fall Semester</b>	<b>Credit</b>	<b>Spring Semester</b>	<b>Credit</b>
PSE 415 Paper Industry Strat. Proj. Analy.	3	PSE 416 Project Design and Analysis	3
PSE 417 Process Design & Analy. Lab	3	PSE 465 Process Engineering	3
PSE 425 Bioenergy & Biomaterials Engr	3	PSE 472 Paper Process Analysis	3
PSE 475 Process Control	3	GEP Requirement*	3
GEP Requirement*	3	GEP IP Requirement*	2-3
GEP Requirement*	3		
	18		14-15

### Fifth Year

<b>Fall Semester</b>	<b>Credit</b>
CHE 330 CHE Lab I	4
CHE 446 Design & Analysis Chem Reac	3
ECE 331 Intro Elect Circuits <b>or</b> MSE 201 Intro Material Sci Engr.	3
GEP Requirement*	3
	13

**Minimum Credit Hours Required for Graduation\*<sup>I,J,K</sup>:**

## Major/Program requirements and footnotes

<sup>1</sup> Minimum grade of C- required.

<sup>2</sup> There is one required internship in industry. PSE 211 should be taken the first semester upon returning from that internship.

<sup>3</sup> Grade of C (2.0) or higher required.

<sup>4</sup> CH 225/226 may substitute for CH 221/222 and CH 227/228 may substitute for CH 223/224.

<sup>5</sup> CH 103/104 may substitute for CH 101/102 and CH 203/204 may substitute for CH 201/202.

<sup>6</sup> Choose from the following: BCH 351; BCH 451; BIO 183; CH 315/316; CH 331; CH 335; CH 437; FS 402; FS 403; PCC 461/464; PSE 335

## \*General Education Program (GEP) requirements and GEP Footnotes

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

**A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Fulfilled as part of the Major requirements.*

**B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Fulfilled as part of the Major requirements.*

**C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

**D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Social Sciences course list in a discipline other than Economics. Economics 205 (or EC 201 or ARE 201), taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences Requirement.*

**E. Health & Exercise Studies** (2 credit hours – at least one 100-level Health & Exercise Studies Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

**F. Additional Breadth** – (3 credit hours to be selected from the following checked University approved GEP course lists)

XX Humanities/Social Sciences/Visual and Performing Arts

**G. Interdisciplinary Perspectives** (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list.*

**H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements

**I. U.S. Diversity** (USD)

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*

**J. Global Knowledge** (GK)

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.*

**K. Foreign Language proficiency** – Proficiency at the FL\_102 level is required for graduation.

## GEP FORMAT B – CURRICULUM REQUIREMENTS

<b>Degree Title:</b> Dual B.S. in Paper Science and Engineering and Chemical Engineering
<b>Current Degree Key:</b> 15PSENDM2188
<b>Effective Date of Revision:</b> 8/2019

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>	<b>Credit Hours</b>	<b>GEP category, if applicable</b>
<b>Required Courses/Groups/ Electives:</b>		
<b>Indicate if course or course groupings have a C-wall or MGPA requirement</b>		<b>List GEP category and hours satisfied by a Major requirement</b>
<b>Math</b>		
MA 141 (C), MA 241 (C), MA 242 (C-)	12	Mathematics (6 hours)
MA 341 (C-)	3	
<b>Sciences</b>		
CH 101 (C), CH 102 (C)	4	Natural Sciences (4 hours)
PY 205 (C), PY 206 (C), PY 208, PY 209	8	
CH 201 (C-), CH 202	4	Natural Sciences (3 hours)
CH 221 (C-), CH 222	4	
CH 223, CH 224	4	
Chemistry Elective	4	
<b>PSE Major</b>		
PSE 201 (C-)	3 (CP)	
PSE 211	1	
PSE 212 (C-)	4 (CP)	
PSE 322	4	
PSE 332	3	
PSE 360	3	
PSE 370	3	
PSE 371 (C-)	3 (CP)	
PSE 415	3	
PSE 416	3	
PSE 417	3	
PSE 425	3	
PSE 465	3	
PSE 472	3	
PSE 475	3	
<b>CHE Major</b>		
CHE 205 (C-)	4	
CHE 225 (C-)	3	
CHE 311 (C-)	3	
CHE 312	3	
CHE 315 (C-)	3	
CHE 316	3	
CHE 330	4	
CHE 446	3	
<b>Other Major</b>		
ECE 331 or MSE 201	3	
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	<b>117 hours</b>	

<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 (C-) and E 115	2	E115 satisfies Technology Fluency requirement
<b>Other:</b> (ex: Adv Communication courses) Economics Elective (EC 205 or EC 201 or ARE 201)	3	Social Science
<b>Total credit hours under College Requirements:</b>	<b>5 hours</b>	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b>Specific courses should not be listed in any of the fields below other than ENG 101.</b></p>		<sup>1</sup> Choose course(s) from the University Approved GEP course list for this category. <sup>2</sup> Minimum requirements are satisfied by Major/College course requirements. <sup>3</sup> Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. <sup>4</sup> Co-requisite is satisfied by a Major/College course requirement. <sup>5</sup> Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual & Performing Arts. <sup>6</sup> Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b>(choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (minimum of 6 credits) (at least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>Natural Sciences</b> (minimum of 7 credits) (at least 1 laboratory) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>English 101</b>	4	<b>ENG 101 (Must pass with C-)</b>
<b>Humanities</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Social Sciences</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	<i>Major/College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Additional Breadth</b> (minimum of 3 credits) (Choose AB course list that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>	3	<i>Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts</i>
<b>Interdisciplinary Perspective</b> (minimum of 5-6 credits) <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	5	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Physical Education/Healthy Living</b> (including one Fitness and Wellness course)	2	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	<b>23 hours</b>	
<b>GEP Co-Requisites:</b>		<b>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</b>
<b>U.S. Diversity co-requisite*</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Global Knowledge co-requisite**</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Foreign Language Proficiency</b>	n/a	<b>FL_102</b>

<b>The following requirements must be satisfied within the College/Program:</b>		
<b>Advanced Communication</b>	X	Minimum requirements are satisfied by College/Program requirements
<b>Technology Fluency</b>	X	Minimum requirements are satisfied by College/Program requirements

<b>Total credit hours required to complete Degrees:</b>	<b>145</b>	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>
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## **MEMORANDUM**

Date: March 27, 2019

To: Dr. Michael D. Mullen, Vice Chancellor and Dean for Division of Academic and Student Affairs

From: Dr. Rudolf Seracino, Associate Head, Department of Civil, Construction, and Environmental Engineering

Re: Curriculum Action for BS Civil Engineering (**14CEBS**)

### **Proposed Revisions and Justification:**

The primary revision to this curriculum is the addition of **PY 209 Physics for Engineers & Scientists II Lab** in the Spring Semester of Sophomore Year. While the Physics Department previously approved enrollment of students in the 14CEBS curriculum in PY 208 Physics for Engineers & Scientists II without the co-requisite of the 1 credit hour laboratory (PY 209), they are no longer allowing this option. Hence, PY 209 is being added back into the 14CEBS curriculum.

While submitting the above required revision, the (COM 110 Public Speaking or ENG 331 Communications for Engineers & Technicians) elective group is being moved from the Fall Semester of Junior Year to Fall Semester of Senior Year. This revision is proposed to align with the degree audit of a proposed future Honors curriculum in Civil Engineering 14CEBS-14CEHON. To balance credit hours, a 3 credit hour GEP Requirement is moved from Fall Semester of Senior Year to Fall Semester of Junior Year.

### **Proposed Changes in Format A eight semester display:**

See attached Format A display that highlights all of the proposed changes. Deleted or moved courses are identified by red color font with strikethrough, and revised courses are identified by red color font with underline.

### **Consultation with other Departments:**

PY 209 is being added back into the 14CEBS curriculum at the request of the Physics Department. No other revisions require consultation with other Departments.

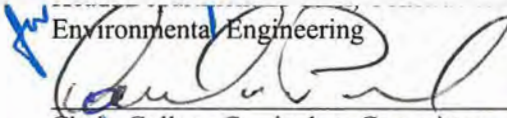
### **Impact on Other Departments or Programs:**

Enrollment in the PY 209 lab sections will increase, but multiple sections are offered every semester and the revision is at the request of the Physics Department responsible for scheduling the lab sections.

### **Proposed Effective Date for Revision:**

Immediately upon approval.

**RECOMMENDED BY:** Rudolf Strainw 03/27/19  
Date

**APPROVED BY:**  1 Apr '19  
Chair, College Curriculum Committee Date

Jerome P. Fawelle 04/02/19  
College Dean Date

Chair, University Courses & Curricula Committee Date

Office of the Provost Date

**APPROVED EFFECTIVE DATE:** \_\_\_\_\_

## FORMAT A

## (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X

Proposed Effective Semester: Fall ~~2018~~2019

Degree/Plan Title: Bachelor of Science in Civil Engineering

Concentration/Subplan Title:

Plan SIS Code: 14CEBS

Subplan SIS Code:

New Degree Audit required? (Y or N) Yes

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 101 Chemistry, A Molecular Science	3	EC 205 Economics (GEP Req) <sup>1</sup>	3
CH 102 General Chemistry Laboratory	1	MA 241 Calculus II	4
E 101 Introduction to Engr & Prob. Solving	1	PY 205 Physics for Engineers & Scientists I	3
E 115 Intro to Computing Environments	1	PY 206 Physics for Engineers & Scientists I Lab	1
ENG 101 Academic Writing and Research	4	E 102 Engineering in the 21 <sup>st</sup> Century (GEP Req) <sup>1</sup>	2
MA 141 Calculus I	4	GEP Requirement <sup>1</sup>	3
HESF 1XX Fitness & Wellness Course	1		
<i>Total:</i>	15	<i>Total:</i>	16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 214 <u>Engineering Mechanics</u> – Statics	3 (CP)	CE 225 Mechanics of Solids	3 (CP)
CE 250 Introduction to Sustainable Infrastructure	3 (CP)	CE 282 Hydraulics	3 (CP)
CSC 111 Introduction to Computing: Python	3	PY 208 Physics for Engineers & Scientists II	3
TDE 220 Civil Engineering Graphics	3	<u>PY 209 Physics for Engineers &amp; Scientists II Lab</u>	<u>1</u>
MA 242 Calculus III	4	MA 341 Applied Differential Eq <b>OR</b> MA 305 Elem Linear Algebra	3
		MSE 200 Mech Prop of Struct Mat	3
		HES *** Phys. Ed/Healthy Living Course	1
<i>Total:</i>	16	<i>Total:</i>	<del>16</del> 17
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE Core Course – Lab Intensive Elective I <sup>2</sup>	3/4	CE Core Course – Lab Intensive Elective II <sup>2</sup>	4/3
CE Core Course – Elective I <sup>3</sup>	3	CE Core Course – Elective II <sup>3</sup>	3
CE Junior Elective I <sup>4</sup>	3	CE Junior Elective II <sup>4</sup>	3
ST 370 Prob & Stat for Engineers	3	Basic Science Elective <sup>7</sup>	3
<u>GEP Requirement<sup>1</sup></u>	<u>3</u>	Engineering Science Elective <sup>8</sup>	3
<u>COM 110 Public Speaking <b>OR</b></u> <u>ENG 331 Communication for Engr. &amp; Tech.</u>	<u>3</u>		
<i>Total:</i>	15/16	<i>Total:</i>	16/15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE Senior Elective I <sup>5</sup>	3	CE Senior Elective III <sup>5</sup>	3
CE Senior Elective II <sup>5</sup>	3	CE Senior Elective IV <sup>5</sup>	3
Senior Elective <sup>9</sup>	3	CE Senior Design <sup>6</sup>	3
GEP Requirement <sup>1</sup>	3	GEP Requirement <sup>1</sup>	3
<u>GEP Requirement<sup>1</sup></u>	<u>3</u>	GEP Requirement <sup>1</sup>	3
<u>COM 110 Public Speaking <b>OR</b></u> <u>ENG 331 Communication for Engr. &amp; Tech.</u>	<u>3</u>		
<i>Total:</i>	15	<i>Total:</i>	15
Minimum Credit Hours Required for Graduation*: <del>124</del> 125			

**Major/Program Footnotes:**<sup>1</sup>GEP Requirements to be selected from the appropriate lists in consultation with the advisor.<sup>2,3</sup>CE Core Courses, <sup>4</sup>CE Junior Electives, <sup>5</sup>CE Senior Electives, <sup>6</sup>CE Senior Design, <sup>7</sup>Basic Science Elective, <sup>8</sup>Engineering Science Elective, <sup>9</sup>Senior Elective: select from lists on worksheet in consultation with advisor.

(CP) Critical Path major course predictive of student success.

\*Foreign Language Proficiency at the FL\_102 level is required for graduation.

**<sup>1</sup> General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Fulfilled as part of Major requirements.*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Fulfilled as part of Major requirements.*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list.*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*EC 205 (or EC 201 or ARE 201) taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.  
Choose 3 credit hours from University approved GEP Social Sciences course list.*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Humanities/Social Sciences/Visual and Performing Arts or \_\_\_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)  
*E 102 taken as part of the Major requirements satisfies 2 credit hours needed to fulfill the GEP Interdisciplinary perspectives requirement.  
Choose 3 credit hours from the University approved GEP Interdisciplinary Perspectives course list.*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity** (USD)  
*Choose from the University approved GEP U.S. Diversity course list.*
- J. **Global Knowledge** (GK)  
*Choose from the University approved GEP Global Knowledge course list.*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: **X**Proposed Effective Semester: **Fall 2019**Degree/Plan Title: **Bachelor of Science in Civil Engineering**

Concentration/Subplan Title:

Plan SIS Code: **14CEBS**

Subplan SIS Code:

New Degree Audit required? (Y or N) **Yes**

**Critical Path Courses** - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 101 Chemistry, A Molecular Science	3	EC 205 Economics (GEP Req) <sup>1</sup>	3
CH 102 General Chemistry Laboratory	1	MA 241 Calculus II	4
E 101 Introduction to Engr & Prob. Solving	1	PY 205 Physics for Engineers & Scientists I	3
E 115 Intro to Computing Environments	1	PY 206 Physics for Engineers & Scientists I Lab	1
ENG 101 Academic Writing and Research	4	E 102 Engineering in the 21 <sup>st</sup> Century (GEP Req) <sup>1</sup>	2
MA 141 Calculus I	4	GEP Requirement <sup>1</sup>	3
HESF 1XX Fitness & Wellness Course	1		
<i>Total:</i>	15	<i>Total:</i>	16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 214 Engineering Mechanics – Statics	3 (CP)	CE 225 Mechanics of Solids	3 (CP)
CE 250 Introduction to Sustainable Infrastructure	3 (CP)	CE 282 Hydraulics	3 (CP)
CSC 111 Introduction to Computing: Python	3	PY 208 Physics for Engineers & Scientists II	3
TDE 220 Civil Engineering Graphics	3	PY 209 Physics for Engineers & Scientists II Lab	1
MA 242 Calculus III	4	MA 341 Applied Differential Eq <b>OR</b> MA 305 Elem Linear Algebra	3
		MSE 200 Mech Prop of Struct Mat	3
		HES *** Phys. Ed/Healthy Living Course	1
<i>Total:</i>	16	<i>Total:</i>	17
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE Core Course – Lab Intensive Elective I <sup>2</sup>	3/4	CE Core Course – Lab Intensive Elective II <sup>2</sup>	4/3
CE Core Course – Elective I <sup>3</sup>	3	CE Core Course – Elective II <sup>3</sup>	3
CE Junior Elective I <sup>4</sup>	3	CE Junior Elective II <sup>4</sup>	3
ST 370 Prob & Stat for Engineers	3	Basic Science Elective <sup>7</sup>	3
GEP Requirement <sup>1</sup>	3	Engineering Science Elective <sup>8</sup>	3
<i>Total:</i>	15/16	<i>Total:</i>	16/15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE Senior Elective I <sup>5</sup>	3	CE Senior Elective III <sup>5</sup>	3
CE Senior Elective II <sup>5</sup>	3	CE Senior Elective IV <sup>5</sup>	3
Senior Elective <sup>9</sup>	3	CE Senior Design <sup>6</sup>	3
GEP Requirement <sup>1</sup>	3	GEP Requirement <sup>1</sup>	3
COM 110 Public Speaking <b>OR</b> ENG 331 Communication for Engr. & Tech.	3	GEP Requirement <sup>1</sup>	3
<i>Total:</i>	15	<i>Total:</i>	15
Minimum Credit Hours Required for Graduation <sup>*</sup> : 125			

**Major/Program Footnotes:**<sup>1</sup>GEP Requirements to be selected from the appropriate lists in consultation with the advisor.<sup>2,3</sup>CE Core Courses, <sup>4</sup>CE Junior Electives, <sup>5</sup>CE Senior Electives, <sup>6</sup>CE Senior Design, <sup>7</sup>Basic Science Elective, <sup>8</sup>Engineering Science Elective, <sup>9</sup>Senior Elective: select from lists on worksheet in consultation with advisor.

(CP) Critical Path major course predictive of student success.

<sup>\*</sup>Foreign Language Proficiency at the FL\_102 level is required for graduation.

**<sup>1</sup> General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Fulfilled as part of Major requirements.*
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Fulfilled as part of Major requirements.*
- C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list.*
- D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*EC 205 (or EC 201 or ARE 201) taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.  
Choose 3 credit hours from University approved GEP Social Sciences course list.*
- E. Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
**X** Humanities/Social Sciences/Visual and Performing Arts or \_\_\_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. Interdisciplinary Perspectives** (5-6 credit hours)  
*E 102 taken as part of the Major requirements satisfies 2 credit hours needed to fulfill the GEP Interdisciplinary perspectives requirement.  
Choose 3 credit hours from the University approved GEP Interdisciplinary Perspectives course list.*
- H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- I. U.S. Diversity (USD)**  
*Choose from the University approved GEP U.S. Diversity course list.*
- J. Global Knowledge (GK)**  
*Choose from the University approved GEP Global Knowledge course list.*
- K. Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.



<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	97 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 and E 115	2	
<b>Other:</b> Economics Elective EC 205 (or EC 201 or ARE 201) E 102	3 2	Social Science (3 hours) Interdisciplinary Perspectives (2 hours)
<b>Total credit hours under College Requirements:</b>	7 hours	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b>Specific courses should not be listed in any of the fields below other than ENG 101.</b></p>		<ol style="list-style-type: none"> <li>Choose course(s) from the University Approved GEP course list for this category.</li> <li>Minimum requirements are satisfied by Major/College course requirements.</li> <li>Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>Co-requisite is satisfied by a Major/College course requirement.</li> <li>Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) <i>(At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>(Choose statement 1, 2 or 3)</i> Minimum requirements are satisfied by Major/College course requirements.
<b>Natural Sciences</b> (7 credits) <i>(At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	<i>(Choose statement 1, 2 or 3)</i> Minimum requirements are satisfied by Major/College course requirements.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) <i>(Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	<i>(Choose statement 1, 2 or 3)</i> Choose course(s) from the University Approved GEP course list for this category.
<b>Social Sciences</b> (6 credits) <i>(Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	3	<i>(Choose statement 1, 2 or 3)</i> Major/College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Additional Breadth</b> (3 credits) <i>(Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	<i>(Choose statement 5 or 6)</i> Choose course(s) from the University Approved GEP course list for this category.
<b>Interdisciplinary Perspectives</b> (5 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	3	<i>(Choose statement 1, 2 or 3)</i> Major/College course requirement satisfies 2 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Health and Exercise Studies</b> (2 credits) <i>(Including one Fitness and Wellness course)</i>	2	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	21 hours	



<b>GEP Co-Requisites:</b>			<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite</b>	(USD)	n/a	<i>(Choose statement 1 or 4)</i>
<b>Global Knowledge co-requisite</b>	(GK)	n/a	<i>(Choose statement 1 or 4)</i>
<b>Foreign Language Proficiency</b>		n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>			Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
<b>Communication in the Major (Advanced Communication)</b>		n/a	Satisfied by College/Program Requirements
<b>Technology Fluency</b>		n/a	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	<b>125 Total Hours</b>		<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>



College of Engineering  
Department of Computer Science  
www.csc.ncsu.edu

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Raleigh, NC 27695-8206  
P: 919.515.2042

## MEMO

To: Dr. Michael D Mullen  
Vice-Chancellor and Dean  
Division of Academic and Student Affairs

From: Dr. Sarah Heckman (sarah\_heckman@ncsu.edu)  
Director of Undergraduate Programs, Department of Computer Science  
Phone: +1.919.515.2042

Date: March 27, 2019

Subject: 14CSC BS Minor Curriculum Action

We are requesting updates to the list of CSC Restricted Electives (RE) and CSC Other Restricted Electives (ORE) for Computer Science (BS) (14CSC BS) to bring the lists in alignment with recent course actions.

**Proposed Revisions with Reasons (Revisions in Format B)**

- Update CSC Restricted Electives (GRP 033) to include CSC 302, CSC 406, CSC 409, CSC 412, CSC 415, CSC 419, CSC 442, CSC 455, CSC 484, if not already included. The listing can also be considered as "CSC REs may be selected from CSC 302, CSC 342, or from any 400-level computer science course except CSC 423, CSC 427, CSC 428, or CSC 489." This update will incorporate recently created courses into the CSC RE list.
- Add ECE 482 and ECE 483 (courses in the Engineering Entrepreneurship Program (EEP) <https://eep.ncsu.edu/>) as CSC Restricted Electives (GRP 033). This will provide the opportunity for CSC students to engage with entrepreneurial programs in the College of Engineering and have it count toward their CSC Restricted Electives.
- Remove ECE 309 from the list of CSC Other Restricted Electives (GRP 701). ECE 309 is now a standard substitution for CSC 316 (a CSC major course) and cannot be a CSC ORE.

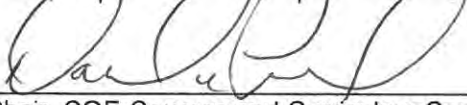
Proposed effective date: 07/2019

  
\_\_\_\_\_  
Director of Undergraduate Programs, Computer Science

3/27/2019  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Head, Department of Computer Science

3/27/19  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Chair, COE Courses and Curriculum Committee

27 Mar 19  
\_\_\_\_\_  
Date

Jerome P. Fawelle

04/02/19

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Dean, College of Engineering

Date

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Chair, University Courses and Curricula Committee

Date

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Office of the Provost

Date

**GEP FORMAT A**  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current:                      Proposed: **X**                      Proposed Effective Semester: **7/2019**

DEGREE TITLE: B.S. in Computer Science

CONCENTRATION TITLE: n/a

CURRENT DEGREE KEY: 14CSC BS

### FRESHMAN YEAR

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CH 101	Chemistry – A Molecular Science <sup>1,2,B</sup>	3	CSC 116	Intro. to Computing - Java <sup>2</sup>	3
CH 102	General Chemistry Laboratory <sup>1,2,B</sup>	1	MA 241	Calculus II <sup>1,2,A</sup>	4
E 101	Intro to Engineering & Prob Solving <sup>1,7</sup>	1	PY 205	Physics for Engrs & Sci I <sup>1,2,B</sup>	3
E 115	Intro to Computing Environments <sup>1</sup>	1	PY 206	Physics for Engrs & Sci I Lab <sup>1,2,B</sup>	1
ENG 101	Academic Writing and Research <sup>1,7,H</sup>	4	EC 205	Fund of Econ <sup>D</sup> ( <i>or</i> EC 201 <i>or</i> ARE 201)	3
MA 141	Calculus I <sup>1,2,A</sup>	<u>4</u>	E 102	Engineering in the 21 <sup>st</sup> Century <sup>1,2,G</sup>	<u>2</u>
		14			16

### SOPHOMORE YEAR

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CSC 216	Programming Concepts – Java <sup>2</sup>	4	CSC 230	C and Software Tools	3
CSC 226	Discrete Mathematics for CSC <sup>2</sup>	3	CSC 316	Data Structures for CSC	3
MA 242	Calculus III	4	MA 305	Elementary Linear Algebra	3
PY 208	Physics for Engrs & Sci II <sup>B</sup>	3	GEP Requirement*		3
PY 209	Physics for Engrs & Sci II Lab <sup>B</sup>	1	Basic Science Elective <sup>3,B</sup>		<u>3</u>
Physical Education/Healthy Living Elective <sup>E</sup>		<u>1</u>			15
		16			

### JUNIOR YEAR

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CSC 236	Comp Org & Assem Lang for CSC	3	CSC 326	Software Engineering	4
CSC 246	Operating Systems for CSC	3	CSC 379	Ethics in Computing	1
CSC 333	Automata, Grammars, and Computability	3	CSC ***	CSC Restricted Elective <sup>4</sup>	3
ST 370	Probability & Statistics for Engrs	3	ENG 331	Communication for Engr and Tech	3
GEP Requirement*		<u>3</u>	Physical Education/Healthy Living Elective <sup>E</sup>		1
		15	*** **	Other Restricted Elective <sup>4</sup>	<u>3</u>
					15

### SENIOR YEAR

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CSC ***	CSC Restricted Elective <sup>4</sup>	3	CSC 492	Senior Design Project <sup>5</sup>	3
CSC ***	CSC Restricted Elective <sup>4</sup>	3	CSC ***	CSC Restricted Elective <sup>4</sup>	3
GEP Requirement*		3	*** **	Other Restricted Elective <sup>4</sup>	3
GEP Requirement*		3	*** **	Free Elective	3
*** **	Other Restricted Elective <sup>4</sup>	<u>3</u>	GEP Requirement*		<u>3</u>
		15			15

**Minimum Credit Hours Required for Graduation 121<sup>6,I,J,K</sup>**

### **Major/Program requirements and footnotes:**

<sup>1</sup>Courses required for matriculation (CODA).

<sup>2</sup>Grade of C or higher required.

<sup>3</sup>To be selected from CH 201, PY 123, 124, any PY course with a prerequisite of PY 208, or any PB, BIO, MEA, or ZO course.

<sup>4</sup>For CSC and Other Restricted Electives, see: <http://www.csc.ncsu.edu/academics/undergrad/restrict.php>.

<sup>5</sup>CSC 492 is the only course that meets this requirement in all CSC curricula effective August 2008 or thereafter.

<sup>6</sup>The GPA earned in all courses attempted at NCSU must be 2.0 or higher. One of the following two conditions regarding the major GPA is required: 1) the major GPA, which consists of all CSC courses attempted at NCSU, must be 2.0 or higher or 2) a student whose major grade point average is below 2.0 may graduate if no CSC course used to satisfy the major requirements has a grade below a C-.

<sup>7</sup>Grade of C- or higher required.

### **\*General Education Program (GEP) requirements and GEP footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

**University approved GEP course lists for each of the following categories can be found**

**at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.**

- A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **MA 141,241***
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 101, 102, PY 205, 206, 208, 209***
- C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **None***
- D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **EC 205 or EC 201 or ARE 201***
- E. Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
\_\_\_ X \_\_\_ Humanities/Social Sciences/Visual and Performing Arts or \_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **E 102***
- H. Introduction to Writing** (4 credit hours satisfied by completing **ENG 101** with a C- or better )
- The following Co-Requisites must be satisfied to complete the General Education Program requirements:**
- I. U.S. Diversity**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) if completed as part of the Major requirements may fulfill this requirement: **None***
- J. Global Knowledge**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) if completed as part of the Major requirements may fulfill this requirement: **None***
- K. Foreign Language proficiency** - Proficiency at the **FL\_102** level is required for graduation.

## GEP FORMAT B – CURRICULUM REQUIREMENTS

<b>Degree Title:</b> Bachelor of Science in Computer Science
<b>Current Degree Key:</b> 14CSC BS
<b>Effective Date of Revision:</b> 7/2019

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
<p style="text-align: center;"><u>Indicate with (C-) if course or course groupings have a C-minus-wall or MGPA requirement</u></p> <p><b>Math</b>            MA 141 (C), MA 241 (C), MA 242            MA 305            ST 370</p> <p><b>Sciences</b>            CH 101 (C), CH 102 (C)            PY 205 (C), PY 206 (C), PY 208, PY 209</p> <p><b>CSC Major</b>            CSC 116 (C)            CSC 216 (C)            CSC 226 (C)            CSC 230            CSC 236            CSC 246            CSC 316            CSC 326            CSC 333            CSC 379            CSC 492</p> <p><b>Other Major</b>  <b>GRP 030</b> Basic Science            (BIO**, CH 201, MEA**, PB**, PY 123, PY 124, PY 328, PY 341, PY 401, PY 402, PY 407, PY 411, PY 412, PY 413, PY 414, PY 415, PY 463, ZO***)</p> <p><b>GRP 033</b> CSC Restricted Elective            (GRP 031, <b>CSC 302</b>, CSC 312, CSC 342, CSC 401, CSC 402, CSC 405, <b>CSC 406</b>, <b>CSC 409</b>, CSC 411, <b>CSC 412</b>, CSC 413, <b>CSC 415</b>, CSC 416, CSC 417, <b>CSC 419</b>, <b>CSC 422</b>, CSC 431, CSC 440, CSC 441, CSC 450, CSC 451, CSC 453, CSC 454, <b>CSC 455</b>, CSC 456, CSC 460, CSC 461, CSC 462, CSC 467, CSC 471, CSC 474, CSC 481, CSC 482, <b>CSC 484</b>, CSC 485, CSC 495, CSC 499, CSC 5**, ECE 460, <b>ECE 482</b>, <b>ECE 483</b>, ISE 441, MA 416)</p> <p><b>GRP 702</b> Other Restricted Elective I            (GRP 033, GRP 701, ACC 200, ACC 210, CE 214, CSC 251, CSC 252, CSC 253, CSC 254, CSC 255, CSC 256, CSC 257, CSC 295, ECE 211, ECE 212, GC 200, MAE 2**, MSE 201)</p> <p><b>GRP 701</b> Other Restricted Electives II &amp; III            (GRP 033, ACC 307, ACC 310, ACC 311, ACC 320, ACC 330, ACC 340, ARS 306, BUS 300, BUS 305, BUS 307, BUS 320, BUS 330, BUS 335,</p>	<p>12 3 3</p> <p>4 8</p> <p>3 4 3 3 3 3 3 4 3 1 3</p> <p>3</p> <p>12</p> <p>3</p> <p>6</p>	<p><u>List GEP category and hours satisfied by a Major requirement</u></p> <p>Mathematics (6 hours)</p> <p>Natural Sciences (4 hours)            Natural Sciences (4 hours)</p>

BUS 340, BUS 346, BUS 360, BUS 367, BUS 4**, CHE 425, CHE 435, CHE 465, CSC 423, CSC 427, CSC 428, EC 3**, EC 4**, EC 5**, ECE 3** (except for ECE 309), ECE 4**, ECE 5**, EMS 480, GC 320, GC 350, GC 420, GN 411, GN 5**, ISE 307, ISE 308, ISE 311, ISE 361, ISE 4**, ISE 5**, LOG 335, LOG 435, LOG 535, MA 301, MA 302, MA 341, MA 351, MA 401, MA 402, MA 403, MA 405, MA 407, MA 408, MA 410, MA 412, MA 413, MA 414, MA 416, MA 425, MA 426, MA 427, MA 428, MA 430, MA 432, MA 435, MA 437, MA 440, MA 5**, MAE 3**, MAE 4**, MAE 5**, MIE 3**, MIE 4**, MSE 3**, MSE 4**, MSE 5**, MUS 306, NE 3**, NE 4**, NE 5**, OR 5**, PHI 425, PSY 307, PSY 320, PSY 340, PSY 400, PSY 420, PSY 425, PY 4**, PY 5**, ST 372, ST 4**, ST 5**	3	Satisfies GEP Communication in the Major (Advanced Communication) co-requisite.
ENG 331		
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b> EXC 901 Free Elective EXCEPT NOT (CH 111, ECI 105, ENG 110, FLC 1**, FLE 1**, FLF 1**, FLG 1**, FLH 1**, FLI 1**, FLJ 1**, FLK 1**, FLN 1**, FLP 1**, FLR 1**, FLS 1**, GRK 1**, LAT 1**, MA 100, MA 101, MA 103, MA 107, MA 108, MA 111, MA 121, MA 131, MA 231, PY 211, PY 212)	3	
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	93 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 (C), E 102 (C) E 115	4	Interdisciplinary Perspectives (2 hours) E115 satisfies Technology Fluency requirement
<b>Other:</b> (ex: Adv Communication courses) Economics Elective (EC 205 or EC 201 or ARE 201)	3	Social Science (3 hours)
<b>Total credit hours under College Requirements:</b>	7 hours	

<b>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</b>		At least one of the following must be listed: <sup>1</sup> Choose course(s) from the University Approved GEP course list for this category. <sup>2</sup> Minimum requirements are satisfied by Major/College course requirements. <sup>3</sup> Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. <sup>4</sup> Co-requisite is satisfied by a Major/College course requirement. <sup>5</sup> Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual & Performing Arts. <sup>6</sup> Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		
<b>Specific courses should not be listed in any of the fields below other than ENG 101.</b>		
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<i>How will the GEP requirement be met? (choose applicable statement from 1-6 listed above)</i>
<b>Mathematical Sciences</b> (At least one with MA or ST prefix)	( 6 credits) X	<i>Minimum requirements are satisfied by Major course</i>

<i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>		requirements.
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	Minimum requirements are satisfied by Major course requirements.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	Choose courses from the University Approved GEP course list for this category.
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	Required College course satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>	3	Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts.
<b>Interdisciplinary Perspective</b> (5-6 credits) <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	3	Required College course satisfies 2 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Physical Education/Healthy Living</b> (2 credits) (including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	21 hours	.
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</i>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	Choose course(s) from the University Approved GEP course list for this category.
<b>Global Knowledge co-requisite</b> (GK)	n/a	Choose course(s) from the University Approved GEP course list for this category.
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level is required.
<b>The following requirements must be satisfied within the College/Program:</b>		
<b>Communication in the Major (Advanced Communication)</b>	X	Satisfied by College/Program Requirements.
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements.

<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	121 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.
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**GEP FORMAT A**  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current: X      Proposed:      Effective Semester: **7/2017**

DEGREE TITLE: B.S. in Computer Science

CONCENTRATION TITLE: n/a

CURRENT DEGREE KEY: 14CSC BS

**FRESHMAN YEAR**

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CH 101	Chemistry – A Molecular Science <sup>1,2,B</sup>	3	CSC 116	Intro. to Computing - Java <sup>2</sup>	3
CH 102	General Chemistry Laboratory <sup>1,2,B</sup>	1	MA 241	Calculus II <sup>1,2,A</sup>	4
E 101	Intro to Engineering & Prob Solving <sup>1,7</sup>	1	PY 205	Physics for Engrs & Sci I <sup>1,2,B</sup>	3
E 115	Intro to Computing Environments <sup>1</sup>	1	PY 206	Physics for Engrs & Sci I Lab <sup>1,2,B</sup>	1
ENG 101	Academic Writing and Research <sup>1,7,H</sup>	4	EC 205	Fund of Econ <sup>D</sup> (or EC 201 or ARE 201)	3
MA 141	Calculus I <sup>1,2,A</sup>	<u>4</u>	E 102	Engineering in the 21 <sup>st</sup> Century <sup>1,2,G</sup>	<u>2</u>
		14			16

**SOPHOMORE YEAR**

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CSC 216	Programming Concepts – Java <sup>2</sup>	4	CSC 230	C and Software Tools	3
CSC 226	Discrete Mathematics for CSC <sup>2</sup>	3	CSC 316	Data Structures for CSC	3
MA 242	Calculus III	4	MA 305	Elementary Linear Algebra	3
PY 208	Physics for Engrs & Sci II <sup>B</sup>	3		GEP Requirement*	3
PY 209	Physics for Engrs & Sci II Lab <sup>B</sup>	1		Basic Science Elective <sup>3,B</sup>	<u>3</u>
	Physical Education/Healthy Living Elective <sup>E</sup>	<u>1</u>			15
		16			

**JUNIOR YEAR**

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CSC 236	Comp Org & Assem Lang for CSC	3	CSC 326	Software Engineering	4
CSC 246	Operating Systems for CSC	3	CSC 379	Ethics in Computing	1
CSC 333	Automata, Grammars, and Computability	3	CSC ***	CSC Restricted Elective <sup>4</sup>	3
ST 370	Probability & Statistics for Engrs	3	ENG 331	Communication for Engr and Tech	3
	GEP Requirement*	<u>3</u>		Physical Education/Healthy Living Elective <sup>E</sup>	1
		15	*** **	Other Restricted Elective <sup>4</sup>	<u>3</u>
					15

**SENIOR YEAR**

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CSC ***	CSC Restricted Elective <sup>4</sup>	3	CSC 492	Senior Design Project <sup>5</sup>	3
CSC ***	CSC Restricted Elective <sup>4</sup>	3	CSC ***	CSC Restricted Elective <sup>4</sup>	3
	GEP Requirement*	3	*** **	Other Restricted Elective <sup>4</sup>	3
	GEP Requirement*	3	*** **	Free Elective	3
*** **	Other Restricted Elective <sup>4</sup>	<u>3</u>		GEP Requirement*	<u>3</u>
		15			15

**Minimum Credit Hours Required for Graduation 121<sup>6,I,J,K</sup>**



### **Major/Program requirements and footnotes:**

<sup>1</sup>Courses required for matriculation (CODA).

<sup>2</sup>Grade of C or higher required.

<sup>3</sup>To be selected from CH 201, PY 123, 124, any PY course with a prerequisite of PY 208, or any PB, BIO, MEA, or ZO course.

<sup>4</sup>For CSC and Other Restricted Electives, see: <http://www.csc.ncsu.edu/academics/undergrad/restrict.php>.

<sup>5</sup>CSC 492 is the only course that meets this requirement in all CSC curricula effective August 2008 or thereafter.

<sup>6</sup>The GPA earned in all courses attempted at NCSU must be 2.0 or higher. One of the following two conditions regarding the major GPA is required: 1) the major GPA, which consists of all CSC courses attempted at NCSU, must be 2.0 or higher or 2) a student whose major grade point average is below 2.0 may graduate if no CSC course used to satisfy the major requirements has a grade below a C-.

<sup>7</sup>Grade of C- or higher required.

### **\*General Education Program (GEP) requirements and GEP footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

**University approved GEP course lists for each of the following categories can be found**

**at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.**

- L. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **MA 141,241***
- M. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 101, 102, PY 205, 206, 208, 209***
- N. Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **None***
- O. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **EC 205 or EC 201 or ARE 201***
- P. Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- Q. Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
*\_\_X\_\_ Humanities/Social Sciences/Visual and Performing Arts or \_\_\_Mathematical Sciences/Natural Sciences/Engineering*
- R. Interdisciplinary Perspectives** (5-6 credit hours)  
*Choose from University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **E 102***
- S. Introduction to Writing** (4 credit hours satisfied by completing **ENG 101** with a C- or better )
- The following Co-Requisites must be satisfied to complete the General Education Program requirements:**
- T. U.S. Diversity**  
*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) if completed as part of the Major requirements may fulfill this requirement: **None***
- U. Global Knowledge**  
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) if completed as part of the Major requirements may fulfill this requirement: **None***
- V. Foreign Language proficiency** - Proficiency at the **FL\_102** level is required for graduation.

## GEP FORMAT B – CURRICULUM REQUIREMENTS

<b>Degree Title:</b> Bachelor of Science in Computer Science
<b>Current Degree Key:</b> 14CSC BS
<b>Effective Date of Revision:</b> 7/2017

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>	<b>Credit Hours</b>	<b>GEP category, if applicable</b>
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
<p style="text-align: center;"><u>Indicate with (C-) if course or course groupings have a C-minus-wall or MGPA requirement</u></p> <p><b>Math</b>            MA 141 (C), MA 241 (C), MA 242            MA 305            ST 370</p> <p><b>Sciences</b>            CH 101 (C), CH 102 (C)            PY 205 (C), PY 206 (C), PY 208, PY 209</p> <p><b>CSC Major</b>            CSC 116 (C)            CSC 216 (C)            CSC 226 (C)            CSC 230            CSC 236            CSC 246            CSC 316            CSC 326            CSC 333            CSC 379            CSC 492</p> <p><b>Other Major</b>  <b>GRP 030</b> Basic Science            (BIO**, CH 201, MEA**, PB**, PY 123, PY 124, PY 328, PY 341, PY 401, PY 402, PY 407, PY 411, PY 412, PY 413, PY 414, PY 415, PY 463, ZO***)</p> <p><b>GRP 033</b> CSC Restricted Elective            (GRP 031, CSC 312, CSC 342, CSC 401, CSC 402, CSC 405, CSC 411, CSC 413, CSC 416, CSC 417, CSC 422, CSC 431, CSC 440, CSC 441, CSC 450, CSC 451, CSC 453, CSC 454, CSC 456, CSC 460, CSC 461, CSC 462, CSC 467, CSC 471, CSC 474, CSC 481, CSC 482, CSC 485, CSC 495, CSC 499, CSC 5**, ECE 460, ISE 441, MA 416)</p> <p><b>GRP 702</b> Other Restricted Elective I            (GRP 033, GRP 701, ACC 200, ACC 210, CE 214, CSC 251, CSC 252, CSC 253, CSC 254, CSC 255, CSC 256, CSC 257, CSC 295, ECE 211, ECE 212, GC 200, MAE 2**, MSE 201)</p> <p><b>GRP 701</b> Other Restricted Electives II &amp; III            (GRP 033, ACC 307, ACC 310, ACC 311, ACC 320, ACC 330, ACC 340, ARS 306, BUS 300, BUS 305, BUS 307, BUS 320, BUS 330, BUS 335, BUS 340, BUS 346, BUS 360, BUS 367, BUS 4**, CHE 425, CHE 435, CHE 465, CSC 423, CSC 427, CSC 428, EC 3**, EC 4**, EC 5**, ECE</p>	<p>12 3 3</p> <p>4 8</p> <p>3 4 3 3 3 3 3 4 3 1 3</p> <p>3</p> <p>12</p> <p>3</p> <p>6</p>	<p><u>List GEP category and hours satisfied by a Major requirement</u></p> <p>Mathematics (6 hours)</p> <p>Natural Sciences (4 hours)            Natural Sciences (4 hours)</p>

3**, ECE 4**, ECE 5**, EMS 480, GC 320, GC 350, GC 420, GN 411, GN 5**, ISE 307, ISE 308, ISE 311, ISE 361, ISE 4**, ISE 5**, LOG 335, LOG 435, LOG 535, MA 301, MA 302, MA 341, MA 351, MA 401, MA 402, MA 403, MA 405, MA 407, MA 408, MA 410, MA 412, MA 413, MA 414, MA 416, MA 425, MA 426, MA 427, MA 428, MA 430, MA 432, MA 435, MA 437, MA 440, MA 5**, MAE 3**, MAE 4**, MAE 5**, MIE 3**, MIE 4**, MSE 3**, MSE 4**, MSE 5**, MUS 306, NE 3**, NE 4**, NE 5**, OR 5**, PHI 425, PSY 307, PSY 320, PSY 340, PSY 400, PSY 420, PSY 425, PY 4**, PY 5**, ST 372, ST 4**, ST 5**)		
ENG 331	3	Satisfies GEP Communication in the Major (Advanced Communication) co-requisite.
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b> <b>EXC 901 Free Elective EXCEPT NOT</b> (CH 111, ECI 105, ENG 110, FLC 1**, FLE 1**, FLF 1**, FLG 1**, FLH 1**, FLI 1**, FLJ 1**, FLK 1**, FLN 1**, FLP 1**, FLR 1**, FLS 1**, GRK 1**, LAT 1**, MA 100, MA 101, MA 103, MA 107, MA 108, MA 111, MA 121, MA 131, MA 231, PY 211, PY 212)	3	
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	93 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 (C), E 102 (C) E 115	4	Interdisciplinary Perspectives (2 hours) E115 satisfies Technology Fluency requirement
<b>Other:</b> (ex: Adv Communication courses) Economics Elective (EC 205 or EC 201 or ARE 201)	3	Social Science (3 hours)
<b>Total credit hours under College Requirements:</b>	7 hours	

<b>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</b>		At least one of the following must be listed: <sup>1</sup> Choose course(s) from the University Approved GEP course list for this category. <sup>2</sup> Minimum requirements are satisfied by Major/College course requirements. <sup>3</sup> Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. <sup>4</sup> Co-requisite is satisfied by a Major/College course requirement. <sup>5</sup> Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual & Performing Arts. <sup>6</sup> Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		
<b>Specific courses should not be listed in any of the fields below other than ENG 101.</b>		
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<i>How will the GEP requirement be met? (choose applicable statement from 1-6 listed above)</i>
<b>Mathematical Sciences</b> (6 credits) (At least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements.</i>
<b>Natural Sciences</b> (7 credits)	X	

(At least 1 lab course or course with a lab) <b>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</b>		Minimum requirements are satisfied by Major course requirements.
<b>English 101</b> (C- or better required) (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines) <b>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</b>	6	Choose courses from the University Approved GEP course list for this category.
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) <b>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</b>	3	Required College course satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) <b>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</b>	3	Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts.
<b>Interdisciplinary Perspective</b> (5-6 credits) <b>Only course(s) in the Major may double-count to satisfy this requirement.</b>	3	Required College course satisfies 2 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
<b>Physical Education/Healthy Living</b> (2 credits) (including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	21 hours	.
<b>GEP Co-Requisites:</b>		<b>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</b>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	Choose course(s) from the University Approved GEP course list for this category.
<b>Global Knowledge co-requisite</b> (GK)	n/a	Choose course(s) from the University Approved GEP course list for this category.
<b>Foreign Language Proficiency</b>	n/a	Proficiency at the FL_102 level is required.
<b>The following requirements must be satisfied within the College/Program:</b>		
<b>Communication in the Major (Advanced Communication)</b>	X	Satisfied by College/Program Requirements.
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements.

<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	121 Total hours	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>
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## MEMORANDUM

Date: March 27, 2019

To: Dr. Michael D. Mullen, Vice Chancellor and Dean for Division of Academic and Student Affairs

From: Dr. Rudolf Seracino, Associate Head, Department of Civil, Construction, and Environmental Engineering

Re: Curriculum Action for BS Construction Engineering – General (**14CONBS – 14CONGEN**)

### **Proposed Revisions and Justification:**

It is requested to remove the *Subplan Title: General* and *Subplan SIS Code: 14CONGEN* designation as it is no longer necessary. Previously, there were two 14CONBS Subplans that needed to be distinguished, but the Subplan 14CONMEC (Mechanical) was discontinued in Fall 2017.

**PY 209 Physics for Engineers & Scientists II Lab** is added to the Spring Semester of Sophomore Year. While the Physics Department previously approved enrollment of students in the 14CONBS curriculum in PY 208 Physics for Engineers & Scientists II without the co-requisite of the 1 credit hour laboratory (PY 209), they are no longer allowing this option. Hence, PY 209 is being added back into the 14CONBS curriculum.

To remain at 128 total credit hours for graduation, **MEA 110 Geology I Laboratory** is dropped from the Spring Semester of Junior Year. There are no consequences of dropping this laboratory from an ABET accreditation perspective as it is replaced with another 1 credit science laboratory, PY 209, as described above.

According to the recommendation made by the Poole College of Management, **ACC 210 Introduction to Managerial Accounting** is being replaced by **ACC 280 Survey of Financial and Managerial Accounting** in the Fall Semester of Senior Year.

While submitting the above required revision, the (COM 110 Public Speaking or ENG 331 Communications for Engineers & Technicians) elective group is being moved from the Fall Semester of Junior Year to Fall Semester of Senior Year. This revision is proposed to align with the degree audit of a proposed future Honors curriculum in Construction Engineering 14CONBS-14CONHON. To balance credit hours, the 3 credit hour Basic Science Elective is moved from Fall Semester of Senior Year to Fall Semester of Junior Year.

### **Proposed Changes in Format A eight semester display:**

See attached Format A display that highlights all of the proposed changes. Deleted or moved courses are identified by red color font with strikethrough, and revised courses are identified by red color font with underline.

### **Consultation with other Departments:**

PY 209 is being added back into the 14CONBS curriculum at the request of the Physics Department. Similarly, the Poole College of Management recommended the switch from ACC 210 to ACC 280. No other revisions require consultation with other Departments.

**Impact on Other Departments or Programs:**

As the revisions related to courses in the curriculum are a result of recommendations by the departments responsible for the courses, they are aware of any impact on enrollment.

**Proposed Effective Date for Revision:**

Immediately upon approval.

**RECOMMENDED BY:**

Rudolf Swain 03/27/19  
Head, Department of Civil, Construction, and Environmental Engineering Date

**APPROVED BY:**

[Signature] 1 Apr 19  
Chair, College Curriculum Committee Date

Jerome P. Favelle 04/02/19  
College Dean Date

\_\_\_\_\_  
Chair, University Courses & Curricula Committee Date

\_\_\_\_\_  
Office of the Provost Date

**APPROVED EFFECTIVE DATE:** \_\_\_\_\_



FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X

Degree/Plan Title: **Bachelor of Science in Construction Engineering**

Plan SIS Code: **14CONBS**

New Degree Audit required? (Y or N) **Yes**

**Critical Path Courses** - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

Proposed Effective Semester: **Fall 2018/2019**

Concentration/Subplan Title: **General**

Subplan SIS Code: **14CONGEN**

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 101 Chemistry, A Molecular Science	3	EC 205 Economics (GEP Req) <sup>1</sup>	3
CH 102 General Chemistry Laboratory	1	MA 241 Calculus II	4
E 101 Introduction to Engr & Prob. Solving	1	PY 205 Physics for Engineers & Scientists I	1
E 115 Intro to Computing Environments	1	PY 206 Physics for Engineers & Scientists I Lab	1
ENG 101 Academic Writing and Research	4	E 102 Engineering in the 21 <sup>st</sup> Century (GEP Req) <sup>1</sup>	2
MA 141 Calculus I	4	GEP Requirement <sup>1</sup>	3
HESF 1XX Fitness & Wellness Course	1		
	<i>Total: 15</i>		<i>Total: 16</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CSC 111 Intro. to Computing: Python	3	PY 208 Physics for Engineers & Scientists II	3
CE 214 Engineering Mechanics – Statics	3 (CP)	<u>PY 209 Physics for Engineers &amp; Scientists II Lab</u>	<u>1</u>
TDE 220 Civil Engineering Graphics	3	CE 225 Mechanics of Solids	3 (CP)
MA 242 Calculus III	4	ST 370 Probability and Statistics for Engrs.	3
CE 250 Introduction to Sustainable Infrastructure	3 (CP)	CE 365 Construction Equipment & Methods (S)	3
		CE 263 Intro to Construction Engineering (S)	3 (CP)
		HES *** Phys. Ed/Healthy Living Course	1
	<i>Total: 16</i>		<i>Total: 16</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MSE 200 Mech. Prop. of Structural Materials	3	CE 332 Materials of Construction	3
CE 301 Civil Engr. Surveying & Geomatics	3	CE 342 Engineering Behavior of Soils & Fdns.	4
CE 327 Reinforced Concrete design	3	CE 367 Mech. and Elect. Systems in Buildings (S)	3
CE 282 Hydraulics	3	MEA 101 <u>Geology I: Physical</u>	3
CE 463 Const. Est., Planning & Control (F)	3	<del>MEA 110</del>	<del>1</del>
<u>Basic Science Elective<sup>3</sup></u>	<u>3</u>	GEP Requirement <sup>1</sup>	3
<del>COM 110 Public Speaking OR</del>	<del>3</del>		
<del>ENG 331 Communication for Engr. &amp; Tech.</del>	<del>3</del>		
	<i>Total: 18</i>		<i>Total: 17</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 426 Structural Steel Design	3	CE 464 Legal Aspects of Contracting (S)	3
CE 466 Building Construction Engr. (F)	3	CE 469 Construction Eng. Project (S)	3
Engineering Elective <sup>4</sup>	3	Management Science Elective (GEP Req) <sup>1,2</sup>	3
<del>ACC 210 Intro. to Managerial Acc.</del>	<del>3</del>	GEP Requirement <sup>1</sup>	3
<del>ACC 280 Survey of Financial and Managerial Acc.</del>	<del>3</del>	GEP Requirement <sup>1</sup>	3
<del>Basic Science Elective<sup>3</sup></del>	<del>3</del>		
<del>COM 110 Public Speaking OR</del>	<del>3</del>		
<del>ENG 331 Communication for Engr. &amp; Tech.</del>	<del>3</del>		
	<i>Total: 15</i>		<i>Total: 15</i>
Minimum Credit Hours Required for Graduation*: 128			

**Major/Program Footnotes:**

<sup>1</sup>GEP Requirements to be selected from the appropriate lists in consultation with the advisor.

<sup>2</sup> Management Science Elective (2<sup>nd</sup> Soc Sci GEP) - Select one: SOC 205, SOC 301, SOC 305/AFS 305 (USD), PS 202, PS 310, PS 312, PS 314, or PS 320.

<sup>3</sup> Basic Science Elective - Select one: SSC 200, FOR 260, or FW 221

<sup>4</sup> Engineering Elective – Select one: ECE 331, MAE 201, CE 499, or an advised elective from CE course list

\*Foreign Language Proficiency at the FL\_102 level is required for graduation.

**General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Fulfilled as part of Major requirements.*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Fulfilled as part of Major requirements.*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list.*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*EC 205 (or EC 201 or ARE 201) taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.  
Course selected from the approved Management Science Elective list as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Humanities/Social Sciences/Visual and Performing Arts or \_\_\_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5 credit hours)  
*E 102 taken as part of the Major requirements satisfies 2 credit hours needed to fulfill the GEP Interdisciplinary perspectives requirement.  
Choose 3 credit hours from the University approved GEP Interdisciplinary Perspectives course list.*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity** (USD)  
*Choose from the University approved GEP U.S. Diversity course list.*
- J. **Global Knowledge** (GK)  
*Choose from the University approved GEP Global Knowledge course list.*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

**FORMAT A**  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: **X**Proposed Effective Semester: **Fall 2019**Degree/Plan Title: **Bachelor of Science in Construction Engineering**

Concentration/Subplan Title:

Plan SIS Code: **14CONBS**

Subplan SIS Code:

New Degree Audit required? (Y or N) **Yes**

**Critical Path Courses** - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 101 Chemistry, A Molecular Science	3	EC 205 Economics (GEP Req) <sup>1</sup>	3
CH 102 General Chemistry Laboratory	1	MA 241 Calculus II	4
E 101 Introduction to Engr & Prob. Solving	1	PY 205 Physics for Engineers & Scientists I	3
E 115 Intro to Computing Environments	1	PY 206 Physics for Engineers & Scientists I Lab	1
ENG 101 Academic Writing and Research	4	E 102 Engineering in the 21 <sup>st</sup> Century (GEP Req) <sup>1</sup>	2
MA 141 Calculus I	4	GEP Requirement <sup>1</sup>	3
HESF 1XX Fitness & Wellness Course	1		
	<i>Total: 15</i>		<i>Total: 16</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CSC 111 Intro. to Computing: Python	3	PY 208 Physics for Engineers & Scientists II	3
CE 214 Engineering Mechanics – Statics	3 (CP)	PY 209 Physics for Engineers & Scientists II Lab	1
TDE 220 Civil Engineering Graphics	3	CE 225 Mechanics of Solids	3 (CP)
MA 242 Calculus III	4	ST 370 Probability and Statistics for Engrs.	3
CE 250 Introduction to Sustainable Infrastructure	3 (CP)	CE 365 Construction Equipment & Methods (S)	3
		CE 263 Intro to Construction Engineering (S)	3 (CP)
		HES *** Phys. Ed/Healthy Living Course	1
	<i>Total: 16</i>		<i>Total: 17</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MSE 200 Mech. Prop. of Structural Materials	3	CE 332 Materials of Construction	3
CE 301 Civil Engr. Surveying & Geomatics	3	CE 342 Engineering Behavior of Soils & Fdns.	4
CE 327 Reinforced Concrete design	3	CE 367 Mech. and Elect. Systems in Buildings (S)	3
CE 282 Hydraulics	3	MEA 101 Geology I: Physical	3
CE 463 Const. Est., Planning & Control (F)	3	GEP Requirement <sup>1</sup>	3
Basic Science Elective <sup>3</sup>	3		
	<i>Total: 18</i>		<i>Total: 16</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CE 426 Structural Steel Design	3	CE 464 Legal Aspects of Contracting (S)	3
CE 466 Building Construction Engr. (F)	3	CE 469 Construction Eng. Project (S)	3
Engineering Elective <sup>4</sup>	3	Management Science Elective (GEP Req) <sup>1,2</sup>	3
ACC 280 Survey of Financial and Managerial Acc.	3	GEP Requirement <sup>1</sup>	3
COM 110 Public Speaking <b>OR</b>		GEP Requirement <sup>1</sup>	3
ENG 331 Communication for Engr. & Tech.	3		
	<i>Total: 15</i>		<i>Total: 15</i>
<b>Minimum Credit Hours Required for Graduation<sup>5</sup>: 128</b>			

**Major/Program Footnotes:**

<sup>1</sup> GEP Requirements to be selected from the appropriate lists in consultation with the advisor.

<sup>2</sup> Management Science Elective (2<sup>nd</sup> Soc Sci GEP) - Select one: SOC 205, SOC 301, SOC 305/AFS 305 (USD), PS 202, PS 310, PS 312, PS 314, or PS 320.

<sup>3</sup> Basic Science Elective - Select one: SSC 200, FOR 260, or FW 221

<sup>4</sup> Engineering Elective – Select one: ECE 331, MAE 201, CE 499, or an advised elective from CE course list

\*Foreign Language Proficiency at the FL\_102 level is required for graduation.

**\*General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)  
*Fulfilled as part of Major requirements.*
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)  
*Fulfilled as part of Major requirements.*
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
*Choose from the University approved GEP Humanities course list.*
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
*EC 205 (or EC 201 or ARE 201) taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.  
Course selected from the approved Management Science Elective list as part of the Major requirements satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.*
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)  
*Choose from the University approved GEP Physical Education/Healthy Living course list.*
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Humanities/Social Sciences/Visual and Performing Arts or \_\_\_\_\_ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5 credit hours)  
*E 102 taken as part of the Major requirements satisfies 2 credit hours needed to fulfill the GEP Interdisciplinary perspectives requirement.  
Choose 3 credit hours from the University approved GEP Interdisciplinary Perspectives course list.*
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity** (USD)  
*Choose from the University approved GEP U.S. Diversity course list.*
- J. **Global Knowledge** (GK)  
*Choose from the University approved GEP Global Knowledge course list.*
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

**CURRICULUM REQUIREMENTS****Format B**

<u>Degree/Plan Title:</u> <b>Bachelor of Science in Construction Engineering</b>	<u>Plan SIS Code:</u> <b>14CONBS</b>
<u>Concentration/Subplan Title:</u>	<u>Subplan SIS Code:</u>
<u>Indicate requirements status:</u> Current:                      Proposed: <b>X</b>	<u>Proposed Effective Semester:</u> <b>Fall 2019</b>
<u>New Degree Audit required?</u> (Y or N) <b>Yes</b>	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b><i>Required Courses/Groups/ Electives:</i></b>	<b><i>Credit Hours</i></b>	<b><i>GEP category, if applicable</i></b>
<b>Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.</b>		<b>List GEP category and hours satisfied by a Major requirement</b>
<b><u>Math</u></b> MA 141, MA 241, MA 242	12	Mathematics (6 hours)
<b><u>Sciences</u></b> CH 101, CH 102 PY 205, PY 206, PY 208, PY 209	4 8	Natural Sciences (4 hours) Natural Sciences (3 hours)
<b><u>CE Major</u></b> CE 214 (C-wall) CE 225 (C-wall) CE 250 CE 263 CE 282 (C-wall) CE 301 CE 327 CE 332 CE 342 CE 365 CE 367 CE 426 CE 463 CE 464 CE 466 CE 469	3 (CP) 3 (CP) 3 (CP) 3 (CP) 3 3 3 3 4 3 3 3 3 3 3 3 3	
<b><u>Other Major</u></b> CSC 111 MEA 101 ACC 280 TDE 220 MSE 200 ST 370 GRP xxx (COM 110 or ENG 331) GRP xxx Engineering Elective (ECE 331, MAE 201, CE 499 or an advised elective from the CE course list) GRP xxx Basic Science Elective (SSC 200, FOR 260 or FW 221) GRP xxx Management Science Elective (SOC 205, SOC 301, SOC 305, AFS 305, PS 202, PS 310, PS 312, PS 314 or PS 320)	3 3	Social Science (3 hours)

<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	103 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 and E 115	2	
<b>Other:</b> Economics Elective EC 205 (or EC 201 or ARE 201) E 102	3 2	Social Science (3 hours) Interdisciplinary Perspectives (2 hours)
<b>Total credit hours under College Requirements:</b>	7 hours	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<ol style="list-style-type: none"> <li>Choose course(s) from the University Approved GEP course list for this category.</li> <li>Minimum requirements are satisfied by Major/College course requirements.</li> <li>Major/College course requirement satisfies <b>X</b> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</li> <li>Co-requisite is satisfied by a Major/College course requirement.</li> <li>Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual &amp; Performing Arts.</li> <li>Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.</li> </ol>
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b>(Choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) <i>Minimum requirements are satisfied by Major/College course requirements.</i>
<b>Natural Sciences</b> (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) <i>Minimum requirements are satisfied by Major/College course requirements.</i>
<b>English 101 (C- or better required)</b> (4 credits)	4	ENG 101
<b>Humanities</b> (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	(Choose statement 1, 2 or 3) <i>Choose course(s) from the University Approved GEP course list for this category.</i>
<b>Social Sciences</b> (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	X	(Choose statement 1, 2 or 3) <i>Minimum requirements are satisfied by Major/College course requirements.</i>
<b>Additional Breadth</b> (3 credits) (Choose approach that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	(Choose statement 5 or 6) <i>Choose course(s) from the University Approved GEP course list for this category.</i>
<b>Interdisciplinary Perspectives</b> (5 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	3	(Choose statement 1, 2 or 3) <i>Major/College course requirement satisfies 2 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Health and Exercise Studies</b> (2 credits) (Including one Fitness and Wellness course)	2	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
<b>Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.</b>	18 hours	

<b>GEP Co-Requisites:</b>			<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
<b>U.S. Diversity co-requisite</b>	(USD)	n/a	<i>(Choose statement 1 or 4)</i>
<b>Global Knowledge co-requisite</b>	(GK)	n/a	<i>(Choose statement 1 or 4)</i>
<b>Foreign Language Proficiency</b>		n/a	Proficiency at the FL_102 level required.
<b>The following requirements must be satisfied within the College/Program:</b>			Place an <b>X</b> in the credit hour box to indicate below that the requirement is <b>"Satisfied by College/Program Requirements"</b>
<b>Communication in the Major (Advanced Communication)</b>		n/a	Satisfied by College/Program Requirements
<b>Technology Fluency</b>		n/a	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	128 Total hours		<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>



CURRICULA MINOR ACTION REQUEST

**To:** UCCC  
**From:** James Tuck, Chair of Course & Curriculum Committee, ECE  
**Re:** Update the lists of electives in the 14EEBS and 14CPEBS  
**Date:** March 26, 2019

This memo and the accompanying documentation serves to modify the list of electives in our EE degree, CPE degree, and REES concentration to reflect our current course offerings. The table below indicates the changes needed to all elective categories in the EE and CPE degree programs. Course numbers without a subject prefix are ECE courses.

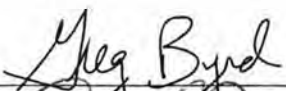
In some cases, we have added new courses, and, in others, the course has never been listed properly, as is the case for most of the 500-level courses. In one case, a course has been dropped from the curriculum but not removed from elective lists.

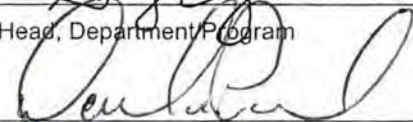
We are requesting these updates be made to the EE and CPE degrees for the last two Req Terms, namely Fall 2013 and Spring 2018, and to the most recent Req Term for the REES concentration from 2014. The changes to these 5 Req Terms are shown in the attached documents. Note, the EE and CPE dual degree plans for the same Req Terms also need to be updated.

Curriculum/ Degree Audits	Requirements	Current	Add/Drop
14EEBS, 14EEBS and 14CPEBS dual degree	EE Elective	Comm, Sign, Proc Sys: 402, 420, 421. Control Sys: 455, 456 or 556. Circ, E&M Sys: 403, 422. Nano Sys: 404, 423, 442, 445. Power Sys: 434, 451, 452 or 552.	Add to Comm, Sign, Proc Sys: 513, 514, 515, 542, 558, 582. Add to Control Sys: 436, 516, 522, 555. Add to Circ, E&M Sys: 424 or 524, 426, 511, 532, 540, 544, 546, 549. Add to Nano Sys: 418 or 518, 489 or 589, 505, 523, 530, 531, 557, 468 or 568. Remove from Nano Sys dropped course 445. Add to Power Sys: 533, 534, 535, 550, 551, 553, 581, 583, 585, 586
14CPEBS, 14EEBS and 14CPEBS dual degree	CPE Elective	Comp Arch Sys: 463 or 563, 464 or 564. Embed Sys: 461 or 561 Network Sys: 407, 470.	Add to Comp Arch Sys: 406 or 506, 546 Add to Embed Sys: 460 or 560.



		Software Sys: 466 or 566.	Add to Networking Sys: 570, 573, 574, 575, 577. Add to Software Sys: 517.
14EEBS, 14CPEBS, 14EEBS with REES concentration, 14EEBS and 14CPEBS dual degree	ECE Elective	Union of all EE Electives and CPE Electives, plus 492	Add all new electives listed for EE Electives and CPE Electives above. Add 592.
14EEBS, 14CPEBS, 14EEBS with REES Concentration	Open Elective	Union of all ECE Electives; ISE311; MAE208; MAE 301; MAE302; either CE214 or MAE206; either MSE200 or MSE201; MAE308; E304; ECE435; all ECE 300-level classes.	Add all new electives listed for EE Electives and CPE Electives above. Add BME425 or BME525. Drop MAE308 (mistakenly added in the most recent Req Term). Drop ECE435 (renumbered to 308).
14EEBS, 14EEBS with REES Concentration , 14EEBS and 14CPEBS dual degree	EE Foundation	E304, ECE305, ECE308, ECE435, ECE306 or ECE310	Remove ECE435 (renumbered to 308).
14EEBS with REES Concentration	REES Electives	434, 451, 453, 535	Add 534, 533, 534, 550, 551, 553, 581, 583, 585, 586.

 3/26/19  
 Head, Department/Program Date

 1 Apr 19  
 Chair, College Curriculum Committee Date

 04/02/19  
 College Dean Date

\_\_\_\_\_  
 Chair, University Courses & Curricula Committee Date

\_\_\_\_\_  
 Dean, Division of Academic and Student Affairs (DASA) Date

**Electrical Engineering [14EEBS Req Term Spring 2018]**

**Freshman Year**

Fall Semester		Credits	Spring Semester		Credits
CH	101 Chemistry, A Molecular Science <sup>1</sup>	3	ECE	109 Intro to Computer Systems <sup>2</sup>	3
CH	102 General Chemistry Lab <sup>1</sup>	1	MA	241 Calculus II <sup>1</sup>	4
E	101 Introduction to Engr & Prob Solv <sup>1,2</sup>	1	PY	205 Physics for Engr & Sc I <sup>1</sup>	3
E	115 Intro to Computing Environ <sup>1,2</sup>	1	PY	206 Physics for Engr & Sc I Lab <sup>1</sup>	1
ENG	101 Academic Writing and Research <sup>1,2</sup>	4	E	102 Engineering in the 21st Century (GEP-IP)	2
MA	141 Calculus I <sup>1</sup>	4	HESF	10* Fitness & Wellness Course*	1
***	*** Economics (EC 201/205, ARE 201) (GEP*)	3			
<b>Semester Total 17</b>			<b>Semester Total 14</b>		

**Sophomore Year**

Fall Semester		Credits	Spring Semester		Credits
ECE	200 Intro. to ECE Laboratory <sup>2</sup>	4	COM	110 Public Speaking	3
ECE	209 Computer Systems Programming <sup>2</sup>	3	ECE	211 Electric Circuits <sup>2</sup>	4
MA	242 Calculus III	4	ECE	212 Fund of Logic Des <sup>2</sup>	3
PY	208 Physics for Engr & Sc II	3	ECE	220 Analytical Found. Of ECE <sup>2</sup>	3
PY	209 Physics for Engr & Sc II Lab	1	***	*** GEP Requirement*	3
<b>Semester Total 15</b>			<b>Semester Total 16</b>		

**Junior Year**

Fall Semester		Credits	Spring Semester		Credits
ECE	301 Linear Systems	3	ECE	303 Electromagnetic Fields	3
ECE	302 Intro. to Microelectronics	4	ECE	380 Engr Profession for EE <sup>4</sup>	1
ECE	3** ECE Foundation Elective <sup>3</sup>	3	ECE	3** ECE Foundation Elective <sup>3</sup>	3
ST	371 Intro to Prob and Dist Theory	3	***	*** Open/Technical Elective <sup>5</sup>	3
HES*	*** Health & Exercise Studies	1	ENG	331 Comm for Engr & Tech	3
			***	*** GEP Requirement*	3
<b>Semester Total 14</b>			<b>Semester Total 16</b>		

**Senior Year**

Fall Semester		Credits	Spring Semester		Credits
ECE	484 ECE Senior Design Project I	3	ECE	485 ECE Senior Design Project II	3
ECE	4** EE Elective <sup>6</sup>	3	ECE	4** ECE Elective <sup>7</sup>	3
ECE	4** EE Elective <sup>6</sup>	3	ECE	4** ECE Elective <sup>7</sup>	3
***	*** Open/Technical Elective <sup>5</sup>	3	***	*** GEP Requirement*	3
***	*** GEP Requirement*	3	***	*** GEP Requirement*	3
<b>Semester Total 15</b>			<b>Semester Total 15</b>		

**Minimum Total Credit Hours Required for Graduation 122**

**Major/Program requirements and footnotes:**

<sup>1</sup>Courses required for Change of Degree Audit (CODA). CH 101, 102; MA 141, 241; PY 205, 206 must be completed with a grade of C or higher.  
<sup>2</sup>Grade of C- or better required. E 115 requires satisfactory completion.  
<sup>3</sup>ECE 3\*\* foundation electives: E 304, ECE 305, ECE 308, ECE 436 or either ECE 306 or ECE 310  
<sup>4</sup>Students in the entrepreneurs' program should take ECE 383 / ECE 482 / ECE 483 instead of ECE 380 / ECE 484 / ECE 485.  
<sup>5</sup>Open/Technical electives (Choose 2): E 304, ECE 305, ECE 306, ECE 308, ECE 309, ECE 310, or ECE 4\*\* Any course from ECE 4\*\* electives<sup>7</sup> including 5\*\* courses; CE 214 or MAE 206; ISE 311; MAE 206; MAE 201; MAE 302; MAE 308; MSE 200 or MSE 201; BME 425 or BME 525.  
<sup>6</sup>EE 4\*\* electives (Choose 2 courses from within any one of the following lists): (Comm, Sig, Proc Sys) ECE 402, ECE 420, ECE 421, 513, 514, 515, 542, 559, 582; (Control Sys) ECE 436, ECE 455, ECE 456 or ECE 558, ECE 516, ECE 522, ECE 555; (Circ, E&M Sys) ECE 403, ECE 422, ECE 424 or ECE 524, ECE 426, ECE 511, ECE 532, ECE 540, ECE 544, ECE 546, ECE 549; (Nano Sys) ECE 404, ECE 418 or ECE 518, ECE 423, ECE 442, ECE 446, ECE 489 or ECE 589, ECE 505, ECE 523, ECE 530, ECE 531, ECE 557, ECE 568; (Power Sys) ECE 434, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 533, ECE 534, ECE 535, ECE 550, ECE 551, ECE 552, ECE 553, ECE 581, ECE 583, ECE 585, ECE 588. Students must have major GPAs greater than 2.5 to take ECE 5\*\* courses.  
<sup>7</sup>ECE 4\*\* electives (Choose 2): ECE 402, ECE 403, ECE 404, ECE 406 or ECE 508, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, ECE 446, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 470, ECE 489 or ECE 589, ECE 492 (Special Topics Classes). Students with major GPAs greater than 3.2 3.5 can also take ECE 5xx courses. ECE 505, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 535, ECE 540, ECE 542, ECE 544, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 556, ECE 557, ECE 558, ECE 561, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 586, ECE 592.

**\* General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each category can be found at <https://oucc.dasa.ncsu.edu/general-education-program-gep/>  
**Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
 Choose from the University approved GEP Humanities course list  
**Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
 Choose from the University approved GEP Social Sciences course list in a discipline other than Economics. Economics 205 (or E 201 or ARE 201), taken as part of the major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.  
**Health and Exercise Studies** (2 credit hours – must include at least one HESF 100-level course and one additional HES course)  
 Choose from the University approved GEP Health and Exercise Studies list.  
**Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Choose from Humanities/Social Sciences/Visual and Performing Arts.  
**Interdisciplinary Perspectives** (5-6 credit hours)  
 Choose from the University approved GEP Interdisciplinary Perspectives course list.  
**The following Co-Requisites** must be satisfied to complete the General Education Program requirements:  
**U.S. Diversity (USD)**  
 Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.  
**Global Knowledge (GK)**  
 Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.  
**Foreign Language Proficiency** - Proficiency at the FL\_102 level is required for graduation.

**Electrical Engineering  
GEP FORMAT A**

(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current: Proposed: X

Proposed Effective Semester: 7/2013

DEGREE TITLE: **B. S. in Electrical Engineering**

CONCENTRATION TITLE: n/a

CURRENT DEGREE KEY: 14 EE 137

		Freshman Year			
		Credits		Credits	
Fall Semester				Spring Semester	Credits
CH	101	3	ECE 109	Intro to Computer Svstems <sup>2</sup>	3
CH	102	1	MA	241 Calculus II <sup>1</sup>	4
E	101	1	PY	205 Phvsics for Enar & Sc I <sup>1</sup>	4
E	115	1	***	*** Economics (EC 201/205, ARE 201)	3
ENG	101	4	HESF	10* Fitness & Wellness Course*	1
MA	141	4			
***	***	3			
		<b>Semester Total 17</b>			<b>Semester Total 15</b>

		Sophomore Year			
		Credits		Credits	
Fall Semester				Spring Semester	Credits
ECE	200	4	COM	110 Public Speaking	3
ECE	209	3	ECE	211 Electric Circuits <sup>2</sup>	4
MA	242	4	ECE	212 Fund of Logic Des <sup>2</sup>	3
PY	208	4	ECE	220 Analytical Found. Of ECE <sup>2</sup>	3
			***	*** GEP Requirement*	3
		<b>Semester Total 15</b>			<b>Semester Total 16</b>

		Junior Year			
		Credits		Credits	
Fall Semester				Spring Semester	Credits
ECE	301	3	ECE	303 Electromagnetic Fields	3
ECE	302	4	ECE	380 Enar Profession for ECE <sup>4</sup>	1
ECE	3xx	3	ECE	3xx ECE Foundation Elective <sup>3</sup>	3
ST	371	3	***	*** Open/Technical Elective <sup>7</sup>	3
HES	***	1	ENG	331 Comm for Engr & Tech	3
			***	*** GEP Requirement*	3
		<b>Semester Total 14</b>			<b>Semester Total 16</b>

		Senior Year			
		Credits		Credits	
Fall Semester				Spring Semester	Credits
ECE	484	3	ECE	485 ECE Senior Design Project II	3
ECE	4xx	3	ECE	4xx ECE Elective <sup>6</sup>	3
ECE	4xx	3	ECE	4xx ECE Elective <sup>6</sup>	3
***	***	3	***	*** GEP Requirement*	3
***	***	3	***	*** GEP Requirement*	2-3
		<b>Semester Total 15</b>			<b>Semester Total 14-15</b>

**Minimum Total Credit Hours Required for Graduation 122**

**Major/Program requirements and footnotes:**

<sup>1</sup>Must be completed with a grade of C or higher.

<sup>2</sup>Must be completed with a grade of C- or higher.

<sup>3</sup>ECE 3xx foundation electives: E 304; ECE 305; ECE 308, ECE 306 or ECE 310.

<sup>4</sup>Students in the entrepreneurs' program should take ECE 383 / ECE 482 / ECE 483, instead of ECE 380 / ECE 484 / ECE485.

<sup>5</sup>EE 4xx electives (Choose 2 courses from within any one of the following lists): (Comm, Sig. Proc Sys) ECE 402, ECE 420, ECE 421, ECE 513, ECE 514, ECE 542, ECE 558, ECE 582; (Control Sys) ECE 436, ECE 455, ECE 456 or ECE 556, ECE 516, ECE 522, ECE 555; (Circ, E&M Sys) ECE 403, ECE 422, ECE 424 or ECE 524, ECE 426, ECE 511, ECE 532, ECE 540, ECE 544, ECE 546, ECE 549; (Nano Sys) ECE 404, ECE 418 or ECE 518, ECE 423, ECE 442, ~~ECE 445~~, ECE 489 or ECE 589, ECE 505, ECE 523, ECE 530, ECE 531, ECE 531, ECE 557, ECE 568; (Power Sys) ECE 434, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 533, ECE 534, ECE 535, ECE 550, ECE 551, ~~ECE 563~~, ECE 553, ECE 581, ECE 683, ECE 585, ECE 586. Students must have major GPAs greater than 3.5 to take ECE 5<sup>1</sup> courses.

<sup>6</sup>ECE 4xx electives (Choose two): ECE 402, ECE 403, ECE 404, ECE 406 or ECE 505, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, ~~ECE 445~~, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, ECE 492 (Special Topics Classes). Students with major GPAs greater than ~~2.3~~ 3.5 can also take ECE 5xx courses: ECE 505, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 535, ECE 540, ECE 542, ECE 644, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 555, ECE 557, ECE 558, ECE 568, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 688, ECE 592.

<sup>7</sup>Open/Technical electives (Choose two): ~~any ECE 3xx or ECE 4xx~~ E 304, ECE 305; ECE 306; ECE 308, ECE 309, ECE 310; Any course from ECE 4<sup>1</sup> electives<sup>8</sup> including 5xx courses; CE 214 or MAE 206; ISE 311, MAE 208; MAE 201; MAE 302; MSE 200 or MSE 201; BME 425 or BME 525.

**\* General Education Program (GEP) requirements:**

To complete the requirements for graduation and the General Education Program, the following credit hours and co-requisites must be satisfied. University approved GEP course lists for each category can be found at <http://www.ncsu.edu/uap/academic-standards/>

**HEALTH AND EXERCISE STUDIES** - 2 hours to be selected from the approved GEP Health and Exercise Studies list.

a. One fitness course (any HESF 100-level course)

b. One additional credit hour of HES courses

**HUMANITIES** - 6 credits to be selected in two different disciplines (two different course prefixes) from the approved GEP Humanities list

**SOCIAL SCIENCES** - 3 credits to be selected in a discipline other than economics from the approved GEP Social Sciences list. EC 205 taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement.

ADDITIONAL BREADTH - 3 credits to be selected from the approved GEP Humanities, Social Sciences or Visual and Performing Arts lists.

## CURRICULUM REQUIREMENTS

**Degree Title:** Bachelor of Science in Electrical Engineering

**Current Degree Key:** 14EE137

**Effective Date of Revision:** 7/20/2013

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b>Required Courses/Groups/ Electives:</b>	<b>Credit Hours</b>	<b>GEP category, if applicable</b>
<p>Indicate if course or course groupings have a C-wall or MGPA requirement</p> <p><b>Math</b> MA 141 (C)-wall, MA 241 (C)-wall, MA 242 ST 371</p> <p><b>Sciences</b> CH 101 (C)-wall, CH 102 (C)-wall PY 205 (C)-wall, PY 208</p> <p><b>EE Major</b> ECE 109 (C)-wall ECE 200 (C)-wall ECE 209 (C)-wall ECE 211 (C)-wall ECE 212 (C)-wall ECE 220 (C)-wall ECE 301 ECE 302 ECE 303 ECE 380 ECE 484 ECE 485</p> <p><b>GRP 020 ECE 3xx Elective (Pick 2)</b> ECE304, ECE305, ECE 308, <b>GRP 021</b>( ECE 306, ECE 310)</p> <p><b>GRP 030 EE 4xx Elective (Pick 2 from any group)</b> <b>GRP 031</b> (ECE 402, ECE 420, ECE 421, 513, 514, 515, 542, 558, 582), <b>GRP 032</b> (ECE 403, ECE 422, ECE 424 or ECE 524, ECE 426, ECE 511, ECE 532, ECE 540, ECE 544, ECE 546, ECE 549), <b>GRP 033</b> (ECE 404, ECE 418 or ECE 518, ECE 423, ECE 442, <del>ECE 445</del>, ECE 489 or ECE 589, ECE 505, ECE 523, ECE 530, ECE 531, ECE 557, ECE 568), <b>GRP 034</b> (ECE 436, ECE 455, ECE 456 or ECE 556, ECE 516, ECE 522, ECE 555), <b>GRP 035</b> (ECE 434, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 533, ECE 534, ECE 535, ECE 550, ECE 551, <del>ECE 552</del>, ECE 553, ECE 581, ECE 583, ECE 585, ECE 586).</p> <p><b>GRP 040 ECE Elective (Pick 2)</b> ECE 402, ECE 403, ECE 404, ECE 406 or ECE 506, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, <del>ECE 445</del>, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, ECE 492, ECE 505, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 535, ECE 540, ECE 542, ECE 544, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 555, ECE 557, ECE 558, ECE 568, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 586, ECE 592.</p>	<p>12 3</p> <p>4 8</p> <p>3 4 3 4 3 3 3 4 3 1 3 3</p> <p>6</p> <p>6</p> <p>6</p>	<p>List GEP category and hours satisfied by a Major requirement</p> <p>Mathematics (6 hours)</p> <p>Natural Sciences (4 hours) Natural Sciences (4 hours)</p>

<u>GRP 050 Open/Technical Elective (Pick 2)</u> GRP 040, GRP 020, ECE 309, GRP 051 (CE 214, MAE 206), GRP052 (MSE200, MSE 201), ISE311, MAE 208, MAE 201, MAE 302, BME 425 or BME 525.  COM 110 ENG 331	6   3 3	
<u>Concentration Courses/Groups/Electives:</u>		
<u>Free Electives:</u>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	94 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<u>Orientation Course(s):</u> E 101 (C-)-wall and E 115 (C-)-wall	2	E115 satisfies Technology Fluency requirement
<u>Other:</u> (ex: Adv Communication courses) Economics Elective (EC 205, 201; ARE 201)	3	Social Science
<b>Total credit hours under College Requirements:</b>	5 hours	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b><u>At least one of the following must be listed:</u></b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<sup>1</sup> Choose course(s) from the University Approved GEP course list for this category. <sup>2</sup> Minimum requirements are satisfied by Major/College course requirements. <sup>3</sup> Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. <sup>4</sup> Co-requisite is satisfied by a Major/College course requirement. <sup>5</sup> Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual & Performing Arts. <sup>6</sup> Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<i>How will the GEP requirement be met? (choose applicable statement from 1-6 listed above)</i>
<b>Mathematical Sciences</b> ( <i>minimum of 6 credits</i> ) (at least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>Natural Sciences</b> ( <i>minimum of 7 credits</i> ) (at least 1 laboratory) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>English 101</b>	4	ENG 101 (C-)-wall
<b>Humanities</b> ( <i>minimum of 6 credits</i> ) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Social Sciences</b> ( <i>minimum of 6 credits</i> ) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	<i>Required College course satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Additional Breadth</b> ( <i>minimum of 3 credits</i> )	3	

(Choose AB course list that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>		<i>Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts</i>
<b>Interdisciplinary Perspective</b> <i>(minimum of 5-6 credits)</i> <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	5-6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Health Exercise Sciences</b> (including one Fitness course)	2	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	23-24 hours	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</i>
<b>U.S. Diversity co-requisite*</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Global Knowledge co-requisite**</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Foreign Language Proficiency</b>	n/a	FL_102
<b>The following requirements must be satisfied within the College/Program:</b>		
<b>Advanced Communication</b>	X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements

<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	122-123	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>
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## CURRICULUM REQUIREMENTS

**Degree Title:** Bachelor of Science in Electrical Engineering

**Current Degree Key:** 14EEBS

**Effective Date of Revision:** 1/2018

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<b>Math</b>		
MA 141 (C)-wall, MA 241 (C)-wall, MA 242 ST 371	12 3	Mathematics (6 hours)
<b>Sciences</b>		
CH 101 (C)-wall, CH 102 (C)-wall PY 205 (C)-wall, PY 208	4 8	Natural Sciences (4 hours) Natural Sciences (4 hours)
<b>EE Major</b>		
ECE 109 (C)-wall	3	
ECE 200 (C)-wall	4	
ECE 209 (C)-wall	3	
ECE 211 (C)-wall	4	
ECE 212 (C)-wall	3	
ECE 220 (C)-wall	3	
ECE 301	3	
ECE 302	4	
ECE 303	3	
ECE 380	1	
ECE 484	3	
ECE 485	3	
<b>GRP 020 ECE 3xx Elective (Pick 2)</b> E304, ECE305, ECE 308, <b>GRP 021</b> (ECE 306, ECE 310)	6	
<b>GRP 030 EE 4xx Elective (Pick 2 from any group)</b> <b>GRP 031</b> (ECE 402, ECE 420, ECE 421, 513, 514, 515, 542, 558, 582), <b>GRP 032</b> (ECE 403, ECE 422, ECE 424 or ECE 524, ECE 426, ECE 511, ECE 532, ECE 540, ECE 544, ECE 546, ECE 549), <b>GRP 033</b> (ECE 404, ECE 418 or ECE 518, ECE 423, ECE 442, <del>ECE 445</del> , ECE 489 or ECE 589, ECE 505, ECE 523, ECE 530, ECE 531, ECE 557, ECE 568), <b>GRP 034</b> (ECE 436, ECE 455, ECE 456 or ECE 556, ECE 516, ECE 522, ECE 555), <b>GRP 035</b> (ECE 434, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 533, ECE 534, ECE 535, ECE 550, ECE 551, <del>ECE 552</del> , ECE 553, ECE 581, ECE 583, ECE 585, ECE 586)	6	
<b>GRP 040 ECE Elective (Pick 2)</b> ECE 402, ECE 403, ECE 404, ECE 406 or ECE 506, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, <del>ECE 445</del> , ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, <b>ECE 492</b> , ECE 505, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 535, ECE 540, ECE 542, ECE 544, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 555, ECE 557, ECE 558, ECE 568, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 586, ECE 592.	6	



GRP 050 Open/Technical Elective (Pick 2) GRP 040, GRP 020, ECE 309, GRP 051 (CE 214 or MAE 206), GRP052 (MSE200 or MSE 201), ISE311, MAE 208, MAE 301, MAE 302, BME 425 or BME 525.  COM 110 ENG 331	6  3 3	
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	94 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 (C-)-wall and E 115 (C-)-wall and E 102	4	E115 satisfies Technology Fluency requirement
<b>Other:</b> (ex: Adv Communication courses) Economics Elective (EC 205, 201; ARE 201)	3	Social Science
<b>Total credit hours under College Requirements:</b>	7 hours	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		<sup>1</sup> Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		<sup>2</sup> Minimum requirements are satisfied by Major/College course requirements.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<i>How will the GEP requirement be met? (choose applicable statement from 1-6 listed above)</i>
<b>Mathematical Sciences</b> (minimum of 6 credits) (at least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>Natural Sciences</b> (minimum of 7 credits) (at least 1 laboratory) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>English 101</b>	4	ENG 101 (C-)-wall
<b>Humanities</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Social Sciences</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	<i>Required College course satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Additional Breadth</b> (minimum of 3 credits)	3	<i>Choose course(s) from the University Approved GEP course</i>

(Choose AB course list that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>		<i>lists for the Humanities, Social Sciences or Visual and Performing Arts</i>
<b>Interdisciplinary Perspective</b> <i>(minimum of 5-6 credits)</i> <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	3	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Health Exercise Sciences</b> (including one Fitness course)	2	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	21 hours	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</i>
<b>U.S. Diversity co-requisite*</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Global Knowledge co-requisite**</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Foreign Language Proficiency</b>	n/a	FL_102
<b>The following requirements must be satisfied within the College/Program:</b>		
<b>Advanced Communication</b>	X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements
<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	122	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>

**Electrical Engineering REES Concentration**

GEP FORMAT A

(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current:

Proposed: X

Proposed Effective Semester: 7/2013

DEGREE TITLE: **B. S. in Electrical Engineering - Renewable Electric Energy Systems Concentration**

CONCENTRATION TITLE: n/a

CURRENT DEGREE KEY: 14 EE 137

		Freshman Year					
		Credits		Spring Semester		Credits	
	<i>Fall Semester</i>						
CH	101 Chemistrv. A Molecular Science <sup>1</sup>	3	ECE	109 Intro to Computer Svstems <sup>2</sup>			3
CH	102 General Chemistrv Lab <sup>1</sup>	1	MA	241 Calculus II <sup>1</sup>			4
E	101 Introduction to Engr & Prob Solv	1	PY	205 Phvsics for Enar & Sc I <sup>1</sup>			4
E	115 Intro to Computing Environ	1	***	*** Economics (EC 201/205, ARE 201)			3
ENG	101 Academic Writing and Research	4	HESF	10* Fitness & Wellness Course*			1
MA	141 Calculus I <sup>1</sup>	4					
***	*** GEP Requirement*	3					
		<b>Semester Total 17</b>				<b>Semester Total 15</b>	
		Sophomore Year					
		Credits		Spring Semester		Credits	
ECE	200 Intro. to ECE Laboratory <sup>2</sup>	4	COM	110 Public Speaking			3
ECE	209 Computer Svstems Programina <sup>2</sup>	3	ECE	211 Electric Circuits <sup>2</sup>			4
MA	242 Calculus III	4	ECE	212 Fund of Logic Des <sup>2</sup>			3
PY	208 Physics for Engr & Sc II	4	ECE	220 Analytical Found. Of ECE <sup>2</sup>			3
			***	*** GEP Requirement*			3
		<b>Semester Total 15</b>				<b>Semester Total 16</b>	
		Junior Year					
		Credits		Spring Semester		Credits	
ECE	301 Linear Svstems	3	ECE	303 Electromagnetic Fields			3
ECE	302 Intro. to Microelectronics	4	ECE	380 Enar Profession for ECE <sup>4</sup>			1
ECE	305 Int. Power Svstems	3	ECE	3xx ECE Foundation Elective <sup>3</sup>			3
ST	371 Intro to Prob and Dist Theory	3	ECE	4xx ECE REES Elective <sup>5</sup>			3
HES	*** Phys Ed/Healthy Living Elective*	1	ENG	331 Comm for Engr & Tech			3
			***	*** GEP Requirement*			3
		<b>Semester Total 14</b>				<b>Semester Total 16</b>	
		Senior Year					
		Credits		Spring Semester		Credits	
ECE	484 ECE Senior Design Project I <sup>4</sup>	3	ECE	485 ECE Senior Design Project II <sup>4</sup>			3
ECE	4xx ECE REES Elective <sup>5</sup>	3	ECE	4xx ECE Elective <sup>6</sup>			3
ECE	452 Renew Elec Energy Syst	3	***	*** Open/Technical Elective <sup>7</sup>			3
***	*** Open/Technical Elective <sup>7</sup>	3	***	*** GEP Requirement*			3
***	*** GEP Requirement*	3	***	*** GEP Requirement*			2-3
		<b>Semester Total 15</b>				<b>Semester Total 14-15</b>	

**Minimum Total Credit Hours Required for Graduation 122**

**Major/Program requirements and footnotes:**

<sup>1</sup>Must be completed with a grade of C or higher.

<sup>2</sup>Must be completed with a grade of C- or higher.

<sup>3</sup>ECE 3xx foundation electives: E 304; ECE 308; ECE 306 or ECE 310.

<sup>4</sup>Students in the entrepreneurs' program should take ECE 383 / ECE 482 / ECE 483, instead of ECE 380 / ECE 484 / ECE 485.

<sup>5</sup>EE 4xx REES electives: ECE 434, ECE 451, ECE 453, ECE 533, ECE 534, ECE 535, ECE 550, ECE 551, ECE 553, ECE 581, ECE 583, ECE 585, ECE 586. Major GPAs greater than 3.5 are required to take 5xx courses.

<sup>6</sup>ECE 4xx electives (Choose two): ECE 402, ECE 403, ECE 404, ECE 408 or ECE 506, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, ECE 445, ECE 451, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, ECE 492 (Special Topics Classes). Students with major GPAs greater than 3.2-3.5 can also take ECE 5xx courses: ECE 505, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 535, ECE 540, ECE 542, ECE 544, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 555, ECE 557, ECE 558, ECE 568, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 586, ECE 592.

<sup>7</sup>Open/Technical electives (Choose two): ~~ECE 4xx~~ E 304; ECE 306; ECE 308; ECE 309; ECE 310; and ~~ECE 4xx~~. Any course in the ECE 4xx elective<sup>6</sup> list, including 5xx courses. CE 214 or MAE 206; ISE 311; MAE 208; MAE 201; MAE 302; MSE 200 or MSE 201. BME 425 or BME 525.

**\* General Education Program (GEP) requirements:**

To complete the requirements for graduation and the General Education Program, the following credit hours and co-requisites must be satisfied. University approved GEP course lists for each category can be found at <http://www.ncsu.edu/uap/academic-standards/>.

**HEALTH AND EXERCISE STUDIES** - 2 hours to be selected from the approved GEP Health and Exercise Studies list.

a. One fitness course (any HESF 100-level course).

b. One additional credit hour of HES courses.

**HUMANITIES** - 6 credits to be selected in two different disciplines (two different course prefixes) from the approved GEP Humanities list.

**SOCIAL SCIENCES** - 3 credits to be selected in a discipline other than economics from the approved GEP Social Sciences list. EC 205 taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences.

taken as part of the major requirements satisfies a credit hour of the 6 credit hours required to fulfill the SGE Social Sciences requirement.

## CURRICULUM REQUIREMENTS

**Degree Title:** Bachelor of Science in Electrical Engineering – Renewable Electric Energy Systems Concentration

**Current Degree Key:** 14EE137

**Effective Date of Revision:** 7/20/2013

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<p><b>Math</b> MA 141 (C)-wall, MA 241 (C)-wall, MA 242 ST 371</p>	12 3	Mathematics (6 hours)
<p><b>Sciences</b> CH 101 (C)-wall, CH 102 (C)-wall PY 205 (C)-wall, PY 208</p>	4 8	Natural Sciences (4 hours) Natural Sciences (4 hours)
<p><b>EE Major</b> ECE 109 (C)-wall ECE 200 (C)-wall ECE 209 (C)-wall ECE 211 (C)-wall ECE 212 (C)-wall ECE 220 (C)-wall ECE 301 ECE 302 ECE 303 ECE 305 ECE 380 ECE 452 ECE 484 ECE 485</p>	3 4 3 4 3 3 3 3 4 3 3 3 1 3 3 3	
<p><b>GRP 020 ECE 3xx Elective (Pick 1)</b> E304, ECE 308, <b>GRP 021</b>( ECE 306, ECE 310)</p>	3	
<p><b>GRP 030 EE REES 4xx Elective (Pick 2)</b> ECE 434, ECE 451, ECE 453, ECE 533, ECE 534, ECE 535, ECE 550, ECE 551, ECE 553, ECE 581, ECE 583, ECE 585, ECE 586.</p>	3	
<p><b>GRP 040 ECE Elective (Pick 1)</b> ECE 402, ECE 403, ECE 404, ECE 406 or ECE 506, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, <del>ECE 445</del>, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, ECE 492, ECE 505, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 535, ECE 540, ECE 542, ECE 544, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 555, ECE 557, ECE 558, ECE 568, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 586, ECE 592.</p>	6	
<p><b>GRP 050 Open/Technical Elective (Pick 2)</b> <b>GRP 040, GRP 020</b>, ECE 309, <b>GRP 051</b> (CE 214 or MAE 206), <b>GRP052</b> (MSE200 or MSE 201), ISE311, MAE 208, MAE 201, MAE 302, BME 425 or BME 525.</p>	6	

COM 110 ENG 331	3 3	
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	94 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 (C)-wall and E 115 (C)-wall	2	E115 satisfies Technology Fluency requirement
<b>Other:</b> (ex: Adv Communication courses) Economics Elective (EC 205, 201; ARE 201)	3	Social Science
<b>Total credit hours under College Requirements:</b>	5 hours	

<b>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><b>Specific courses should not be listed in any of the fields below other than ENG 101.</b></p>		<sup>1</sup> Choose course(s) from the University Approved GEP course list for this category. <sup>2</sup> Minimum requirements are satisfied by Major/College course requirements. <sup>3</sup> Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. <sup>4</sup> Co-requisite is satisfied by a Major/College course requirement. <sup>5</sup> Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual & Performing Arts. <sup>6</sup> Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b>(choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (minimum of 6 credits) (at least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>Natural Sciences</b> (minimum of 7 credits) (at least 1 laboratory) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>English 101</b>	4	ENG 101 (C)-wall
<b>Humanities</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Social Sciences</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	<i>Required College course satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Additional Breadth</b> (minimum of 3 credits) (Choose AB course list that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>	3	<i>Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts</i>
<b>Interdisciplinary Perspective</b> (minimum of 5-6 credits) <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	5-6	<i>Choose course(s) from the University Approved GEP course list for this category</i>

<b>Health Exercise Sciences</b> (including one Fitness course)	2	Choose course(s) from the University Approved GEP course list for this category
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	23-24 hours	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</i>
<b>U.S. Diversity co-requisite*</b>	n/a	Choose course(s) from the University Approved GEP course list for this category
<b>Global Knowledge co-requisite**</b>	n/a	Choose course(s) from the University Approved GEP course list for this category
<b>Foreign Language Proficiency</b>	n/a	FL_102
<b>The following requirements must be satisfied within the College/Program:</b>		
<b>Advanced Communication</b>	X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements

<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	122-123	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>
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Computer Engineering [14CPEBS Req Term Spring 2018]

Freshman Year

Fall Semester			Credits	Spring Semester			Credits
CH	101	Chemistrv. A Molecular Science <sup>1</sup>	3	ECE	109	Intro to Computer Svstms <sup>2</sup>	3
CH	102	General Chemistrv Lab <sup>1</sup>	1	MA	241	Calculus II <sup>1</sup>	4
E	101	Introduction to Enar & Prob Solv <sup>1,2</sup>	1	PY	205	Physics for Enar & Sc I <sup>1</sup>	3
E	115	Intro to Computina Environ <sup>1,2</sup>	1	PY	206	Physics for Enar & Sc I Lab <sup>1</sup>	1
ENG	101	Academic Writing and Research <sup>1,2</sup>	4	E	102	Engineering in the 21st Century (GEP-IP)	2
MA	141	Calculus I <sup>1</sup>	4	HESF	10*	Fitness & Wellness Course*	1
***	***	Economics (EC 201/205, ARE 201) (GEP*)	3				
<b>Semester Total 17</b>				<b>Semester Total 14</b>			

Sophomore Year

Fall Semester			Credits	Spring Semester			Credits
ECE	200	Intro. to ECE Laboratory <sup>2</sup>	4	COM	110	Public Speaking	3
ECE	209	Computer Systems Proaramina <sup>2</sup>	3	CSC	226	Discrete Mathematics <sup>2</sup>	3
MA	242	Calculus III	4	ECE	211	Electric Circuits <sup>2</sup>	4
PY	208	Physics for Engr & Sc II	3	ECE	212	Fund of Logic Des <sup>2</sup>	3
PY	209	Physics for Engr & Sc II Lab	1	ECE	220	Analvtical Found. Of ECE <sup>2</sup>	3
<b>Semester Total 15</b>				<b>Semester Total 16</b>			

Junior Year

Fall Semester			Credits	Spring Semester			Credits
ECE	301	Linear Systems	3	ECE	309	Object-Oriented Programming	3
ECE	302	Intro. to Microelectronics	4	ECE	380	Enar Profession for ECE <sup>3</sup>	1
ECE	306	Intro. to Embedded Systems	3	ECE	310	Design of Complex Digital Sys	3
ST	371	Intro to Prob and Dist Theory	3	***	***	Open/Technical Elective <sup>4</sup>	3
***	***	GEP Requirement*	3	ENG	331	Comm for Engr & Tech	3
				HES	***	HES Elective*	1
<b>Semester Total 16</b>				<b>Semester Total 14</b>			

Senior Year

Fall Semester			Credits	Spring Semester			Credits
ECE	484	ECE Senior Design Project I	3	ECE	485	ECE Senior Design Project II	3
ECE	4**	CPE Elective <sup>5</sup>	3	ECE	4**	ECE Elective <sup>6</sup>	3
ECE	4**	CPE Elective <sup>5</sup>	3	ECE	4**	ECE Elective <sup>6</sup>	3
***	***	GEP Requirement*	3	***	***	GEP Requirement*	3
***	***	GEP Requirement*	3	***	***	GEP Requirement*	3
<b>Semester Total 15</b>				<b>Semester Total 15</b>			

Minimum Total Credit Hours Required for Graduation 122

Major/Program requirements and footnotes:

<sup>1</sup>Courses required for Change of Degree Audit (CODA). CH 101, 102; MA 141, 241; PY 205, 206 must be completed with a grade of C or higher.  
<sup>2</sup>Grade of C- or better required. E 115 requires satisfactory completion.  
<sup>3</sup>Students in the entrepreneurs' program should take ECE 383 / ECE 482 / ECE 483 instead of ECE 380 / ECE 484 / ECE 485.  
<sup>4</sup>Open/Technical electives: E 304; ECE 303, ECE 305; ECE 308; ~~ECE 411~~ <sup>elective</sup> Any course in the ECE 4\*\* electives<sup>5</sup> list, including 5\*\* courses; CE 214 or MAE 206, ISE 311; MAE 208, MAE 201, MAE302; MSE 200 or 201; BME 425 or BME 525.  
<sup>5</sup>CPE 4\*\* electives (Choose two): (Comp Arch Sys) ECE 406 or ECE 506; ECE 463 or ECE 563; ECE 464 or ECE 564; ECE 546; (Embed Sys) ECE 460 or ECE 560; ECE 461 or ECE 561; (Networking Sys) ECE 407, ECE 470, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577; (Software Sys) ECE 466 or ECE 566, ECE 517. A major GPA greater than 3.5 is required to take ECE 6\*\* courses.  
<sup>6</sup>ECE 4\*\* electives: ECE 402, ECE 403, ECE 404, ECE 406 or ECE 606, ECE 407, ECE 418 and ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, ~~ECE 445~~, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, ECE 492 (Special Topics Classes). Students with major GPAs greater than 3.2-3.5 can also take ECE 5xx courses: ECE 606, ECE 611, ECE 613, ECE 614, ECE 616, ECE 617, ECE 622, ECE 623, ECE 630, ECE 631, ECE 632, ECE 633, ECE 634, ECE 636, ECE 640, ECE 642, ECE 644, ECE 646, ECE 649, ECE 650, ECE 651, ECE 653, ECE 655, ECE 657, ECE 658, ECE 668, ECE 670, ECE 673, ECE 674, ECE 675, ECE 677, ECE 681, ECE 682, ECE 683, ECE 686, ECE 686, ECE 692.

\* General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each category can be found at <https://oucc.dasa.ncsu.edu/general-education-program-gep/>.

**Humanities** (6 credit hours selected from two different disciplines/course prefixes)  
 Choose from the University approved GEP Humanities course list.

**Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)  
 Choose from the University approved GEP Social Sciences course list in a discipline other than Economics. Economics 205 (or E 201 or ARE 201), taken as part of the major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.

**Health and Exercise Studies** (2 credit hours – must include at least one HESF 100-level course and one additional HES course)  
 Choose from the University approved GEP Health and Exercise Studies list.

**Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)  
 Choose from Humanities/Social Sciences/Visual and Performing Arts.

**Interdisciplinary Perspectives** (5-6 credit hours)  
 Choose from the University approved GEP Interdisciplinary Perspectives course list.

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

**U.S. Diversity (USD)**  
 Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.

**Global Knowledge (GK)**  
 Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.

**Foreign Language Proficiency** - Proficiency at the FL\_102 level is required for graduation.



**Computer Engineering**  
GEP FORMAT A

(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current: Proposed: **X**

Proposed Effective Semester: 7/2013

DEGREE TITLE: **B. S. in Computer Engineering**

CONCENTRATION TITLE: **n/a**

CURRENT DEGREE KEY: **14 CPE 137**

<i>Fall Semester</i>		<b>Freshman Year</b>		<i>Spring Semester</i>		
		<i>Credits</i>			<i>Credits</i>	
CH	101 Chemistry, A Molecular Science <sup>1</sup>	3	ECE	109 Intro to Computer Systems <sup>2</sup>	3	
CH	102 General Chemistry Lab <sup>1</sup>	1	MA	241 Calculus II <sup>1</sup>	4	
E	101 Introduction to Engr & Prob Solv <sup>2</sup>	1	PY	205 Physics for Engr & Sc I <sup>1</sup>	4	
E	115 Intro to Computing Environ <sup>2</sup>	1	***	*** Economics (EC 201/205, ARE 201)	3	
ENG	101 Academic Writing and Research <sup>2</sup>	4	HESF	10* HES Fitness Elective*	1	
MA	141 Calculus I <sup>1</sup>	4				
***	*** GEP Requirement*	3				
<b>Semester Total 17</b>			<b>Semester Total 15</b>			

<i>Fall Semester</i>		<b>Sophomore Year</b>		<i>Spring Semester</i>		
		<i>Credits</i>			<i>Credits</i>	
ECE	200 Intro. to ECE Laboratory <sup>2</sup>	4	COM	110 Public Speaking	3	
ECE	209 Computer Systems Programming <sup>2</sup>	3	CSC	226 Discrete Mathematics <sup>2</sup>	3	
MA	242 Calculus III	4	ECE	211 Electric Circuits <sup>2</sup>	4	
PY	208 Physics for Engr & Sc II	4	ECE	212 Fund of Logic Des <sup>2</sup>	3	
			ECE	220 Analytical Found. Of ECE <sup>2</sup>	3	
<b>Semester Total 15</b>			<b>Semester Total 16</b>			

<i>Fall Semester</i>		<b>Junior Year</b>		<i>Spring Semester</i>		
		<i>Credits</i>			<i>Credits</i>	
ECE	301 Linear Systems	3	ECE	309 Object-Oriented Programming	3	
ECE	302 Intro. to Microelectronics	4	ECE	380 Engr Profession for ECE <sup>3</sup>	1	
ECE	306 Intro. to Embedded Systems	3	ECE	310 Design of Complex Digital Sys	3	
ST	371 Intro to Prob and Dist Theory	3	***	*** Open/Technical Elective <sup>5</sup>	3	
***	*** GEP Requirement*	3	ENG	331 Comm for Engr & Tech	3	
			HES	*** HES Elective*	1	
<b>Semester Total 16</b>			<b>Semester Total 14</b>			

<i>Fall Semester</i>		<b>Senior Year</b>		<i>Spring Semester</i>		
		<i>Credits</i>			<i>Credits</i>	
ECE	484 ECE Senior Design Project I	3	ECE	485 ECE Senior Design Project II	3	
ECE	4xx CPE Elective <sup>4</sup>	3	ECE	4xx ECE Elective <sup>5</sup>	3	
ECE	4xx CPE Elective <sup>4</sup>	3	ECE	4xx ECE Elective <sup>5</sup>	3	
***	*** GEP Requirement*	3	***	*** GEP Requirement*	2-3	
***	*** GEP Requirement*	3	***	*** GEP Requirement*	3	
<b>Semester Total 15</b>			<b>Semester Total 14-15</b>			

**Minimum Total Credit Hours Required for Graduation 122**

**Major/Program requirements and footnotes:**

<sup>1</sup>Must be completed with a grade of C or higher.

<sup>2</sup>Must be completed with a grade of C- or higher.

<sup>3</sup>Students in the entrepreneurs' program should take ECE 383/ECE 482/ECE483 instead of ECE 380/ECE 484/ECE485

<sup>4</sup>CPE 4xx electives (Choose two): (Comp Arch Sys) ECE 406 or ECE 506; ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 546, (Embed Sys) ECE 460 or ECE 560; ECE 461 or ECE 561, (Networking Sys) ECE 407, ECE 470, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, (Software Sys) ECE 466 or ECE 566, ECE 517. A major GPA greater than 3.5 is required to take ECE 5xx courses.

<sup>5</sup>ECE 4xx electives: ECE 402, ECE 403, ECE 404, ECE 406 or ECE 506, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, ~~ECE 446~~, ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, ECE 492 (Special Topics Classes). Students with major GPAs greater than 3.2-3.5 can also take ECE 5xx courses: ECE 506, ECE 511, ECE 513, ECE 514, ECE 516, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 536, ECE 540, ECE 540, ECE 542, ECE 544, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 555, ECE 557, ECE 558, ECE 568, ECE 570, ECE 573, ECE 574, ECE 576, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 586, ECE 592.

<sup>6</sup>Open/Technical electives: E 304; ECE 303; ECE305, ECE 308; Any ~~ECE 4xx~~ course in the ECE 4xx electives<sup>5</sup>, including 5xx level courses. CE 214 or MAE 206, MAE 208; MAE 201, MAE 302, MSE 201 or 200, ISE 311, BME 426 or BME 626.

**\* General Education Program (GEP) requirements:**

To complete the requirements for graduation and the General Education Program, the following credit hours and co-requisites must be satisfied. University approved GEP course lists for each category can be found at <http://www.ncsu.edu/uap/academic-standards/>

**HEALTH AND EXERCISE STUDIES:** 2 hours to be selected from the approved GEP Health Exercise Studies list

a. One fitness and wellness course (any HESF 100-level course).

b. One additional credit hour of HES courses

**HUMANITIES:** 6 credits to be selected in two different disciplines (two different course prefixes) from the approved GEP

**HUMANITIES** - 6 credits to be selected in two different disciplines (two different course prefixes) from the approved GEP Humanities list.

**SOCIAL SCIENCES** - 3 credits to be selected in a discipline other than economics from the approved GEP Social Sciences list. EC 205 taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement.

**ADDITIONAL BREADTH** - 3 credits to be selected from the approved GEP Humanities, Social Sciences or Visual and Performing Arts lists.

**INTERDISCIPLINARY PERSPECTIVES** - 5-6 credits to be selected from the approved GEP Interdisciplinary Perspectives list.

**Co-requisites:**

U.S. Diversity and Global Knowledge co-requisites must be satisfied to complete the General Education requirements. Choose course(s) that are identified on the approved GEP course lists as meeting the U.S. Diversity and Global Knowledge co-requisites.

Foreign Language proficiency at the FL\_102 level will be required for graduation.

## CURRICULUM REQUIREMENTS

**Degree Title:** Bachelor of Science in Computer Engineering

**Current Degree Key:** 14CPE137

**Effective Date of Revision:** 7/20/2013

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<b>Math</b>		
MA 141 (C)-wall, MA 241 (C)-wall, MA 242	12	Mathematics (6 hours)
ST 371	3	
<b>Sciences</b>		
CH 101 (C)-wall, CH 102 (C)-wall	4	Natural Sciences (4 hours)
PY 205 (C)-wall, PY 208	8	Natural Sciences (4 hours)
<b>CPE Major</b>		
ECE 109 (C)-wall		
ECE 200 (C)-wall	3	
ECE 209 (C)-wall	4	
ECE 211 (C)-wall	3	
ECE 212 (C)-wall	4	
ECE 220 (C)-wall	3	
ECE 301	3	
ECE 302	3	
ECE 306	4	
ECE 309	3	
ECE 310	3	
ECE 380	3	
ECE 484	1	
ECE 485	3	
	3	
<b>GRP 030 CPE Elective (Pick any 2)</b>		
<b>GRP 031</b> (ECE 460 or ECE 560, ECE 461 or ECE 561), <b>GRP 032</b> (ECE 406 or ECE 506, ECE 463 or ECE 563, ECE 546, ECE 464 or ECE 564), <b>GRP 033</b> (ECE 466 or ECE 566, ECE 517) <b>GRP 034</b> (ECE 407, ECE 470, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577)	6	
<b>GRP 040 ECE Elective (Pick 2)</b>		
ECE 402, ECE 403, ECE 404, ECE 406 or ECE 506, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, <del>ECE 445</del> , ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, ECE 492, ECE 505, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 535, ECE 540, ECE 542, ECE 544, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 555, ECE 557, ECE 558, ECE 568, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 586, ECE 592.	6	
<b>GRP 050 Open/Technical Elective (Pick 1)</b>		
<b>GRP 040</b> , E 304, ECE 303, ECE 305, ECE 308, <b>GRP051</b> (CE 214 or MAE 206), MAE 208, MAE 201, MAE 302, ISE 311, <b>GRP 052</b> (MSE 201 or MSE 200), BME 425 or BME 525.	3	
<b>Other Major</b>		

CSC 226 COM 110 ENG 331	3 3 3	
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	94 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 (C-)wall and E 115 (C-)wall	2	E115 satisfies Technology Fluency requirement
<b>Other:</b> (ex: Adv Communication courses) Economics Elective (EC 205, 201; ARE 201)	3	Social Science
<b>Total credit hours under College Requirements:</b>	5 hours	

<b>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</b>		<b>At least one of the following must be listed:</b>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<sup>1</sup> Choose course(s) from the University Approved GEP course list for this category. <sup>2</sup> Minimum requirements are satisfied by Major/College course requirements. <sup>3</sup> Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. <sup>4</sup> Co-requisite is satisfied by a Major/College course requirement. <sup>5</sup> Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual & Performing Arts. <sup>6</sup> Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> <b>(choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> <i>(minimum of 6 credits)</i> (at least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>Natural Sciences</b> <i>(minimum of 7 credits)</i> (at least 1 laboratory) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>English 101</b>	4	ENG 101 (C-)wall
<b>Humanities</b> <i>(minimum of 6 credits)</i> (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Social Sciences</b> <i>(minimum of 6 credits)</i> (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	<i>Required College course satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Additional Breadth</b> <i>(minimum of 3 credits)</i> (Choose AB course list that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>	3	<i>Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts</i>
<b>Interdisciplinary Perspective</b> <i>(minimum of 5-6 credits)</i>	5-6	<i>Choose course(s) from the University Approved GEP course</i>

<i>Only course(s) in the Major may double-count to satisfy this requirement.</i>		<i>list for this category</i>
<b>Health Exercise Studies</b> (including one Fitness course)	2	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	23-24 hours	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</i>
<b>U.S. Diversity co-requisite*</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Global Knowledge co-requisite**</b>	n/a	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Foreign Language Proficiency</b>	n/a	FL_102
<b>The following requirements must be satisfied within the College/Program:</b>		
<b>Advanced Communication</b>	X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements

<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	122-123	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>
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## CURRICULUM REQUIREMENTS

**Degree Title:** Bachelor of Science in Computer Engineering

**Current Degree Key:** 14CPEBS

**Effective Date of Revision:** 1/2018

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<b>Math</b>		
MA 141 (C)-wall, MA 241 (C)-wall, MA 242	12	Mathematics (6 hours)
ST 371	3	
<b>Sciences</b>		
CH 101 (C)-wall, CH 102 (C)-wall	4	Natural Sciences (4 hours) Natural Sciences (4 hours)
PY 205 (C)-wall, PY 208	8	
<b>CPE Major</b>		
ECE 109 (C)-wall	3	
ECE 200 (C)-wall	4	
ECE 209 (C)-wall	3	
ECE 211 (C)-wall	4	
ECE 212 (C)-wall	3	
ECE 220 (C)-wall	3	
ECE 301	3	
ECE 302	4	
ECE 306	3	
ECE 309	3	
ECE 310	3	
ECE 380	1	
ECE 484	3	
ECE 485	3	
<b>GRP 030 CPE Elective (Pick any 2)</b>		
<b>GRP 031</b> (ECE 460 or ECE 560, ECE 461 or ECE 561), <b>GRP 032</b> (ECE 406 or ECE 506, ECE 463 or ECE 563, ECE 546, ECE 464 or ECE 564), <b>GRP 033</b> (ECE 466 or ECE 566, ECE 517) <b>GRP 034</b> (ECE 407, ECE 470, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577)	6	
<b>GRP 040 ECE Elective (Pick 2)</b>		
ECE 402, ECE 403, ECE 404, ECE 406 or ECE 506, ECE 407, ECE 418 or ECE 518, ECE 420, ECE 421, ECE 422, ECE 423, ECE 424 or ECE 524, ECE 426, ECE 434, ECE 436, ECE 442, <del>ECE 445</del> , ECE 451, ECE 452 or ECE 552, ECE 453, ECE 455, ECE 456 or ECE 556, ECE 460 or ECE 560, ECE 461 or ECE 561, ECE 463 or ECE 563, ECE 464 or ECE 564, ECE 466 or ECE 566, ECE 470, ECE 489 or ECE 589, ECE 492, ECE 505, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 517, ECE 522, ECE 523, ECE 530, ECE 531, ECE 532, ECE 533, ECE 534, ECE 535, ECE 540, ECE 542, ECE 544, ECE 546, ECE 549, ECE 550, ECE 551, ECE 553, ECE 555, ECE 557, ECE 558, ECE 568, ECE 570, ECE 573, ECE 574, ECE 575, ECE 577, ECE 581, ECE 582, ECE 583, ECE 585, ECE 586, ECE 592.	6	
<b>GRP 050 Open/Technical Elective (Pick 1)</b>		
<b>GRP 040</b> , E 304, ECE 303, ECE 305, ECE 308, <b>GRPO51</b> (CE 214 or MAE 206), MAE 208, MAE 201, MAE 302, ISE 311, <b>GRP 052</b> (MSE 201 or MSE 200), BME 425 or BME 525.	3	
<b>Other Major</b>		

CSC 226 COM 110 ENG 331	3 3 3	
<b>Concentration Courses/Groups/Electives:</b>		
<b>Free Electives:</b>		
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	94 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<b>Orientation Course(s):</b> E 101 (C-)wall and E 115 (C-)wall and E 102	4	E115 satisfies Technology Fluency requirement
<b>Other:</b> (ex: Adv Communication courses) Economics Elective (EC 205, 201; ARE 201)	3	Social Science
<b>Total credit hours under College Requirements:</b>	7 hours	

<b><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></b>		<b>At least one of the following must be listed:</b>
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		<sup>1</sup> Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		<sup>2</sup> Minimum requirements are satisfied by Major/College course requirements
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>		<b>How will the GEP requirement be met?</b> <b>(choose applicable statement from 1-6 listed above)</b>
<b>Mathematical Sciences</b> (minimum of 6 credits) (at least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>Natural Sciences</b> (minimum of 7 credits) (at least 1 laboratory) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
<b>English 101</b>	4	ENG 101 (C-)wall
<b>Humanities</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
<b>Social Sciences</b> (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	<i>Required College course satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
<b>Additional Breadth</b> (minimum of 3 credits) (Choose AB course list that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>	3	<i>Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts</i>
<b>Interdisciplinary Perspective</b> (minimum of 5-6 credits) <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	3	<i>Choose course(s) from the University Approved GEP course list for this category</i>

<b>Health Exercise Studies</b> (including one Fitness course)	2	Choose course(s) from the University Approved GEP course list for this category
<b>Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.</b>	21 hours	
<b>GEP Co-Requisites:</b>		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.</i>
<b>U.S. Diversity co-requisite*</b>	n/a	Choose course(s) from the University Approved GEP course list for this category
<b>Global Knowledge co-requisite**</b>	n/a	Choose course(s) from the University Approved GEP course list for this category
<b>Foreign Language Proficiency</b>	n/a	FL_102
<b>The following requirements must be satisfied within the College/Program:</b>		
<b>Advanced Communication</b>	X	Satisfied by College/Program Requirements
<b>Technology Fluency</b>	X	Satisfied by College/Program Requirements

<b>Total credit hours required to complete Degree:</b> Total must be within 120-128 credit hours.	122	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>
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