

**University Courses & Curricula Committee 2016-2017**

April 12<sup>th</sup>, 2017  
Talley Student Union 4140  
12:45pm-2:45pm

**Call to Order 12:45pm**

- Welcome and Instructions, Chair Andy Nowel
- Remarks from Associate Vice Provost, Dr. Barbara Kirby
- Approval of UCCC March 29<sup>th</sup>, 2017 Minutes
- Course and Curricular Business

**New Business**

Consent Agenda		
Action	Type	Notes
<a href="#">CE 263 Introduction to Construction Engineering</a>	Revision	Requisites
<a href="#">CE 327 Reinforced Concrete Design</a>	Revision	Requisites
<a href="#">CE 365 Construction Equipment and Methods</a>	Revision	Requisites
<a href="#">CE 420 Structural Engineering Project</a>	Revision	Requisites
<a href="#">CE 463 Construction Estimating Planning, and Control</a>	Revision	Requisites
<a href="#">DAN 272 Dance Composition</a>	Revision	Requisites
<a href="#">IS 200 Introduction to International Studies</a>	Revision	Allowing S/U grading
<a href="#">IS 393 Theories of Globalization</a>	Revision	Title and removing S/U option
<a href="#">MSE 255 Experimental Methods for Structural Analysis of Materials</a>	Revision	Requisites
<a href="#">PHI 496 Research and Writing in Contemporary Philosophy</a>	Revision	Requisites
<a href="#">PHI 497 Research and Writing in Logic, Representation and Reasoning</a>	Revision	Requisites
<a href="#">PY 251 Introduction to Scientific Computing</a>	Revision	Requisites
<a href="#">PY 413 Thermal Physics</a>	Revision	Requisites

University College			
Presenter	Reviewers	Action	Type
Fath	Hergeth, Lindsay, Wu	<a href="#">HESS 195 Special Topics in Health and Exercise Studies</a>	New Course
Fath	Podurgal, Despain, Banks	<a href="#">HON 290 Honors Special Topics - Humanities/US Diversity</a>	Revising: SLO, description, requisites
Fath	Driscoll, Reider, Hergeth	<a href="#">HON 293 Honors Special Topics - Interdisciplinary Perspectives/Global Knowledge</a>	Revising: title and shell categories
Fath	Young, Hessling, Klesath	<a href="#">HON 297 Honors Special Topics - Interdisciplinary Perspectives/US Diversity</a>	Revising: title and shell categories
Beller	Hergeth, Ferguson, Hessling	<a href="#">HON 390 Music and the Celtic World</a>	New Course
Beller	Ferguson, Klesath, Banks	<a href="#">MS 302 Applied Leadership in Small Unit Operations</a>	Revising: SLO, title, requisites, hours, description
Beller	Wu, Driscoll, Reider	<a href="#">SLC 300 Leading with an Ethical Perspective</a>	New Course
Beller	Hergeth, Trivedi, Banks	<a href="#">SLC 450 Applied Leadership Skill-Building within an Internship Experience</a>	New Course
Beller	Trivedi, Tarp, Young	Dance Minor 24DANM	Revisions
Beller	Orphanides, Driscoll, Podurgal	Shelton Leadership Center Minor 24SLC	Revisions

College of Natural Resources			
Presenter	Reviewers	Action	Type
Lindsay	Klesath, Hessling, Harper	Forest Management BS 15FORMTBS	Revisions

College of Sciences			
Presenter	Reviewers	Action	Type
Klesath	Rieder, Tarp, Hergeth	<a href="#">GN 425 Advanced Genetics Laboratory</a>	Revising: SLO, hours, offering
Klesath	Trivedi, Despain, Banks	Biological Sciences: Ecology, Evolution, and Conservation Biology 17BIOSCEEC	Revisions
Banks	Lindsay, Tarp, Podurgal	Biological Sciences: Human Biology 17BIOSCHB	Revisions
Banks	Rieder, Tarp, Driscoll	Genetics Minor 17GNM	Revisions

College of Engineering			
Presenter	Reviewers	Action	Type
Ferguson	Driscoll, Trivedi, Podurgal	<a href="#">CSC 326 Software Engineering</a>	Revising: SLO, description, requisites, hours
Ferguson	Despain, Lindsay, Banks	Computer Science (BS) 14CSCBS	Revisions
Ferguson	Hessling, Klesath, Beller	Computer Science (BS) Game Development 14CSCBS-14CSCGAME	Revisions

College of Textiles			
Presenter	Reviewers	Action	Type
Hergeth	Klesath, Lindsay, Harper	<a href="#">TT/FTM 380 Management and Control of Textile and Apparel Systems</a>	Revising: SLO

College of Humanities and Social Sciences			
Presenter	Reviewers	Action	Type
Driscoll	Ophanides, Klesath, Wu	<a href="#">ENG 341 Literature and Science</a>	New Course
Driscoll	Ferguson, Wu, Beller	<a href="#">PHI 320 Philosophy of Race</a>	New Course
Driscoll	Ophanides, Fath, Tarp	<a href="#">SOC 202 Principles of Sociology</a>	Revising: SLO
Despain	Ophanides, Young, Hergeth	<a href="#">SOC/WGS 204 Sociology and Family</a>	Revising: SLO, abbreviated title, offering
Despain	Klesath, Beller, Harper	BS Philosophy, Concentration in Logic, Representation and Reasoning	Revisions

\*To ensure course and curricula actions are successfully passed for effective dates in Summer/Fall 2017, please note April 12, 2017 is the deadline for the April 26, 2017 UCCC meeting.

**SLO = Student Learning Outcomes**

**Discussion:** Feedback for Syllabus Availability Subcommittee Recommendation.

**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.

**University Courses and Curricula Committee**March 29, 2017  
Talley Student Union 4140  
Call to Order: 12:47 pm

**Members Present:** Chair Andy Nowel, Amanda Beller, Scott Despain, Catherine Driscoll, Mian Wu, Elizabeth Fath, Andreas Orphanides, Kathleen Rieder, Edwin Lindsay, Richard Podurgal, Daniel Harper, Marta Klesath, Peter Hessling, David Tarpy, Shweta Trivedi, Scott Ferguson, Greg Young

**Members Absent:** Michael Robinson, Steven Peretti, Helmut Hergeth, Alton Banks

**Guest:** Anthony Scalabrino, Tom Koch, Alease Hancock, Alison Arnold

**Ex-Officio Members Present:** Lexi Hergeth, Li Marcus, Barbara Kirby, Rebecca Swanson, Kyle Pysher, John Harrington, Jordan Luzander, Rebecca Stojancic

**WELCOME AND INTRODUCTIONS**

- **Remarks from Chair Andy Nowel-** Chair introduced guests, proxy, and new XNOV members and explained the scheduling officer roles. Chair also announced the chairs of the syllabus availability subcommittee meeting will make
- **Remarks from Associate Vice Provost Dr. Barbara Kirby-** Brought attention to the informational section of the syllabus and explained the previously approved actions as they move toward the board of trustees for their approval. Members and Dr. Kirby explained the reasons behind each action and clarified that the specific tracks are being discontinued, not the discipline (ie: a BS in Geology is still there)
- **Approval of the Minutes from February 22<sup>nd</sup> 2017 – Approved Unanimously**
  - Discussion: Member Scott Despain moved to approve. Minutes from the previous meeting were presented and approved without further discussion.

**NEW BUSINESS**

- **Consent Agenda—Approved Unanimously**  
Discussion: Member Beth Fath moved to approve.
- **MUS 200 Understanding Music: Global Perspectives- Approved Unanimously**  
Discussion: Member Beth Fath presented the course.
- **MUS 320 Music of the 20th Century– Approved Unanimously**  
Discussion: Member Beth Fath presented the course. Member suggested using the full title for the abbreviated title and the statement that the schedule is subject to change without notice. Members clarified that the GEP Objective and Outcomes are required in the syllabus, the Assessment is not necessary in the syllabus.
- **NS 420 Naval Leadership and Ethics- Approved Unanimously**  
Discussion: Member Amanda Beller presented the course. Member asked if the text is provided by ROTC, guest Anthony Scalabrino answered yes, ROTC will provide the text to students. Member asked if the University policy allows for an incomplete grade assigned to students who do not submit all assignments. Guest explained the reasoning behind assigning an incomplete instead of the student receiving a zero for the assignment. Friendly suggestion to include “in compliance with University policy” and include a hyperlink.
- **BSC 410/(510) Animal Behavior–Approved Unanimously**  
Discussion: Member Marta Klesath presented the course.
- **AGI 191 Professional Development- Approved Unanimously**  
Discussion: Member David Tarpy presented the curricular action. Member complemented the variety of types of assignment. Friendly suggestion to fix typo in the catalog description (plural vs singular) in CIM and the syllabus. Friendly suggestion to include who guest speakers will be to attract students.
- **11BEBS BS in Biological Engineering**  
**11BEBS-11BEBEA BS in Biological Engineering-Agricultural Engineering Concentration**  
**11BEBS-11BEBEC BS in Biological Engineering- Ecological Engineering Concentration - Approved Unanimously**  
Discussion: Member David Tarpy moved to combine all 11BEBS curricula actions. Member asked for the 11BEBS-

11BEBEC action if the highlighted change is current or from the past meeting, presenter clarified it is a new change. Member asked if 11BEBEA's format B Major course list add to the correct 20 credit totals. Presenter said he will double check to make sure.

**Discussion:** Chair thanked the Syllabus Availability Subcommittee for their service and introduced the Subcommittee Co-Chairs to present the drafted recommendation. Co-Chairs explained the background of the subcommittee's work, initial feedback from constituent colleges, and examples from other universities. Co-Chairs also discussed the long term and short term proposals and how these will benefit students, faculty, and staff (as well as prospective students) in the long term.

Member asked why a student would not go to the faculty member directly for a copy of the syllabus rather than going to a person on the recommended contacts list. Member responded students have indicated they have had trouble getting a hold of the faculty or have delayed responses that affect their limited enrollment periods. Subcommittee member explained the syllabus repository doesn't prevent students from contacting the instructors, but gave them another point of contact that has the understanding and expectation to respond with last available syllabus information.

Member asked how the students would know about the repository, Co-Chair responded that student government will provide the information through their communication links. Members discussed the message sent with the list of whom will have access to syllabi for the department and suggested a statement advising students to contact the instructor for specifics about their courses.

Members and Subcommittee Co-Chairs discussed how the University will benefit from easy repository for accreditation purposes, students will be able to access information early on their own time, and instructors will be able to market effectively.

Member asked what staff resources will available for even the short-term implementation, given the amount of emails the staff member may receive. Subcommittee member responded that the short-term proposal will simply formalize who has access to the department syllabi. Member suggested this would be beneficial for advising as well. Members complimented the long-term proposal and agreed with the Chairs that the syllabi would all need to be digital. Members were informed that there will be a log in to ensure access is provided to only people with a unity log in. Member clarified that if the past semester's syllabi would be provided if the instructor has not completed the current semester's syllabus. Chair indicated that while the short-term proposal will benefit a smaller number of students, but the long-term proposal will benefit a much larger student population.

UCCC Chair suggested voting on the short term and long term recommendations separately. Member's clarified that the first sentence of the recommendation is already a University policy, but the real work of the short-term proposal would be creating a database of contacts. Member asked if the individuals responsible for collecting syllabi can distribute the syllabi, are they allowed to become the point of contact. Member indicated the short-term solution is overly complicated, members discussed how the database would remove some of the steps students would have to go through asking who is the best person to contact. Members discussed inputting the syllabi information in SIS, subcommittee members responded that this would not be available at this point, but that links in SIS to an external repository would be possible after Peoplesoft upgrade was complete. Member suggested the syllabi that have already been approved should be uploaded. Li Marcus responded that feedback indicated some instructors are against providing the entire syllabi and the syllabus tool can truncate the desired fields. Dr. Barbara Kirby also provided examples of instances where a repository would be helpful such as if an instructor leaves during a semester. Members discussed the idea of pulling information from CIM, Li Marcus and Dr. Kirby responded that pulling information from CIM is not a workable solution. Members discussed the future SACs proposal being discussed that would require the university to have a repository. Members also discussed Moodle as a possible repository, but DELTA suggested that this would not work either. It would need to be a separate, unity-wrapped repository based off of the syllabus tool.

Members agreed to take the recommendation back to their colleges for discussion with further discussion and possible voting to take place at the 4/12 UCCC meeting.

Meeting adjourned at 2:17 pm

*Respectfully submitted by Lexi Hergeth*

**NORTH CAROLINA STATE UNIVERSITY  
UNDERGRADUATE CURRICULUM ACTION FORM  
Academic Minor**

DEPARTMENT(S):

Health & Exercise Studies

TYPE OF PROPOSAL:

New Minor: \_\_\_\_\_

TITLE OF THE MINOR:

Dance (24DANM)

Revision to Minor:

Discontinuation: \_\_\_\_\_

PROPOSED EFFECTIVE DATE: Fall 2017

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

ATTACHMENTS INCLUDED:

**1. Statement of Justification**

The Department of Health & Exercise Studies is requesting that the prerequisite for DAN 272 Dance Composition I be changed to HESM 320 Movement Improvisation or instructor permission. Typically a movement improvisation class is required prior to enrolling in a composition or choreography course. Prior to Fall 2016, movement improvisation had not been a course at NC State. Now that it is, we are adjusting the prerequisite for DAN 272 to reflect the addition.

**2. Statement of Academic Minor Program Objectives**

Minor objectives

A primary goal of the minor is to educate the student to be articulate in the visual and physical spheres of dance and to be able to write and to speak clearly about dance. The student should develop an ability to see his or her own art work within the context of the larger field of dance, and then in relation to general art aesthetics.

The minor is designed to avoid the usual polarization of the creative and performance aspects of dance on the one hand and the historical and theoretical aspects on the other. All students interested in and passionate about dance are encouraged to apply to the minor. No audition is required.

**3. List of Courses constituting the Minor**

Catalog Required Courses (16 credit hours)

Theory (6 hours) (choose 2)

- HESM 322 Dance and Society (3cr.)
- HESM 324 Concert Dance History (3cr.)
- HESM 326 Current Trends in Dance (3cr.)

Creative (4-6 hours):

- Required: HESM 320 Movement Improvisation (1cr.)

Choose 2 additional courses:

- DAN 272 Dance Composition I (2cr.) (prereq. HESM 320)
- DAN 498 Independent Study in Dance (1-3cr.) (prereq. DAN 272 or DAN 295)
- HESM 328 Dance Composition II (2cr.) (prereq. DAN 272)
- HESM 330 Introduction to Bartenieff Fundamentals and Laban Movement Analysis (2cr.)
- HESM 332 Dance and Technology (2cr.)

Practice (4-5 hours):

Choose 2 courses in practice/performance:

- HESD 227 African Dance (1cr.)
- HESD 230 Horton Dance Technique (1cr.)
- HESD 233 Clogging (1 cr.)
- HESD 234 Country Dance (1 cr.)
- HESD 240 Social Dance (1cr.)
- HESD 263 Tap Dance (1cr.)
- HESD 264 Ballet (1cr.)
- HESD 273 Jazz Dance (1cr.)
- HESD 274 Modern Dance I (1cr.)
- DAN 210 Current Trends in Afrocentric and World Dance (1cr.) (prereq. Audition)
- DAN 295 Problems of Dance Performance (2cr.) (prereq. Audition)

Choose 2 technique courses:

- HESD 241 Social Dance II (1cr.) (prereq. HESD 240)
- HESD 265 Ballet II (1cr.) (prereq. HESD 264)
- HESD 275 Modern Dance II (1cr.) (prereq. HESD 274)
- HESD 280 Jazz Dance II (1cr.) (prereq. HESD 273)

Capstone course (1 hour):

- HESM 304 Dance Practicum (1cr.)

#### 4. Catalog Description of Minor

The Department of Health and Exercise Studies offers a 16 credit hour minor in Dance that is designed for students who wish to delve deeper into dance studies in an intellectual, creative, and practical capacity to propel them forward in career, service, and artistry. The coursework is balanced between theory courses, creative inquiry, and technical proficiency. The student has the opportunity to select the specific courses which best fulfill his/her needs while maintaining an overall balance. A student in the dance minor may be preparing for graduate study or for work as a performer, choreographer, educator, or dance therapist. The dance minor also enhances students' studies as they prepare for careers and service as Arts Entrepreneurs or administrators, physical therapists, physicians, or in disciplines such as Africana Studies, Design, Film, and Engineering.

#### 5. Administration of the Minor (Contact information for Administrator of the Minor)

Beth Wright Fath

Teaching Assistant Professor

beth\_fath@ncsu.edu

2020 Carmichael Gym

919-513-1545

#### 6. Requirements for Admission and Completion of the Minor

##### Requirements for Completion of Minor

- Completion of a minimum of 16 required credit hours.
- A minimum overall GPA of 2.0 in the minor.
- Students may not take Minor coursework on a credit only (pass/fail) or S/U basis.
- The program coordinator will certify the minor prior to graduation.
- A minimum of 12 of the 16 required credit hours must be completed at NC State.

- The minor must be completed no later than the final semester in which the student expects to graduate from his or her degree program. Paperwork for certification must be completed no later than during the registration period for the student's final semester at NC
- Up to 4 transfer hours may be permitted and are subject to approval by the Program Coordinator and the University.
- A grade of a "C "or better must be earned in each course to count towards completion of the minor.

**Admissions and Certification of Minor**

Students are required to meet with the contact person for the minor to discuss the expectations established for the Dance Minor and to complete an application form.

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

The DAN 272 course is taught by the Dance Program and resides in HES. The change of prerequisite is supported by Tara Mullins, Director of the Dance Program.

**8. Optional: Projected Resources and Enrollment**

None.

**SIGNATURE PAGE FOR 24DANM**

**RECOMMENDED BY:**

  
\_\_\_\_\_  
HEAD, DEPARTMENT/PROGRAM

3/28/17  
\_\_\_\_\_  
DATE

**ENDORSED BY:**

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

4-3-17  
\_\_\_\_\_  
DATE

  
\_\_\_\_\_  
COLLEGE DEAN

4/5/17  
\_\_\_\_\_  
DATE

**APPROVED BY:**

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

\_\_\_\_\_  
DATE

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

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



**NORTH CAROLINA STATE UNIVERSITY  
UNDERGRADUATE CURRICULUM ACTION FORM  
Academic Minor**

DEPARTMENT(S):

Shelton Leadership Center (SLC) \_\_\_\_\_

TITLE OF THE MINOR:

Leadership: Cross-Disciplinary Perspectives (24SLC) \_\_\_\_\_

TYPE OF PROPOSAL:

New Minor: \_\_\_\_\_

Revision to Minor:  X

Discontinuation: \_\_\_\_\_

PROPOSED EFFECTIVE DATE:  Summer 2017  APPROVED EFFECTIVE DATE: \_\_\_\_\_

**ATTACHMENTS INCLUDED:**

**1. Statement of Justification**

The Shelton Leadership Center is requesting two elective courses from Poole College of Management be added to the 24SLC Minor - MIE 201 as an elective under the category Cross-Functional Teams and MIE 306 as an elective under the category Values/Ethics. The Shelton Leadership Center is also requesting two elective courses from SLC be added to the 24SLC Minor – SLC 300 as an elective under the Values/Ethics category and SLC 450 under the Leadership category.

**2. Statement of Academic Minor Program Objectives**

A primary goal of the minor is to educate the student to be knowledgeable as a cross-disciplinary (functional) leader within whatever professional field he/she seeks beyond graduation. The student should develop an ability to see his or her own leadership competencies within the context of their academic field, and then in relation to working across disciplines. The Minor is designed to provide students with a broad understanding for how to work more collaboratively, creatively, and effectively with people from disciplines outside of their origination. All students interested in leadership and effective teamwork are encouraged to apply to the minor.

**3. List of Courses constituting the Proposed Minor**

Required (3 hrs): SLC 250 Critical & Creative Decision Making Models

Elective Courses:

Cross-Functioning Teams (3 hours):

Choose 1:

AEE 350 Personal Leadership Development in Agriculture and Life Sciences (No prerequisite)

EI 201 Exploring Interdisciplinary Entrepreneurial Thinking (No prerequisite)

LPS 205 International Leadership for the Public Sector (DE) (No prerequisite)

LPS 302 Diversity and Leadership in the Public Sector (DE) (No prerequisite)

**MIE 201 Introduction to Business Processes**

USC 240 Leadership and Coalition Building in Diverse Communities (Prerequisite: Class Level = Sophomore, Junior, or Senior)

NS210 Leadership and Management (No pre-requisite)

Values/Ethics (3 hours):

Choose 1:

AEE 323 Leadership Development in Agriculture and Life Sciences (No prerequisite)

AEE 332 Youth Leadership Development (Prerequisite: AEE 323)

AEE 350 Personal Leadership Development in Agriculture and Life Sciences (No prerequisite)

EAC 301 Introduction to Leadership Fundamentals (Prerequisite: Class Level = Sophomore, Junior, or Senior)

**MIE 306 Managing Ethics in Organizations**

MS 101 Introduction to Leadership and Values I (Prerequisite: Class Level = Freshman or Sophomore)

NS-420 Leadership and Ethics (Prerequisite: Class Level = Senior)

PRT/HESM 215 Principles and Practices of Outdoor Leadership (No prerequisite)

**SLC 300 Leading With An Ethical Perspective**

Leadership (3 hours):

Choose 1:

AEE 434 Collaborative Leadership: Building Partnerships Across Community Programs (AEE 323 encouraged but not required)

- AEE 460 Organizational Leadership Development in Agriculture and Life Sciences (Prerequisite: AEE 323)
- AFS 344 Leadership in African American Communities (No prerequisite)
- AS 321 - Air Force Leadership Studies I (Prerequisite: Successful completion of Field Training)
- AS 322 - Air Force Leadership Studies II (Prerequisite: Successful completion of Field Training)
- COM 466 Nonprofit Leadership & Development (No prerequisite)
- EMA 110 Introduction to Arts Entrepreneurship (No prerequisite)
- HESA 229: Scuba Leadership (Prerequisite: HESA 227 or equivalent skill)
- PRT/HESM 215 Principles and Practices of Outdoor Leadership (No prerequisite)
- LPS 200: Introduction to Public Leadership (DE) (No prerequisite)
- MS 201 Intermediate Leadership Theory (No prerequisite)
- MS 301 Military Leadership and Training Management (Prerequisite: ROTC advanced course cadet)
- PRT 359: Leadership and Supervision in Recreation (Prerequisite: PRT 250)
- SLC 450 Applied Leadership Skill-Building within an Internship Experience**

**4. Catalog Description of Proposed Minor**

The Leadership: Cross Disciplinary Perspectives minor is a 15-hour minor that is designed for students who seek to gain greater knowledge and understanding of leadership perspectives from a variety of academic fields of study. The coursework is composed of courses grounded in theory, inquiry, and application. The student has the opportunity to select the specific courses, which best fulfill his/her needs while maintaining a broad perspective on leadership across fields of study. The student in the minor may be preparing for graduate work or any field of study within the university.

**5. Administration of the Minor (Contact information for Administrator of the Minor)**

Dr. Debbie Reno Acker  
 210 McKimmon Center  
 919.513.0148  
 dlreno@ncsu.edu

**6. Requirements for Admission and Completion of the Minor**

Students are required to meet with the contact person for the minor to discuss expectations established for the Leadership: Cross-Disciplinary Perspectives minor and complete an application form. Completion requirements of the Minor include: a minimum of 15 required credit hours; a minimum overall GPA of 2.5 in the minor; for grade coursework only; and four college discipline areas represented toward minor requirements. The program coordinator will certify the minor prior to graduation. A minimum of 12 of the 15 required credit hours must be completed at NC State. The Minor must be completed no later than the final semester in which the student expects to graduate from his or her degree program. Paperwork for certification must be completed no later than during the registration period for the student's final semester at NC State.


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

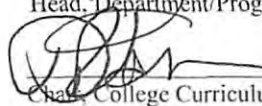
refer to an official consultation with Poole College of Management.

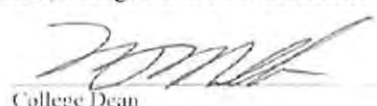
**8. Optional: Projected Resources and Enrollment**

REQUIRED SIGNATURES:

OTHER REQUIRED SIGNATURES AS NEEDED:

 \_\_\_\_\_ 4/5/17  
 Head, Department/Program Date

 \_\_\_\_\_ 4-3-17  
 Chair, College Curriculum Committee Date

 \_\_\_\_\_ 4/5/17  
 College Dean Date

\_\_\_\_\_  
 Chair, College Curriculum Committee Date

\_\_\_\_\_  
 College Dean Date

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

\_\_\_\_\_  
 Dean, Division of Academic and Student Affairs (DASA) Date



# Leadership: Cross-Disciplinary Perspectives (24SLC)

## Description

The Leadership: Cross Disciplinary Perspectives minor is a 15-hour minor that is designed for students who seek to gain greater knowledge and understanding of leadership perspectives from a variety of academic fields of study. The coursework is composed of courses grounded in theory, inquiry, and application. The student has the opportunity to select the specific courses which best fulfill his/her needs while maintaining a broad perspective on leadership across fields of study. The student in the minor may be preparing for graduate work or any field of study within the university.

## Requirements

- Completion of a minimum of 15 required credit hours.
- A minimum overall GPA of 2.5 in the minor.
- Students may not take minor coursework on a credit only (pass/fail) or S/U basis.
- Four college discipline areas need to be represented toward minor requirements.
- The program coordinator will certify the minor prior to graduation.
- A minimum of 12 of the 15 required hours must be completed at NC State.
- The minor must be completed no later than the final semester in which the student expects to graduate from his or her degree program. Paperwork for certification must be completed no later than during the registration period for the student's final semester at NC State.
- Students are required to take one 3hr course, SLC 250.
- In addition, there are three categories related to leadership that students need to select courses: Cross-Functioning Teams; Ethics/Values; and Leadership.
- Students are required to take 3hrs from each category, totaling 12hrs toward the minor.
- For the remaining 3hrs, students can select from any of the three categories to meet requirements of the 15 credit hour minor

## Required Courses (3 hours)

- SLC 250 *Critical & Creative Decision Making Models*

## Elective Courses

### Cross-Functioning Teams (3 hours):

#### Choose 1:

- AEE 350 *Personal Leadership Development in Agriculture and Life Sciences* (No prerequisite)
- EI 201 *Exploring Interdisciplinary Entrepreneurial Thinking* (No prerequisite)
- LPS 205 *International Leadership for the Public Sector* (DE) (No prerequisite)
- LPS 302 *Diversity and Leadership in the Public Sector* (DE) (No prerequisite)
- MIE 201 *Introduction to Business Processes*
- USC 240 *Leadership and Coalition Building in Diverse Communities* (Prerequisite: Class Level = Sophomore, Junior, or Senior)
- NS210 *Leadership and Management* (No pre-requisite)

### Values/Ethics (3 hours):

### Choose 1:

- AEE 323 *Leadership Development in Agriculture and Life Sciences* (No prerequisite)
- AEE 332 *Youth Leadership Development* (Prerequisite: AEE 323)
- AEE 350 *Personal Leadership Development in Agriculture and Life Sciences* (No prerequisite)
- EAC 301 *Introduction to Leadership Fundamentals* (Prerequisite: Class Level = Sophomore, Junior, or Senior)
- MIE 306 *Managing Ethics in Organizations*
- MS 101 *Introduction to Leadership and Values I* (Prerequisite: Class Level= Freshman or Sophomore)
- NS 420 *Leadership and Ethics* (Prerequisite: Class Level = Senior)
- PRT/HESM 215 *Principles and Practices of Outdoor Leadership* (No prerequisite)
- SLC 300 *Leading With AN Ethical Perspective*

### Leadership (3 hours):

#### Choose 1:

- AEE 434 *Collaborative Leadership: Building Partnerships Across Community Programs* (AEE 323 encouraged but not required)
- AEE 460 *Organizational Leadership Development in Agriculture and Life Sciences* (Prerequisite: AEE 323)
- AFS 344 *Leadership in African American Communities* (No prerequisite)
- AS 321 –*Air Force Leadership Studies I* (Prerequisite: Successful completion of Field Training)
- AS 322- *Air Force Leadership Studies II* (Prerequisite: Successful completion of Field Training)
- COM 466 *Nonprofit Leadership & Development* (No prerequisite)
- EMA 110 *Introduction to Arts Entrepreneurship* (No prerequisite)
- HESA 229: *Scuba Leadership* (Prerequisite: HESA 227 or equivalent skill)
- PRT/HESM 215 *Principles and Practices of Outdoor Leadership* (No prerequisite)
- LPS 200: *Introduction to Public Leadership (DE)* (No prerequisite)
- MS 201 *Intermediate Leadership Theory* (No prerequisite)
- MS 301 *Military Leadership and Training Management* (Prerequisite: ROTC advanced course cadet)
- PRT 359: *Leadership and Supervision in Recreation* (Prerequisite: PRT 250)
- SLC 450 *Applied Leadership Skill-Building within an Internship Experience*

### Admissions

Students are required to meet with the contact person for the minor to discuss expectations established for the Leadership: Cross-Disciplinary Perspectives minor and complete an application form.

### Website

<https://sheltonleadership.ncsu.edu/>

### Certification

*Dr. Acker 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**

Debbie Reno Acker  
210 McKimmon Center  
919.513.0148  
dlreno@ncsu.edu

**SIS Code: 24SLC**



Kasey Harris <kkharris@ncsu.edu>

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**Re: Rquest: 24SLC Leadership Minor Consult**

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Tamah Morant <tcmorant@ncsu.edu>

Thu, Mar 23, 2017 at 12:53 PM

To: Barbara Kirby <kirby@ncsu.edu>

Cc: Deborah Acker <debbie\_acker@ncsu.edu>, Kasey Harris <kkharris@ncsu.edu>, Jason DeRousie <jcderous@ncsu.edu>

Barbara,

Deborah and I have discussed, and I am in support of, the inclusion of these two courses as options for the SLC minor.

Best,

Tamah Morant

[Quoted text hidden]

—

Tamah Morant, PhD  
Associate Dean of Undergraduate Programs  
Teaching Associate Professor of Economics  
Poole College of Management

NC State University  
Campus Box 8614  
2150 Nelson Hall  
Raleigh NC 27695  
P: 919.515.5565

preferred pronouns: she, her, hers



To: University Courses and Curriculum Committee

From: Gary B. Blank

Director of Undergraduate Programs

RE: Removing FOR 252 from FOM Advised and Technical Electives Lists

Date: March 20, 2017

We need to have FOR 252 removed from the lists of courses that fulfill Advised and Technical Elective requirements in the 15FORMTBS Spring'16 curriculum. This course is specifically unavailable to forest management majors so should be excluded from these lists.

The following courses should also be eliminated from these elective lists because they are already required in the core curriculum. Their inclusion seems to be an artifact of the mistake made in the Sum2'09 curriculum. They cannot be electives.

FOR 150, FOR 172, FOR 260, FOR 261, FOR 264, FOR 265, FOR 273, FOR 303, FOR 304, FOR 319, FOR 334, FOR 339, FOR 350, FOR 374, FOR 405, FOR 406, FOR 430, FOR 450, FOR 501, FOR 503, FOR 504, FOR 505, FOR 506, FOR 507, FOR 519, FOR 522, FOR 534, FOR 561, FOR 562, FOR 574, FW 404, NR 100, NR 460, PB 200, SMT 202, SSC 200, SSC 201

Approval Signatures:



Chair of the CNR Academic Affairs Committee

3/22/17

Date



Dean of the College of Natural Resources

3/22/17

Date

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

\_\_\_\_\_  
Date

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

\_\_\_\_\_  
Date

**NC STATE UNIVERSITY**

TO: Office of the Dean for Academic and Student Affairs  
 FROM: Jane Lubischer, Assistant Department Head  
 RE: updates to the 17BIOSCEEC curriculum  
 DATE: 14 March 2017

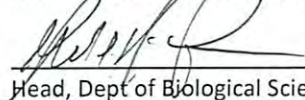
Proposed effective date: Spring 2017

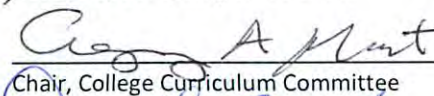
**Proposed changes and justification**

This minor action proposes to add new courses to lists of electives in the 17BIOSCEEC curriculum. The table below summarizes these course additions. Updates to the Semester-by-Semester display and associated footnotes are shown in the attached Format A.

List/requirement	Action	Course	
EEC Electives	ADD	BIO 230	The Science of Studying Dinosaurs
		GIS 505	Introduction to Geovisualization Technologies
		AEC 380	Water Resources: Global Issues in Ecology, Policy, Management, and Advocacy
		AEC 450	Conservation Genetics
		MA 331	Differential Equations for the Life Sciences
Organismal Biology Elective	ADD	FW 444	Mammalogy

**SIGNATURES (AS REQUIRED):**

  
 Head, Dept of Biological Sciences      3/14/17  
 Date

  
 Chair, College Curriculum Committee      3/28/17  
 Date

  
 College of Sciences Dean      3/21/17  
 Date

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

PROPOSED EFFECTIVE DATE: Spring 2017

\_\_\_\_\_  
 Dean, Academic and Student Affairs      Date

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



**Proposed Semester-by-Semester Display (Format A) – changes are highlighted**DEGREE TITLE: B.S. in Biological SciencesDEGREE KEY: 17BIOSCEECCONCENTRATION TITLE: Ecology, Evolution, and Conservation Biology**FRESHMAN YEAR**

<i>Fall Semester</i>	<i>Credit</i>	<i>Spring Semester</i>	<i>Credit</i>
LSC 101 Critical Creative Thinking Life Sci*	2	BIO 183 Intro Bio: Cellular & Molecular	4
BIO 181 Intro Bio: Ecol, Evol, Biodiversity	4	CH 221 Organic Chemistry I	3
CH 101 Chemistry-A Molecular Science	3	CH 222 Organic Chemistry I Lab	1
CH 102 General Chemistry Lab	1	ENG 101 Academic Writing & Research*	4
MA 131 <sup>1</sup> Calculus Life & Mgmt Sci. A	3	MA 231 <sup>1</sup> Calculus Life & Mgmt Sci. B	3
LSC 103 Exploring Opportunities Life Sci	1		
GEP Health and Exercise Studies*	1		
	<i>Total:</i>		<i>Total:</i>
	15		15

**SOPHOMORE YEAR**

<i>Fall Semester</i>	<i>Credit</i>	<i>Spring Semester</i>	<i>Credit</i>
Physiology Requirement <sup>2</sup>	3	GN 311 Principles of Genetics	4
CH 223 Organic Chemistry II	3	GN 312 Elementary Genetics Lab	1
CH 224 Organic Chemistry II Lab	1	CH 201 Chemistry-A Quantitative Sci.	3
Free Elec <sup>3</sup> -or- Ecology <sup>11</sup>	3-4	CH 202 Quantitative Chemistry Lab	1
GEP Social Sciences Requirement*	3	Free Elec <sup>3</sup> -or- Ecology <sup>11</sup>	3-4
GEP Humanities Requirement*	3	GEP Social Sciences Requirement*	3
	<i>Total: 16-17</i>		<i>Total: 15-16</i>

**JUNIOR YEAR**

<i>Fall Semester</i>	<i>Credit</i>	<i>Spring Semester</i>	<i>Credit</i>
AEC 460 Field Ecology and Methods	4	Learning Experience Elective <sup>7</sup>	3
Advanced Writing Requirement <sup>5</sup>	3	PY 212 <sup>6</sup> College Physics II	4
PY 211 <sup>6</sup> College Physics I	4	BIO/PB 330 Evolutionary Biology	3
ST 311 Introduction to Statistics	3	EEC Elective <sup>8</sup>	3
GEP Health and Exercise Studies*	1	Organismal Biology Elective <sup>9</sup>	3
	<i>Total:</i>		<i>Total:</i>
	15		16

**SENIOR YEAR**

<i>Fall Semester</i>	<i>Credit</i>	<i>Spring Semester</i>	<i>Credit</i>
NR 406 Conserv Biological Diversity	3	EEC Elective <sup>8</sup>	3
EEC Elective <sup>8</sup>	3	EEC Elective <sup>8</sup>	3
EEC Elective <sup>8</sup>	3	EEC Elective <sup>8</sup>	3
GEP Humanities Requirement*	3	GEP Additional Breadth Requirement*	3
Free Elective <sup>3</sup>	3	Free Elective <sup>3</sup>	3
	<i>Total: 15</i>		<i>Total: 15</i>

**Minimum Credit Hours Required for Graduation: 123**

**EEC Footnotes:**

†A grade of C- or better is required in the following courses:

LSC 101 Critical and Creative Thinking in the Life Sciences ← added previously (see degree audit)

BIO 181 Introductory Biology: Ecology, Evolution, and Biodiversity

BIO 183 Introductory Biology: Cellular and Molecular Biology

BIO/PB 330 Evolutionary Biology

BIO/PB 360 Ecology<sup>†</sup>

BIO 460 Field Ecology and Methods

GN 311 Principles of Genetics

GN 312 Elementary Genetics Lab

NR 406 Conservation of Biological Diversity

Physiology Requirement<sup>2</sup>

MA 131 Calculus for Life and Management Sciences A

MA 231 Calculus for Life and Management Sciences B

CH 101/102 Chemistry – A Molecular Science & Lab

CH 221/222 Organic Chemistry I & Lab

CH 223/224 Organic Chemistry II & Lab

CH 201/202 Chemistry – A Quantitative Science & Lab

PY 211 College Physics I

PY 212 College Physics I

ST 311 Introduction to Statistics

EEC Electives<sup>8</sup>

Organismal Biology Elective<sup>9</sup>

Advanced Writing Requirement<sup>5</sup>

ENG 101 Academic Writing & Research

Taking courses for credit only (S/U): only PE, Free Electives and courses offered only for S/U credit can be applied to graduation requirements. Students should check with their adviser before electing to take any course that normally is graded A-F as an S/U course.

*No changes in footnotes 1-3 (so they are not re-printed here). – But please add some spacing so that it is easier to find each footnote.*

<sup>1</sup>*Mathematics Alternatives*

<sup>2</sup>*Physiology Requirement (take one course)*

<sup>3</sup>*Free Electives (take 9 credit hours)*

<sup>5</sup>*Advanced Writing Requirement (take one course)*

Cannot be double-counted for a GEP requirement. Select courses from the list of course options provided on your degree audit.

<sup>6</sup>*Physics Alternatives*

PY 205 and PY 208 is a suitable substitute for PY 211 and PY 212. PY 205 and PY 208 are calculus-based and require that you take the 40 series of Mathematics<sup>1</sup> (MA 141 and MA 241). PY 201 and PY 202 would also be a suitable substitute for PY 211 and PY 212. PY 201 and PY 202 are calculus-based, require the 40 series of Mathematics, and are restricted to students in PAMS.

<sup>7</sup>*Learning Experience Elective (take one course for 3 credit hours)*

Learning experience in an appropriate area, with prior approval by faculty adviser and prospective supervisor. Contact and arrangements with prospective supervisors is the responsibility of the student.

- BIO 499 Honors Project, Part 2 (requires BIO 498)
- BIO 492 External Learning Experience
- BIO 493 Special Problems in Biological Sciences
- BSC 492 Professional Experience
- BSC 493 Research Experience
- BSC 494 Teaching Experience
- BSC 498 Biological Sciences Honors Project Part 2 (requires BSC 497)

<sup>8</sup>*EEC Electives (take 18 credit hours)*

Select from the following list. Select courses from the list of course options provided on your degree audit. Students can use up to 3 hours of BIO BSC 492 or BIO BSC 493 or BSC 494 or BIO 498/499 (must complete both) or BSC 497/498 (must complete both) toward EEC Electives.

<sup>9</sup>*Organismal Biology Elective (take 3 credit hours)*

Select from the list of course options provided on your degree audit.

<sup>10</sup> *Plant Co-Requirement (take one course)*

At least one course must be taken from the following list provided on your degree audit. This course can also be used to meet one other requirement in the major (e.g., the Physiology Requirement<sup>2</sup>, a Free Elective<sup>3</sup>, an EEC Elective<sup>8</sup>, or the Organismal Biology Elective<sup>9</sup>).

<sup>11</sup> *Ecology Requirement*

The required Ecology course is now offered as AEC 360 or PB 360. It was previously offered as BIO 360. Any of these courses can be used to meet the requirement.

**\*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-gep/gep-course-lists-2/>

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

*Must be taken during the first year.*

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

*In EEC, this GEP requirement is met through the Major course requirements.*

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

*In EEC, this GEP requirement is met through the Major course requirements.*

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

*Choose from the University approved GEP Humanities course list. Some courses on this list will also*

*meet the U.S. Diversity or Global Knowledge co-requisites.*

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

*Choose from the University approved GEP Social Sciences course list. Some courses on this list will also meet the U.S. Diversity or Global Knowledge co-requisites.*

**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.*

**Additional Breadth** - (3 credit hours)

*Choose from the University approved GEP Humanities course list or the GEP Social Sciences course list or the GEP Visual & Performing Arts course list. Some courses on this list will also meet the U.S. Diversity or Global Knowledge co-requisites.*

**Interdisciplinary Perspectives** (5 credit hours)

*In EEC, this GEP requirement is met through Major course requirements.*

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.*

**NC STATE UNIVERSITY**

TO: Office of the Dean for Academic and Student Affairs  
FROM: Jane Lubischer, Assistant Department Head, Biological Sciences  
RE: updates to the 17BIOSCHB curriculum  
DATE: 2 March 2017

**Proposed effective date:** June 2017

**Proposed changes and justification**

1. Combine the current "Physiology Requirement (4 units)" and the "Advanced Human Anatomy & Physiology Requirement (3 units)" into a single "Physiology Requirement (7 units)." This will clarify the requirement, simplify the degree audit, and allow us to add course options as noted in #2.
2. To the Physiology Requirement, add 5 courses as listed in the table that follows. This incorporates the new BIO 240 and BIO 245 course sequence and adds several 400-level physiology courses as options for students. We will phase out BIO 212 and BIO 421 (see the course actions for BIO 240 and BIO 245, UCCC agenda on 2-22-17), so these courses should be removed from the new degree key.

Students in the new HB curriculum will either take BIO 240 & 245 or they can choose to take one of (BIO 240 or BIO 245 or ZO 250) and then take a 400-level physiology course. Students interested in pursuing professional programs in the allied health sciences that require two semesters of human anatomy and physiology (4 + 4 credit hours), will be advised to take BIO 240 & 245.

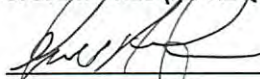
3. Add new courses to the HB Electives list as noted in the table.
4. Add new courses to the Additional Science & Math Electives list as noted in the table. This list is shared by all 17BIOSCBS and 17ZOOBS curricula.
5. Remove courses from HB Electives as noted in the table. We are working to focus the HB Electives list, which provides the core electives in this curricular path, on scholarly courses that focus on human health and the broader human condition. Many of the courses being removed can be taken instead as Additional Science & Math courses. Any of them can be taken as Free Electives.

There are no proposed changes to program objectives, program name, catalog description, total credit hours, or any required courses other than the Physiology Requirement. The proposed changes should have little impact on other departments -- courses offered by other departments are being added to long lists of electives, and none are being added as requirements.




Electives/Requirement	Action	Courses	
Physiology Requirement -- remains a C- or better requirement	ADD COURSES	BIO 240 BIO 245 BIO 424 BIO 488 MB 441	Principles Human Anat & Phys (A) Principles Human Anat & Phys (B) Endocrinology Neurobiology Immunology
Physiology Requirement	REMOVE COURSES	BIO 212 BIO 421	BIO 212 and BIO 421 will be discontinued. Students who have already completed BIO 212 will remain in the older degree key.
Additional Science & Math Electives	ADD COURSES	BIO 432 BIT 471 BIT 473 BIT 474 BIT 477 BIT 478 FW 444 MA 331 MB 470 ZO 317 ZO 333 ZO 350 ZO 402 ZO 410 ZO 486	Evolutionary Medicine RNA Interference and Model Organisms Protein Interactions Plant Genetic Engineering Metagenomics Mapping the Brain Mammalogy Differential Equations for the Life Sciences Emerging and Re-emerging Infectious Diseases Primate Ecology and Evolution Captive Animal Biology Animal Phylogeny and Diversity Invertebrate Biology Introduction to Animal Behavior Capstone Course in Zoology
HB Electives	ADD COURSES	BIO 432 BIT 477 MB 470	Evolutionary Medicine Metagenomics Emerging and Re-emerging Infectious Diseases
HB Electives	REMOVE COURSES	AEC/PB 360 ANT 251 BIO 267 CLA 115 HESE 300 MT 432 MT/PCC 471 ZO 350	Ecology Physical Anthropology Research in the Life Sciences I: Research Skills Medical Terminology Emergency Medical Technician Biotextiles Evaluation The Chemistry of Synthetic Natural Bipolymers Animal Phylogeny and Diversity

## SIGNATURES (AS REQUIRED):

  
Head, Dept of Biological Sciences      3/16/17  
Date

  
Chair, College Curriculum Committee      3/20/17  
Date

  
College of Sciences Dean      3/21/17  
Date

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

PROPOSED EFFECTIVE DATE: 1 June 2017

\_\_\_\_\_  
Dean, Academic and Student Affairs      Date

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

**Proposed Semester-by-Semester Display (Format A) – changes are highlighted**PROPOSED EFFECTIVE SEMESTER: 6/2017DEGREE TITLE: B.S. in Biological SciencesCONCENTRATION TITLE: Human BiologyDEGREE KEY: 17BIOSCHB

## Freshman Year

<i>Fall Semester</i>	<i>Credit</i>	<i>Spring Semester</i>	<i>Credit</i>
LSC 101 Critical Creative Thinking Life Sci*	2	BIO 183 Intro Bio: Cellular & Molecular	4
BIO 181 Intro Bio: Ecol, Evol, Biodiversity	4	CH 221 Organic Chemistry I	3
CH 101 Chemistry-A Molecular Science	3	CH 222 Organic Chemistry I Lab	1
CH 102 General Chemistry Lab	1	ENG 101 Academic Writing & Research	4
MA 131 <sup>1</sup> Calculus Life & Mgmt Sci. A	3	MA 231 <sup>1</sup> Calculus Life & Mgmt Sci. B	3
LSC 103 Exploring Opportunities Life Sci	1		
GEP Health and Exercise Studies Req*	1		
	<b>Total: 15</b>		<b>Total: 15</b>

## SOPHOMORE YEAR

<i>Fall Semester</i>	<i>Credit</i>	<i>Spring Semester</i>	<i>Credit</i>
Physiology Requirement <sup>7</sup>	4	Physiology Req <sup>7</sup> or HB Elective <sup>4</sup>	3-4
BIO 212 or 250 Intro Anat & Physiol	4	PY 211 <sup>2</sup> College Physics I	4
CH 223 Organic Chemistry II	3	CH 201 Chemistry-A Quant. Science	3
CH 224 Organic Chemistry II Lab	1	CH 202 Quantitative Chemistry Lab	1
GN 311 Principles of Genetics	4	Advanced Writing Requirement <sup>3</sup>	3
ST 311 Introduction to Statistics	3	HB Elective <sup>4</sup>	3
GEP Humanities Requirement*	3	GEP Humanities Requirement*	3
Free Elective <sup>5</sup>	3		
	<b>Total: 17 <del>15</del></b>		<b>Total: 14-15 <del>17</del></b>

## JUNIOR YEAR

<i>Fall Semester</i>	<i>Credit</i>	<i>Spring Semester</i>	<i>Credit</i>
BCH 351 or 451 Biochemistry	4	BIO 421 Adv Human Anat & Physiol	3
PY 212 <sup>2</sup> College Physics II	4	GN 311 Principles of Genetics	4
MB 351 General Microbiology	3	GEP Social Sciences Requirement*	3
MB 352 or 354 Microbiology Lab	1	Sci & Math Elective <sup>6</sup>	3
GEP Interdisciplinary Persp. Req <sup>*</sup>	3	Physiology Req <sup>7</sup> or HB Elective <sup>4</sup>	3-4
GEP PE/Healthy Living Req <sup>*</sup>	1	Free Elective <sup>5</sup>	3
		Free Elective <sup>5</sup>	2
		GEP PE/Healthy Living Req <sup>*</sup>	1
	<b>Total: 16 <del>15</del></b>		<b>Total: 15-16 <del>15</del></b>

## SENIOR YEAR

<i>Fall Semester</i>	<i>Credit</i>	<i>Spring Semester</i>	<i>Credit</i>
HB Elective <sup>4</sup>	3	HB Elective <sup>4</sup>	3
HB Elective <sup>4</sup>	3	GEP Humanities Requirement*	3
GEP Social Sciences Requirement*	3	Sci & Math Elective <sup>6</sup>	3
GEP Additional Breadth Requirement*	3	Free Elective <sup>5</sup>	3
Sci & Math Elective <sup>6</sup>	3	Free Elective <sup>5</sup>	3
	<b>Total: 15</b>		<b>Total: 15</b>

Minimum Credit Hours Required for Graduation: 122

**HB Footnotes:**

<sup>†</sup>A grade of C- or better is required in the following courses:

LSC 101 Critical and Creative Thinking in the Life Sciences  
BIO 181 Introductory Biology: Ecology, Evolution, & Biodiversity  
BIO 183 Introductory Biology: Cellular & Molecular Biology  
GN 311 Principles of Genetics  
MB 351 General Microbiology  
MB 352 or 354 Microbiology Lab  
BCH 351 or 451 Biochemistry  
Physiology Requirement<sup>7</sup> – ~~BIO 212 or BIO 250~~  
~~BIO 421 Advanced Human Anatomy & Physiology~~

MA 131 Calculus for Life and Management Sciences A  
MA 231 Calculus for Life and Management Sciences B  
CH 101/102 Chemistry – A Molecular Science & Lab  
CH 221/222 Organic Chemistry I & Lab  
CH 223/224 Organic Chemistry II & Lab  
CH 201/202 Chemistry – A Quantitative Science & Lab  
PY 211 College Physics I  
PY 212 College Physics I  
ST 311 Introduction to Statistics

Human Biology Electives<sup>4</sup>

Advanced Writing Requirement<sup>3</sup>  
ENG 101 Academic Writing & Research

*Please add a space here on the website*

Taking courses for credit only (S/U): only PE, Free Electives and courses offered only for S/U credit can be applied to graduation requirements. Students should check with their adviser before electing to take any course that normally is graded A-F as an S/U course.

*NOTE: There are no changes in footnotes 1-2 (so they are not re-printed here). But please fix the format on the website so that it is easy to see where each footnote begins.*

<sup>1</sup>*Mathematics Alternatives – no changes*

<sup>2</sup>*Physics Alternatives – no changes*

<sup>3</sup>*Advanced Writing Requirement (take one course)*

Cannot be double-counted for a GEP requirement. Select courses from the list of course options provided on your degree audit.

<sup>4</sup>*HB Electives (take 12 credit hours)*

Select courses from the list of course options provided on your degree audit. Students can use up to 3 hours of BIO 269, ~~BIO~~ BSC 492, ~~BIO~~ BSC 493, BSC 494, BSC 498, or BIO 499 toward this requirement.



<sup>5</sup>*Free Electives (take 11 credit hours)*

These electives cannot be remedial nor can they be taken at an elementary level after you have taken comparable coursework at a more advanced level. Students interested in graduate school or professional school should check the courses required for admission to the programs to which they plan to apply.

<sup>6</sup>*Additional Science & Math Electives (take 9 credit hours)*

Courses may be selected from the Sci & Math Electives list provided on your degree audit. Students can use up to 3 hours total of BIO 269, ~~BIO~~ BSC 492, ~~BIO~~ BSC 493, BSC 494, BSC 497/498 (both must be completed), or BIO 498/499 (both must be completed) toward this requirement.

<sup>7</sup>*Physiology Requirement (take 7-8 credit hours)*

In choosing courses for this requirement, students should take into consideration the requirements of any graduate program to which they intend to apply. Students can take BIO 240 (4 cr) and BIO 245 (4 cr), or they can choose to take one of (BIO 240, BIO 245, or ZO 250) plus a 300- or 400-level physiology course on the list (4 + 3 cr, in most cases).

**\*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>. See the Department of Biology website (HB Concentration) for a listing of course recommendations for GEP requirements. <https://oucc.dasa.ncsu.edu/general-education-program-gep/gep-category-requirements/>

*There are no other changes to the GEP footnotes.*

## Proposed Format B

<b>Degree Title: BS in Biological Sciences (concentration in Human Biology)</b>
<b>Current Degree Key: 17BIOSCHB</b>
<b>Effective Date of Revision: 1 June 2017</b>

<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		List GEP category and hours satisfied by a Major requirement
LSC 101 Critical and Creative Thinking in the Life Sciences*	2	Interdisciplinary Perspectives (2 hours)
BIO 181 Intro Bio: Ecology, Evolution, & Biodiversity*	4	Natural Sciences (4 hours)
BIO 183 Intro Bio: Cellular and Molecular Biology*	4	Natural Sciences (3 hours)
BIO 212 Basic Human Anatomy & Physiology*	4	
BIO 421 Advanced Human Anatomy & Physiology*	3	
Physiology Requirement <sup>7</sup> *	7	
BCH 351 or 451 Biochemistry *	4	
CH 101 Chemistry – A Molecular Science*	3	
CH 102 General Chemistry Lab *	1	
CH 221 Organic Chemistry I *	3	
CH 222 Organic Chemistry I Lab *	1	
CH 223 Organic Chemistry II *	3	
CH 224 Organic Chemistry II Lab *	1	
CH 201 Chemistry – A Quantitative Science *	3	
CH 202 Quantitative Chemistry Lab *	1	
GN 311 Principles of Genetics*	4	
MA 131 <sup>1</sup> Calculus for Life and Management Sciences A*	3	Mathematical Sciences (3 hours)
MA 231 <sup>1</sup> Calculus for Life and Management Sciences B *	3	Mathematical Sciences (3 hours)
MB 351 General Microbiology *	3	
MB 352 or 354 Microbiology Lab *	1	
PY 211 <sup>2</sup> College Physics I *	4	
PY 212 <sup>2</sup> College Physics II *	4	
ST 311 Introduction to Statistics *	3	
Advanced Writing Requirement <sup>3</sup> *	3	Communication in the Major requirement; cannot use toward any GEP requirement
Human Biology Electives <sup>4</sup> *	12	
Additional Science & Math Electives <sup>6</sup>	9	
<i>*C- or better required in these courses</i>		
Free Electives: EXC 900 - Free Electives <sup>5</sup>	11	
<b>Total credit hours under Major Field of Study: Minimum 27 hours required in program area.</b>	<b>97 hours</b>	

<b>COLLEGE REQUIREMENTS:</b>		
Orientation Course(s): LSC 103 Exploring Opportunities in the Life Sciences	1	
Total credit hours under College Requirements:	1 hour	

<b>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</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>  <i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		At least one of the following must be listed: 1 Choose course(s) from the University Approved GEP course list for this category. 2 Minimum requirements are satisfied by Major/College course requirements. 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. 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> Minimum 39-40 hrs	<b>Credit hours</b>	<b>How will the GEP requirement be met?</b> (Choose applicable statement from 1-6 listed above)
<b>Mathematical Sciences (6 credits)</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.	X	Minimum requirements are satisfied by Major course requirements.
<b>Natural Sciences (7 credits)</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.	X	Minimum requirements are satisfied by Major course requirements.
<b>English 101 (C- or better required) (4 credits)</b>	4	ENG 101
<b>Humanities (6 credits)</b> (Courses from two different disciplines) Course(s) used to satisfy this requirement can also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	Choose courses from the University-approved GEP course list for Humanities.
<b>Social Sciences (6 credits)</b> (Courses from two different disciplines) Course(s) used to satisfy this requirement can also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	Choose courses from the University-approved GEP course list for Social Sciences.

Additional Breadth (AB) <i>(3 credits)</i> (Choose approach that is <i>different</i> from the approach of the Major) <i>An AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	Choose course(s) from the University-approved GEP course lists for the Humanities/Soc Sciences/Visual & Performing Arts
Interdisciplinary Perspectives <i>( 5-6 credits)</i> Course(s) used to satisfy this requirement can also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	3	Two credits are satisfied by Major course requirements. For the remaining 3 credits, choose a course from the University-approved GEP course list for Interdisciplinary Persp.
Health & Exercise Studies <i>(2 credits)</i> (Including one <i>Fitness and Wellness</i> course)	2	Choose courses from the University-approved GEP course list for Physical Ed/Healthy Living.
Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.	24 hours	
GEP Co-Requisites:		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.
U.S. Diversity co-requisite <i>(USD)</i>	n/a	Choose course from the University-approved GEP course list for U.S. Diversity.
Global Knowledge co-requisite <i>(GK)</i>	n/a	Choose course from the University-approved GEP course list for Global Knowledge.
Foreign Language Proficiency	n/a	Proficiency at the FL_102 level required.
The following requirements must be satisfied within the College/Program:		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)	X	Satisfied by College/Program Requirements
Technology Fluency	X	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	122 total hours	

**NC STATE UNIVERSITY**

TO: Office of the Dean for Academic and Student Affairs

FROM: Betty Gardner, Director Undergraduate Genetics Program

RE: Updates to the 17GNM curriculum

DATE: 13 March 2017

**Proposed effective date:** June 1, 2017

**Proposed changes and justification**

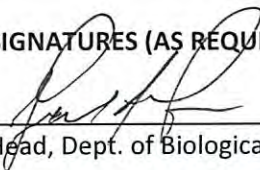
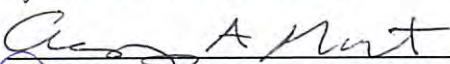
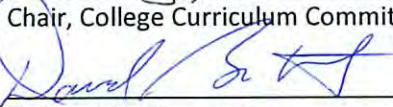
The main goal of this revision is to make the Genetics Minor more accessible to students majoring in Statistics, Mathematics, and Computer Science by replacing the requirement for BCH 351/451, which requires 12 hours of Chemistry prerequisite classes with GN 421, which includes many aspects of biochemistry that are relevant in Genetics but does not require the Chemistry prerequisites. The other alterations "clean up" the minor requirements by adding new relevant courses and removing courses that have not been taught in a while or are no longer offered. Editorial changes to update contact information and to clarify degree requirements have also been made.

1. Revision to the description to include that the minor is also appropriate for students in the fields of Statistics, Mathematics, and Computer Science.
2. Revision to the requirements such that completion will require 17 credit hours instead of the current 18 credit hours. This change occurs since the course removed is a 4-credit course and the replacement course is a 3-credit course.
3. Revision to the requirements such that 11 credit hours are required classes and 6 credit hours are electives (changed from the current 15 required and 3 electives). This allows more flexibility in course selection.
4. Remove the phrase "(previously GN 411)" that is associated with the GN 311 Principles of Genetics course. The course number changed a long time ago so this comment is obsolete.
5. Remove BCH 351/451 and replace with GN 421 "Advanced Molecular Genetics" in the list of required courses. This course contains a significant portion of the biochemistry concepts that are applicable to Genetics but does not have 12 hours of Chemistry classes as a prerequisite.
6. Remove GN 421 "Advanced Molecular Genetics" from the Restricted Elective Courses and Unrestricted Elective Courses categories since it is now a required course.
7. Combine the remaining Restricted Elective Courses and Unrestricted Elective Courses into one category entitled Elective Courses, with 6 credit hours required. This combines the remaining classes

that can count toward the Genetics minor into one class of Elective Courses. This gives the students additional options for their elective courses and clarifies the degree requirements.

8. Remove the footnote associated with GN 423 “Population, Quantitative and Evolutionary Genetics” that states, “if not taken as one of the Restricted Elective courses” since it is no longer applicable. This course will remain as a choice in the Elective Courses category.
9. Remove GN 421 as a prerequisite for GN 434. This prerequisite was removed in previous course actions.
10. Remove GN 423 as a prerequisite for GN 451. This prerequisite was removed in previous course actions.
11. Add GN 456 “Epigenetics, Development, and Disease” to the list of Elective Courses. This course has significant genetic content.
12. Remove GN 490 (Genetics Colloquium) and GN 461 (Advanced Bioinformatics) from the Elective Courses list since they have not been taught in recent years.
13. Remove GN 492 and GN 493 from the Elective Courses since these courses are no longer taught.
14. Add Genetics Research/Teaching Experience (3 cr) with a footnote “Course options include GN 496, GN 497, BSC 498, and ALS 499 and must involve a genetics topic and must be approved in writing by the Director of the Undergraduate Genetics Program prior to beginning the project.
15. Remove the following classes from the list of Elective Courses: GN 490, GN 492, GN 493, ALS 498, and ALS 499.
16. Remove the statement, “Paperwork for certification should be completed no later than during the registration period for the student’s final semester at NCState” since this is all completed online.
17. Correct the office location for Dr. Betty Gardner to room 2532 Thomas Hall.

**SIGNATURES (AS REQUIRED):**

	<u>3/14/17</u>
Head, Dept. of Biological Sciences	Date
	<u>3/20/17</u>
Chair, College Curriculum Committee	Date
	<u>3/21/17</u>
College of Sciences Dean	Date

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

PROPOSED EFFECTIVE DATE: 1 June 2017

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

Dean, Academic and Student Affairs

Date

# Genetics (17GNM)

## Description

The Department of Genetics offers an undergraduate Minor in Genetics to provide students with strong preparation in the principles of Genetics and Molecular Biology, as well as preparation in ancillary fields such as Statistics and Biochemistry. This Minor is appropriate for (but not limited to) students with majors in Plant and Soil Sciences, Animal Science, Biochemistry, Biological Sciences, Computer Science, Crop Science, Environmental Technology, Mathematics, Microbiology, Natural Resources, Nutrition Science, Plant Biology, Poultry Science, Statistics, and Zoology.

## Requirements

- Completion of ~~18~~ 17 credit hours; ~~15~~ 11 required and ~~three (3)~~ six (6) elective.
- A grade of 'C' or better is required for all Genetics Minor courses.

## Specified Courses (~~12~~ 11 credit hours)

- GN 311 (~~previously GN-411~~) Principles of Genetics (4 cr)
- GN 312 Elementary Genetics Laboratory (1 cr)
- ST 311 Introduction to Statistics (3 cr) OR
- ST 371 Introduction to Probability & Distribution Theory (3 cr)
- GN 421 Advanced Molecular Genetics (3 cr)
- ~~BCH 351 General Biochemistry (4 cr) OR~~
- ~~BCH 451 Principles of Biochemistry (4 cr)~~

## ~~Restricted Elective Courses (3 credit hours)~~

- ~~GN 421 Advanced Genetics/Molecular Genetics (3 cr) OR~~
- ~~GN 423 Population, Quantitative and Evolutionary Genetics (3 cr)~~

## ~~Unrestricted Elective Courses (3 credit hours)~~

### Elective Courses (6 credit hours)

- ~~GN 421 † Molecular Genetics (3 cr)~~
- GN 423 ‡ Population, Quantitative, and Evolutionary Genetics (3cr)
- GN 427 Introductory Bioinformatics (3 cr)
- ~~GN 461 Advanced Bioinformatics (3)~~
- GN 434 Genes and Development (3 cr) (prereq: ~~GN-421~~)
- GN 441 Human and Biomedical Genetics (3 cr) (prereq: GN 421)
- GN 451 Genome Science (3 cr) (prereq: ~~GN-423~~)
- GN 456 Epigenetics, Development and Disease (3 cr)
- + Genetics Research/Teaching Experience (3 cr)
- ~~GN 490 Genetics Colloquium (1 cr) (prereq: GN 421)~~
- ~~GN 492 ‡ External Learning Experience (1-3 cr)~~
- ~~GN 493 ‡ Special Problems in Genetics (1-3 cr)~~
- ~~ALS 498 ‡ Honors Research (1-3 cr)~~
- ~~ALS 499 ‡ Honors Research (1-3 cr)~~

+ Course options include GN 496, GN 497, BSC 498, and ALS 499, must involve a genetics topic, and must be approved in writing by the Director of the Undergraduate Genetics Program prior to beginning the project.

~~† If not taken as one of the Restricted Elective courses.~~

~~‡ The courses must involve a genetics topic that is approved by the UG Coordinator.~~

## Admissions

Students may declare their intention to complete the Genetics minor by consulting with Dr. Gardner as listed below. Students are strongly encouraged to declare the minor early in their programs so they receive information on Genetics courses and activities from the Undergraduate Minor Coordinator.

## Certification

The advisor will certify the minor prior to graduation. 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

Dr. Betty Gardner  
~~2526A Thomas Hall~~  
2532 Thomas Hall  
919.515.5776  
bgardner@ncsu.edu

**SIS Code: 17GNM**



**MEMO**

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

From: Dr. Dennis Bahler (bahler@ncsu.edu)  
Director of Undergraduate Programs, Department of Computer Science  
Phone: +1.919.515.3369

Date: February 20, 2017

Subject: 14CSC BS

CSC 326 has recently increased to 4 semester hours from 3. CSC requests that the curriculum 14CSC BS be adjusted accordingly. Additionally, a new College of Engineering course, E 102 Engineering in the 21<sup>st</sup> Century, has been added. There are other minor adjustments the curriculum. Attached are Formats A and B for the proposed new curriculum and Formats A and B for the existing curriculum, in that order.

**Proposed Revisions with Reasons (Revisions in both Format A & B)**

**Fall of Freshman Year (Sem. 1):**

- No changes

**Spring of Freshman Year (Sem. 2):**

- E 102 New Engineering GEP course (2 credit hours) added  
The College of Engineering is introducing a new 2-credit GEP course in the second semester and will focus on the Engineering Grand Challenges.  
To balance the semester, the Physical Education/Healthy Living Elective was moved to the Spring of Junior Year (Sem. 6). EC 205 was moved from Spring of Junior Year (Sem. 6) to Spring of Freshman Year (Sem. 2).  
The total credit hours for the semester increased from 15 to 16.
- PY 206 Physics for Engrs. & Sci I Lab added footnote 1  
PY 206 is also required for matriculation (CODA) and the display is updated to reflect the requirement.

**Fall of Sophomore Year (Sem. 3):**

- No changes

**Spring of Sophomore Year (Sem. 4):**

- No changes

**Fall of Junior Year (Sem. 5):**

- No changes

**Spring of Junior Year (Sem. 6):**

- CSC 326 Software Engineering – Credit hour increase from 3 to 4

To allow for additional work on soft skills, particularly communication and teaming, and to allow for additional exploration of emerging software technologies and development practices, a credit hour is being added to CSC 326.

- EC 205 Fund of Econ (or EC 201 or ARE 201) Moved  
EC 205 was moved to Spring of Freshman Year (Sem. 2) to balance the spring semester and not overload students in the Spring of Junior Year (Sem. 6).
- Physical Education/Healthy Living Elective  
The Physical Education/Healthy Living Elective was moved to Spring of Junior Year to keep the semester at 15 credit hours and to match when students typically take this elective.

**Fall of Senior Year (Sem. 7):**

- No changes


**Spring of Senior Year (Sem. 8):**

- GEP Requirement – Credit hours adjusted  
The hours on the GEP Requirement were modified from 2-3 to only 3. With the addition of E 102 as an Interdisciplinary Perspectives GEP, the 5-6 hours of this requirement can be satisfied by E 102 and a 3-credit hour GEP.
- Free Elective – Removed  
The 0-1 hours of Free Elective were removed since there is no longer a 2-3 hour GEP requirement.

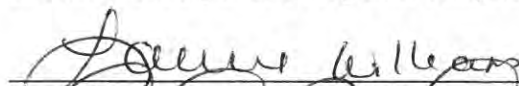
**Footnote Revisions:**

- Footnotes 1, 2, and 6 have been reworded to enhance clarity.


Proposed effective date: 07/2017

  
\_\_\_\_\_  
Director of Undergraduate Programs, Computer Science

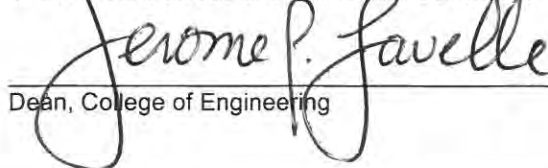
15-MAR-2017  
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Date

  
\_\_\_\_\_  
Head, Department of Computer Science

3/15/17  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Chair, COE Courses and Curriculum Committee

20 Mar 17  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Dean, College of Engineering

3/20/17  
\_\_\_\_\_  
Date

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

\_\_\_\_\_  
Date

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

\_\_\_\_\_  
Date

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

Current:                      Proposed: **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	<b>EC 205    Fund of Econ<sup>D</sup> (or EC 201 or ARE 201)</b>	<b>3</b>
MA 141    Calculus I <sup>1,2,A</sup>	4	<b>E 102    Engineering in the 21<sup>st</sup> Century<sup>1,2,G</sup></b>	<b>2</b>
	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
<b>PY 209    Physics for Engrs &amp; Sci II Lab<sup>B</sup></b>	<b>1</b>	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	<b>CSC 326    Software Engineering</b>	<b>4</b>
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>	<b>Physical Education/Healthy Living Elective<sup>E</sup></b>	<b>1</b>
	15	<b>*** **</b> 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	<b>*** **</b> Other Restricted Elective <sup>4</sup>	3
GEP Requirement*	3	<b>*** **</b> Free Elective	3
<b>*** **</b> Other Restricted Elective <sup>4</sup>	<u>3</u>	<b>GEP Requirement*</b>	<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>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, 208***
- 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)  
 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> 7/2017

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
<p style="text-align: center;">Indicate with (C-) if course or course groupings have a C-minus-wall or MGPA requirement</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</p> <p><b>CSC Major</b>            CSC 116 (C)            CSC 216 (C)            CSC 226 (C)            CSC 230            CSC 236            CSC 246            CSC 316  <b>CSC 326</b>            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 3 4 3 1 3</p> <p>3</p> <p>12</p> <p>3</p> <p>6</p>	<p style="text-align: center;">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>

<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**)</p> <p>ENG 331</p>	3	Satisfies GEP Communication in the Major (Advanced Communication) co-requisite.
<p><b>Concentration Courses/Groups/Electives:</b></p>		
<p><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)</p>	3	
<p><b>Total credit hours under Major Field of Study:</b>  <i>Minimum 27 hours required in program area.</i></p>	93 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<p><b>Orientation Course(s):</b>  E 101 (C), E 102 (C)  E 115</p>	4	Interdisciplinary Perspectives (2 hours) E115 satisfies Technology Fluency requirement
<p><b>Other:</b> (ex: Adv Communication courses)  Economics Elective (EC 205 or EC 201 or ARE 201)</p>	3	Social Science (3 hours)
<p><b>Total credit hours under College Requirements:</b></p>	7 hours	



## NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS

*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.*

**Specific courses should not be listed in any of the fields below other than ENG 101.**

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.

<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 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) (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	<i>Minimum requirements are satisfied by Major course requirements.</i>
<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	<i>Choose courses 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 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> (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	<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> (5-6 credits) <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	3	<i>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.</i>
<b>Physical Education/Healthy Living</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>	<b>21 hours</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 asterisks as indicated.</i>
<b>U.S. Diversity co-requisite</b> (USD)	n/a	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
<b>Global Knowledge co-requisite</b> (GK)	n/a	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
<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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**GEP FORMAT A**  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current: X    Proposed:    Effective Semester: **7/2016**

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>2</sup>	1
ENG 101	Academic Writing and Research <sup>1,7,H</sup>	4	GEP Requirement*		3
MA 141	Calculus I <sup>1,2,A</sup>	4	Physical Education/Healthy Living Elective <sup>E</sup>		1
		14			15

**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>	4	GEP Requirement*		3
Physical Education/Healthy Living Elective <sup>E</sup>		1	Basic Science Elective <sup>3,B</sup>		3
		16			15

**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	3
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*		3	EC 205	Fund of Econ <sup>D</sup> (or EC 201 or ARE 201)	3
		15	*** **	Other Restricted Elective <sup>4</sup>	3
					16

**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>	3	GEP Requirement*		2-3
		15	*** **	Free Elective	0-1
					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.

<sup>2</sup>C- or lower grades are not accepted.

<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 in all courses bearing the CSC designation *or* a grade of C- or higher must be earned in each CSC course used to satisfy the requirements in the major.

<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, 208*
- 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)  
     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: 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**  
*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> 7/2016

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>	<b>Credit Hours</b>	<b>GEP category, if applicable</b>
<i>Required Courses/Groups/ Electives:</i>		
<p style="text-align: center;">Indicate with (C-) if course or course groupings have a C-minus-wall or MGPA requirement</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 208</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 3 3 3 1 3</p> <p>3</p> <p>12</p> <p>3</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>

<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**)</p> <p>ENG 331</p>	3	Satisfies GEP Communication in the Major (Advanced Communication) co-requisite.
<b>Concentration Courses/Groups/Electives:</b>		
<p><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)</p>	3-4	
<p><b>Total credit hours under Major Field of Study:</b>  <i>Minimum 27 hours required in program area.</i></p>	92-93 hours	
<b>COLLEGE REQUIREMENTS:</b>		
<p><b>Orientation Course(s):</b>  E 101 (C) and E 115</p>	2	E115 satisfies Technology Fluency requirement
<p><b>Other:</b> (ex: Adv Communication courses)  Economics Elective (EC 205 or EC 201 or ARE 201)</p>	3	Social Science
<b>Total credit hours under College Requirements:</b>	5 hours	

## NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS

*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.*

**Specific courses should not be listed in any of the fields below other than ENG 101.**

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.

<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met? (choose applicable statement from 1-6 listed above)</b>
<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) (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	<i>Minimum requirements are satisfied by Major course requirements.</i>
<b>English 101</b> (C- or better required) (4 credits)	4	<b>ENG 101</b>
<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	<i>Choose courses 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 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> (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	<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> (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>Physical Education/Healthy Living</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>	23-24 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> (USD)	n/a	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
<b>Global Knowledge co-requisite</b> (GK)	n/a	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
<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: Total must be within 120-128 credit hours.</b>	121 Total hours	<b>As applicable, indicate here the overall GPA requirement for degree completion including course completion.</b>





**MEMO**

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

From: Dr. Dennis Bahler (bahler@ncsu.edu)  
Director of Undergraduate Programs, Department of Computer Science  
Phone: +1.919.515.3369

Date: February 21, 2017

Subject: 14CSC BS Games

CSC 326 has recently increased to 4 semester hours from 3. CSC requests that the curriculum 14CSC BS be adjusted accordingly. Additionally, a new College of Engineering course, E 102 Engineering in the 21<sup>st</sup> Century, has been added. There are other minor adjustments the curriculum. Attached are Formats A and B for the proposed new curriculum and Formats A and B for the existing curriculum, in that order.

**Proposed Revisions with Reasons (Revisions in both Format A & B)**

**Fall of Freshman Year (Sem. 1):**

- No changes

**Spring of Freshman Year (Sem. 2):**

- E 102 New Engineering GEP course (2 credit hours) added  
The College of Engineering is introducing a new 2-credit GEP course in the second semester and will focus on the Engineering Grand Challenges.  
To balance the semester, the Physical Education/Healthy Living Elective was moved to the Spring of Junior Year (Sem. 6). EC 205 was moved from Spring of Junior Year (Sem. 6) to Spring of Freshman Year (Sem. 2).  
The total credit hours for the semester increased from 15 to 16.
- PY 206 Physics for Engrs. & Sci I Lab added footnote 1 and B  
PY 206 is also required for matriculation (CODA) and the display is updated to reflect the requirement.

**Fall of Sophomore Year (Sem. 3):**

- PY 208 Physics for Engrs. & Sci. II and PY 209 Physics for Engrs. & Sci. II Lab  
PY 208 is now listed at 3 credit hours and PY 209 was added to the display to reflect current course numbering.

**Spring of Sophomore Year (Sem. 4):**

- No changes

**Fall of Junior Year (Sem. 5):**

- No changes

**Spring of Junior Year (Sem. 6):**

- CSC 326 Software Engineering – Credit hour increase from 3 to 4



To allow for additional work on soft skills, particularly communication and teaming, and to allow for additional exploration of emerging software technologies and development practices, a credit hour is being added to CSC 326.

- EC 205 Fund of Econ (or EC 201 or ARE 201) Moved  
EC 205 was moved to Spring of Freshman Year (Sem. 2) to balance the spring semester and not overload students in the Spring of Junior Year (Sem. 6).
- Physical Education/Healthy Living Elective  
The Physical Education/Healthy Living Elective was moved to Spring of Junior Year to keep the semester at 15 credit hours and to match when students typically take this elective.
- CSC \*\*\* CSC Games Restricted Elective – Update to include footnote 2  
CSC Games Restricted Electives require a grade of C or higher.

**Fall of Senior Year (Sem. 7):**

- CSC 461 Computer Graphics and CSC 481 Game Development – Update to include footnote 2  
CSC 461 and CSC 481, as requirements for the Game Development concentration require a grade of C or higher.

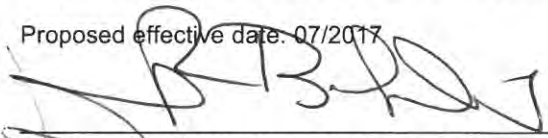
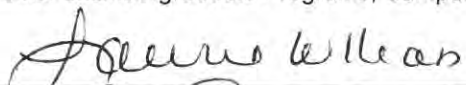
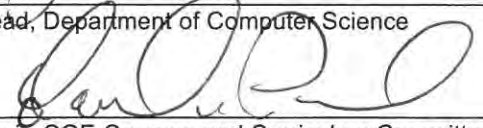
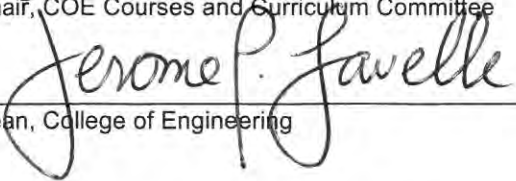
**Spring of Senior Year (Sem. 8):**

- GEP Requirement – Credit hours adjusted  
The hours on the GEP Requirement were modified from 2-3 to only 3. With the addition of E 102 as an Interdisciplinary Perspectives GEP, the 5-6 hours of this requirement can be satisfied by E 102 and a 3-credit hour GEP.
- Free Elective – Removed  
The 0-1 hours of Free Elective were removed since there is no longer a 2-3 hour GEP requirement.
- CSC 4\*\* Advanced Games Elective and CSC \*\*\* CSC Games Restricted Elective – Update to include footnote 2  
Advanced Games Elective and CSC Games Restricted Electives require a grade of C or higher.

**Footnote Revisions:**

- Footnotes 1, 2, and 8 have been reworded to enhance clarity.
- Footnote 6 has been updated to add a statement about the availability of CSC 462.

Proposed effective date: 07/2017

	15-MAR-2017
Director of Undergraduate Programs, Computer Science	Date
	3/15/17
Head, Department of Computer Science	Date
	20 mar 17
Chair, COE Courses and Curriculum Committee	Date
	3/20/17
Dean, College of Engineering	Date
_____ Chair, University Courses and Curricula Committee	Date

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

Current:                      Proposed: **X**    Proposed Effective Semester: **7/2017**

DEGREE TITLE: B.S. in Computer Science

CONCENTRATION TITLE: Game Development

CURRENT DEGREE KEY: 14CSC BS Games

### 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>1,9</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>1,9,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>	4	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>		3
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 Games Restricted Elective <sup>4,2</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	*** **	Games Restricted Elective <sup>5</sup>	<u>3</u>
					15

### SENIOR YEAR

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CSC 461	Computer Graphics <sup>2</sup>	3	CSC 492	Senior Design Project <sup>7</sup>	3
CSC 481	Game Development <sup>2</sup>	3	CSC 4**	Advanced Games Elective <sup>6,2</sup>	3
GEP Requirement*		3	CSC ***	CSC Games Restricted Elective <sup>4,2</sup>	3
GEP Requirement*		3	*** **	Games Restricted Elective <sup>5</sup>	3
*** **	Games Restricted Elective <sup>5</sup>	<u>3</u>	GEP Requirement*		<u>3</u>
		15			15

**Minimum Credit Hours Required for Graduation 121<sup>8,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>To be selected from CSC 411, 454, 462, 482, or 582.

<sup>5</sup>To be selected from ENG 282, 288, 376, 377, 492 (Special Topics in Film), COM 427, or MUS 306.

<sup>6</sup>To be selected from CSC 462 or CSC 482. **CSC 462 may not be offered every academic year.**

<sup>7</sup>CSC 492 is the only course that meets this requirement in all CSC curricula effective August 2008 or thereafter.

<sup>8</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>9</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)  
 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 )
- I. 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 Games
<b>Effective Date of Revision:</b> 7/2017

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<b>Required Courses/Groups/ Electives:</b>	<b>Credit Hours</b>	<b>GEP category, if applicable</b>
<p style="text-align: center;"><i>Indicate with (C-) if course or course groupings have a C-minus-wall or MGPA requirement</i></p>		<p style="text-align: center;"><i>List GEP category and hours satisfied by a Major requirement</i></p>
<p><b>Math</b>  MA 141 (C), MA 241 (C), MA 242  MA 305  ST 370</p>	12 3 3	Mathematics (6 hours)
<p><b>Sciences</b>  CH 101 (C), CH 102 (C)  PY 205 (C), <b>PY 206 (C)</b>, PY 208, <b>PY 209</b></p>	4 8	Natural Sciences (4 hours) Natural Sciences (4 hours)
<p><b>CSC Major</b>  CSC 116 (C)  CSC 216 (C)  CSC 226 (C)  CSC 230  CSC 236  CSC 246  CSC 316  <del>CSC 326</del>  CSC 333  CSC 379  CSC 492</p>	3 4 3 3 3 3 3 3 4 3 1 3	
<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>	3	
<p>ENG 331</p>	3	Satisfies GEP Communication in the Major (Advanced Communication) co-requisite.
<p><b>Concentration Courses/Groups/Electives:</b></p>		
<p><b>CSC 461 (C)</b>  <b>CSC 481 (C)</b>  <b>GRP 034</b> <b>CSC Games Restricted Electives I &amp; II (C)</b>  CSC 411, CSC 454, CSC 462, CSC 482, CSC 582)  <b>GRP 703</b> Games Restricted Electives I &amp; II  (ENG 282, ENG 288, ENG 376, ENG 377, ENG 492, COM 427, MUS 306)  <b>GRP 752</b> <b>Advanced Games Elective (C)</b>  (CSC 462, CSC 482)</p>	3 3 6 9 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>		
<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>		<p>At least one of the following must be listed:</p> <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 &amp; Performing Arts.  <sup>6</sup>Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.</p>
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met? (choose applicable statement from 1-6 listed above)</b>
<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) (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	<i>Minimum requirements are satisfied by Major course requirements.</i>
<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	<i>Choose courses 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 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> (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	<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> (5-6 credits) <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	3	<i>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</i>



		<i>category.</i>
<b>Physical Education/Healthy Living</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>21 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> (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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**GEP FORMAT A**  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current: X    Proposed:    Effective Semester: **7/2016**

DEGREE TITLE: B.S. in Computer Science

CONCENTRATION TITLE: Game Development

CURRENT DEGREE KEY: 14CSC BS Games

**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>1,9</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>2</sup>	1
ENG 101	Academic Writing and Research <sup>1,9,H</sup>	4	GEP Requirement*		3
MA 141	Calculus I <sup>1,2,A</sup>	<u>4</u>	Physical Education/Healthy Living Elective <sup>F</sup>		<u>1</u>
		14			15

**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>	4	GEP Requirement*		3
Physical Education/Healthy Living Elective <sup>F</sup>		<u>1</u>	Basic Science Elective <sup>3,B</sup>		<u>3</u>
		16			15

**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	3
CSC 246	Operating Systems for CSC	3	CSC 379	Ethics in Computing	1
CSC 333	Automata, Grammars, and Computability	3	CSC ***	CSC Games 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>	EC 205	Fund of Econ <sup>D</sup> (or EC 201 or ARE 201)	3
		15	*** **	Games Restricted Elective <sup>5</sup>	<u>3</u>
					16

**SENIOR YEAR**

<u>Fall Semester</u>		<u>Credits</u>	<u>Spring Semester</u>		<u>Credits</u>
CSC 461	Computer Graphics	3	CSC 492	Senior Design Project <sup>7</sup>	3
CSC 481	Game Development	3	CSC 4**	Advanced Games Elective <sup>6</sup>	3
GEP Requirement*		3	*** **	CSC Games Restricted Elective <sup>4</sup>	3
GEP Requirement*		3	*** **	Games Restricted Elective <sup>5</sup>	3
*** **	Games Restricted Elective <sup>5</sup>	<u>3</u>	GEP Requirement*		2-3
		15	*** **	Free Elective	<u>0-1</u>
					15

**Minimum Credit Hours Required for Graduation 121<sup>8,I,J,K</sup>**

**Major/Program requirements and footnotes:**

<sup>1</sup>Courses required for matriculation.

<sup>2</sup>C- or lower grades are not accepted.

<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>To be selected from CSC 411, 454, 462, 482, or 582.

<sup>5</sup>To be selected from ENG 282, 288, 376, 377, 492 (Special Topics in Film), COM 427, or MUS 306.

<sup>6</sup>To be selected from CSC 462 or CSC 482.

<sup>7</sup>CSC 492 is the only course that meets this requirement in all CSC curricula effective August 2008 or thereafter.

<sup>8</sup>The GPA earned in all courses attempted at NCSU must be 2.0 or higher in all courses bearing the CSC designation *or* a grade of C- or higher must be earned in each CSC course used to satisfy the requirements in the major.

<sup>9</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, 208*
- 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)  
 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: None*
- S. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better )
- T. The following Co-Requisites must be satisfied to complete the General Education Program requirements:**  
**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 Games
<b>Effective Date of Revision:</b> 7/2016

<b>MAJOR FIELD OF STUDY REQUIREMENTS:</b>		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
<p style="text-align: center;">Indicate with (C-) if course or course groupings have a C-minus-wall or MGPA requirement</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 208</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>ENG 331</p>	<p>12 3 3</p> <p>4 8</p> <p>3 4 3 3 3 3 3 3 3 3 1 3</p> <p>3</p> <p>3</p>	<p style="text-align: center;">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> <p>Satisfies GEP Communication in the Major (Advanced Communication) co-requisite.</p>
<p><b>Concentration Courses/Groups/Electives:</b></p> <p>CSC 461            CSC 481  <b>GRP 034</b> CSC Games Restricted Electives I &amp; II            (CSC 411, CSC 454, CSC 462, CSC 482, CSC 582)  <b>GRP 703</b> Games Restricted Electives I &amp; II            (ENG 282, ENG 288, ENG 376, ENG 377, ENG 492, COM 427, MUS 306)  <b>GRP 752</b> Advanced Games Elective            (CSC 462, CSC 482)</p>	<p>3 3 6 9 3</p>	



<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)	0-1	
<b>Total credit hours under Major Field of Study:</b> <i>Minimum 27 hours required in program area.</i>	92-93 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>	5 hours	

<b>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</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>		<p>At least one of the following must be listed:</p> <p><sup>1</sup>Choose course(s) from the University Approved GEP course list for this category.</p> <p><sup>2</sup>Minimum requirements are satisfied by Major/College course requirements.</p> <p><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.</p> <p><sup>4</sup>Co-requisite is satisfied by a Major/College course requirement.</p> <p><sup>5</sup>Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual &amp; Performing Arts.</p> <p><sup>6</sup>Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.</p>
<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 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) (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	<i>Minimum requirements are satisfied by Major course requirements.</i>
<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	<i>Choose courses 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 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> (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	<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>Only course(s) in the Major may double-count to satisfy this requirement.</i>	<i>(5-6 credits)</i>	5-6	Choose course(s) from the University Approved GEP course list for this category.
<b>Physical Education/Healthy Living</b> (including one Fitness and Wellness course)	<i>(2 credits)</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 not 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>	<i>(USD)</i>	n/a	Choose course(s) from the University Approved GEP course list for this category.
<b>Global Knowledge co-requisite</b>	<i>(GK)</i>	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>

**North Carolina State University**

**Revision of 16PHILBS-PHILLOG**

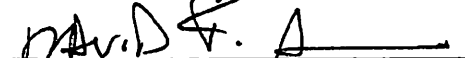
This request has been reviewed and approved by the appropriate campus committees and authorities.

**Endorsed By:**

  
Head, Department of Philosophy and Religious Studies

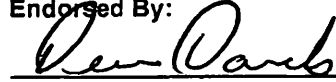
January 19, 2017  
Date

**Recommended By:**

  
Chair, H&SS Curriculum Committee

March 14, 2017  
Date

**Endorsed By:**

  
H&SS Dean

3/29/17  
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

**TO: University Courses and Curricula Committee DATE: January 19, 2017**

**FROM: Michael J. Pendlebury, Head, Department of Philosophy and Religious Studies**

**SUBJECT: Proposed Revisions to 16PHILBS-PHILLOG (B.S. in Philosophy with a Concentration in Logic, Representation and Reasoning)**

**We propose the following changes in the requirements for 16PHILBS-PHILLOG:**

- 1. Ethics Requirement: Add PHI 309, PHI 376, PHI 420 and PHI 475, to PHI 375, thus allowing a full range of more advanced ethics courses.**

**Justification: The original requirement unduly restricted content and by narrowing curricular options, makes timely completion of the major more difficult as well.**

- 2. Require LOG 335.**

**Justification: LOG 335 is implicitly required, but because of its centrality, it is worth making the requirement explicit.**

- 3. Logic, Philosophy of Language & Cognition Requirement: (i) Allow any 3 credit LOG 4\*\* to count. (ii) Add PHI 332.  
Additional Logic, Philosophy of Language & Cognition Requirement: Allow any 3 credit LOG 4\*\* to count.**

**Justification: (i) Both instructors with primary responsibility for LOG courses have left and a permanent replacement for at most one of them will not be in place until Fall 2017 (at the earliest). Students in the major need more options so that they can complete the program in a timely way. (Once a permanent replacement is available, the slate of LOG 4\*\* courses will almost certainly change to reflect the staffing reduction.) (ii) PHI 332 covers directly relevant material and its addition gives students an option that will aid in timely program completion.**

- 4. Philosophy of Science Requirement: Add PHI 340.**

**Justification: The present requirement is too demanding and PHI 340, as one of the two PHI courses most often taken first by students who become Philosophy majors, would provide an excellent curricular pathway into the program.**

- 5. PHI or LOG electives: modify to take 2., above, into account and add PHI 210.**

**Justification: After 16PHILBS-PHILLOG was instituted, PHI 210 Representation, Reason and Reality was created as an alternative to PHI 205 Introduction to Philosophy and is a natural gateway course for this major.**

6. Create: 400-Level PHI/LOG Course (Verify requirement): At least one of the courses taken to satisfy these requirements must be a three-credit-hour, 400-level PHI or LOG course (other than PHI 498).

Justification: With the third change proposed above, adding this requirement is necessary to keep this major program in line with all other Philosophy major programs.

With 3. and 4., above, 6 hours of the Interdisciplinary Perspectives will be satisfied by courses in the major, yielding an additional 3 hours for free electives.

Appropriately modified and updated Format A and Format B degree specifications and a summary of the proposed changes are appended, with any changes indicated in red.



Summary of Proposed Changes to 16PHILBS-PHILLOG

<b>Requirement</b>	<b>Units</b>	<b>Rqt &amp; Group</b>	<b>Current</b>	<b>Proposed</b>
Early Modern Phil	3	none	PHI 301	No change
Res & Writ in Hist or Ethics	1	000024989 Group 410	PHI 494 or PHI 495	No change
History of Philosophy	3	000024986 Group 413	PHI 300, PHI 302 or PHI 401	No change
Ethics	3	To be created	PHI 375	One of: PHI 309, PHI 375, PHI 376, PHI 420, PHI 475
LOG 335	3	To be created	none	LOG 335
Logic, Philosophy of Language & Cognition Cognitive Science	9 6	000024987 Group 415	LOG 335, 435, 437, PHI 331, PHI/PSY 425. No more than two may be LOG courses. At least one must be a PHI course.	Two of any 3-credit LOG 4**course, PHI 331, PHI 332, PHI/PSY 425. At least one must be a PHI course.
Philosophy of Science	3	000024988 Group 416	PHI 440 or PHI 447	PHI 340, PHI 440 or PHI 447
Res & Writing in Contemp Phil	1	none	PHI 496	No change
Res & Writ in Log Rep & Reason	1	none	PHI 497	No change
PHI or LOG Electives	6	000024990 Group 435	Two from LOG 201, LOG 335, LOG 435, LOG 437, PHI 330, PHI 331, PHI 332, PHI 333, PHI/PSY 425, PHI 440, PHI 447.	Two from LOG 201, any 3-credit LOG 4**, PHI 210, PHI 330, PHI 331, PHI 332, PHI 333, PHI 340, PHI/PSY 425, PHI 440, PHI 447.
400 Level PHI/LOG Course	Verify	[Modeled on 000032659 for 16PHILBS]	-	At least one of the courses taken to satisfy the above must be a three-credit-hour, 400-level PHI or LOG course (other than PHI 498 or LOG 498).

Interdisciplinary Perspectives	5-6	000019330 Group 886	3 units satisfied by major courses	6 units satisfied by major courses (i.e., one of: PHI 331, PHI 332, PHI/PSY 425, and one of PHI 340, PHI 440, PHI 447)
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FORMAT A  
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: 2176

Degree/Plan Title: Bachelor of Science in Philosophy Concentration/Subplan Title: Logic, Representation & Reasoning

Plan SIS Code: 16PHILBS Subplan SIS Code: 16PHILLOG

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
ENG 101 Academic Writing & Research <sup>H</sup>	4	Natural Science <sup>B,1</sup>	4
Natural Science <sup>B,1</sup>	4	Social Science <sup>D,2</sup>	3
Social Science <sup>D,2</sup>	3	Mathematics Elective <sup>A,3</sup>	3
Calculus <sup>A,3</sup>	3	GEP - Health & Exercise Studies <sup>E</sup>	1
GEP Health & Exercise Studies 100 level <sup>E</sup>	1	Free Elective	3
	<i>Total:15</i>		<i>Total:14</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Literature <sup>4</sup>	3	Natural Science <sup>1</sup>	4
Natural Science <sup>1</sup>	4	Arts and Letters <sup>7</sup>	3
LOG 335	3	History <sup>C</sup>	3
Philosophy <sup>C,6</sup>	3	Social Science <sup>2</sup>	3
Mathematics Elective <sup>3</sup>	3	PHI 301 <sup>9</sup>	3
	<i>Total:16</i>		<i>Total:16</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PHI 494 or PHI 495 <sup>10</sup>	1	Philosophy or Logic Elective	3
Logic, Philosophy of Language & Cognition <sup>G,5</sup>	3	Logic, Philosophy of Language & Cognition <sup>5</sup>	3
Ethics Elective <sup>11</sup>	3	History of Philosophy <sup>9</sup>	3
Advanced Writing & Communication <sup>12</sup>	3	Philosophy of Science <sup>G,14</sup>	3
Free Electives <sup>16</sup>	7	Advance Science/Technology <sup>15</sup>	3
	<i>Total:17</i>		<i>Total:15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Advanced Science/Technology <sup>15</sup>	6	Advanced Science/Technology <sup>15</sup>	6
PHI 496 <sup>10</sup>	1	PHI 497 <sup>10</sup>	1
Philosophy or Logic Elective	3	Additional Logic/Cognitive Science <sup>13</sup>	3
GEP Additional Breadth <sup>F</sup>	3	Free Electives <sup>16</sup>	6
Free Electives <sup>16</sup>	2		
	<i>Total:15</i>		<i>Total:16</i>
Minimum Credit Hours Required for Graduation <sup>*17,18,19</sup> : 121			

**Major/Program Footnotes:**

1. **Basic Sciences** - Three basic laboratory science courses from the GEP list of science courses. One course each from three of the following areas: Biological Sciences, Chemistry, Earth Sciences, and Physics

BIO 105, 106, BIO 120, 140, 141, 181, 183, 212, CH 101, 102, 201, 202, 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

**Science Electives** - One additional laboratory science courses from the GEP list of science courses

2. **Social Sciences** – Nine (9) credit hours required from three different disciplines from the College approved Social Science course list. Six (6) must be GEP-Social Science approved.

3. **Calculus** - MA 121, 131, 141, 231, 241, 242



**Math Electives** - (Two additional math or statistics courses, one must be GEP-math approved)

MA 114, 205, 231, 241, ST 311, 312, 361

4. **Literature** - One 3-credit hour course required from the College-approved Literature list.

5. **Logic, Phil of Language & Cognition** – Two three (3) credit hour courses selected from **400-level LOG, PHI 331, 332, 425, or PSY 425**. At least one must be a PHI course.

6. **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 major.

7. **Arts and Letters** - One three (3) credit hour course is required from the College approved Arts & Letters list.

8. **History** – One three (3) credit hour course is required from the College approved History list.

9. **History of Philosophy** - Six (6) credit hours. In addition to PHI 301, one course from the following PHI 300, PHI 302, or PHI 401.

10. **Research and Writing in Philosophy** - Three (3) credit hours. Either PHI 494 (Research and Writing in Ethics) or PHI 495 (Research and Writing in History of Philosophy), plus PHI 496 (Research and Writing in Contemporary Philosophy) and PHI 497 (Research and Writing in Logic, Representation, and Reasoning).

11. **Ethics Elective** – Three (3) credit hours. Choose PHI 309, 375, 376, 420 or 475.

12. **Advanced Writing and Communication** – Choose one three credit hour course from the College approved advanced writing and communication list.

13. **Additional Course in Logic and Cognitive Science Cognition, Philosophy of Science**. - Additional three (3)-hour course from **LOG 201, LOG 4\*\* , PHI 210, 330, 331, 332, 333, 340, 425, 440, 445, 447, PSY 425**.

14. **Philosophy of Science** – Choose one three (3) credit hour course from PHI 340, 440 or 447.

15. **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, 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.

16. **Free Electives** - No more than 12 credit hours of free electives may be taken for Credit only (S/U).

17. The Department of Philosophy and Religious Studies does not accept D grades (D-, D, D+) in courses taken to satisfy any major requirements.

18. A major GPA of at least 2.0 is required for graduation.

19. 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).

#### \* **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: **Fulfilled as part of major 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: **Fulfilled as part of major 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: **Fulfilled as part of major 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: **Fulfilled as part of major 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: **Fulfilled as part of major 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:
- 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
Concentration/Subplan Title: Logic, Representation and Reasoning	Subplan SIS Code: 16PHILLOG
<u>Indicate requirements status:</u> Current:                      Proposed: <b>X</b>	<u>Proposed Effective Semester:</u> <b>2176</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 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
<i>C- or better required</i> <i>MGPA must be 2.0 or better</i>		
<b>PHI 301</b>	3	
<b>GRP410 Res &amp; Writ in History or Ethics</b>	1	
PHI 494, 495		
<b>GRP413 History of Philosophy</b>	3	
PHI 300, 302, 401		
<b>Ethics</b>	3	
PHI 309, 375, 376, 420, 475		
<b>Logic</b>	3	
LOG 335, MA 335		
<b>GRP415 Logic, Phil of Language &amp; Cognition</b>	6	Interdisciplinary Perspectives (3 cr)
Any three (3) credit hour, 400-level LOG, PHI 331, 332, 425, PSY 425		
<b>GRP416 Philosophy of Science</b>	3	Interdisciplinary Perspectives (3 cr)
PHI 340, 440, 447		
<b>PHI 496</b>	1	
<b>PHI 497</b>	1	
<b>GRP435 PHI or LOG Electives</b>	6	
LOG 201, [LOG] 400-level, PHI 210, 330, 331, 332, 333, 425, 440, 447, PSY 425		
<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 400-level, PHI 401, 420, 425, 440, 447, 475, PSY 425		
<b><u>Concentration Courses/Groups/Electives:</u></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	<b>18</b>	

<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>		
<u>Orientation Course(s):</u>		
<b>Other:</b>		
<u>Mathematics</u> <b>GRP110 Calculus</b> MA 121, 131, 141, 231, 241, 242 <b>GRP111 Math Electives</b> MA 114, 205, 231, 241, ST 311, 312, 361	3  6	Math (3 cr.)  Math (3 cr.)
<u>Basic Science</u> <b>GRP201 Basic Sciences (3 Different Disciplines)</b> <b>BIO</b> 105, 106, 140, 141, 181, 183, 212, <b>CH</b> 101, 102, 201, 202, <b>BIO 120</b> , <b>MEA</b> 100, 101, 110, 130, 135, 150, 200, 202, 210, 211, <b>PY</b> 123, 124, 125, 131, 201, 202, 203, 205, 206, 208, 209, 211, 212 <b>GRP202 Science Electives</b> <b>ANS</b> 322, <b>BIO</b> 105, 106, 120, 140, 141, 181, 183, 212, 227, <b>BIT</b> 100, 210, 211, <b>CH</b> 100, 102, 103, 104, 201, 202, 203, 204, <b>CS</b> 213, 312, <b>ENT</b> 402, 425, <b>FOR</b> 252, 318, 339, 402, <b>FS</b> 322, <b>HS</b> 301, 303, 304, <b>MB</b> 210, 211, 351, <b>MEA</b> 100, 101, 110, 130, 135, 150, 200, 202, 210, 211, <b>NSGE</b> 295, <b>NSGK</b> 295, <b>PB</b> 200, 220, 400, 405, <b>PO</b> 201, 201A, 202, 202A, 322, <b>PP</b> 318, <b>PY</b> 123, 124, 125, 131, 201, 202, 203, 205, 206, 208, 209, 211, 212, <b>SMT</b> 202, <b>SSC</b> 200, 201, 421, <b>TMS</b> 211	12  4	Natural Science (7 cr.)
<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>GRP511 Philosophy</b> Any PHI course on the approved GEP-Humanities list <b>PHI</b> 205, 210, 214, 221, 300, 301, 302, 305, 309, 310, 312, 313, 325, 330, 331, 332, 333, 340, 375, 376, 401, 420, 425, 440, 447, <b>PSY</b> 425, <b>STS</b> 325	3	Humanities (3 cr.)
<b>GRP 523 Arts and Letters</b> – Choose one three credit hour course from the college approved Arts and Letters list. <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, <b>ARS</b> 251, 252, 259, 306, 351, 353, <b>CLA</b> 210, <b>COM</b> 321, 364, 374, 411, <b>D</b> 231, <b>DAN</b> 272, 295, <b>ENG</b> 282, 375, 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, 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, 471, 473, 482, 489, 491, 496, 498, <b>SOC</b> 309, <b>STS</b> 471, <b>THE</b> 203, 233, 303, 323, 334, 340, <b>WGS</b> 360, 472, 473	3	



<p><b>GRP525 History</b> – 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>	3	Humanities (3 cr.)	
<p><b>GRP526 Literature</b> - Choose one three credit hour course from the college approved Literature list.  [<b>List A</b>] <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>  [<b>List B</b>] <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>	3		
<p><b>GRP529 Writing and Communication</b>  <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>	3		
<p><b>GRP541 Social Science (3 Different Disciplines)</b> – 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,</b></p>	9	Social Science (6 cr.)	

413, 414, 418, 425, 427, 428, 429, 430, 432, 440, 445, 450, 457, 465, 492, 493, 495, 498, <b>WGS 204, 304, 407</b> <b>Multidisciplinary</b> – ENG 210, GEO 220, SOC 220, STS 402		
<b>Total credit hours under College Requirements:</b>	<b>64</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 <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 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>
<b>General Education Program Requirements:</b> <i>Minimum 39-40 hrs</i>	<b>Credit hours</b>	<b>How will the GEP requirement be met? (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 (C- or better required)</b> (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>	X	<i>(Choose statement 1, 2 or 3)</i> Minimum requirements are satisfied by Major/College course requirements.
<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>	X	<i>(Choose statement 1, 2 or 3)</i> Minimum requirements are satisfied by Major/College course requirements.
<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>	X	<i>(Choose statement 1, 2 or 3)</i> Minimum requirements are satisfied by Major/College course requirements.
<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>	<b>9</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	<i>(Choose statement 1 or 4)</i>



Global Knowledge co-requisite (GK)	n/a	<i>(Choose statement 1 or 4)</i>
Foreign Language Proficiency	n/a	Proficiency at the FL_102 level required.
The following requirements must be satisfied within the College/Program:		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)		Satisfied by College/Program Requirements
Technology Fluency		Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	121	As applicable, indicate here the overall GPA requirement for degree completion including course completion.