



University Courses & Curricula Committee 2018-2019

November 7, 2018
 Talley Student Union 5101
 12:45pm-2:45pm

Call to Order 12:45pm

- Welcome from Chair Marta Klesath
- Remarks and Updates from OUCCAS/DASA
- Approval of UCCC October 24th 2018 Minutes
- Course and Curricular Business

Old Business

College of Agriculture and Life Sciences			
Presenter	Reviewers	Action	Type
Bruce	Despain, Kuzenski, Muse	HS 491 Sustainable Agriculture Entrepreneurship Study Abroad	New Course- Tabled at Sept. 26, 2018 UCCC Meeting
Bruce	Hessling, Roise, Seracino	SSC 410 Soil Judging for Land Evaluation	New Course-Tabled at April 25, 2018 UCCC Meeting

New Business

Consent Agenda			
Action	Type	Notes	
ACC 420 Cost Accounting for Effective Management	Minor	Revisions: requisites	
BAE 425/(525) Industrial Microbiology and Bioprocessing	Minor	Revisions: requisites, description	
BAE 435/(535) Precision Agriculture Technology	Minor	Revisions: requisites, description, grading	
BAE 478 /(578) Agricultural Waste Management	Minor	Revisions: requisites	
BUS 458 Analytics: From Data to Decisions	Minor	Revisions: requisites	
BUS 459 Business Analytics Practicum	Minor	Revisions: requisites	
HI 411/(511) Trials of Faith: Religious Reformation in Early-Modern Europe	Minor	Dropping HUM GEP	
LOG 437/(537) Model Theoretic Semantics	Drop	Drop	
BS in Economics	Minor	Revision: adding BUS 351 to elective list	
Education (BS) General Studies (Non Certified) (13EDGENBS)	Minor	Revisions:120 credit hour memo; removing one course	
Elementary Education BS Science, Technology, Engineering and Math (13ELMEDBS-13ELMEDSTM)	Minor	Revisions:120 credit hour memo; removing one course	

College of Design			
Presenter	Reviewers	Action	Type
Rieder	Driscoll, Krause, Hergeth	Art and Design (Bachelor) (12ADNB)	Revisions: 120 Credit hour edits
Rieder	Muse, Krause, Kuzenski	Design Studies (BA) (12DSBA)	Revisions: 120 Credit hour edits
Rieder	Kuzenski, Despain, Griffin Hillis	Design Studies (BA) Business Administration (12DSBA-12DSBUS)	Revisions: 120 Credit hour edits
Rieder	Kuzenski, Driscoll, Domingue	Design Studies (BA) Nonprofit Studies (12DSBA-12DSNPS)	Revisions: 120 Credit hour edits
Rieder	Kuzenski, Domingue, Orphanides	Graphic Design (Bachelor) (12GDB)	Revisions: 120 Credit hour edits
Rieder	Reynolds, Carlson Welch, Bruce	Industrial Design (Bachelor) (12IDB)	Revisions: 120 Credit hour edits

College of Sciences			
Presenter	Reviewers	Action	Type
Planchart	Reynolds, Driscoll, Orphanides	Applied Mathematics (BS) Financial Mathematics 17AMATHBS-17AMATHFIN	Revisions: 120 Credit hour edits
Muse	Hergeth, Roise, Bruce	Marine Sciences(BS) Meteorology 17MARSCBS-17MARSCMET	Revisions: 120 Credit hour edits

University College

Presenter	Reviewers	Action	Type
Carlson Welch	Krause, Rieder, Driscoll	EI 495 Independent Study in Entrepreneurship	New Course
Domingue	Despain, Seracino, Muse	USC 298 Special Topics in University Studies	Revisions: grading, hours,

College of Engineering

Presenter	Reviewers	Action	Type
Seracino	Despain, Hessling, Merrill	CSC 419/(519) DevOps Modern Software Engineering Practices	Revisions: adding due level

Poole College of Management

Presenter	Reviewers	Action	Type
Kuzenski	Roise, Muse, Hergeth	M 100 Personal and Professional Identity Development	Revisions
Kuzenski	Hergeth, Krause, Despain	M 120 Professional Development and Career Planning	New Course

College of Education

Presenter	Reviewers	Action	Type
Hessling	Planchart, Seracino, Carlson Welch	Mathematics Education(13MTHEDBS) Suplans (4):-13MTHEDCPS, -13MTHEDMS, -13MTHEDST, -13MTHEDMSM	Revisions: 120 Credit hour edits
Hessling	Orphanides, Roise, Hergeth	Science Education (BS): (5 Subplans) Biology (9-12 Licensure) (13SCIEDBS-13SCIEDBIO); Chemistry (9-12 Licensure) (13SCIEDBS-13SCIEDCH); Earth Science (9-12 Licensure) (13SCIEDBS-13SCIEDES); Middle Grades Science (13SCIEDBS-13SCIEDMID); Physics (9-12 Licensure) (13SCIEDBS-13SCIEDPY);	Revisions: 120 Credit hour edits
Hessling	Hergeth, Despain, Rieder	Technology, Engineering, & Design Education (BS) Licensure (13TDEBS-13TDEEDL)	Revisions: 120 Credit hour edits
Hessling	Driscoll, Merrill, Griffin Hillis	Technology, Engineering, & Design Education (BS) Graphic Communications (13TDEBS-13TDEGC)	Revisions: 120 Credit hour edits

College of Humanities and Social Sciences

Presenter	Reviewers	Action	Type
Despain	Hergeth, Kuzenski, Rieder	PS 342 Politics of China and Japan	Revisions
Despain	Merrill, Hergeth, Hessling	REL 331 The Hindu Tradition	Revisions
Despain	Planchart, Seracino, Bruce	REL 332 The Buddhist Traditions	Revisions
Despain	Reynolds, Hessling, Rieder	REL 333 Chinese Religions	Revisions
Despain	Domingue, Griffin Hillis, Merrill	REL 334 Japanese Religions	Revisions
Despain	Roise, Krause, Kuzenski	REL 350 Introduction to Judaism	Revisions
Despain	Domingue, Orphanides, Muse	REL 383 Religion, Globalism, and Justice	Revisions
Despain	Hergeth, Planchart, Hessling	REL 482 Religion and Conflict	Revisions
Driscoll	Bruce, Krause, Carlson Welch	FLF 301 Survey of French Literature from the Middle Ages through the Enlightenment	Revisions
Driscoll	Griffin Hillis, Hergeth, Muse	FLI 318 Italian Society Through Cinema	Revisions
Driscoll	Hessling, Kuzenski, Roise	HI 207 Ancient Mediterranean World	Revisions
Driscoll	Orphanides, Kilbourne, Krause	HI 208 The Middle Ages	Revisions
Driscoll	Carlson Welch, Merrill, Roise	HI 215 Latin America to 1826	Revisions

Driscoll	Reynolds, Domingue, Hessling	HI 216 Latin America Since 1826	Revisions
Driscoll	Seracino, Bruce, Planchart	HI 221 British History to 1688	Revisions

College of Agriculture and Life Sciences			
Presenter	Reviewers	Action	Type
Bruce	Despain, Planchart, Seracino	BAE 472/(572) Irrigation and Drainage	Revisions: requisites, SLOs, objectives, student eval methods
Merrill	Driscoll, Roise, Krause	HS 433/(533) Public Garden Administration	Revisions: adding undergrad level, SLOs, grading

Additional Information	
Accounting and Economics Minors Memo	Adjusting the minor declaration process

SLO= Student Learning Outcomes

Discussion:

Notes:

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

SLO = Student Learning Outcomes



Division of Academic and Student Affairs
Office of Undergraduate Courses & Curricula
oucc.dasa.ncsu.edu
courses-curricula@ncsu.edu

Campus Box 7105
211A Park Shops
Raleigh, NC 27695-7105
P: 919.515.9769

University Courses and Curricula Committee

October 24, 2018
Talley Student Union 5101
Call to Order: 12:44 pm

Members Present: Chair Marta Klesath, Past Chair Helmut Hergeth, Melissa Merrill, Scott Despain, Catherine Driscoll, Kathleen Rieder, Peter Hessling, Rudi Seracino, Kanton Reynolds, Joseph Roise, Melissa Merrill, Wendy Krause, Peggy Domingue, Andreas Orphanides, Antonio Planchart, Jackie Bruce

Members Absent: Annie Carlson Welch, Katy Kilbourne, Berkley Griffin Hillis, John Kuzenski

Guests: Nolan Fahrer,

Ex-Officio Members Present: Lexi Hergeth, Li Marcus, Tim Petty, Kyle Pyser, Charles Clift

WELCOME AND INTRODUCTIONS

- **Remarks from Chair Elect** - Welcomed the committee members introduced guests. The Chair also explained that Li Marcus will send an attendance email after the meeting which will ensure all colleges are represented at the university-level
- **Remarks from OUCCAS/DASA**- Li Marcus explained this will be a procedural memo related to UCCC and CUE. Member asked when the deadline for the 120 credit hours which was originally Oct. 1st but has been moved to Oct. 31st and those programs which applied for exceptions will be informed shortly
- **Approval of the Minutes from October 10th 2018** – Approved Unanimously
 - Discussion: Member Catherine Driscoll moved to approve.

NEW BUSINESS

- **Consent Agenda**(ACC340,ACC451,ACC460,HI430/(530),TDE452,17BIOBA,17BIOBS+4Subplans,17CHEMBS,17GNBS) -Approved Unanimously
Discussion: Member Catherine Driscoll moved to approve. No discussion
- **Chemistry Honors Program** - Approved Unanimously
Discussion: Member Tony Planchart presented the curricular action.
- **Member motioned to combine the Marine Sciences plans and subplans, approved unanimously**
- **Marine Sciences (BS) Biology (17MARSCBS-17MARSCBIO)** - Approved Pending
Discussion: Member Tony Planchart presented the curricular action.
- **Marine Sciences (BS) Chemistry (17MARSCBS-17MARSCCHM)** -
Discussion: Member Tony Planchart presented the curricular action.
- **Marine Sciences (BS) Geology (17MARSCBS-17MARSCGEO)** -
Discussion: Member Tony Planchart presented the curricular action.
- **Marine Sciences (BS) Physics (17MARSCBS-17MARSCPHY)** -
Discussion: Member Tony Planchart presented the curricular action. Member discussed that E 115 is one credit hour short of the requirement adding to 119 instead of 120. Li Marcus explained that because the program would not graduate a student that only took 119 hours, (Chemistry and Biology) a friendly suggestion was made to add a note to the newly numbered fourth footnote that students will need to add one credit hour. In the Biology concentration could potentially not add up correctly. Friendly Suggestion for all four sub plans to have an asterisk explaining the substitution may be an hour short. Member asked if the summer session requiring 5 credits in the summer in the physics concentration is a standard for the program, this was confirmed. Member asked about the Geology concentration indicating that some of the courses claiming IP credit are not on the list and the footnote on COS 100 substituting for E 115, meaning E 115 does not hold IP credit but COS 100 does fulfill the IP GEP requirement. Members discussed the option allowing E 115 as a substitute for MEA or COS 100 (which both have IP credit while E 115 does not) and if there is or isn't an advantage to using E 115 as a substitute. Member Scott Despain motioned to amend the motion from approved to approved pending either the addition of an asterisk note warning the students or removing E 115 as a substitute for COS or MEA 100. Guest provided an example of how the college of education has structured their curricula for transfer students. Amendment to approved pending approved unanimously to clarify a solution for the impact of substituting one of these courses for E 115 for students. If they leave the fourth footnote, adding an explanation, or if they prefer to remove the footnote.

Member motioned to combine the two Meteorology programs, motion approved

- **Meteorology (BS) (17METBS) – Approved Pending**
Discussion: Member Tony Planchart presented the curricular action.
- **Meteorology (BS) Marine Sciences (17METBS-17METMAR) -**
Discussion: Member Tony Planchart presented the curricular action. Member Melissa Merrill motioned to amend the motion to approved pending the same note or removal of the footnote for E 115, motion approved.
- **Natural Resources (BS) Marine & Coastal Resources (17NATREBS-17NATREMC) - Approved Pending**
Discussion: Member Tony Planchart presented the curricular action. Member Melissa Merrill motioned to amend the motion to approved pending the same note or removal of the footnote for E 115, motion approved.
- **ARS 251 The Arts of a World Capital: London - Approved Pending**
Discussion: Member Catherine Driscoll presented the course action. Member commented that the schedule indicates that course is a Tuesday Thursday course, however it is a 5 week study abroad trip. Member indicating there should be a realistic five week schedule which indicates what will be covered, for example in week 3 in the syllabus, is there a lecture component or just readings? Members discussed combining the field trip schedule within the 5 week schedule to provide clarity on how the contact hours will consist of. Member brought attention to the syllabus indicating if the additional requirements cover in the range of the additional fee and indicating if airfare would be included. Members discussed how two courses are taught while studying abroad and how to differentiate the fees for the study abroad program. Member asked and Registration and Records XONV members confirmed, the schedule of classes provides information on fees for students to read in MyPack. Member indicated the fee range is dependent on the exchange rate at the time when students study abroad. Members discussed that the syllabus should indicate if the fees include the other required materials or not and if the fee range is for the entire study abroad program. Member asked if there is a standard for study abroad course fees, yes, however, each program has fees which makes the total fee individual for each study abroad program. Motion by Rudi Seracino to amend the motion from approved to approved pending clarification of the fees and combining the field trip schedule and the 5 week schedule to indicate how the contact hours are being fulfilled. Motion approved unanimously. Members expressed their desires for guests to attend for these actions, particularly for study abroad courses, to answer these kinds of questions instead of attempting to decipher this information without representation.
- **REL 311 Introduction to the Old Testament- Approved Pending with Friendly Suggestions**
Discussion: Member Catherine Driscoll presented the course action. Member brought attention to the syllabus, which indicates the gender-inclusivity statement indicating that there will be a grade penalty for those that are not inclusive on a regular basis will incur a grade reduction. Member Kanton Reynolds motioned to amend the motion from approved to approved pending clarification of the portion of their grade being impacted by this.
Member brought attention to the student learning outcomes in the syllabus but the CIM field doesn't indicate they are student learning outcomes, member from the college indicated these are objectives, not outcomes. Member from the college indicated the instructor has expressed the desire for the GEP outcomes to be the only outcomes for the course. Member brought attention to Wikipedia not being an approved consult and made the friendly suggestion to provide clarity on the use of Wikipedia. Members discussed the syllabus section indicating "contraband policy" should indicate that assisting devices for students with disabilities will be allowed and suggested indicating this and/or referencing the disability resource office statement provided directly beneath this statement.
- **REL 312 Introduction to the New Testament - Approved with Friendly Suggestions**
Discussion: Member Catherine Driscoll presented the course action. Chair read the comments from an absent member which confirmed approval of the course. Friendly suggestions to correct the spelling of the professor's name and retitling the outcomes to the objectives. Reviewer asked if the GEP outcomes being used as the general course learning outcomes is acceptable, members responded this is acceptable. Members also commented that the contraband and gender-inclusivity statements are not included.
- **REL 314 Introduction to Intertestamental Literature- Approved Pending with Friendly Suggestions**
Discussion: Member Scott Despain presented the course action. Member Kanton Reynolds made the motion to amend the motion to approved pending the correction of the title in the syllabus motion approved with one abstention from Scott Despain. Members also commented that the contraband and gender-inclusivity statements are not included. Member indicated the grading scale and participation rubric seem to have different percentages and suggested correcting a typo on page 5, indicating 2016. Members discussed the grading scale and participation and decided the scale and rubric are fine. Member asked if professors can require students to provide information, members responded the statement is to inform students that online postings can provide information needed for class participation.

- **REL 317 Christianity- *Approved Unanimously***
Discussion: Member Scott Despain presented the course action.
- **REL 327 Issues in Contemporary Religion- *Approved Unanimously***
Discussion: Member Catherine Driscoll presented the course action.
- **Environmental Technology and Management 15ENVTBS - *Approved Unanimously***
Discussion: Member Joseph Roise presented the curricular action. Member brought attention to the total number of hours in the last semester indicating there are 2 or 3 credit hours and asked if the 120 credit hour total is for 2 or 3 credits in their section, presenter responded 120.
- **Fisheries, Wildlife, and Conservation Biology 15FWSCIBS(3 concentrations) Fisheries 15FWSCIF, *Approved Pending***
Wildlife 15FWSCIW, *Approved Unanimously*
Conservation Biology 15FWSCICB – *Approved with Friendly Suggestion*
Discussion: Member Joseph Roise presented the curricular action. Member indicated all three of the concentrations have variable credits for genetics courses and asked if it is appropriate for them to assume the lowest number of credit hours to meet the 120 credit hour standard. Members noticed there are no courses that meet 2 credit hours. Li Marcus indicated the technical electives only offer 3 credit hours it should indicate 3 credit hours for technical electives. Member suggested indicating the GN 301 course is 3 credit hours or GN 311 which is 4 credit hours. Members discussed using the minimum hour possibilities and indicated that is acceptable, however, members further discussed if the technical electives should indicate 2 or 3 credit hours when only 3 credit hour courses are listed in the list of acceptable electives. Member Joseph Roise motioned to amend the motion to approved pending the inclusion of a 2 credit hour course for the technical electives list, approved unanimously. Member checked the lists as it currently stands. This will only affect the Fisheries concentration, motion amended to approve pending the Fisheries concentration only, motion approved unanimously. Wildlife concentration approved Unanimously. Conservation Biology concentration approved with the friendly amendment to change the credit hours for GN 301 and GN 311 to indicate 3-4 credit hours instead of just 3 credit hours.
- **Member motioned to combine the 2 actions from Sustainable Materials and Technology Curriculum, *Approved Unanimously***
- **Sustainable Materials and Technology Curriculum 15SMTBS - *Approved Unanimously***
Discussion: Member Joseph Roise presented the curricular action.
- **Sustainable Materials and Technology Curriculum: Wood Products 15SMTBS-15SMTWP -**
Discussion: Member Joseph Roise presented the curricular action. No discussion.
- **ECD 296 Special Topics in Education: Counselor Education - *Approved with Friendly Suggestions***
Discussion: Member Peter Hessling presented the course action. Member asked what “develop sensitives and skills for leadership” meant and how it was a measurable outcome, members decided this was an objective, not an outcome and is acceptable. Member indicated it’s strange to use a GEP course when the special topics shell is not fulfilling GEPs. Member brought attention to the repeatable credits and indicated the 99 total completions allowed should be adjusted to 3. Members suggested to mimic the range in the contact hours.

Discussion:

Meeting adjourned at 2:22 pm

Respectfully submitted by Lexi Hergeth



Poole College of Management
Office of Undergraduate Programs
poole.ncsu.edu

2150 Nelson Hall
Campus Box 8164
Raleigh, NC 27695-7229
P: 919.515.5565

MEMO

Date: October 23, 2018

To: Bret Smith, Division of Academic and Student Affairs

From: Dr. Tamah Morant, Association Dean, Poole College of Management

Subject: Addition of BUS 351 to Quantitative Electives List for Economics BS degree

We would like to request that **BUS 351 – Predictive Analytics for Business** be added to the list of approved Quantitative Electives for the Bachelor of Science Degree in Economics. This is a new course taught in the Poole College of Management and provides an excellent option for students in the Economics degree who are looking for additional coursework in analytics.

The Format B form for the degree is included with this memo, along with a list of quantitative electives including the addition of BUS 351 (highlighted).

Endorsed By:

Lee A. Gray 10-24-18
Department Head, Economics Date

[Signature] 10/24/18
Chair, College Curriculum Committee Date

[Signature] 10/24/18
College Dean Date

Approved By:

Chair, University Courses & Curricula Committee Date

Dean, DASA Date



CURRICULUM ACTION MEMORANDUM

Date: September 28, 2018

To: University Courses and Curricula Committee (UCCC)
Cc: Dr. Lee Stiff, Associate Dean for Faculty and Academic Affairs
Dr. Aaron Clark, Department Head for STEM Education

From: Tremaine Brittian, Director of Advising

Re: 120 hr. rule revision in Education General Studies (Non-Certified) Degree Plan - 13EDGENBS

The proposed minor change to our current 8-semester display outlined here is in response to the UNC Policy 400.1.5 stipulating that Constituent institutions will require no more than 120 semester credit hours for a four-year baccalaureate degree program. Below is the change being proposed:

- Remove ELP 201 from the Spring Senior Year 8-semester display. The ELP 201 course is no longer offered.

Proposed effective date: Fall 2019

Consultation: No other departments or programs will be impacted by this change.

Sincerely,

A handwritten signature in black ink, appearing to read "Tremaine Brittian".

Tremaine Brittian

Education (BS): General Studies (Non-Certified) (13EDGENBS)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ENG 101 Acad Writing & Research ^H	4	HES_***Health & Exercise Studies Course ^E	1
PSY 200 Intro. to Psy. ^D	3	GEP Mathematical Sciences ^A	3
GEP Mathematical Sciences ^A	3	SOC 202 Prin. of Sociology ^D	3
Communications/Speech Elective ¹	3	Free Elective	3
HES_***Health & Exercise Studies Course ^E	1	Teaching Field ²	3
		GEP Interdisciplinary Perspectives Elective ^{G,I,J}	3
	14		16

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
GEP Natural Science ^B	3	GEP Natural Science ^B	4
Supporting Elective ³	3	GEP Interdisciplinary Perspectives Elective ^{G,I,J}	2-3
Teaching Field ²	3	GEP Additional Breadth Elective ^{F,I,J}	3
History Elective ^{4,C,I,J}	3	Literature Elective ^{9,C,I,J}	3
Free Elective	3	Education: Introductory ⁵	3
	15		15-16

Junior Year

Fall Semester	Credit	Spring Semester	Credit
ELP 344 School & Society	3	Teaching Field ²	6
Supporting Elective ³	3	Education Elective	3
Teaching Field ²	6	PSY 376 Developmental Psy. ⁷	3
Advanced Writing Elective ⁶	3	Supporting Elective ³	3
		Free Elective	3
	15		18

Senior Year

Fall Semester	Credit	Spring Semester	Credit
Free Elective	6	ELP 201 Alt. Educational Agencies ⁸	3
EDP 304 Educational Psychology	3	Teaching Field ²	9
Supporting Elective ³	3	Free Elective	3
Teaching Field ²	3		
	15		15

Minimum Hours Required for Graduation: ^{*.K} 123

Major/Program Footnotes

1. Choose a Communications/Speech Elective from COM 110, 146, or 211.
2. Teaching Field classes are chosen from the subject specific areas of interest and approved by advisor.
3. Supporting Education, Psychology, Sociology, or advisor-approved elective.
4. Choose History Elective from AFS 275, 276; HI 205, 207, 208, 209, 210, 215, 216, 221, 222, 233, 251, 252, 263, 264, 270, 275, 276; HON 290, 293
5. Choose from ECI 205, EMS 203, or EOE 207
6. Choose from ENG 201, 215, 272, 287, 288, 289, 323, 331, 332, 333
7. PSY 475 or 476 may be taken instead.
8. PSY 307, 311, 312, 340; SOC 203, 205, 311, 402, 418 may be taken instead.
9. Choose course from the approved GEP Humanities list/

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

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

- A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix) Choose from the University approved GEP Mathematical Sciences course list.
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab) Choose from the University approved GEP Natural Sciences course list.
- 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 of 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: PSY 200, SOC 202
- E. Health & Exercise Studies** (2 credit hours – at least one 100-level Health & Exercise Studies Course) Choose from the University approved GEP Health & Exercise Studies course list.
- F. Additional Breadth** (3 credit hours to be selected from the following checked University approved GEP course lists) 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.
- H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. U.S. Diversity (USD)** Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course list as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: See History and Literature Elective
- J. Global Knowledge (GK)** Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course list as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: See History and Literature elective
- K. Foreign Language Proficiency** – Proficiency at the FL 102 level is required for graduation

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

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

Degree/Plan Title: Education (BS): General Studies (Non-Certified)

Concentration/Subplan Title:

Plan SIS Code: 13EDGENBS

Subplan SIS Code:

New Degree Audit required? (Y or N) Y

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

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Acad Writing & Research ^H	4	HES_***Health & Exercise Studies Course ^E	1
PSY 200 Intro. to Psy ^D	3	GEP Mathematical Sciences ^A	3
GEP Mathematical Sciences ^A	3	SOC 202 Prin. of Sociology ^D	3
Communications/Speech Elective ¹	3	Free Elective	3
HES_***Health & Exercise Studies Course ^E	1	Teaching Field ²	3
ED 100 Intro to Education	2	GEP Interdisciplinary Perspectives Elective ^{G,I,J}	3
	Total:16		Total:16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Natural Science ^B	3	GEP Natural Science ^B	4
Supporting Elective ³	3	GEP Interdisciplinary Perspectives Elective ^{G,I,J}	2- 3
Teaching Field ²	3	GEP Additional Breadth Elective ^{F,I,J}	3
History Elective ^{4,C,I,J}	3	Literature Elective ^{9,C,I,J}	3
Free Elective	3	Free Elective	1
	Total:15		Total:13-14
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ELP 344 School & Society	3	Teaching Field ²	6
Supporting Elective ³	3	Education Elective	3
Teaching Field ²	3	PSY 376 Developmental Psy.	3
Teaching Field ²	3	Supporting Elective ³	3
Advanced Writing Elective ⁶	3	Free Elective	3
	Total:15		Total:18
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Free Elective	3	Teaching Field ²	9
EDP 304 Educational Psychology	3	Free Elective	3
Supporting Elective ³	3		
Teaching Field ²	3		
Free Elective	3		
	Total:15		Total:12
Minimum Credit Hours Required for Graduation* : 120			

Major/Program Footnotes:

1. Choose a Communications/Speech Elective from COM 110, COM 112 or COM 211.
 2. Teaching Field classes are chosen from the subject specific areas of interest and approved by advisor.
 3. Supporting Education, Psychology, Sociology, or advisor-approved elective.
 4. Choose History Elective from AFS 275, 276; HI 205, 207, 208, 209, 210, 215, 216, 221, 222, 233, 251, 252, 263, 264, 270, 275, 276; HON 290, 293
 6. Choose from ENG 201, 215, 272, 287, 288, 289, 323, 331, 332, 333
 8. PSY 307, 311, 312, 340; SOC 203, 205, 311, 402, 418 may be taken instead.
 9. Choose course from the approved GEP Humanities list/* **General Education Program (GEP) requirements and GEP Footnotes**
- To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

- A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix) Choose from the University approved GEP Mathematical Sciences course list.
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab) Choose from the University approved GEP Natural Sciences course list.
- 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 of 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: PSY 200, SOC 202
- E. Health & Exercise Studies** (2 credit hours – at least one 100-level Health & Exercise Studies Course) Choose from the University approved GEP Health & Exercise Studies course list.
- F. Additional Breadth** (3 credit hours to be selected from the following checked University approved GEP course lists) ___ 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.
- H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)
- The following Co-Requisites must be satisfied to complete the General Education Program Requirements
- I. U.S. Diversity (USD)** Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course list as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: See History and Literature Elective
- J. Global Knowledge (GK)** Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course list as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: See History and Literature elective
- K. Foreign Language Proficiency** – Proficiency at the FL 102 level is required for graduation

CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title:</u> Education (BS): General Studies (Non-Certified)	<u>Plan SIS Code:</u> 13EDGENBS
<u>Concentration/Subplan Title:</u>	<u>Subplan SIS Code:</u>
<u>Indicate requirements status:</u> Current: Proposed: x	<u>Proposed</u> Effective Semester: Fall 2019
<u>New Degree Audit required?</u> (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.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<u>English, Literature, & Speech</u>		
Advanced Writing	3	
Communication	3	
<u>Humanities & Social Sciences</u>		
PSY 200 Introduction to Psychology	3	Social Science
SOC 202 Principles of Sociology	3	Social Science & US Diversity
History	3	Humanities & Global Knowledge
Humanities Elective	3	Humanities
<u>Education Major</u>		
ELP 344 School and Society	3	
EDP 304 Educational Psychology	3	
PSY 376 Developmental Psychology	3	
<u>Major Electives</u>		
Education Electives	3	
Teaching Field	30	
Supporting Electives	12	
<u>Concentration Courses/Groups/Electives:</u>		
<u>Free Electives:</u>	19	
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	91	
COLLEGE REQUIREMENTS:		

Orientation Course(s): ED 100 Intro to Education	2	
Other:		
Total credit hours under College Requirements:	93	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<ol style="list-style-type: none"> 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 <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. 4 Co-requisite is satisfied by a Major/College course requirement. 5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. 6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) <i>(At least 1 course with MA or ST prefix)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	Choose course(s) from the University Approved GEP course list for this category.
Natural Sciences (7 credits) <i>(At least 1 lab course or course with a lab)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	7	Choose course(s) from the University Approved GEP course list for this category.
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) <i>(Courses from two different disciplines)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>		Minimum requirements are satisfied by Major/College course requirements.
Social Sciences (6 credits) <i>(Courses from two different disciplines)</i> <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>		Minimum requirements are satisfied by Major/College course requirements.
Additional Breadth (3 credits) <i>(Choose approach that is different from the approach of the Major)</i> <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
Interdisciplinary Perspectives (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>	5-6	Choose course(s) from the University Approved GEP course list for this category.
Health and Exercise Studies (2 credits) <i>(Including one Fitness and Wellness course)</i>	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.	27-28	
GEP Co-Requisites:		<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>
U.S. Diversity co-requisite (USD)	n/a	<i>Co-requisite is satisfied by a Major/College course requirement. SOC 202</i>
Global Knowledge co-requisite (GK)	n/a	<i>Co-requisite is satisfied by a Major/College course requirement.</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)	X	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.	120	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

**North Carolina State University – College of Education
Propose changes to
13EDGENBS**

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

Endorsed By:



10/22/18

Head, Department/Program

Date

Recommended By:



10/15/18

Chair, College Curriculum Committee

Date

Endorsed By:



10/22/18

College Dean

Date

Recommended By:

Vice Provost, DELTA (if DE degree/certificate)

Date

Recommended By:

Chair, University Courses & Curricula Committee

Date

Approved By:

Dean, (DASA or the Graduate School)

Date

Recommended By:

Dean's Council

Date

Approved By:

Executive Vice Chancellor and Provost

Date

Approved By:

Chancellor

Date

NC STATE UNIVERSITY

317 Poe Hall
Box 7801
Raleigh, NC 27695-7801

919.513-4631
919.513-0919 (fax)

CURRICULUM ACTION MEMORANDUM

Date: October 1, 2018

To: University Courses and Curricula Committee (UCCC)

Cc: Dr. John Lee, Department Head, TELS

From: Dr. James Minogue, TELS Director of Undergraduate Programs

Re: 120 hr. rule revision in Elementary Education Degree Plan (13ELMEDBS-13ELMEDSTM)

The proposed minor change to our current 8-semester display outlined here is in response to the UNC Policy 400.1.5 stipulating that Constituent institutions will require no more than 120 semester credit hours for a four-year baccalaureate degree program. Below is a list the change being proposed:

Remove a STEM Conc. Elective: (Addt. Science) from the Spring Freshman Year and 8-semester display.

Proposed effective date: Fall 2019

Consultation: No other departments or programs will be impacted by this change.

Elementary Education (BS): Science, Technology, Engineering and Math
(13ELMEDBS-13ELMEDSTM) **Current**

FRESHMAN YEAR			
Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁷	2	Health & Exercise Science ^E	1
HESF 1xx Health & Science Fitness ^E	1	MA 151	3
ENG 101 Academic Writing & Research ^H	4	PY 131/131L	4
GEP Interdiscp. Persp. Req. ^{G,J}	3	SOC 202, 203, 204, OR ANT 254 ^{D,I}	3
Natural Sciences Elective ^{2,B}	4	STEM Conc. Elective: (Addt. Science) ^I	3
STEM Conc. Elective: (Addt Math) ¹	3	HI elective ^{4,C}	3
	17-18		17-14
SOPHOMORE YEAR			
Fall Semester	Credit	Spring Semester	Credit
EDP 370 or PSY 376	3	EDP 304 Educational Psychology ^{D,7}	3
ENG Elective ^{5,C}	3	ELM 250 Intro. to Elem in Global Society ³	3
GEP Interdisc. Persp. Req. ^{G,I}	2-3	Mathematical Sciences Elective ^{6,A}	3
GEP Additional Breadth Req. ^F	3	STEM Conc. Elective:(Addt. Science)	3
MA 152	3	Social Science Elective ^{8,D}	3
STEM Conc./Engr_Tech_Dn Elective ¹	3		
	17-18		15-17
JUNIOR YEAR			
Fall Semester	Credit	Spring Semester	Credit
ELM 375 Cultural Identity, Social Justice, & Diverse Learners ⁷	3	ELM 410 Child Thinking Multi Reasoning ⁷	3
ELM 310 Child Thinking Add Reasoning ⁷	3	ELM 420 Teaching Science in the Intermediate Grades ⁷	3
ELM 320 Teach Science Primary Grades ⁷	3	ELM 335 Teaching Reading ⁷	3
ELM 330 Teaching Reading in Elem School: K-2 ⁷	3	ELM 460 Social Studies for the Young Learner ⁷	3
ELM 340 Children Design, Create and Invent ⁷	3	ED 311 Class Assess. Principles & Practices ⁷	2
	15	ED 312 Class Assess Learning Lab ⁷	1
			15
SENIOR YEAR			
Fall Semester	Credit	Spring Semester	Credit
ELM 400 Instructional Design & Assessment ⁷	3	ELM 484 Student Teaching ⁷	9
ELM 370 The Elementary Classroom & School Community ⁷	3	ELM 480 Linking Theory & Practice ⁷	3
ELM 440 Teach Special needs ⁷	3		
ELM 430 Teach Language Arts ⁷	3		
ELM 450 Arts for Elementary Educ. ⁷	3		
	15		12
Minimum Credit Hours Required for Graduation*:			123 120

Major/Program Footnotes:

1. STEM Concentration Electives -
Choose one (3 hrs) from the GEP Mathematical Sciences Courses list: <http://oucc.ncsu.edu/gep-math-science> . Choose two (6 hrs) from the GEP Natural Sciences group: <http://oucc.ncsu.edu/gep-nat-science>
Choose one (3 hrs) related to Engineering, Technology, or Design: See the degree audit for the course list for this requirement*. *If D100 (2cr) is selected, student must take D101 (spring) to complete 3 hour requirement. If select ECI 201 (2cr) then will need to take additional course to complete 3 hours.
2. Natural Science Elective: Choose from CH 100 or CH 101/102; OR BIO 105/106 or BIO 181/181L.
3. Student must pass with grade of B or higher to be considered for candidacy into the Elementary Education Program.
4. Choose one HI course from the GEP Humanities list at: <http://oucc.ncsu.edu/gep-humanities>
5. Choose one ENG course from the GEP Humanities list at: <http://oucc.ncsu.edu/gep-humanities>
6. Choose one from ST 101 and ST 311
7. Must pass course with a C (2.0) or better.
8. Choose a course from the GEP Social Sciences course list at <http://oucc.ncsu.edu/gep-courses>

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

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

University approved GEP course lists for each of the following categories can be found at <http://oucc.ncsu.edu/gep-courses>.

A. Mathematical Sciences (3 credit hours – one course with 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: **ST 101, ST 311**

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 100, CH101/102, BIO 105/106, BIO 181/183**

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: **HI course from GEP Humanities list; ENG course from GEP Humanities list**

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

Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **SOC 202, 203, 204, ANT 254** . It is recommended that students enroll in **ENG 210**.

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

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

X Mathematical Sciences/Natural Sciences/Engineering

G. Interdisciplinary Perspectives (5-6 credit hours)

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

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

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

I. U.S. Diversity(USD)

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

J. Global Knowledge(GK)

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

K. Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.

Elementary Education (BS): Science, Technology, Engineering and Math
(13ELMEDBS-13ELMEDSTM) **Proposed**

FRESHMAN YEAR			
Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁷	2	Health & Exercise Science ^E	1
HESF 1xx Health & Science Fitness ^E	1	MA 151	3
ENG 101 Academic Writing & Research ^H	4	PY 131/131L	4
GEP Interdiscp. Persp. Req. ^{G,J}	3	SOC 202, 203, 204, OR ANT 254 ^{D,I}	3
Natural Sciences Elective ^{2,B}	4	HI elective ^{4,C}	3
STEM Conc. Elective: (Addt Math) ¹	3		
	17-18		14
SOPHOMORE YEAR			
Fall Semester	Credit	Spring Semester	Credit
EDP 370 or PSY 376	3	EDP 304 Educational Psychology ^{D,7}	3
ENG Elective ^{5,C}	3	ELM 250 Intro. to Elem in Global Society ³	3
GEP Interdisc. Persp. Req. ^{G,I}	2-3	Mathematical Sciences Elective ^{6,A}	3
GEP Additional Breadth Req. ^F	3	STEM Conc. Elective:(Addt. Science)	3
MA 152	3	Social Science Elective ^{8,D}	3
STEM Conc./Engr_Tech_Dn Elective ¹	3		
	17-18		15-17
JUNIOR YEAR			
Fall Semester	Credit	Spring Semester	Credit
ELM 375 Cultural Identity, Social Justice, & Diverse Learners ⁷	3	ELM 410 Child Thinking Multi Reasoning ⁷	3
ELM 310 Child Thinking Add Reasoning ⁷	3	ELM 420 Teaching Science in the Intermediate Grades ⁷	3
ELM 320 Teach Science Primary Grades ⁷	3	ELM 335 Teaching Reading ⁷	3
ELM 330 Teaching Reading in Elem School: K-2 ⁷	3	ELM 460 Social Studies for the Young Learner ⁷	3
ELM 340 Children Design, Create and Invent ⁷	3	ED 311 Class Assess. Principles & Practices ⁷	2
	15	ED 312 Class Assess Learning Lab ⁷	1
			15
SENIOR YEAR			
Fall Semester	Credit	Spring Semester	Credit
ELM 400 Instructional Design & Assessment ⁷	3	ELM 484 Student Teaching ⁷	9
ELM 370 The Elementary Classroom & School Community ⁷	3	ELM 480 Linking Theory & Practice ⁷	3
ELM 440 Teach Special needs ⁷	3		
ELM 430 Teach Language Arts ⁷	3		
ELM 450 Arts for Elementary Educ. ⁷	3		
	15		12
Minimum Credit Hours Required for Graduation*:			120

Major/Program Footnotes:

1. STEM Concentration Electives -
Choose one (3 hrs) from the GEP Mathematical Sciences Courses list: <http://oucc.ncsu.edu/gep-math-science> . Choose two (6 hrs) from the GEP Natural Sciences group: <http://oucc.ncsu.edu/gep-nat-science>
Choose one (3 hrs) related to Engineering, Technology, or Design: See the degree audit for the course list for this requirement*. *If D100 (2cr) is selected, student must take D101 (spring) to complete 3 hour requirement. If select ECI 201 (2cr) then will need to take additional course to complete 3 hours.
2. Natural Science Elective: Choose from CH 100 or CH 101/102; OR BIO 105/106 or BIO 181/181L.
3. Student must pass with grade of B or higher to be considered for candidacy into the Elementary Education Program.
4. Choose one HI course from the GEP Humanities list at: <http://oucc.ncsu.edu/gep-humanities>
5. Choose one ENG course from the GEP Humanities list at: <http://oucc.ncsu.edu/gep-humanities>
6. Choose one from ST 101 and ST 311
7. Must pass course with a C (2.0) or better.
8. Choose a course from the GEP Social Sciences course list at <http://oucc.ncsu.edu/gep-courses>

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

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

University approved GEP course lists for each of the following categories can be found at <http://oucc.ncsu.edu/gep-courses>.

A. Mathematical Sciences (3 credit hours – one course with 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: **ST 101, ST 311**

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 100, CH101/102, BIO 105/106, BIO 181/183**

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: **HI course from GEP Humanities list; ENG course from GEP Humanities list**

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

Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **SOC 202, 203, 204, ANT 254** . It is recommended that students enroll in **ENG 210**.

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

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

X Mathematical Sciences/Natural Sciences/Engineering

G. Interdisciplinary Perspectives (5-6 credit hours)

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

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

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

I. U.S. Diversity(USD)

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

J. Global Knowledge(GK)

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

K. Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.

**North Carolina State University – College of Education
Teacher Education and Learning Sciences Department propose changes to
13ELMMEDBS-13ELMEDSTMELM**

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

Endorsed By:



10/19/2018

Head, Department/Program

Date

Recommended By:



10/15/2018

Chair, College Curriculum Committee

Date

Endorsed By:



10/22/18

College Dean

Date

Recommended By:

Vice Provost, DELTA (if DE degree/certificate)

Date

Recommended By:

Chair, University Courses & Curricula Committee

Date

Approved By:

Dean, (DASA or the Graduate School)

Date

Recommended By:

Dean's Council

Date

Approved By:

Executive Vice Chancellor and Provost

Date

Approved By:

Chancellor

Date

CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title</u> : Elementary Education (BS): Science, Technology, Engineering and Math	<u>Plan SIS Code</u> : 13ELMEDBS
<u>Concentration/Subplan Title</u> :	<u>Subplan SIS Code</u> :
<u>Indicate requirements status</u> : Current: Proposed: X <u>Proposed</u> Effective Semester: Fall 2019	
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<u>Required Courses:</u>		
MA 151 Calculus for Elementary Education I	3	
MA 152 Calculus for Elementary Education II	3	
ST 311 Introduction to Statistics	3	
PY 131/131L Conceptual Physics	4	Natural Science
CH 100 or CH 101/102 OR BIO 105/106 or BIO 181	4	Natural Science
History (HI) from the GEP Humanities list	3	Humanities
ENG literature course from the GEP Humanities list	3	Humanities
EDP 304 Educational Psychology (C or better required)	3	Social Science
EDP 370 Applied Child Development OR PSY 376 Developmental Psych	3	Social Science
SOC 202, 203, 204 or ANT 254	3	Social Science & US Diversity
Sociology course from the GEP Social Sciences list	3	Social Science
<u>Professional Education Courses:</u>		
ELM 250 Intro to Elementary Education (B-wall)	3	
All of the below courses have a C-wall:		
ELM 375 Cultural Identity, Social Justice, Diverse Learners	3	
ELM 310 Children’s Thinking and Additive Reasoning	3	
ELM 410 Children’s Thinking and Multiplicative Reasoning	3	
ELM 460 Social Studies for the Young Learner	3	
ELM 320 Teaching Science in the Primary Grades	3	
ELM 420 Teaching Science in the Intermediate Grades	3	
ELM 330 Teaching Reading in Elem School : K-2	3	
ELM 335 Teaching Reading in the Elementary School: 3-5	3	
ELM 340 Children Design, Create and Invent	3	
ED 311/312 Classroom Assessment Princ & Pract	2	
ED 312 Classroom Assessment Principles & Practices Lab	1	
ELM 370 The Elm Classrm and School Comm.	3	
ELM 440 Teaching Children with Special Needs in the Elm Classroom	3	
ELM 430 Teaching Language Arts in the Elementary School	3	
ELM 450 The Arts for the Elementary Education	3	

ELM 400 Instructional Design and Assessment ELM 484 Student Teaching in Elementary Education ELM 480 Connections Seminar IV: Linking Theory and Practice	3 9 3	
Concentration Courses/Groups/Electives: STEM Conc. Elective (additional Math) STEM Conc. Elective (additional Science) STEM Conc. Elective (additional Technology, Engineering, & Design)	3 3 3	
Free Electives:		
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	104	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ED 100 OR ED 150/151-SAY Village	2	
Other:		
Total credit hours under College Requirements:	106	

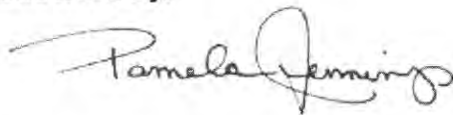
<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must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

Interdisciplinary Perspectives <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>	(5 credits)	5-6	Choose course(s) from the University Approved GEP course list for this category.
Health and Exercise Studies <i>(Including one Fitness and Wellness course)</i>	(2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.		14	
GEP Co-Requisites:			<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>
U.S. Diversity co-requisite	(USD)	n/a	Choose course(s) from the University Approved GEP course list for this category.
Global Knowledge co-requisite	(GK)	n/a	Choose course(s) from the University Approved GEP course list for this category.
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.		120	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

North Carolina State University

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

Endorsed By:



October 11, 2018

Head, Department/Program

Date

Recommended By:

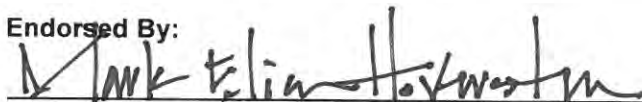


10/15/2018

Chair, College Curriculum Committee

Date

Endorsed By:



10/10/18

College Dean

Date

Recommended By:

Vice Provost, DELTA (if DE degree/certificate)

Date

Recommended By:

Chair, University Courses & Curricula Committee

Date

Approved By:

Dean, (DASA or the Graduate School)

Date

Recommended By:

Dean's Council

Date

Approved By:

Executive Vice Chancellor and Provost

Date

Approved By:

Chancellor

Date

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

Current: X Proposed: Proposed Effective Semester: **09/2019**

DEGREE TITLE: Bachelor of Arts Degree in Design Studies

CONCENTRATION TITLE: Nonprofit Studies

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Acad Writing & Research ^H	4	GEP PE/Healthy Living Course ^E	1
GEP MA 111 Precalculus Algebra and Trigonometry ^{12, A}	3	GEP Mathematical Sciences Requirement ^{12, A}	3
D100 Design Thinking ¹	3	ADN 292-001 Design, Culture and Context ²	3
Art History Survey ⁸	3	Art History Survey ⁸	3
ADN 281 Basic Drawing ³	3	COM 110 Public Speaking	3
		ADN 219 Digital Imaging ³	3
	Total:16		Total: 16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP PE/Healthy Living Course ^E	1	GEP Interdisciplinary Perspectives Requirement ^G	3
GEP Social Science requirement ^{15, D} – PS 203 Intro to Nonprofits ^{D, 15, 16}	3	Design History ⁹	3
DS 200 Survey of Design Studies ²	3	FL - Foreign Language ¹¹	3
Advanced Writing ¹³	3	GEP Humanities Requirement ^C - HI 380 History of Nonprofits, Philanthropy & Social Change ^{12, 15}	3
FL - Foreign Language ¹¹	3	Advised Design Studies Elective ¹⁴	3
Advised Design Studies Elective - Foundations ³	3		
	Total:16		Total: 15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Natural Sciences Requirement ^B	3	GEP Natural Sciences Requirement (w/lab) ^B	4
GEP Social Science Requirement ^{15, D}	3	Advised Design Studies Elective ¹⁴	3
ADN 418 Contemporary Issues ¹⁴	3	GEP Humanities requirement - History Elective ^{12, C}	3
COM 466 Nonprofit Leadership & Development ¹⁵	3	Nonprofit Advised Elective ¹⁵	3
Free Elective	1		
	Total:13		Total: 13
SUMMER			
		ADN 490 International Studio / Experience ⁴	CREDITS
			Total:6
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
DS 481 Design Studies Senior Research Seminar ⁵	3	DS 483 Capstone Seminar ⁶	3
Design History ⁹	3	Advised Design Studies Elective ¹⁴	3
Advised Design Studies Elective ¹⁴	3	Advised Design Studies Elective ¹⁴	3
NPS 490 Internship or DS 494 Internship ¹⁶	3	GEP Additional Breadth Requirement ^F	3
		Nonprofit Capstone: NPS 498 ¹⁷	1
	Total:12		Total: 13
Minimum Credit Hours Required for Graduation: 120*			

FOOTNOTES:

Major/Program Footnotes:

1. D 100 Design Thinking is required in the first year of Design Studies.
2. Design Culture, Culture and Context- 3 credit hours are required in the first year of Design Studies.
3. Basic Drawing ADN 281 and Digital Imaging ADN 219 are required. In addition, one more courses (3 credit hours) in Design Foundations are required and may be selected from the following: ADN 111, ADN 112, ADN 414
4. International Experience (6 credit hours) is required. This may be a Design Studio worth 6 credit hours (when available), or two 3-credit-hour advised electives.
5. Design Studies Senior Research Seminar is required. DS 481 - 3 hours.
6. Design Studies Capstone Seminar is required. DS 483 - 3 hours.

Program Footnotes:

7. Two survey courses (6 credit hours) in Art History are required and may be selected from the following: HA 202, 203, 298,310,395; Art 221, 222 from Meredith College; or Art 151, 152 with Recitation Sections from UNC, CH.
8. Two courses (6 credit hours) in Design History are required and may be selected from the following: ADN 475, ARC 141, D 231, GD 203, GD 303, ID 244, LAR 444
9. Public Speaking (3 credit hours) of COM 110 or equivalent required.
10. Design Studies required 6 credit hours of FL beyond FL 102
11. Mathematical Sciences:3 credit hours must be selected from: MA 111, 114, 121, 131, 141, 231 or equivalent.
12. Humanities: **3 credit hours must be (HI) History**
13. Advanced Writing required select from ENG 201,214,215, or 422.

Major Advised electives

14. A total number of 15 credit hours of 3 credit hour Advised Design Studies Electives are required when pursuing the Design Studies with the NPS concentration. The Advised electives are divided into three units: Application, History and Theory. From each of these units select one course. See Design Studies Advised elective List.

Non-Profit Studies: When pursuing Design Studies with a concentration in Non-Profit Studies 15-16 credit hours will be taken from the Non-Profit curriculum list.

15. PS 203: Intro to Nonprofit, HI 380: History of Nonprofit and COM 466: NP Leadership are required Nonprofit cores and Prerequisite for Nonprofit curriculum.
 16. **The selection of one course (3 credit hours) PS 203, PS 310 or SOC 311 may be used to satisfy both a GEP SOC SCI and a Nonprofit elective.**
 17. An internship experience is required for Nonprofit Studies. The selections are NPS 490, or Departmental Internships: COM 496, ENG 350, PS 391, PS/SOC 413, PSY 495, SW 490 or Design Studies Internship DS 494. The internship host must be approved by your NPS Advisor.
 18. NPS 498: Capstone seminar is required the semester *following* completion of the internship 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 units 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:
- **3 credit hours must be selected from: University approved GEP Mathematical Science Course list.**
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
 Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)
 Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
 Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- **PS203 satisfies a Social Science 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)
- 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: **Options may be selected from US Diversity (USD) or Global Knowledge (GK) lists. See footnotes I and J below.**
- H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. U.S. Diversity (USD)**
 Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. Global Knowledge (GK)**
 Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.
- K. Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation. **Design Studies requires 6 credit hours of FL beyond FL 102.**

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

Current: X Proposed: Proposed Effective Semester: **09/2019**

DEGREE TITLE: **Bachelor of Arts Degree in Design Studies**

CONCENTRATION TITLE: Nonprofit Studies

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Acad Writing & Research ^H	4	GEP PE/Healthy Living Course ^E	1
GEP MA 111 Precalculus Algebra and Trigonometry ^{12, A}	3	GEP Mathematical Sciences Requirement ^{12, A}	3
D100 Design Thinking I ¹	3	DS100 Design, Culture and Context ²	3
Art History Survey ⁸	3	Art History Survey ⁸	3
ADN 281 Basic Drawing ³	3	COM 110 Public Speaking	3
		ADN 219 Digital Imaging ³	3
	Total:16		Total:16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP PE/Healthy Living Course ^E	1	GEP Interdisciplinary Perspectives Requirement ^G	3
GEP Social Science requirement ^{15, D} – PS 203 Intro to Nonprofits ^{D,15,16}	3	Design History ⁹	3
DS 200 Survey of Design Studies ²	3	FL - Foreign Language ¹¹	3
Advanced Writing ¹³	3	GEP Humanities Requirement ^C - HI 380 History of Nonprofits, Philanthropy & Social Change ^{12,15}	3
FL - Foreign Language ¹¹	3	Advised Design Studies Elective ¹⁴	3
Advised Design Studies Elective - Foundations ³	3		
	Total:16		Total:15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Natural Sciences Requirement ^B	3	GEP Natural Sciences Requirement (w/lab) ^B	4
GEP Social Science Requirement ^{15,D}	3	Advised Design Studies Elective ¹⁴	3
ADN 418 Contemporary Issues ¹⁴	3	GEP Humanities requirement - History Elective ^{12,C}	3
COM 466 Nonprofit Leadership & Development ¹⁵	3	Nonprofit Advised Elective ¹⁵	3
Advised Design Studies Elective ¹⁴	3		
Free Elective	1		
	Total:13		Total:13
SUMMER			
ADN 490 International Studio / Experience ⁴			CREDITS
			Total:6
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
DS 481 Design Studies Senior Research Seminar ⁵	3	DS 483 Capstone Seminar ⁶	3
Design History ⁹	3	Advised Design Studies Elective ¹⁴	3
Advised Design Studies Elective ¹⁴	3	Advised Design Studies Elective ¹⁴	3
NPS 490 Internship or DS 494 Internship ¹⁶	3	GEP Additional Breadth Requirement ^F	3
		Nonprofit Capstone: NPS 498 ¹⁷	1
	Total:12		Total:13
Minimum Credit Hours Required for Graduation: 122 120*			

FOOTNOTES:

Major/Program Footnotes:

Total requirements for graduation: 120 credit hours

Design Studies-NP Critical Path: 82 credit hours

1. D 100 Design Thinking is required in the first year of Design Studies.
2. Design Culture, Culture and Context- 3 credit hours are required in the first year of Design Studies.
3. Basic Drawing ADN 281 and Digital Imaging ADN 219 are required. In addition, one more courses (3 credit hours) in Design Foundations are required and may be selected from the following: ADN 111, ADN 112, ADN 414
4. International Experience (6 credit hours) is required. This may be a Design Studio worth 6 credit hours (when available), or two 3-credit-hour advised electives.
5. Design Studies Senior Research Seminar is required. DS 481 - 3 hours.
6. Design Studies Capstone Seminar is required. DS 483 - 3 hours.

Program Footnotes:

7. Two survey courses (6 credit hours) in Art History are required and may be selected from the following: HA 202, 203, 298,310,395; Art 221, 222 from Meredith College; or Art 151, 152 with Recitation Sections from UNC, CH.
8. Two courses (6 credit hours) in Design History are required and may be selected from the following: ADN 475, ARC 141, D 231, GD 203, GD 303, ID 244, LAR 444
9. Public Speaking (3 credit hours) of COM 110 or equivalent required.
10. Design Studies required 6 credit hours of FL beyond FL 102
11. Mathematical Sciences:3 credit hours must be selected from: MA 111, 114, 121, 131, 141, 231 or equivalent.

12. Humanities: **3 credit hours must be (HI) History**
13. Advanced Writing required select from ENG 201,214,215, or 422.

Major Advised electives

14. A total number of 15 credit hours of 3 credit hour Advised Design Studies Electives are required when pursuing the Design Studies with the NPS concentration. The Advised electives are divided into three units: Application, History and Theory. From each of these units select one course. See Design Studies Advised elective List.

Non-Profit Studies: When pursuing Design Studies with a concentration in Non-Profit Studies 15-16 credit hours will be taken from the Non-Profit curriculum list.

15. PS 203: Intro to Nonprofit, HI 380: History of Nonprofit and COM 466: NP Leadership are required Nonprofit cores and Prerequisite for Nonprofit curriculum.
16. **The selection of one course (3 credit hours) PS 203, PS 310 or SOC 311 may be used to satisfy both a GEP SOC SCI and a Nonprofit elective.**
17. An internship experience is required for Nonprofit Studies. The selections are NPS 490, or Departmental Internships: COM 496, ENG 350, PS 391, PS/SOC 413, PSY 495, SW 490 or Design Studies Internship DS 494. The internship host must be approved by your NPS Advisor.
18. NPS 498: Capstone seminar is required the semester *following* completion of the internship 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 units 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:
- **3 credit hours must be selected from: University approved GEP Mathematical Science Course list.**
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- **PS203 satisfies a Social Science 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)
- 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: **Options may be selected from US Diversity (USD) or Global Knowledge (GK) lists. See footnotes I and J below.**
- H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)
- The following **Co-Requisites** must be satisfied to complete the General Education Program requirements:
- I. U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.
- K. Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation. **Design Studies requires 6 credit hours of FL beyond FL 102.**

(DS) DESIGN STUDIES ADVISED ELECTIVES: 24 CREDIT HOURS (3 credit hours per course)

From each of the three units select a minimum of two courses (6 credit hours) and a maximum of three courses (9 credit hours). 6 credit hours must be at the 300 level or higher.

Application Unit

ADN 111	2D Design Process & Methods	ADN 386	Basic Sculpture
ADN 112	3D Design Process & Methods	ADN 411	Visual Laboratory II
ADN 212	Basic Photography	ADN 414	Color and Light
ADN 219	Digital Imaging	ADN 415	Visualizing Narrative
ARC 232	Structure & Materials	ADN 419	Multimedia & Digital Imaging
ADN 272	Intro to Printing & Surface Design	ADN 481	Intermediate Drawing
ADN 273	Fibers, Materials & Processes	ADN 486	Intermediate Sculpture
ADN 292	Special Topics in Art+Design	ID 492	Special Topics in Industrial Design
ADN 311	Basic Visual Laboratories	DS 494	Design Studies Internship
ADN 312	Intermediate Photography		

Theory Unit

GD	303	Graphic Design Theory & Practice	ADN	571	Fibers & Surface Design Seminar
LAR	221	Intro to Environment & Behavior for Designers	LAR	579	Human Use of Urban Landscape
ID	262	Professional Practice in Industrial Design	D	592	Special Topics in Design
D	292	Special Topics in Design	ADN	492	Special Topics in Art + Design
ID	445	Human-Centered Design	DS	481	Design Studies Senior Research Seminar
D	492	Special Topics in Design	DS	483	Design Studies Senior Capstone
LAR	511	Community Design Policy			

History Unit

ARC	141	Introduction to World Architecture	ID	492	Special Topics in Industrial Design
D	292	Special Topics in Design	ADN	561	Animation Seminar
GD	203	History of Graphic Design	HI	591	Intro to Museology
LAR	444	History of Landscape Architecture	D	592	Special Topics in Design
ADN	475	Pre-Industrial World Textiles	HI	Any History Course from GEP Humanities List	
D	492	Special Topics in Design	ID	244	History of Industrial Design

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

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

Degree/Plan Title: Art and Design (Bachelor)

Concentration/Subplan Title:

Plan SIS Code:

Subplan SIS Code:

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

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

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
D 100 Design Thinking	3	D 105 First Year Studio II ^{3,8}	6
D 104 First Year Studio I ^{3,8}	6	MA 111 Precalculus, Algebra and Trigonometry ^{6,A}	3
ENG 101 Acad. Writing & Research ^{8,H}	4	ADN 281 Basic Drawing ^{1,8}	3
ADN 219 Digital Imaging ^{1,8}	3	GEP Health and Exercise Studies Course ^E	1
	<i>Total:16</i>		<i>Total:13</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN 202 Design Studio: A&D in Context ^{3,8}	6	ADN 400 Design Studio ^{3,8}	6
ADN Advised Elective - Drawing ⁵	3	ADN Advised Elective - Digital Media ⁴	3
Advanced Writing ¹⁰	3	History of Art, History of Design ²	3
GEP Mathematical Sciences Requirement ^A	3	GEP Natural Sciences Requirement ^B	3
	<i>Total:15</i>		<i>Total:15</i>
JUNIOR YEAR - <i>International Experience⁹ recommended at this time</i>			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN Studio ^{3,8}	6	ADN Studio ^{3,8}	6
GEP Natural Sciences Requirement ^B	4	GEP Social Sciences Requirement ^D	3
ADN Advised Elective ⁷	3	GEP Humanities Requirement ^C	3
GEP Social Sciences Requirement ^D	3	ADN 418 Contemporary Issues in Art & Design ^{1,8}	3
Free Elective	2		
	<i>Total:18</i>		<i>Total:15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN Studio ^{3,8}	6	ADN Studio ^{3,8}	6
ADN Advised Elective ⁷	3	ADN Advised Elective ⁷	3
ADN 493 Senior Lecture ^{1,8}	3	GEP Humanities Requirement ^C	3
GEP Addl. Breadth Requirement ^F	3	GEP Health & Exercise Studies Course ^E	1
	<i>Total:15</i>		<i>Total:13</i>
Minimum Credit Hours Required for Graduation^{G,I,J,K}: 120			

Major/Program Footnotes:

- Twelve (12) credit hours of required ~~Design Core~~ Art and Design courses include: ADN 219, ADN 281, ADN 418, and ADN 493.
- One survey course (3 credit hours) in Art History or Design History is required. Select from the following: ADN 475, ADN 492, HA 202, HA 203, HA 298, ARC 141, GD 203, ID 244 or LAR 444.
- One (1) six-credit-hour studio is required each semester; no more than one studio may be taken in any semester. Six (6) additional studio courses (36 credit hours) beyond First Year Experience (D 104, D 105) are required for a total of forty-eight (48) studio credit hours. ADN 202 and ADN 400 must be taken sophomore year. The other four (4) studio courses may be selected from ADN 460, ADN 470, ADN 480, ADN 490, ADN 560, ADN 570, or one swing studio course from: ARC 400, GD 201, GD 202, ID 201, or LAR 400. No more than one non-ADN studio course is allowed to fulfill the studio requirement.
- An additional three (3) credit hours of Digital Media Elective beyond ADN 219 is required, selected from: ADN 311, ADN 319, ADN 419, ADN 411, ADN 492, ID 215, ID 315, ID 415, ARC 251, or TAM 271.
- An additional three (3) credit hours of Drawing Elective beyond ADN 281 are required, selected from ADN 411, ADN 481, ADN 492, ID 318, ID 418, and ARC 251.
- MA 111 is required. Choose an additional MA course from the GEP Mathematical Sciences course list.
- Twelve (12) hours of ADN Advised Electives required in addition to the required first year ADN 281, ADN 219, and second year ADN Advised Electives in Drawing and Digital Media. Select courses from ADN 112, 212, 220, 221, 224, 226, 272, 273, 276, 274, 292, 311, 312, 319, 372, 384, 386, 411, 414, 415, 419, 423, 481, and 494.
- A grade of C- or higher is required.

9. The Spring semester of Junior year opens the opportunity to fulfill the College's International Experience requirement. Please consult your advisor and the Department Head.
10. Advanced Writing (3 credit hours) select one: ENG 287, 288, 292, 316, 323, 325.

General Education Program (GEP) requirements and GEP Footnotes:

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

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

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

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

Degree/Plan Title: Art and Design (Bachelor)

Concentration/Subplan Title:

Plan SIS Code:

Subplan SIS Code:

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

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

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
D 100 Design Thinking	3	D 105 First Year Studio II ^{1,9}	6
D 104 First Year Studio I ^{1,9}	6	MA 111 Precalculus, Algebra and Trigonometry ^A	3
ENG 101 Acad. Writing & Research ^{9,H}	4	ADN 281 Basic Drawing ^{2,9}	3
ADN 219 Digital Imaging ^{2,9}	3	GEP Health and Exercise Studies Course ^E	1
		ADN Advised Elective ⁷	2
	Total:16		Total:13
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN 202 Design Studio: A&D in Context ^{1,9}	6	ADN 400 Design Studio ^{1,9}	6
ADN Advised Elective - Drawing ⁴	3	ADN Advised Elective - Digital Media ³	3
Advanced Writing ⁶	3	History of Art, History of Design ⁵	3
GEP Mathematical Sciences Requirement ^A	3	GEP Natural Sciences Requirement ^B	3
	Total:15		Total:15
JUNIOR YEAR - <i>International Experience⁸ recommended at this time</i>			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN Studio ^{1,9}	6	ADN Studio ^{1,9}	6
GEP Natural Sciences Requirement ^B	4	GEP Social Sciences Requirement ^D	3
ADN Advised Elective ⁷	3	GEP Humanities Requirement ^C	3
GEP Social Sciences Requirement ^D	3	ADN 418 Contemporary Issues in Art & Design ^{2,9}	3
Free Elective	2	ADN Advised Elective ⁷	2
	Total:18		Total:15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ADN Studio ^{1,9}	6	ADN Studio ^{1,9}	6
ADN Advised Elective ⁷	3	ADN Advised Elective ⁷	3
ADN 493 Senior Lecture ^{2,9}	3	GEP Humanities Requirement ^C	3
GEP Addl. Breadth Requirement ^F	3	GEP Health & Exercise Studies Course ^E	1
		ADN Advised Elective ⁷	2
	Total:15		Total:13
Minimum Credit Hours Required for Graduation ^{G,I,J,K} : 127 120			

Bachelor of Art and Design Major/Program Footnotes:

Total requirements for graduation: 120 credit hours

Art and Design Critical Path: 99 84 credit hours

Art and Design Studio: 48 credit hours

- One (1) six-credit-hour studio is required each semester; no more than one studio may be taken in any semester. Six (6) additional studio courses (36 credit hours) beyond required First Year Experience (D 104, D 105) are required for a total of forty-eight (48) studio credit hours. ADN 202 and ADN 400 must be taken sophomore year. The other four (4) studio courses may be selected from ADN 460, ADN 470, ADN 480, ADN 490, ADN 560, ADN 570, or one swing studio course from: ARC 400, GD 201, GD 202, ID 201, or LAR 400. No more than one non-ADN studio course can fulfill the studio requirement.

Art and Design Required Core Classes: 24 credit hours

- Twelve (12) credit hours of required Art and Design Core courses include: ADN 219, ADN 281, ADN 418, and ADN 493.
- An additional three (3) credit hours of Digital Media Elective beyond ADN 219 is required, selected from: ADN 311, ADN 319, ADN 419, ADN 411, ADN 492, ID 215, ID 315, ID 415, ARC 251, or TAM 271.
- An additional three (3) credit hours of Drawing Elective beyond ADN 281 are required, selected from ADN 411, ADN 481, ADN 492, ID 318, ID 418, and ARC 251.

5. One survey course (3 credit hours) in Art History or Design History is required. Select from the following: ADN 475, ADN 492, HA 202, HA 203, HA 298, ARC 141, GD 203, ID 244 or LAR 444.
6. Advanced Writing (3 credit hours) select one: ENG 287, 288, 292, 316, 323, 325.

Art and Design Advised Electives: 9 credit hours

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

International Experience Requirement

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

General Education Program (GEP) requirements and GEP Footnotes:

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

- A. **Mathematical Sciences** (6 credit hours – *Includes recommended MA 111 and one course from the University approved GEP Mathematical Sciences course list*).
 - B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
 - C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
 - D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
 - E. **Health and Exercise Studies** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
 - F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or Mathematical Sciences/Natural Sciences/Engineering
 - G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
 - H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)
- The following **Co-Requisites** must be satisfied to complete the General Education Program requirements (**but do not count towards minimum credit hours**):
- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
 - J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
 - K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

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

Current: X Proposed: Proposed Effective Semester: **09/2019**

DEGREE TITLE: Bachelor of Arts Degree in Design Studies

CONCENTRATION TITLE: Business Administration

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Acad Writing & Research ^H	4	GEP PE/Healthy Living Course ^E	1
GEP MA 111 Precalculus Algebra and Trigonometry ^{12, A}	3	GEP Mathematical Sciences Requirement ^{12, A}	3
D100 Design Thinking 1 ¹	3	ADN 292-001 Design, Culture and Context ²	3
Art History Survey ⁷	3	COM 110 Public Speaking	3
ADN 281 Basic Drawing ³	3	Art History Survey ⁷	3
		ADN 219 Digital Imaging ³	3
	Total:16		Total:16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP PE/Healthy Living Course ^E	1	GEP Interdisciplinary Perspectives Requirement ^G	3
GEP Social Science Requirement ^D	3	ACC 210 Concepts of Financial Reporting ¹⁶	3
DS 200 Survey of Design Studies ²	3	FL - Foreign Language ¹¹	3
Advanced Writing ¹³	3	GEP Humanities requirement- HI course ^{9,C}	3
MIE 201 Intro to Business Processes ¹⁷	3	Advised Design Studies Elective ¹⁴	3
FL - Foreign Language ¹¹	3		
	Total:16		Total:15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Natural Sciences Requirement ^B	3	GEP Natural Sciences requirement (w/lab) ^B	4
GEP Social Science requirement ^{D,12,15} – EC 205	3	Advised Design Studies Elective ¹⁴	3
Fundamentals of Economics	3	Business Elective ¹⁴	3
ADN 418 Contemporary Issues ¹⁴	3	Design History ⁸	3
GEP Humanities Requirement ^C	3		
	Total:12		Total:13
SUMMER			
		ADN 490 International Studio / Experience ⁴	CREDITS
			Total:6
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
DS 481 Design Studies Senior Research Seminar ⁵	3	DS 483 Capstone Seminar ⁶	3
Design History ⁸	3	Advised Design Studies Elective ¹⁴	3
Advised Design Studies Elective ¹⁴	3	Business Elective ¹⁴	3
Business Elective ¹⁴	3	GEP Additional Breadth Requirement ^F	3
Free Elective	2		
	Total:14		Total:12
Minimum Credit Hours Required for Graduation: 120*			

FOOTNOTES:

Major/Program Footnotes:

1. D 100 Design Thinking is required in the first year of Design Studies.
2. Design Culture, Culture and Context- 3 credit hours are required in the first year of Design Studies.
3. Basic Drawing ADN 281 and Digital Imaging ADN 219 are required. In addition, one more courses (3 credit hours) in Design Foundations are required and may be selected from the following: ADN 111, ADN 112, ADN 414
4. International Experience (6 credit hours) is required. This may be a Design Studio worth 6 credit hours (when available), or two 3-credit-hour advised electives.
5. Design Studies Senior Research Seminar is required. DS 481 - 3 hours.
6. Design Studies Capstone Seminar is required. DS 483 - 3 hours.

Program Footnotes:

7. Two survey courses (6 credit hours) in Art History are required and may be selected from the following: HA 202, 203,298,310,395; Art 221, 222 from Meredith College; or Art 151,152 with Recitation Sections from UNC, CH.
8. Two courses (6 credit hours) in Design History are required and may be selected from: ADN 475, ARC 141, D 231, GD 203, GD 303, ID 244, LAR 444.
9. Choose a History (HI) course from the GEP Humanities course list.
10. Design Studies required 6 credit hours of FL beyond FL 102
11. Mathematical Sciences:3 credit hours must be selected from: MA 111, 114, 121, 131, 141, 231.
12. Social Sciences: EC 205 Fundamentals of Economics required for Business Administration Concentration with a C-Wall.
13. Advanced Writing required select from ENG 201,214,215, or 422.

Major Advised electives:

14. A total number of 12 credit hours of Advised Design Studies Electives are required when pursuing the Design Studies with the Business Administration concentration. The Advised electives are divided into three units: Application, History and Theory. From each of these units select one course. See Design Studies Advised Elective List

Business Administration:

When pursuing Design Studies with a minor in Business Administration 15 credit hours will be taken from the Business Administration Minor curriculum.

15. EC 205 Fundamentals of Economics required as a BA core, will be used to satisfy both the BA core and the GEP Social Science. EC 205 may be replaced with EC 201 or ARE 201 (with a C- or better) *plus* EC 202. If this choice is made the additional course will count against a Design Studies elective.
16. ACC 210 Concepts of Financial Reporting and MIE 201 Intro to Business Processes required as BA cores and will count against Design Studies electives.
17. Select 3 courses (9 credit hours) from the Business Administration Advised elective list: BUS 305/MIE 305, BUS 320, BUS 340, BUS 360, BUS 370, MIE 310, MIE 330

***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 units 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:
 - **3 credit hours must be selected from: University approved GEP Mathematical Science Course list.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
 - **3 credit hours from: University approved GEP Social Science course list**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X 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: Options may be selected from US Diversity (USD) or Global Knowledge (GK) lists. See footnotes I and J below.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation. **Design Studies requires 6 credit hours of FL beyond FL 102.**

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

Current: X Proposed: Proposed Effective Semester: **09/2019**

DEGREE TITLE: **Bachelor of Arts Degree in Design Studies**

CONCENTRATION TITLE: Business Administration

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Acad Writing & Research ^H	4	GEP PE/Healthy Living Course ^E	1
GEP MA 111 Precalculus Algebra and Trigonometry ^{11, A}	3	GEP Mathematical Sciences Requirement ^{11, A}	3
D100 Design Thinking ¹	3	DS100 Design, Culture and Context ²	3
Art History Survey ⁷	3	COM 110 Public Speaking	3
ADN 281 Basic Drawing ³	3	Art History Survey ⁷	3
		ADN 219 Digital Imaging ³	3
	Total:16		Total:16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP PE/Healthy Living Course ^E	1	GEP Interdisciplinary Perspectives Requirement ^G	3
GEP Social Science Requirement ^D	3	ACC 210 Concepts of Financial Reporting ¹⁶	3
DS 200 Survey of Design Studies ²	3	FL - Foreign Language ¹¹	3
Advanced Writing ¹³	3	GEP Humanities requirement- HI course ^{9, C}	3
MIE 201 Intro to Business Processes ¹⁷	3	Advised Design Studies Elective ¹⁴	3
FL - Foreign Language ¹¹	3	Design History ⁸	3
Advised Design Studies Elective ¹⁴	3		
	Total:16		Total:15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Natural Sciences Requirement ^B	3	GEP Natural Sciences requirement (w/lab) ^B	4
GEP Social Science requirement ^{D,12,15} – EC 205	3	Advised Design Studies Elective ¹⁴	3
Fundamentals of Economics	3	Business Elective ¹⁴	3
ADN 418 Contemporary Issues ¹⁴	3	Design History ⁸	3
GEP Humanities Requirement ^C	3		
	Total:12		Total:13
SUMMER			
		ADN 490 International Studio / Experience ⁴	CREDITS
			Total:6
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
DS 481 Design Studies Senior Research Seminar ⁵	3	DS 483 Capstone Seminar ⁶	3
Design History ⁸	3	Advised Design Studies Elective ¹⁴	3
Advised Design Studies Elective ¹⁴	3	Business Elective ¹⁴	3
Business Elective ¹⁴	3	GEP Additional Breadth Requirement ^F	3
Free Elective	3		
	Total:14		Total:12
Minimum Credit Hours Required for Graduation: 124 120*			

Major/Program Footnotes:

Total requirements for graduation: 120 credit hours

Design Studies-BA Critical Path: 78 credit hours

Major/Program Footnotes:

1. D 100 Design Thinking is required in the first year of Design Studies.
2. Design Culture, Culture and Context- 3 credit hours are required in the first year of Design Studies.
3. Basic Drawing ADN 281 and Digital Imaging ADN 219 are required. In addition, one more courses (3 credit hours) in Design Foundations are required and may be selected from the following: ADN 111, ADN 112, ADN 414
4. International Experience (6 credit hours) is required. This may be a Design Studio worth 6 credit hours (when available), or two 3-credit-hour advised electives.
5. Design Studies Senior Research Seminar is required. DS 481 - 3 hours.
6. Design Studies Capstone Seminar is required. DS 483 - 3 hours.

Program Footnotes:

7. Two survey courses (6 credit hours) in Art History are required and may be selected from the following: HA 202, 203,298,310,395; Art 221, 222 from Meredith College; or Art 151,152 with Recitation Sections from UNC, CH.
8. Two courses (6 credit hours) in Design History are required and may be selected from: ADN 475, ARC 141, D 231, GD 203, GD 303, ID 244, LAR 444.
9. Choose a History (HI) course from the GEP Humanities course list.
10. Design Studies required 6 credit hours of FL beyond FL 102
11. Mathematical Sciences:3 credit hours must be selected from: MA 111, 114, 121, 131, 141, 231.
12. Social Sciences: EC 205 Fundamentals of Economics required for Business Administration Concentration with a C-Wall.

13. Advanced Writing required select from ENG 201,214,215, or 422.

Major Advised electives:

14. A total number of 12 credit hours of Advised Design Studies Electives are required when pursuing the Design Studies with the Business Administration concentration. The Advised electives are divided into three units: Application, History and Theory. From each of these units select one course. See Design Studies Advised Elective List

Business Administration:

When pursuing Design Studies with a minor in Business Administration 15 credit hours will be taken from the Business Administration Minor curriculum.

15. EC 205 Fundamentals of Economics required as a BA core, will be used to satisfy both the BA core and the GEP Social Science. EC 205 may be replaced with EC 201 or ARE 201 (with a C- or better) *plus* EC 202. If this choice is made the additional course will count against a Design Studies elective.
16. ACC 210 Concepts of Financial Reporting and MIE 201 Intro to Business Processes required as BA cores and will count against Design Studies electives.
17. Select 3 courses (9 credit hours) from the Business Administration Advised elective list: BUS 305/MIE 305, BUS 320, BUS 340, BUS 360, BUS 370, MIE 310, MIE 330

***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 units 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:
- **3 credit hours must be selected from: University approved GEP Mathematical Science Course list.**
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- **3 credit hours from: University approved GEP Social Science course list**
- E. Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
- G. 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: **Options may be selected from US Diversity (USD) or Global Knowledge (GK) lists. See footnotes I and J below.***
- H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)
- The following Co-Requisites must be satisfied to complete the General Education Program requirements:**
- I. U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.
- K. Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation. **Design Studies requires 6 credit hours of FL beyond FL 102.**

(DS) DESIGN STUDIES ADVISED ELECTIVES: 24 CREDIT HOURS (3 credit hours per course)

From each of the three units select a minimum of two courses (6 credit hours) and a maximum of three courses

(9 credit hours). 6 credit hours must be at the 300 level or higher.

Application Unit

ADN 111	2D Design Process & Methods	ADN 386	Basic Sculpture
ADN 112	3D Design Process & Methods	ADN 411	Visual Laboratory II
ADN 212	Basic Photography	ADN 414	Color and Light
ADN 219	Digital Imaging	ADN 415	Visualizing Narrative
ARC 232	Structure & Materials	ADN 419	Multimedia & Digital Imaging
ADN 272	Intro to Printing & Surface Design	ADN 481	Intermediate Drawing
ADN 273	Fibers, Materials & Processes	ADN 486	Intermediate Sculpture
ADN 292	Special Topics in Art+Design	ID 492	Special Topics in Industrial Design
ADN 311	Basic Visual Laboratories	DS 494	Design Studies Internship
ADN 312	Intermediate Photography		

Theory Unit

GD 303	Graphic Design Theory & Practice	D 292	Special Topics in Design
LAR 221	Intro to Environment & Behavior for Designers	ID 445	Human-Centered Design
ID 262	Professional Practice in Industrial Design	D 492	Special Topics in Design

LAR	511	Community Design Policy	ADN	492	Special Topics in Art + Design
ADN	571	Fibers & Surface Design Seminar	DS	481	Design Studies Senior Research Seminar
LAR	579	Human Use of Urban Landscape	DS	483	Design Studies Senior Capstone
D	592	Special Topics in Design			

History Unit

ARC	141	Introduction to World Architecture			
D	292	Special Topics in Design			
GD	203	History of Graphic Design			
LAR	444	History of Landscape Architecture			
ADN	475	Pre-Industrial World Textiles			
D	492	Special Topics in Design			
ID	492	Special Topics in Industrial Design			
ADN	561	Animation Seminar			
HI	591	Intro to Museology			
D	592	Special Topics in Design			
HI	Any History Course from GEP Humanities List				
ID	244	History of Industrial Design			

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

Current: X Proposed: Proposed Effective Semester: **09/2019**

DEGREE TITLE: **Bachelor of Arts Degree in Design Studies**

CONCENTRATION TITLE: N/A

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Acad Writing & Research ^H	4	GEP PE/Healthy Living Course ^E	1
GEP MA 111 Precalculus Algebra and Trigonometry ^{12, A}	3	GEP Mathematical Sciences Requirement ^{12, A}	3
D100 Design Thinking I ¹	3	ADN 292-001 Design, Culture and Context ¹	3
Art History Survey ⁸	3	Art History Survey ⁸	3
ADN 281 Basic Drawing ³	3	COM 110 Public Speaking	3
		ADN 219 Digital Imaging ⁴	3
	Total:16		Total:16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP PE/Healthy Living Course ^E	1	GEP Interdisciplinary Perspectives Requirement ^G	3
GEP Social Science Requirement ^D	3	Design History ⁹	3
DS 200 Survey of Design Studies ²	3	FL - Foreign Language ¹¹	3
Advanced Writing ¹³	3	GEP Humanities Requirement ^C	3
GEP Humanities Requirement - History Elective ^{10,C}	3	Advised Design Studies Elective - Foundations ³	3
FL - Foreign Language ¹¹	3		
	Total:16		Total:15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Natural Sciences Requirement ^B	3	GEP Natural Sciences Requirement (w/lab) ^B	4
GEP Social Science Requirement ^D	3	Advised Design Studies Elective ¹⁵	3
ADN 418 Contemporary Issues ¹⁴	3	Advised Design Studies Elective ¹⁵	3
Advised Design Studies Elective ¹⁵	3	Design History ⁹	3
Free Elective	2		
	Total:14		Total:13
SUMMER			
		ADN 490 International Studio / Experience ⁵	CREDITS
			Total:6
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
DS 481 Design Studies Senior Research Seminar ⁶	3	DS 483 Capstone Seminar ⁷	3
Design History ⁹	3	Advised Design Studies Elective ¹⁵	3
Advised Design Studies Elective ¹⁵	3	Advised Design Studies Elective ¹⁵	3
Advised Design Studies Elective ¹⁵	3	GEP Additional Breadth Requirement ^F	3
	Total:12		Total:12
Minimum Credit Hours Required for Graduation: 120*			

Major/Program Footnotes:

1. D 100 Design Thinking and ADN 292-001 Design, Culture, and Context are required in the first year of Design Studies.
2. DS 200 Survey of Design Studies is required.
3. Basic Drawing ADN 281 is required. In addition, one more course (3 credit hours) in Design Foundations is required and may be selected from the following: ADN 111, ADN 112, ADN 414.
4. Digital Imaging ADN 219 is required.
5. International Experience (6 credit hours) is required. This may be a Design Studio worth 6 credit hours (when available), or two 3-credit-hour advised electives.
6. Design Studies Senior Research Seminar is required. DS 481 - 3 hours.
7. Design Studies Capstone Seminar is required. DS 483 - 3 hours.
8. Two survey courses (6 credit hours) in Art History are required and may be selected from the following: HA 202, 203,298,310,395; Art 221, 222 from Meredith College; or Art 151, 152 with Recitation Sections from UNC-CH.
9. Three courses (9 credit hours) in Design History are required and may be selected from the following: ADN 475, ARC 242, D 231, GD 203, GD 303, LAR 444, ID 244, ADN 492.
10. Choose a History course (HI) from the GEP Humanities course list.
11. Design Studies requires 6 credit hours of FL beyond FL 102 and may be selected from different language courses at the 200 level or above.
12. MA 111 is required. Choose an additional MA course from the GEP Mathematical Sciences course list.
13. Advanced Writing (3 credit hours) select one: ENG 201,214, 215, 287, 288, 292, 301, 316, 323,325
14. ADN 418 Contemporary Issues in Art and Design is required in the junior year.

Major Advised Design Studies Electives:

15. A total number of 24 credit hours of "advised" design studies electives are required when pursuing the Design Studies curriculum. These electives are divided into three units: Application, History and Theory. From each of these units a minimum of two courses (6 credit hours) and a maximum of three courses (9 credit hours) can be selected. 6 credit hours must be at the 300 level or higher.

***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 beyond the major requirements listed above. University approved GEP course lists for each of the following units can be found at <https://oucc.dasa.ncsu.edu/general-education-program-gep/gep-category-requirements/>

- A. **Mathematical Sciences** (6 credit hours – *Includes MA 111 and one course from the University approved GEP Mathematical Sciences course list.*)
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list.
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list. The History elective in the major requirements fulfills 3 hours of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list.
- 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 University approved GEP course lists)
Choose a course from the GEP Mathematical Sciences or Natural Sciences course list.
- G. **Interdisciplinary Perspectives** (3 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. Only one course that satisfies this co-requisite is required.
- 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. Only one course that satisfies this co-requisite is required.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation. Design Studies requires 6 credit hours of FL beyond FL 102.

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

Current: X Proposed: Proposed Effective Semester: **09/2019**

DEGREE TITLE: **Bachelor of Arts Degree in Design Studies**

CONCENTRATION TITLE: N/A

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ENG 101 Acad Writing & Research ^H	4	GEP PE/Healthy Living Course ^E	1
GEP MA 111 Precalculus Algebra and Trigonometry ^{12, A}	3	GEP Mathematical Sciences Requirement ^{12, A}	3
D100 Design Thinking ¹	3	DS100 Design, Culture and Context ¹	3
Art History Survey ⁸	3	Art History Survey ⁸	3
ADN 281 Basic Drawing ³	3	COM 110 Public Speaking	3
		ADN 219 Digital Imaging ⁴	3
	Total:16		Total:16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP PE/Healthy Living Course ^E	1	GEP Interdisciplinary Perspectives Requirement ^G	3
GEP Social Science Requirement ^D	1	Design History ⁹	3
DS 200 Survey of Design Studies ²	3	FL - Foreign Language ¹¹	3
Advanced Writing ¹³	3	GEP Humanities Requirement ^C	3
GEP Humanities Requirement - History Elective ^{10,C}	3	Advised Design Studies Elective - Foundations ³	3
FL - Foreign Language ¹¹	3		
Advised Design Studies Elective	3		
	Total:16		Total:15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Natural Sciences Requirement ^B	3	GEP Natural Sciences Requirement (w/lab) ^B	4
GEP Social Science Requirement ^D	3	Advised Design Studies Elective ¹⁵	3
ADN 418 Contemporary Issues ¹⁴	3	Advised Design Studies Elective ¹⁵	3
Advised Design Studies Elective ¹⁵	3	Design History ⁹	3
Art History Survey	3		
Free Elective	2		
	Total:14		Total:13
SUMMER			
ADN 490 International Studio / Experience ⁵			CREDITS
			Total:6
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
DS 481 Design Studies Senior Research Seminar ⁶	3	DS 483 Capstone Seminar ⁷	3
Design History ⁹	3	Advised Design Studies Elective ¹⁵	3
Advised Design Studies Elective ¹⁵	3	Advised Design Studies Elective ¹⁵	3
Advised Design Studies Elective ¹⁵	3	GEP Additional Breadth Requirement ^F	3
	Total:12		Total:12
Minimum Credit Hours Required for Graduation: 124 120*			

Major/Program Footnotes:

Total requirements for graduation: 120 credit hours

Design Studies Critical Path: 75 credit hours

1. D 100 Design Thinking and ADN 292-001 Design, Culture, and Context are required in the first year of Design Studies.
2. DS 200 Survey of Design Studies is required.
3. Basic Drawing ADN 281 is required. In addition, one more course (3 credit hours) in Design Foundations is required and may be selected from the following: ADN 111, ADN 112, ADN 414.
4. Digital Imaging ADN 219 is required.
5. International Experience (6 credit hours) is required. This may be a Design Studio worth 6 credit hours (when available), or two 3-credit-hour advised electives.
6. Design Studies Senior Research Seminar is required. DS 481 - 3 hours.
7. Design Studies Capstone Seminar is required. DS 483 - 3 hours.
8. Two survey courses (6 credit hours) in Art History are required and may be selected from the following: HA 202, 203,298,310,395; Art 221, 222 from Meredith College; or Art 151, 152 with Recitation Sections from UNC-CH.
9. Three courses (9 credit hours) in Design History are required and may be selected from the following: ADN 475, ARC 242, D 231, GD 203, GD 303, LAR 444, ID 244, ADN 492.
10. Choose a History course (HI) from the GEP Humanities course list.
11. Design Studies requires 6 credit hours of FL beyond FL 102 and may be selected from different language courses at the 200 level or above.
12. MA 111 is recommended. Choose an additional MA course from the GEP Mathematical Sciences course list.
13. Advanced Writing (3 credit hours) select one: ENG 201,214, 215, 287, 288, 292, 301, 316, 323,325
14. ADN 418 Contemporary Issues in Art and Design is required in the junior year.

Major Advised Design Studies Electives:

15. A total number of 24 credit hours of “advised” design studies electives are required when pursuing the Design Studies curriculum. These electives are divided into three units: Application, History and Theory. From each of these units a minimum of two courses (6 credit hours) and a maximum of three courses (9 credit hours) can be selected. 6 credit hours must be at the 300 level or higher.

***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 beyond the major requirements listed above. University approved GEP course lists for each of the following units can be found at <https://oucc.dasa.ncsu.edu/general-education-program-gep/gep-category-requirements/>

A. Mathematical Sciences (6 credit hours – Includes MA 111 recommendation and one course from the University approved GEP Mathematical Sciences list).

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

Choose from the University approved GEP Natural Sciences course list .

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

Choose from the University approved GEP Humanities course list . The History elective in the major requirements fulfills 3 hours of this requirement.

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

Choose from the University approved GEP Social Sciences course list .

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 University approved GEP course lists)

Choose a course from the GEP Mathematical Sciences or Natural Sciences course list.

G. Interdisciplinary Perspectives (3 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list.

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S.

Diversity (USD) co-requisite. Only one course that satisfies this co-requisite is required.

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. Only one course that satisfies this co-requisite is required.

K. Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation. **Design Studies requires 6 credit hours of FL beyond FL 102.**

(DS) DESIGN STUDIES ADVISED ELECTIVES: 24 CREDIT HOURS (3 credit hours per course)

From each of the three units select a minimum of two courses (6 credit hours) and a maximum of three courses (9 credit hours). 6 credit hours must be at the 300 level or higher.

Application Unit

ADN	111	2D Design Process & Methods	ADN	386	Basic Sculpture
ADN	112	3D Design Process & Methods	ADN	411	Visual Laboratory II
ADN	212	Basic Photography	ADN	414	Color and Light
ADN	219	Digital Imaging	ADN	415	Visualizing Narrative
ARC	232	Structure & Materials	ADN	419	Multimedia & Digital Imaging
ADN	272	Intro to Printing & Surface Design	ADN	481	Intermediate Drawing
ADN	273	Fibers, Materials & Processes	ADN	486	Intermediate Sculpture
ADN	292	Special Topics in Art+Design	ID	492	Special Topics in Industrial Design
ADN	311	Basic Visual Laboratories	DS	494	Design Studies Internship
ADN	312	Intermediate Photography			

Theory Unit

GD	303	Graphic Design Theory & Practice	ADN	571	Fibers & Surface Design Seminar
LAR	221	Intro to Environment & Behavior for Designers	LAR	579	Human Use of Urban Landscape
ID	262	Professional Practice in Industrial Design	D	592	Special Topics in Design
D	292	Special Topics in Design	ADN	492	Special Topics in Art + Design
ID	445	Human-Centered Design	DS	481	Design Studies Senior Research Seminar
D	492	Special Topics in Design	DS	483	Design Studies Senior Capstone
LAR	511	Community Design Policy			

History Unit

ARC	141	Introduction to World Architecture
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D	292	Special Topics in Design
GD	203	History of Graphic Design
LAR	444	History of Landscape Architecture
ADN	475	Pre-Industrial World Textiles
D	492	Special Topics in Design
ID	492	Special Topics in Industrial Design

ADN	561	Animation Seminar
HI	591	Intro to Museology
D	592	Special Topics in Design
HI		Any History Course from GEP Humanities List
ID	244	History of Industrial Design

Title, SIS code (ex: 13SCIEDBS) and Term date(s) (ex: Sum2, 09) of the plan(s) and/or subplan(s) affected

Graphic Design (Bachelor), 12GDB, Spring2019

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

1. **Remove GD 410 (and fold its some of its content into GD 301 and GD 417). Remove GD 310 (and fold some of its content into GD 202 and GD 317).** This reduction in required GD courses will achieve the following: 1) Reduce pressure on students during spring of their sophomore year and fall of their junior year. Currently these 3 credit courses compete with the 6 credit design courses and paired 3 credit courses thus overburdening students with 12 credit hours of studio-modeled instruction in single semesters. We believe there is a ceiling effect where the 12 credits of core classes is not producing significantly greater learning outcomes than 9 credits will. 2) Generate more opportunities to break design courses with 30+ students into two sections (due to staffing issues) while simultaneously making it possible for existing faculty to cover courses when colleagues are on sabbatical. 3) Remove redundancies in teaching user experience design methods in multiple courses.
2. **Increase design electives from 3 to 6 credits.** Paired with the above course reductions, this results in a 120-credit curriculum while increasing flexibility for students in picking their own courses.

Indicate the title or other identifier for the requirement group in the Degree Audit that is being revised.

Design Elective: added 3 additional design elective credit hours

GD 310 and GD 410 removed.

The impact of the revision on other departments/programs, include consultation correspondence as applicable

None of the changes affect other departments or programs. The dropped courses are taught by Graphic Design program faculty.

Statement on how the revision will impact current students in the program. If no impact, please state.

Cohort (class of) 2019: These students will not be affected by the revision.

Cohort 2020: These students will not be affected by the revision.

Cohort 2021: These students will have taken GD 310 spring 2019 (already scheduled). They will no longer take GD 410, but will take an additional 3 hrs free elective (to count for grandfathered GD 410 requirement).

Beginning with cohort 2022, all students will no longer take GD 310 and GD 410, but will take an additional 3 credit design elective. These students, current freshmen, will be moved to the new curriculum. Should any refuse (which is not anticipated as it would simply mean having to accrue more credits), there will be no GD 310 or GD 410 offered; thus they would take one additional design elective to count as grandfathered GD 310, and one free elective to count as grandfathered GD 410.

Proposed effective date for revision

January 1, 2019. If approved this early we can more fluidly move current freshmen into the new curriculum. However, it is only the fall 2019 semester when scheduling is first impacted by revision.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: **X** Proposed Effective Semester: **Spring 2019**

Degree/Plan Title: **Graphic Design (Bachelor)**

Concentration/Subplan Title:

Plan SIS Code: **12GDB**

Subplan SIS Code:

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

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

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
D 100 Design Thinking I ⁷	3	GD 203 History of Graphic Design	3
D 104 First Year Studio I	6	GD 210 Image and Tech Tinkering	6
ENG 101 Academic Writing and Research ^H	4	Mathematical Sciences Requirement ^{4, A}	3
Mathematical Sciences Requirement ^{4, A}	3	GEP Humanities Requirement ^{C, I, J}	3
		HES_ *** Health & Exercise Studies Course ^E	1
	<i>Total: 16</i>		<i>Total: 16</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GD 201 Design, Context, and Experience	6	GD 202 Designing for Settings, People, & Use	6
GD 217 Typography and Technology	3	GD 310 Visualization, Representation, & Display	3
GD 303 Graphic Design Theory and Practice	3	GD 317 Typographic Language, Writing, and Reading	3
GEP Social Sciences Requirement ^{D, I, J}	3	GEP Humanities Requirement ^{C, I, J}	3
		GEP Social Sciences Requirement ^{D, I, J}	3
	<i>Total: 15</i>		<i>Total: 15</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GD 301 Branding, Interaction, and Service Design	6	GD 400 Advanced Graphic Design Studio ¹	6
GD 410 Online and Mobile Interaction Design Systems	3	Design History Elective ³	3
GD 417 Information and Publishing Design Systems	3	GEP Natural Sciences Requirement ^B	3
GEP Natural Sciences Requirement ^B (course w/ lab)	4	Design Elective ² (added 3 credits)	3
HES_ *** Health & Exercise Studies Course ^E	1		
	<i>Total: 14</i>		<i>Total: 15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GD 400 Advanced Graphic Design Studio ¹	6	GD 400 Advanced Graphic Design Studio ¹	6
GD 401 Graphic Design Practicum	3	Free Elective	8
Design Elective ²	3		
GEP Additional Breadth Requirement ^D	3		
	<i>Total: 15</i>		<i>Total: 14</i>
Minimum Credit Hours Required for Graduation [*] : 120 123			

Major/Program Footnotes:

1. Students who major in Graphic Design may elect as many as two (2) six-credit-hour studios from the following list in place of GD 400 offerings: ADN 400, 460, 470, 480; ARC 401; GD 490; ID 400 and 490; LAR 200, 400. Declaration of intent to enroll in studios other than Industrial Design during any semester must be made during the pre-registration period prior to enrollment. Check college listings for current offerings; elective studio courses subject to change.

2. Any two (2) three-credit-hour courses from the following: ARC 162, 251; ADN 212, 219, 272, 273, 281, 312, 319, 384, 386, 414, 419, 472, 481, 486; GD 292, 310, 492, 494, 495, 510, 517; ID 292, 492, 494, 495; LAR 292, 492. Check college listings for current offerings; elective courses subject to change.
3. HA 201, 202, 203; ARC 241, 242; and LAR 444 meet this requirement.
4. Choose MA courses from GEP Mathematical Sciences list at or greater than MA 114 threshold.

5. Spring Semester of Junior Year, Spring Semester of Senior Year, or Summer following Junior Year coursework may be taken at the Prague Institute or other approved international program.

* The sequence of general education and elective courses is illustrative only and not mandatory. Students may schedule elective courses in any order that supports their educational objectives and for which they have prerequisites.

* Foreign Language proficiency at the 102-level is required for graduation but does not count toward the minimum credit hours.

* All required courses labeled "GD" (Graphic Design) observe a C-Wall 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 <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 courses at or greater than MA 114 threshold on GEP list (see footnote 4)**
- 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: **None**
- 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: **None**
- 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)
 Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5 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: **D 100 & D 104**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **None**
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **None**
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS**Format B**

<u>Degree/Plan Title:</u> Graphic Design (Bachelor)	<u>Plan SIS Code:</u> 12GDB
<u>Concentration/Subplan Title:</u>	<u>Subplan SIS Code:</u>
<u>Indicate requirements status:</u> Current: Proposed: X	<u>Proposed Effective Semester:</u> Spring 2019
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
Design Elective GD 203 - History of Graphic Design (C- or better) 3 GD 217 - Typography and Technology (C- or better) 3 GD 303 - Graphic Design Theory and Practice (C- or better) 3 GD 310 – Visualization, Representation, and Display (C- or better) 3 GD 317 – Typographic Language Writing and Reading(C- or better) 3 GD 410 – Online and Mobile Interaction Design Systems (C- or better) 3 GD 417 - Information and Publishing Design Systems (C- or better) 3 Design History Elective 3 Design Elective (x2) 3 6		
Studio GD 100 - Design Inquiry I: Methods and Processes 3 D 104 - First Year Studio I 6 GD 201 - Design, Context, and Experience (C- or better) 6 GD 202 - Designing for Settings, People, and Use (C- or better) 6 GD 210 - Image and Tech Tinkering (C- or better) 6 GD 301 - Branding, Interaction, and Service Design (C- or better) 6 GD 400 - Advanced Graphic Design Studio (C- or better) 18 GD 401 - Graphic Design Practicum (C- or better) 3		
<u>Concentration Courses/Groups/Electives:</u> n/a	0	
<u>Free Electives:</u>	8	S allowed
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	86 hours	
COLLEGE REQUIREMENTS:		
<u>Orientation Course(s):</u> n/a		
<u>Other:</u> n/a		
Total credit hours under College Requirements:	0 Hours	

NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS		At least one of the following must be listed:
<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>Specific courses should not be listed in any of the fields below other than ENG 101.</p>		<ol style="list-style-type: none"> 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 <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. 4 Co-requisite is satisfied by a Major/College course requirement. 5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. 6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	Choose course(s) from the University Approved GEP course list for this category. MA courses at or greater than MA 114 threshold on GEP list
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	7	Choose course(s) from the University Approved GEP course list for this category.
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	Choose course(s) from the University Approved GEP course list for this category.
Social Sciences (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	Choose course(s) from the University Approved GEP course list for this category.
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
Interdisciplinary Perspectives (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>	5	Major/College course (D 100 & D 104) requirement satisfies <u>5</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	34 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 (USD)	n/a	Choose course(s) from the University Approved GEP course list for this category.
Global Knowledge co-requisite (GK)	n/a	Choose course(s) from the University Approved GEP course list for this category.
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.	120 hrs	As applicable, indicate here the overall GPA requirement for degree completion including course completion.
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To: UCCC

From: Sharon Joines on behalf of the ID COD faculty

Date: 10/24/2018

Subject: meeting 120 cr hr requirement

The industrial design faculty have voted and agreed to meet the 120 credit hour requirement by eliminating the ID 44 History of industrial Design requirement. This is acceptable to the faculty since ID 244 History of ID has just been accepted to count as a Humanities GEP. This change has been noted on the attached form.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

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

Degree/Plan Title: Concentration/Subplan Title:

Plan SIS Code: Subplan SIS Code:

New Degree Audit required? (Y or N)

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

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
D 100 Design Thinking	3	D 101 Design Thinking II	3
D 104 First Year Studio I	6	D 105 First Year Studio I	6
ENG 101 Academic Writing and Research	4	GEP Mathematical Sciences Req.	3
HES_*** Health & Exercise Studies	1	HES_***Health & Exercise Studies Course	1
GEP Humanities-ID 244 History of ID	3	GEP Mathematical Sciences Req.	3
<i>Total:17</i>		<i>Total:16</i>	
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ID 201 Basic Industrial Design Studio I	6	ID 202 Basic Industrial Design Studio II	6
ID 215 Introduction to Digital Techniques	3	ID 315 Digital Product Modeling	3
ID 318 Ideation I	3	ID 418 Ideation II	3
GEP Natural Sciences Requirement	4	ID 255 Contemporary Mfg. Processes I	3
<i>Total:16</i>		<i>Total:15</i>	
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ID 300 Interm. ID Digital Studio Series	6	ID 300 Interm. ID Dig. Studio Series	6
ID 415 Adv. Digital Design Process	3	GEP Add. Breadth Requirement	3
GEP Natural Sciences Requirement	3	Free Elective	2
GEP Social Sciences Requirement	3	ID 445 Human-Centered Design	3
Design Elective	3		
<i>Total:18</i>		<i>Total:14</i>	
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ID 400 Adv. ID Studio Series	6	ID 400 Adv. Industrial Studio	6
GEP Social Sciences Requirement	3	ID 444 History of Industrial Design	3
GEP Humanities Requirement	3	Free Elective	3
Design Elective	3		
<i>Total:15</i>		<i>Total:12 9</i>	
Minimum Credit Hours Required for Graduation : 123 120			

Major/Program Footnotes:

- Students who major in Industrial Design may elect one (1) six-credit-hour studio from the following list: ADN 400, 460, 470, 480, ARC 400, GD 201, 202, ID 400, LAR 200 and 400. Declaration of intent to enroll in studios other than Industrial Design during any semester must be made during the pre-registration period prior to enrollment. No more than one (1) studio may be taken in any given semester.
- Any (3) credit course from the following: ID 262 Professional Practice in Industrial Design; ADN 212, 219, 272, 273, 281, 312,319, 384,386, 413, 414, 419, 472, 481, 486, ARC 162, GD 494, 495, 510, and 517, ID 256.
- The Fall or Spring semester of the junior year may be taken at the Prague Institute or some other approved international program to fulfill the department's International Experience requirement. In addition, a summer international studio in Industrial Design or other design discipline may also fulfill this requirement. Please consult with your advisor.
- A grade of C- or higher is required.

* The sequence of Elective and GEP courses is illustrative only and not mandatory.

Students may schedule Elective and GEP courses in any order which support their educational objectives.

* Foreign language proficiency at the 102 level is required for graduation but does not count toward the minimum credit hours.

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

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

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

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

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

October 16, 2018

MEMORANDUM

TO: University Courses and Curricula Committee

FROM: Dr. Alina Duca, Director of the Undergraduate Programs, Department of Mathematics

RE: Curriculum Revision, 17AMATHFIN

Justification

This action addresses the Applied Mathematics – Financial Mathematics Concentration curriculum (SIS plan code 17AMATHBS, sub-plan SIS code 17AMATHFIN). In 2015 the Department of Mathematics revised the Applied Mathematics curriculum to address the need for mathematics courses that emphasize mathematics applications and appropriate applied math methods. The revisions for the Financial Mathematics Concentration proposed below are two-fold: adjust the curriculum requirements to better align with the Applied Mathematics degree and give students more flexibility in choosing electives and brings the degree up-to-date with course changes/additions/delisting/offering.

Proposed effective date: 1/1/2019

Proposed Revisions With Reasons

1. Changes in the Basic Science category

The changes in the PY requirement will give students more flexibility to satisfy the Basic Science requirements.

- Current** • Physics (8 hours): (PY 205-206 or PY 201) and (PY 208-209 or PY 209)
Proposed • Physics (4 hours): PY 205-206 or PY 201
• Basic Science Electives (4 hours): PY 208-209, PY 202, CH 201-202, BIO 181, or BIO 183

We also propose to an additional course option for the Statistics requirement to address the content overlap between ST 421 and MA421.

Current • Statistics (6 hours): ST 371–ST 372, ST 421–ST 422

Proposed • Statistics (6 hours): ST 371–ST 372, ~~ST 421–ST 422~~, **ST 305-ST 422, ST 370–ST 422.**

Similar to the Applied Mathematics curriculum, we propose to add some additional courses to the list for the Intro Programming requirement:

Current • Intro to Programming (3 hours): MA 116, CSC 112, CSC 114, CSC 116.

Proposed • Intro to Programming (3 hours): MA 116, **CSC 111**, CSC 112, **CSC 113**, CSC 114, CSC 116, **ST 114**

2. Changes in the Advanced Mathematics category

Current • MA 412 and MA 413 are required courses (6 hours)

Proposed • Financial Math Electives (6 hours) with options: MA 412, MA 413, MA 528, MA 540, MA 546, MA 547, MA 548, MA 549

Current • MA 426 or MA 512 (3 hours)

Proposed • Math Electives (6 hours): MA 402, MA 426, MA 427, MA 428, MA 505

We also propose to revise the list of courses satisfying the **Major paper co-requirement** to better fit the concentration.

3. Changes in the Concentration requirements

Current • EC 205, EC 301, EC 302, ST 305 (12 hours)

Current • EC 201 (or EC 205), EC 301, EC 302, ST 307, ST 308 (11 hours)

4. Changes in the Major Electives category

Currently the students in the Financial Mathematics are required to take 18 hours. We propose that the number of hours is reduced to 12 so the concentration has free electives.

5. Changes in the Orientation requirement

Currently this one credit hour requirement can be satisfied by COS 100 (2 hours) or E115 (1 hour). The majority of our students take COS 100 which also satisfies the Interdisciplinary Perspectives requirement. We propose that the Orientation

requirement becomes a co-requisite with no credit hour required so COS 100 can double count.

6. Free Electives

Currently the Financial Concentration has no free electives, which is a burden for a student in the program who might have started on a different path. We propose that the concentration now includes 5 credit hours of Free Electives.

Impact on students currently in the program.

There is no impact on students currently in the 17AMATHFIN program.

Impact on other Departments / Programs

Most of these changes do not involve courses in departments outside the College of Sciences, nor does it affect the course requirements for other majors. We previously received feedback from the **Computer Science Departments** regarding the additions of CSC 111 and CSC 113 to the list of courses satisfying the Introduction to programming requirement for the Applied Mathematics curriculum.

Fwd: Consultation request from Mathematics: CSC 113

Dennis Bahler <bahler@ncsu.edu>
To: Alina Duca <anduca@ncsu.edu>

Wed, Apr 15, 2015 at 3:38 PM

Alina:

Yes indeed, we are busy here.

In the long run I see no special difficulty accommodating reasonable numbers of MA students into CSC 113.

You should also be aware of two other changes:

1. We have a new course CSC 111 (Intro to Programming -- Python) organized much like 112 and 113 and also intended as a service course.
2. We have not taught 114 (C++) for several years and are in process of dropping it from the catalog.

Let me know if you have further questions.

Regards,

Dr. Dennis R. Bahler (bahler AT ncsu DOT edu)
Associate Professor of Computer Science
Director of Undergraduate Programs
Chair, Teaching Faculty Recruitment Committee
Program Director, Computer Programming Certificate
Phone: +1.919.515.3369
Sec'y: +1.919.515.2858
Fax: +1.919.515.7896
URL: <http://www.csc.ncsu.edu/faculty/bahler/>

SIGNATURE PAGE

CURRICULUM ACTION FOR 17AMATHFIN

RECOMMENDED BY:



HEAD, DEPARTMENT/PROGRAM

10/17/18

DATE


ENDORSED BY:



CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE

10/17/2018

DATE



COLLEGE DEAN

10/17/18

DATE

APPROVED BY:

CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE

DATE _____

CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION

DATE _____

DEAN, DIVISION OF ACADEMIC AND STUDENT AFFAIRS (DASA)

DATE _____

APPROVED EFFECTIVE DATE _____

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current:

Proposed: x

Proposed Effective Semester: Spring 2019

Degree/Plan Title: Bachelor of Science in Applied Mathematics

Concentration/Subplan Title: Financial Mathematics

Plan SIS Code: 17AMATHBS

Subplan SIS Code: AMATHFIN

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
MA 141 Calculus I ^{A,8}	4 (CP)	MA 241 Calculus II ^{A,8}	4 (CP)
ENG 101 Academic Writing & Research ^{H,7}	4	CH 101 Chemistry - A Molecular Science ^B	3
PMS 100 COS 100 Science of Change ¹	1 2	CH 102 General Chemistry Laboratory ^B	1
GEP Humanities, Social Sciences ^{C,D}	6 3	EC 205 Fundamentals of Economics ^D	3
HES_*** Health & Exercise Studies Course ^E	1	GEP Humanities, Social Sciences ^{C,D}	3
CH 101 Chemistry - A Molecular Science ^{B,2}	3	HES_*** Health & Exercise Studies Course ^E	1
CH 102 General Chemistry Laboratory ^{B,2}	1	ENG 101 Academic Writing & Research ^{H,7}	4
EC 205 Fundamentals of Economics (or EC 201) ^D	3	Introduction to Programming ^{2,3}	3
	Total: 16		Total: 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242 Calculus III ⁸	4 (CP)	MA 341 Applied Differential Equations I ⁸	3 (CP)
MA 225 Foundations of Advanced Math ⁸	3 (CP)	MA 405 Linear Algebra and Matrices ⁸	3
EC 301 Intermediate Macroeconomics	3	ST 305, Statistical Methods	4
PY 205 Physics for Eng. & Scientists I ^{B,2,4,7}	3	PY 208 Physics for Eng. & Scientists II ^{B,2,7}	3
PY 206 Physics for Eng. & Scientists I Lab ^{B,2,4,7}	1	PY 209 Physics for Eng. & Scientists Lab II ^{B,2,7}	1
Free Electives ³	3	GEP Interdisciplinary Perspectives ^G	3
HES_*** Health & Exercise Studies Course ^E	1	ST 371 Intro to Probability and Distribution Th ^{2,9}	3
	Total: 14-15	EC 301 Intermediate Macroeconomics	3
		GEP Humanities, Social Sciences ^{C,9}	3
			Total: 16 15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 116 Intro. to Scientific Programming ^{3,7}	3	MA 426 Mathematical Analysis II ^{8,11}	3
MA 407 Introduction to Modern Algebra ⁸	3	MA 421 Introduction to Probability	3
MA 425 Mathematical Analysis I ⁸	3	ST 422 Intro. Math Statistics II OR ST 372, Intro	3
MA 401, Applied Differential Equations II ^{8,9 10}	3	Statistical Inf Reg. Th ¹⁰	
ST 421 Intro. Math Statistics I OR	3	Advised Electives ^{6 9}	3
ST 371 Intro Prob. Dist. Th ¹⁰		GEP Additional Breadth ^F	3
MA 421 Introduction to Probability ⁸	3	MA 402 Mathematics of Scientific Computing ¹¹	3
EC 302 Intermediate Macroeconomics	3	ST 308 Intro to Statistical Programming - R	1
ST 372 Intro to Stat Inference and Regression ^{2,6}	3	ENG 332 Communication for Bus. & Man. ⁷	3
ST 307 Intro to Statistical Programming- SAS	1	Basic Science Elective ^{2,12}	4
Advised Electives ³	3		
	Total: 15 16		Total: 15 14
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 412 Long-term Actuarial Models ¹³	3	MA 413 Short-term Actuarial Models ¹³	3
EC 302 Intermediate Macroeconomics	3	Advised Electives ^{6,9}	12 6
ENG 332 Communication for Bus. & Man.	3	MA 407 Introduction to Modern Algebra ⁸	3
Advised Electives ^{6,9}	6 3	GEP Additional Breadth ^F	3
GEP Interdisciplinary Perspectives ^G	3		
MA 425 Mathematical Analysis I ^{8,11}	3		
Free Electives ⁵	2		
	Total: 14		Total: 14 15
Minimum Credit Hours Required for Graduation ^{**I,J,K} : 120			

Major/Program Footnotes:

1. E 115 may substitute for COS 100 for the Orientation co-requisite.
2. At most one grade of D is permitted CH 101, CH 102, Introduction to Programming, PY 205, PY 206, the two courses satisfying the physics requirement, the course(s) satisfying basic science elective and the two courses satisfying the statistics requirement.
3. Choose one course from CSC 111, CSC 112, CSC 113, CSC 114, CSC 116, ST 114, MA 116 may be substituted for MA 116.
4. An alternative to PY 205/PY 206 and PY 208/PY 209 is PY 201 and PY 202.
5. Free electives courses cannot be MA 100, MA 101, MA 103, MA 107, MA 108, MA 111, MA 121, MA 131, MA 231, PY 131, PY 211, PY 212, ENG 100, 100-level Foreign Language Course (FL*, LAT, GRK, PER).
6. Either the two course sequence ST 421 and ST 422, or the two course sequence ST 371 and ST 372 are required.
7. ST 371 and ST 371 may be substituted with ST 370 and ST 422 or ST 305 and ST 422.
4. Advanced Writing course must be selected from ENG 331, ENG 332, or ENG 333.
6. Advised Electives are chosen in consultation with your advisor.
8. No grade below a C- is permitted in required math courses.
9. Advised electives are ST, ACC, or EC courses at 300-level or above designed to allow students to concentrate in a specific area related to their academic goals. Courses used to fulfill this requirement should use advanced mathematical tools and are selected by students after consultation and approval by their advisors or the Director of the Undergraduate Program. At least one course must be chosen from the following Major Paper course list: MA 402, MA 427, MA 428, MA 432, MA 433, MA 435, MA 437, MA 491, MA 494, MA 544, MA/BMA 573, and MA/BMA 574.
- 9, 10. MA 501 may substitute for MA 401.
11. MA 512 may be taken in place of MA 426. MA 402 may be substituted with MA/CSC 427, MA/CSC 428, or MA 505.
12. Choose 4 credit hours from the list: PY 208 with PY 209, PY202, BIO 181, BIO 183, CH 201 with CH 202, CH 203 with CH 204, CH 220, or CH 221 with CH 222.
13. MA 412 and MA 413 may be substituted with any of the following courses: MA 528, MA 546, MA 547, MA 549.

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

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101, CH 102, PY 201, PY 202, PY 205/PY 206, PY 208/PY 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

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

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

F. Additional Breadth (3 credit hours to be selected from the following checked University approved GEP course list) Humanities/Social Sciences/Visual and Performing Arts**G. Interdisciplinary Perspectives** (5 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: none

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: none

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: none

K. Foreign Language proficiency Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title</u> : Bachelor of Science in Applied Mathematics	<u>Plan SIS Code</u> : 17AMATHBS
<u>Concentration/Subplan Title</u> : Financial Mathematics	<u>Subplan SIS Code</u> : 17AMATHFIN
<u>Indicate requirements status</u> : Current: Proposed: X	<u>Proposed Effective Semester</u> : Spring 2019
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:	Credit Hours	GEP category, if applicable
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
Basic Mathematics MA 141, MA 241, MA 242, MA 225, MA 341 No grade below a C- is permitted in any critical path courses: MA 141, 241, 242, 225, or 341.	18 (CP)	Mathematics (6 hours)
Basic Science CH 101, CH 102 OPT 060: Physics. Choose one pair – PY 205 and PY 208, or PY 201 and PY 202. Physics. PY 205 with PY 206, or PY 201	4 8 4	Natural Sciences (7 hours) Natural Sciences (4 hours)
Basic Science Elective. Choose 4 credit hours from the list: PY 208 with PY 209, PY202, BIO 181, BIO 183, CH 201 with CH 202, CH 203 with CH 204, CH 220, or CH 221 with CH 222.	4	Natural Sciences (3 hours)
OPT 035: Statistics. Choose one pair: ST 371 - ST 372, ST 421 – ST 422 , ST 370 - ST 422, ST 305 - ST 422	6	
GRP 037: Introduction to Programming. Chose one course from MA 116, CSC 111 , CSC 112, CSC 113 , CSC 114, CSC 116, ST 114 . At most one grade of D is permitted in Basic Science courses.	3	Technology Fluency Co-Requisite
Advanced Mathematics MA 401 (or MA 501), MA 405, MA 407, MA 425, MA 412, MA 413 , MA 421 GRP 025, MA 426 or MA 512 Math Electives: Choose one course from MA 402, MA 426, MA 427, MA 428, MA505	21 15 3 6	
Financial Math Electives. Two courses must be chosen from MA 412, MA 413, MA 528, MA 540, MA 546, MA 547, MA 548, MA 549 No grade below a C- is permitted in any required math course. At most one grade below a C- is permitted in Advanced Mathematics courses.	6	

<p>CO-REQ 030: Major Paper Co-Requirement. One course must be chosen from the following list -- MA 402, MA 427, MA 428, MA 432, MA 433, MA 437, MA 491, MA 494 MA 544, MA/BMA 573, and MA/BMA 574</p>		<p>Communication in the Major Co-Requisite</p>
<p>Concentration Courses/Groups/Electives:</p> <p>Required Courses Concentration Requirements: EC 205, EC 301, EC 302, ST 305</p> <p>Fundamentals of Economics: EC 201 or EC 205</p> <p>EC 301, EC 302, ST 307, ST 308</p> <p>Major Electives: Advised Electives GPP 090: Advised Electives are chosen in consultation with your advisor. Advised electives are ST, ACC, BUS or EC courses at 300-level or above designed to allow students to concentrate in a specific area related to their academic goals. Courses used to fulfill this requirement should use advanced mathematical tools and are selected by students after consultation and approval by their advisors or the Director of the Undergraduate Program.</p>	<p>12</p> <p>3</p> <p>8</p> <p>18 12</p>	<p>Social Sciences (3 hours)</p>
<p>Free Electives: GRP 200: Free electives courses cannot be MA 103, MA 107, MA 108, MA 111, MA 121, MA 131, MA 231, PY 131, PY 211, PY 212, ENG 100, 100-level Foreign Language Course (FL*, LAT, GRK, PER)</p>	<p>5</p>	
<p>Total credit hours under Major Field of Study: Minimum 27 hours required in program area.</p>	<p>93 94 hours</p>	
COLLEGE REQUIREMENTS:		
<p>Orientation Co-requisite (verify) GRP 110: PMS 100 COS 100 or E 115</p>	<p>1 n/a</p>	
<p>Other: GRP 2120 Advanced Writing: ENG 331, ENG 332, or ENG 333</p>	<p>3</p>	
<p>Total credit hours under College Requirements:</p>	<p>43 Hours</p>	

<p><u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u></p> <p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<p>At least one of the following must be listed:</p> <ol style="list-style-type: none"> 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.
<p>General Education Program Requirements: Minimum 39-40 hrs</p>	<p>Credit hours</p>	<p><i>How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)</i></p>
<p>Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</p>	<p>X</p>	<p><i>Minimum requirements are satisfied by Major course requirements.</i></p>

Natural Sciences (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(7 credits)	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major course requirements.
English 101 (C- or better required)	(4 credits)	4	ENG 101
Humanities (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(6 credits)	6	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
Social Sciences (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(6 credits)	3	(Choose statement 1, 2 or 3) Major/College course requirement satisfies 3 credit hours of this requirement. Remaining hours must be chosen from the University Approved GEP course list for this category.
Additional Breadth (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	(3 credits)	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for the Humanities/Social Sciences/Visual and Performing Arts.
Interdisciplinary Perspectives Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(5 credits)	5	(Choose statement 1, 2 or 3) Choose course(s) from the University Approved GEP course list for this category.
Health and Exercise Studies (Including one Fitness and Wellness course)	(2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.		23 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 (USD)		n/a	(Choose statement 1 or 4) Choose course(s) from the University Approved GEP course list for this category.
Global Knowledge co-requisite (GK)		n/a	(Choose statement 1 or 4) Choose course(s) from the University Approved GEP course list for this category.
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.		120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.



College of Sciences

Department of Marine, Earth,
and Atmospheric Sciences

Campus Box 8208 / 1125 Jordan Hall
Raleigh, NC 27695-8208

919.515.3711
www.meas.ncsu.edu

Memorandum

To: Mike Mullen, Vice Chancellor and Dean of the Division of Academic and Student Affairs

From: Carrie Thomas, Director of Undergraduate Programs, Marine, Earth & Atmospheric Sciences

Revision of Curriculum to meet UNC Policy 400.1.5

Proposed effective date: January 2019

Plan and subplan affected: 17MARSCBS – 17MARSCMET

List of revisions with reasons and impacts:

- 1) Allow students to double count required major courses for GEP requirements to reduce the number of credit hours taken for graduation to 120. Credits for MEA 100 (4) and COS 100 (2) will count toward the Interdisciplinary Perspectives GEP requirement.
- 2) Increase Approved Elective credits required from 9 to 11 credit hours to adjust for the offset created by double counting.
- 3) Revise course requirements to reflect current catalog offerings:
 - A) MEA 213 Intro to Atmospheric Sciences I (2 credits) and MEA 214 Intro to Atmospheric Sciences II (2 credits) are now MEA 215 Intro to Atmospheric Science (4 credits).
 - B) COS 100 Perspectives on Learning (1 credit) is now COS 100 Science of Change (2 credits).
 - C) ST 380 Probability & Statistics for Physical Sciences is no longer being taught, so ST 370 Probability & Statistics for Engineers replaces it.
 - D) The computer science option is broadened to include other computer science options as the department develops a computing course for atmospheric sciences. Students are currently enrolling in a special topics shell as the course is refined. As soon as the course action is final in the spring, we will once again revise this requirement.
 - E) MEA 495 Senior Seminar is now MEA 495 Junior Seminar.
- 4) Rearrange semester-by-semester plan to balance hours and to ensure prerequisite sequencing.
 - A) ENG 101 is moved from the fall semester to the spring semester of the freshman year.

- B) MEA 100 Earth Systems Science is moved from the spring semester to the fall semester of the freshman year.
 - C) MEA 321 Fundamentals of Air Quality is moved from the fall semester of the sophomore year to the fall semester of the junior year.
 - D) The computer science option is moved from spring semester freshman year to fall semester sophomore year.
 - E) The GEP HES and Social Sciences requirements are moved to balance hours.
 - F) MEA 495 Junior Seminar is moved from the fall semester of the senior year to the spring semester of the junior year.
- 5) Update footnotes to reflect changes in the curriculum.

Attachments:

Consultations

Signature page

Current Semester-by-Semester Plan

Proposed Format A

Proposed Format B

Consultations

From: Spencer Muse <muse@ncsu.edu>
Date: Wed, Sep 5, 2018 at 2:08 PM
Subject: Re: consult for curricular revision
To: Carrie Thomas <cjthomas@ncsu.edu>

My understanding is that 380 is no longer going to be taught, period. I remember announcing this at a UAAC meeting some time ago, with the suggestion being to move students into either 311 or 370. (I'll follow up on this, and if its correct I'll submit a course action tp remove it from the catalog). ST 370 aligns more closely with the content of 380. The only negative to requiring 370 is that it makes it a bit trickier for students to take any additional ST courses. ST 370 is designed as a terminal class, so if they want to move on to a higher level class the next options are 312 (non-calculus, prerequisites of 311) or 372 (calculus, prerequisites of 371). We allow them to move on to either of those two options from 370, but with the explicit understanding that 370 does not cover all the prerequisite material and that they will have to do extra independent work to learn that material. This mainly comes into play when someone who has taken 370 wants to add a ST minor.

Let me know if you have any questions-
Spencer

Spencer Muse
muse@ncsu.edu

> On Sep 5, 2018, at 1:35 PM, Carrie Thomas <cjthomas@ncsu.edu> wrote:
>
> Dear Spencer,
> We are putting the finishing touches on or revisions to the BS in Meteorology, and we would like to adjust our statistics course requirement. Presently we require ST 380. We would like to offer a choice between ST 370 or ST 380. ST 380 is not regularly offered so this will allow students some flexibility. Would you please provide a consultation email I can attach to our revisions?
> Thanks,
> Carrie
>

**Signature Page
MEAS Curricular Revisions**

Endorsed By:

 _____  _____
Head, Department/Program Date

Recommended By:

 _____  _____
Chair, College Curriculum Committee Date

Endorsed By:

 _____  _____
College Dean Date

Recommended By:

Chair, University Courses & Curricula Committee Date

Approved By:

Dean, (DASA) Date

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

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

Degree/Plan Title: BS in Marine Science

Concentration/Subplan Title: Meteorology

Plan SIS Code: 17MARSCBS

Subplan SIS Code: 17MARSCMET

New Degree Audit required? (Y or N) Y

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

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 101 Chemistry- A Molecular Science ^{1, B}	3 CP	CH 201 Chemistry – A Quant Sci ^{1, B}	3
CH 102 General Chem Lab ^{3, B}	1	CH 202 General Quant Lab ³	1
MA 141 Calculus I ^{1, A}	4 CP	ENG 101 Academic Writing & Research ^{1, H}	4
MEA 100 Earth System Science ^{2, G, J}	4	MA 241 Calculus II ^{1, A}	4 CP
COS 100 The Science of Change ^{4, G}	2	MEA 215 Intro to Atmospheric Sciences ²	4
<i>Total: 14</i>		<i>Total: 16</i>	
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Computer Science Option ⁵	3	MA 341 Appl Differential Equations I ³	3
MA 242 Calculus III ³	4	MEA 250 Intro to Coastal Environments ²	3
MEA 200 Intro to Oceanography ²	3 CP	MEA 312 Atmospheric Thermodynamics ²	4
MEA 210 Oceanography Lab ²	1	HESF 1** Health & Exercise Studies Course ^E	1
PY 205 Physics for Engr & Sci I ¹	3 CP	PY 208 Physics for Engr & Sci II ³	3
PY 206 Physics for Engr & Sci I Lab ³	1	PY 209 Physics for Engr & Sci Lab II ³	1
<i>Total: 15</i>		<i>Total: 15</i>	
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MEA 321 Fund. Of Air Quality & Climate Chg. ²	3	Advanced Writing Elective ⁷	3
MEA 421 Atmospheric Dynamics I ¹	3	Approved Elective ^{2, 6}	3
MEA 460 Physical Oceanography ²	3	HES_ *** Health & Exercise Studies Course ^E	1
ST 370 Prob & Stat for Engineers ³	3	MEA 462 Obser Methods & Data Analysis ²	3
GEP Humanities Requirement ^C	3	MEA 467 Marine Meteorology ²	3
<i>Total: 15</i>		MEA 495 Junior Seminar	1
<i>Total: 15</i>		<i>Total: 14</i>	
SUMMER SESSION I			
MEA 459 Coastal Processes ² 5 cr.			
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Approved Elective ^{2, 6}	4	Approved Elective ^{2, 6}	4
GEP Humanities Requirement ^C	3	MEA 464 Ocean Circulation Systems ²	3
MEA 463 Fluid Physics ²	3	GEP Additional Breadth Requirement ^F	3
GEP Social Sciences Requirement ^D	3	GEP Social Sciences Requirement ^D	3
<i>Total: 13</i>		<i>Total: 13</i>	
Minimum Credit Hours Required for Graduation * : 120			

Major/Program Footnotes:

- Grade of C- or higher required in CH 101, CH 201; ENG 101; MA 141, 241; MEA 421; and PY 205.
- No more than one D will be accepted in MEA or concentration courses.
- No more than one additional D will be accepted in other math or science courses.
- COS 100 is for new freshmen only. Transfer students will need to select a course from the GEP Interdisciplinary Perspectives course list.
- Any MEA computing course, CSC 112, CSC 113 or MA 116.
- To be selected in consultation with advisor.
- Advanced Writing Elective must be selected from ENG 331, ENG 332, and ENG 333. The Advanced Writing Elective may not be used to satisfy the GEP Humanities requirement. It does satisfy the Communication in the Major Co-Requisite.

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

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

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

- A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **MA 141, MA 241**
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 101, CH 102, CH 201**
- 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: **none**
- E. Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts
- G. Interdisciplinary Perspectives** (5-6 credit hours)
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: **MEA 100, COS 100**
- H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**
- J. Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **MEA 100**
- K. Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Marine Sciences (BS): Meteorology (17MARSCBS-17MARSCMET)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
CH 101 Chem Molecular Sci ^{1,B}	3	CH 201 Chem Quant Sci ^{1,B}	3
CH 102 General Chem Lab ^{3,B}	1	CH 202 General Quant Lab ³	1
ENG 101 Academic Writing & Research ^{1,4,H}	4	MA 241 Calculus II ^{1,A}	4
MA 141 Calculus I ^{1,A}	4	MEA 100 Earth Systems Science ^{2,6}	4
MEA 213 Fund of Meteorology I ²	2	MEA 214 Fund of Meteorology II ²	4
COS 100 Perspectives on Learning ^{4,5}	1	Computer Science Option ^{3,7,5}	3
	15		17

Handwritten notes:
 - Red circles around ENG 101, MA 141, MEA 100, MEA 214, and Computer Science Option.
 - Red arrows and text: "move to sp" (from ENG 101 to MA 241), "move to fall" (from MA 141 to MEA 100), "debt" (next to MEA 213), "The Science of Change 4/5" (next to COS 100), "Start to Atm Sci" (next to MEA 214), "move to fall soph yr" (from COS 100 to MEA 213).
 - Red numbers: "14" (under 15), "16" (under 17).

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
MA 242 Calculus III ³	4	PY 208 Physics Engineers & Scientists I ³	3
MEA 200 Intro to Oceanography ²	3	PY 209 Physics Engineers & Scientists II Lab ³	1
MEA 210 Oceanography Lab ²	1	MEA 250 Intro to Coastal Environments ²	3
MEA 321 Fund Air Qual. & Climate Chg	3	MA 341 Applied Differential Equations I ³	3
PY 205 Physics Engineers & Scientists I ¹	3	MEA 312 Atmospheric Thermodynamics ²	4
PY 206 Physics Engineers & Scientists I Lab ³	1	HES *** Health & Exercise Studies Course ^E	1
	15		15

Handwritten notes:
 - Red circle around MEA 321.
 - Red text: "move to jr yr fall" (from MEA 321 to PY 205).

Junior Year

Fall Semester	Credit	Spring Semester	Credit
GEP Humanities Reqt. ^c	3	Approved Elective ^{2,8/6}	3
<u>HES_*** Health & Exercise Studies Course^E</u>	1	Advanced Writing Elective ^{9/7}	3
MEA 421 Atmospheric Dynamics I ¹	3	MEA 467 Marine Meteorology ²	3
MEA 460 Physical Oceanography ²	3	MEA 462 Obser. Methods & Data Analysis ²	3
³⁷⁰ ST 380 Prob & Stat for Phys Sciences ³ ^{Engineer}	3	<u>GEP Social Sciences Reqt.^D</u>	3
	13		15 14

move to Sp

Summer

Fall Semester	Credit
MEA 459 Coastal Processes ²	5

move to fall Sr yr

Senior Year

Fall Semester	Credit	Spring Semester	Credit
Approved Elective ^{2,8/6}	3 4	Approved Elective ^{2,8/6}	3 4
GEP Humanities Reqt. ^c	3	GEP Addtl. Breadth Reqt. ^f	3
MEA 463 Fluid Physics ²	3	MEA 464 Ocean Circulation Systems ²	3
<u>MEA 495 ^{Junior} Senior Seminar</u>	1	GEP Interdisc. Persp. Reqt.^G	2-3 delete
GEP Interdisc. Persp. Reqt.^G	3 delete	GEP Social Sciences Reqt. ^D	3
	13		14-15 13

move to sp Jr yr

Minimum Credit Hours Required for Graduation^{*1, X}:

~~122~~ 120

Major/Program Footnotes

1. Grade of C- or higher required in CH 101, CH 201; ENG 101; MA 141, 241; MEA 421; PY 205.
2. No more than one D will be accepted in MEA core courses and concentration courses.
3. No more than one D will be accepted in other basic math or science courses.
4. ~~ENG 101 will not be available for all students in fall of their freshman year. Students not enrolled in ENG 101 should register for this course the following fall, and substitute a GEP Humanities Requirement in their first semester.~~ *delete*
4. E 115 may substitute for COS 100.
6. ~~Majors should register for the honors lab section.~~ *delete*
5. ~~CSC 112 or 114 or MA 116. If you plan to double major in meteorology, MA 116 is required.~~ *Any MEA computing course, ESC 112, CSC 113, or MA 116.*
6. To be selected in consultation with advisor.
7. Advanced Writing Elective must be selected from ENG 331, ENG 332, and ENG 333. This satisfies the Communication in the Major Co-Requisite.

* General Education Program (GEP) requirements and GEP Footnotes

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101, CH 102, CH 201

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: none

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

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

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

Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: none *COS 100, MEA 100*

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: none

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: none *MEA 100*

K. Foreign Language Proficiency Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title:</u> BS in Marine Science	<u>Plan SIS Code:</u> 17MARSCBS
<u>Concentration/Subplan Title:</u> Meteorology	<u>Subplan SIS Code:</u> 17MARSCMET
<u>Indicate requirements status:</u> Current: Proposed: X	<u>Proposed Effective Semester:</u> Spring 2019
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<u>CORE COURSES/MARINE SCIENCE</u>		
MEA 100 EARTH SYS SCIENCE	4	Interdisciplinary Perspectives 4 hours. Satisfies Global Knowledge co-requisite.
MEA 200 INTRO OCEANOGRAPHY	3 CP	
MEA 210 OCEANOGRAPHY LAB	1	
MEA 250 INTRO TO COASTAL ENVIRONMENTS	3	
MEA 459 COASTAL PROCESSES	5	
MEA 460 PRIN PHYS OCEANOGRAPHY	3	
MEA 462 METHODS MARINE PY	3	Satisfies the Technology Fluency Co-Requisite
MEA 495 JUNIOR SEMINAR	1	
<u>BASIC MATH & SCIENCES</u>		
CH 101 CHEM MOLECULAR SCI (C-wall)	3 CP	Natural Science 3 hours
CH 102 GEN CHEM LAB	1	Natural Science 1 hours
CH 201 CHEM-A QUANTI SCI (C-wall)	3	Natural Science 3 hours
CH 202 QUANT CHEM LAB	1	
PY 205 PHYSICS ENGR SCI I (C-wall)	3 CP	
PY 206 PHYSICS ENGR SCI I LAB	1	
PY 208 PHYSICS EGR SCI II	3	
PY 209 PHYSICS EGR SCI II LAB	1	
MA 141 CALCULUS I (C-wall)	4 CP	Mathematics 4 hours
MA 241 CALCULUS II (C-wall)	4 CP	Mathematics 2 hours
MA 242 CALCULUS III	4	
MA 341 APPL DIFF EQ I	3	
ST 370 PROB & STAT FOR ENGINEERS	3	
Computer Science Option: Any MEA computing course, CSC 112, CSC 113, OR MA 116	3	
<u>Concentration Courses/Groups/Electives:</u>		
MEA 215 INTRO ATMOS SCI	4	
MEA 321 FUND AIR QUAL & CLIMATE CHG	3	
MEA 312 ATMOS THERMODYN	4	
MEA 421 ATMOS DYNAMICS I (C-wall)	3	
MEA 463 FLUID PHYSICS	3	
MEA 464 OCEAN CIRCULATION	3	

MEA 467 MARINE METEOROLOGY APPROVED ELECTIVES (no course pattern)	3 11	
No more than one D will be allowed in MEA core courses and concentration courses. No more than one D will be allowed in other basic math and science courses.		
Free Electives:		
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	94 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): COS 100 SCIENCE OF CHANGE	2	Interdisciplinary Perspectives 2 hours.
Other: ADVANCED WRITING ELECTIVE: ENG 331, ENG 332, or ENG 333	3	Satisfies Communication in the Major GEP co-requisite
Total credit hours under College Requirements:	5 Hours	

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

Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	21 hours	
GEP Co-Requisites:		<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>
U.S. Diversity co-requisite (USD)	n/a	<i>(Choose statement 1 or 4)</i> Choose course(s) from the University Approved GEP course list for this category.
Global Knowledge co-requisite (GK)	n/a	<i>(Choose statement 1 or 4)</i> Minimum requirements are satisfied by Major/College course requirements.
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.	120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Mathematics Education Program

Dr. Cyndi Edgington
Campus Box 7801
Raleigh, NC 27695

P: 919.515.1754

MEMORANDUM

To: University Course and Curriculum Committee

From: Cyndi Edgington, Undergraduate Program Coordinator,
Mathematics Education

Date: October 18, 2018

RE: Mathematics Education: Curricular revisions to comply with 120 hour policy

To whom it may concern,

The program has updated the curricula for four Mathematics Education degree options: Mathematics Education (BS): Computer Science, Mathematics Education (BS): Mathematics, Mathematics Education (BS): Statistics, and Mathematics Education (BS): Middle Grades. These updates include revisions to comply with the University-wide policy that caps degree programs at 120 hours. In addition, we added a course (EMS 495) that will allow our degree programs to be in line with other programs in the STEM Education department. The additional course is an existing course within our department. Our faculty has discussed each degree option to agree on adjustments to meet the policy within each option.

Here is an outline of the changes:

1. We removed a free elective from each degree option except Middle Grades.
2. We added a course (EMS 495, 2 hours) that will allow our degree programs to be in line with other programs in the STEM Education department. The additional course is an existing course within our department. We adjusted EMS 471 from 12 hours to 10 hours.
3. In Middle Grades Math, we removed MA 242. For students intending to license in mathematics only, we removed EMS 375 and added this as a science elective for students intending to license in mathematics and science.
4. In Computer Science Specialization, we updated CSC 216 to 4 hours and removed E 115 as a requirement.

We believe the revisions meet the 120 hour policy while still providing our students with a rigorous and complete course of study. A record of these revisions is provided as tracked version of each curriculum display.

Sincerely,

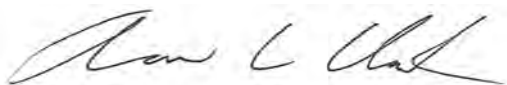


Cyndi Edgington

NC STATE UNIVERSITY ~ COLLEGE OF EDUCATION ~ SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION DEPARTMENT SUBMITTING UPDATES TO THE FOLLOWING DEGREE PROGRAMS:

13MTHEDMSM, 13MTHEDCPS, 13MTHEDMS, 13MTHEDSS

RECOMMENDED BY:



10/20/2018

HEAD, DEPARTMENT/PROGRAM

DATE

ENDORSED BY:



10/21/18

CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE

DATE



10/22/18

COLLEGE DEAN

DATE

APPROVED BY:

CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE

DATE

CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION

DATE

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

APPROVED EFFECTIVE DATE _____

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2018

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Middle Grades

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDMSM

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

Major/Program Footnotes:

- At most one grade below a C- is permitted in the courses satisfying the science requirements for a student intending to license in mathematics. For a student intending to license in mathematics and science, no grades below a C are permitted in the courses satisfying the science requirements.
- At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
- One discrete mathematics elective must be selected from MA 103, MA 105, or MA 114
- Math electives must be chosen from the following, if appropriate prerequisites have been met: MA 116, ST 312, MA 242, MA 325,

MA 335, MA 341, MA 351, MA 402, MA 410, MA 416, MA 421, MA 425, MA 427, MA 430, MA 432, MA 433, MA 435, MA 437, LOG 335.

5. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, ED courses.

6. Grade below a C is not permitted in MA 141 or MA 225.

7. Linear algebra Elective can be selected from MA 205, MA 305, or MA 405.

8. To be eligible for a teaching license in mathematics only, either mathematics or science courses may be selected. (See footnote 4 for mathematics choices and see below for science choices.) To be eligible for teaching licenses in both mathematics and science, two science elective courses must be selected from PY 124, MEA 130 or MEA 101 and one must be chosen from PY 123, MEA 130, MEA 101, ES 100, ES 200, or ES 300. Grades below C are not permitted in these science courses.

1

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

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

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

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

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: none
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: none
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2018

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Middle Grades

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDMSM

New Degree Audit required? (Y or N) 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
MA 141, Calculus I ^{A,6}	4 (CP)	MA 241, Calculus II ^{A,2}	4 (CP)
CH 100, Chemistry and Society ^{B,1} OR CH 101/102 Chemistry: A Molecular Science ^{B,1} /General Chemistry Laboratory ^{B,1}	4	BIO 105, Biology in the Modern World ^{B,1}	3
ENG 101, Academic Writing & Research ^H	4	BIO 106 Biology in the Modern World Lab ^{B,1}	1
HES ***Health & Exercise Studies Course ^E	1	COM 112 Interpersonal Communication ^D	3
ED 100 Intro. to Education ⁵	2	GEP Interdisc. Persp. Req ^{G,I,J}	3
		HES ***Health & Exercise Studies Course ^E	1
	Total:15		Total:15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242 Calculus III ² MA Linear Algebra Elective ^{2,7}	4 3	MA 225, Foundations of Adv Math ^{2,6}	3
PY 131, Conceptual Physics ^{B,1}	4	Discrete Mathematics ^{2,3} or Science ^{1,8} Elective	3
EMS 204 Intro to Teaching Math ⁵	2 (CP)	Mathematics ^{2,4} or Science Elect. ^{1,8}	3
ED 204 Intro to 21st Cent. Teaching ⁵	2 (CP)	EDP 304 Educational Psychology ^{5,D}	3
GEP Humanities Req ^{C,I,J}	3	ECI 309 Teaching in Middle Grades ⁵	3
<u>Free Elective</u>	2	GEP Humanities Req ^{C,I,J}	3
	Total:1618		Total:18
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 403 Intro to Modern Algebra ²	3	MA 308 College Geometry² OR	3
Mathematics^{2,4} or Science^{1,8} Elective	3	-MA 408 Foundations of Euclidean Geometry ²	3
ELP 344 School and Society ⁵	3	EMS 474 Teach Math Topics in Mid Years ⁵ EMS	3
EMS 480 Teach Math w/ Technology⁵	3	375 Methods in Teaching Science I⁵	3
ED 311 Class. Assess. Princ. & Pract. ⁵	2	EMS 470: Methods & Materials for Teaching Math ^{5,++}	3
ED 312 Class. Assess. Princ. & Pract.: Prof. Learn. Lab ⁵	1	EMS 480 Teaching Math with Technology	3
ST 311 Introduction to Statistics ²	3 2	EMS 490 School Math from an Adv. Persp⁵	3
GEP Addtl. Breadth Req^(HUM/SS/VPA)F,I,J	3	Mathematics Elective^{2,4} or EMS 375	3
	Total:1518		Total:15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
EMS 471: Student Teaching ^{5,++}	10 12	Mathematics ^{2,4} or Science Elect. ^{1,8}	3
EMS 495: Seminar⁵	2	ECI 306 Reading and Writing in Middle Years ⁵	3
		ECI 416 Teaching Except. Students ⁵	3
		GEP Addtl. Breadth Req^(HUM/SS/VPA)F,I,J	3
		EMS 490 School Mathematics from and Advanced Perspective	3
		GEP Interdisciplinary Perspectives Req ^{G,I,J}	2-3
	Total:12		Total:14-15
Minimum Credit Hours Required for Graduation*: 120126			

Major/Program Footnotes:

1. At most one grade below a C- is permitted in the courses satisfying the science requirements for a student intending to license in mathematics. For a student intending to license in mathematics and science, no grades below a C are permitted in the courses satisfying the science requirements.
2. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
3. One discrete mathematics elective must be selected from MA 103, MA 105, or MA 114
4. Math electives must be chosen from the following, if appropriate prerequisites have been met: [MA 116, ST 312](#), MA 242, MA 325, MA 335, MA 341, MA 351, MA 402, MA 410, MA 416, MA 421, MA 425, MA 427, MA 430, MA 432, MA 433, MA 435, MA 437, [LOG 335](#).
5. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, ED courses.
6. Grade below a C is not permitted in MA 141 or MA 225.
7. Linear algebra Elective can be selected from MA 205, MA 305, or MA 405.
8. To be eligible for a teaching license in mathematics only, either mathematics or science courses may be selected. (See footnote 4 for mathematics choices and see below for science choices.) To be eligible for teaching licenses in both mathematics and science, two science elective courses must be selected from PY 124, MEA 130 or MEA 101 and one must be chosen from PY 123, MEA 130, MEA 101, ES 100, ES 200, or ES 300. Grades below C are not permitted in these science courses.
- ~~11. A grade of C or better is required in EMS 470 to continue in school placement full-time.~~

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

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

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

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

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B

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

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

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

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<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"> 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 <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. 4 Co-requisite is satisfied by a Major/College course requirement. 5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. 6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> MA 141, MA 241		(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> CH 100, OR CH 101/102, BIO 105/106, PY 131		(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101

Humanities (Courses from <i>two different disciplines</i>) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. (6 credits)	6	(Choose statement 1, 2 or 3) 1
Social Sciences (Courses from <i>two different disciplines</i>) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. COM 112, EDP 304 (6 credits)		(Choose statement 1, 2 or 3) 2
Additional Breadth (Choose approach that is <i>different from the approach of the Major</i>) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites. (3 credits)	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. (5 credits)	5	(Choose statement 1, 2 or 3) 1
Health and Exercise Studies (Including one <i>Fitness and Wellness</i> course) (2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	20 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 (USD)	n/a	(Choose statement 1 or 4) 1
Global Knowledge co-requisite (GK)	n/a	(Choose statement 1 or 4) 1
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.	120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2018

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Computer Science Specialization

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDCPS

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
MA 141 Calculus I ^{A,4}	4 (CP)	MA 241 Calculus II ^{A,4}	4 (CP)
Science ^{1,B,3}	4	Science ^{1,B,3}	4
ENG 101 Academic Writing & Research ^H	4	CSC 116 Intro to Computing Java ⁴	3
ED 100 Intro to Education ⁵	2	COM 112 Interpersonal Communication ^D	3
		HES***Health & Exercise Studies Course ^E	1
	Total:14		Total: 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242 Calculus III ⁴	4 (CP)	CSC 216 Programming Concepts – Java ⁴	4
ST 311 Introduction to Statistics ⁴	3	CSC 226 Discrete Math for Computer Scientists ⁴	3
EMS 204 Intro to Mathematics Education ⁵	2 (CP)	EDP 304 Educational Psychology ^{D,5}	3
ED 204 Intro to 21 st Century Teaching ⁵	2 (CP)	ST 312 Intro to Statistics II ⁴	3
GEP Interdiscip. Persp. ^{G,I,J}	2-3	ST 307 Statistical Programming ⁴	1
GEP Humanities Req. ^{C,I,J}	3	GEP Interdiscip. Persp. ^{G,I,J}	3
	Total:16-17		Total:17
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 405 Linear Algebra and Matrices ⁴	3	CSC 236 Computer Org & Assembly Lang for Comp Sci ⁴	3
MA 403 Intro to Modern Algebra ⁴	3	MA 408 Foundations of Euclidean Geometry ⁴	3
ELP 344 School and Society ⁵	3	EMS 480 Teaching Math with Technology ⁵	3
ECI 416 Teaching Exceptional Students ⁵	3	ED 311 Classroom Assessment Principles & Practices ⁵	2
Science ^{1,B,3}	3	ED 312 Classroom Assess. Principles & Practices: Prof. Learning Lab ⁵	1
		HES***Health & Exercise Studies Course ^E	1
		GEP Add. Breadth Req: HUM/SS/VPA ^{F,I,J}	3
	Total:15		Total:16
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CSC 316 Data Structures for Computer Scientists ⁴	3	EMS 471 Student Teaching ⁵	10
EMS 472 Teaching Math Topics in High School ⁵	3	EMS 495 Seminar ⁵	2
EMS 490 School Math from an Adv. Perspective ⁵	3		
EMS 470 Methods & Materials for Teaching Math ⁵	3		
GEP Humanities Req. ^{C,I,J}	3		
	Total:15		Total:12
Minimum Credit Hours Required for Graduation*: 120			

Major/Program Footnotes:

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

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

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

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

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

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2018

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Computer Science Specialization

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDCPS

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
MA 141 Calculus I ^{A,45}	4 (CP)	MA 241 Calculus II ^{A,45}	4 (CP)
Science ^{1,2,B,3,4}	4	Science ^{1,2,B,3,4}	4
ENG 101 Academic Writing & Research ^H	4	CSC 116 Intro to Computing Java ⁴⁵	3
E 115 Intro to Computing Environments¹	1	COM 112 Interpersonal Communication ^D	3
ED 100 Intro to Education ⁵⁶	2	HES***Health & Exercise Studies Course ^E	1
	Total:145		Total: 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242 Calculus III ⁴⁵	4 (CP)	CSC 216 Programming Concepts – Java ⁴⁵	4 3
ST 311 Introduction to Statistics ⁴⁵	3	CSC 226 Discrete Math for Computer Scientists ⁴⁵	3
EMS 204 Intro to Mathematics Education ⁵⁶	2 (CP)	EDP 304 Educational Psychology ^{D,56}	3
ED 204 Intro to 21 st Century Teaching ⁵⁶	2 (CP)	ST 312 Intro to Statistics II ⁴⁵	3
GEP Interdiscip. Persp. ^{G,I,J}	2-3	ST 307 Statistical Programming ⁴⁵	1
GEP Humanities Req. ^{C,I,J}	3	GEP Interdiscip. Persp. ^{G,I,J}	3
	Total:16-17		Total:176
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 405 Linear Algebra and Matrices ⁴⁵	3	CSC 236 Computer Org & Assembly Lang for Comp Sci ⁴⁵	3
MA 403 Intro to Modern Algebra ⁴⁵	3	MA 408 Foundations of Euclidean Geometry ⁴⁵	3
ELP 344 School and Society ⁵⁶	3	EMS 480 Teaching Math with Technology ⁵⁶	3
ECI 416 Teaching Exceptional Students ⁵⁶	3	ED 311 Classroom Assessment Principles & Practices ⁵⁶	2
Science ^{1,2,B,3,4}	3	ED 312 Classroom Assess. Principles & Practices: Prof. Learning Lab ⁵⁶	1
Free Elective	2	HES***Health & Exercise Studies Course ^E	1
	Total:1517	GEP Add. Breadth Req: HUM/SS/VPA ^{F,I,J}	3
			Total:16
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CSC 316 Data Structures for Computer Scientists ⁴⁵	3	EMS 471 Student Teaching ⁵⁶	10 12
EMS 472 Teaching Math Topics in High School ⁵⁶	3	EMS 495 Seminar⁵	2
EMS 490 School Math from an Adv. Perspective ⁵⁶	3		
EMS 470 Methods & Materials for Teaching Math ⁵⁴⁰	3		
GEP Humanities Req. ^{C,I,J}	3		
	Total:15		Total:12
Minimum Credit Hours Required for Graduation*: 120			

Major/Program Footnotes:

~~1. COS 100 may substitute for E 115~~

~~1.2.~~ To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the GEP list of approved science courses.

~~2.3.~~ Introduction to programming course must be selected from MA 116, CSC 112, CSC 114, or CSC 116.

~~3.4.~~ At most one grade below a C- is permitted in the courses satisfying the science requirement.

~~4.5.~~ At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.

~~5.6.~~ A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.

~~7. MA 341 may be taken in place of MA 351.~~

~~8. A grade of C or better is required in EMS 470 to continue in school placement full-time.~~

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

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

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

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

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B

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

MAJOR FIELD OF STUDY REQUIREMENTS:	Credit Hours	GEP category, if applicable
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
<p>Mathematical Sciences</p> <p><u>Statistics:</u> ST 311 ST 312 ST 307 (at most one grade below a C is permitted in required and elective math, statistics, and computer science courses)</p> <p><u>Mathematics:</u> MA 141(C or better required) MA 241 MA 242 MA 403 MA 405 MA 408 (at most one grade below a C is permitted in required and elective math, statistics, and computer science courses)</p> <p><u>Computer Science:</u> CSC 116 CSC 216 CSC 226 CSC 236 CSC 316 (at most one grade below a C is permitted in required and elective math, statistics, and computer science courses)</p> <p><u>Sciences:</u> (To satisfy the science requirement, a sequence of two lab-based science courses must be taken. The third science may be selected from the GEP list of approved science courses) Choose from CH 101/102 and CH 201/202 OR BIO 181 and BIO 183 OR PY 201 and PY 202 OR PY 204 and PY 208 OR PY 211 and PY 212 Science elective (At most one grade below a C- is permitted in the courses satisfying the science requirement)</p> <p><u>Communication:</u> COM 112</p>	<p>3 3 1</p> <p>4 (CP) 4 (CP) 4 (CP) 3 3 3</p> <p>3 (CP) 4 (CP) 3 (CP) 3 3</p> <p>4 4 3</p> <p>3</p>	<p>GEP MA GEP MA</p> <p>GEP Natural Science GEP Natural Science GEP Natural Science</p> <p>GEP Social Science</p>
<p><u>Professional Education:</u> EMS 204 (B- or higher) ED 204 (C or higher) (C- not acceptable)</p>	<p>2 (CP) 2 (CP)</p>	

EDP 304 (C or higher) (C- not acceptable)	3	GEP Social Science
ELP 344 (C or higher) (C- not acceptable)	3	
EMS 480 (C or higher) (C- not acceptable)	3	
ED 311 (C or higher) (C- not acceptable)	2	
ED 312 (C or higher) (C- not acceptable)	1	
EMS 472 (C or higher) (C- not acceptable)	3	
EMS 470 (C or higher) (C- not acceptable)	3	
EMS 471 (C or higher) (C- not acceptable)	10	
EMS 495 (C or higher) (C- not acceptable)	2	
EMS 490 (C or higher) (C- not acceptable)	3	
ECI 416 (C or higher) (C- not acceptable)	3	
Free Electives:		
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	98 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ED 100- Introduction to Education (Req. for freshmen)	2	
Total credit hours under College Requirements:	2 Hours	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<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"> 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 <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. 4 Co-requisite is satisfied by a Major/College course requirement. 5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. 6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<i>How will the GEP requirement be met?</i> <i>(Choose applicable statement from 1-6 listed above)</i>
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> MA 141, MA 241		(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> CH 101/102, CH 201/202, BIO 181/183, PY 201/202, PY 205/208, PY 211/212		(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	(Choose statement 1, 2 or 3) 1
Social Sciences (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> COM 112, EDP 304		(Choose statement 1, 2 or 3) 2
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S.</i>	3	(Choose statement 5 or 6) 5

Diversity co-requisites.			
Interdisciplinary Perspectives <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>	(5 credits)	5	(Choose statement 1, 2 or 3) 1
Health and Exercise Studies (Including one <i>Fitness and Wellness</i> course)	(2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.		20 hours	
GEP Co-Requisites:			<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>
U.S. Diversity co-requisite	(USD)	n/a	(Choose statement 1 or 4) 1
Global Knowledge co-requisite	(GK)	n/a	(Choose statement 1 or 4) 1
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.		120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2018

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Mathematics Specialization

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDMS

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
MA 141 Calculus I ^{A,5}	4 (CP)	MA 241 Calculus II ^{A,5}	4 (CP)
Science ^{2,B,4}	4	Science ^{2,B,4}	4
ENG 101 Academic Writing & Research ^H	4	ST 311 Introduction to Statistics ⁵	3
E 115 Intro to Computing Environments ¹	1	GEP Humanities Req. ^{C,I,J}	3
ED 100 Intro to Education ⁷	2	HES***Health & Exercise Studies Course ^E	1
	Total:15		Total: 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242 Calculus III ⁵	4 (CP)	MA 225 Foundations of Advanced Math ⁵	3 (CP)
Intro to Programming ^{3,5}	3	ST 312 Intro to Statistics II ^{5,9}	3
MA 351 Intro to Discrete Mathematical Models ^{5,8}	3	ST 307 Statistical Programming ⁵	1
EMS 204 Intro to Mathematics Education ⁷	2 (CP)	GEP Humanities Req. ^{C,I,J}	3
ED 204 Intro to 21 st Century Teaching ⁷	2 (CP)	COM 112 Interpersonal Communication ^D	3
GEP Interdiscip. Persp. ^{G,I,J}	2-3	Science ^{2,B,4}	3
	Total:16-17		Total:16
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 405 Linear Algebra and Matrices ⁵	3	MA 408 Foundations of Euclidean Geometry ⁵	3
MA 403 Intro to Modern Algebra ⁵	3	EMS 480 Teaching Math with Technology ⁷	3
ELP 344 School and Society ⁷	3	Mathematics Elective ^{5,6}	3
EDP 304 Educational Psychology ^{D,7}	3	ED 311 Classroom Assessment Principles & Practices ⁷	2
ECI 416 Teaching Exceptional Students ⁷	3	ED 312 Classroom Assess. Principles & Practices: Prof. Learning Lab ⁷	1
HES***Health & Exercise Studies Course ^E	1	GEP Add. Breadth Req: HUM/SS/VPA ^{F,I,J}	3
	Total:16		Total:15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Mathematics Elective ^{5,6}	3	EMS 471 Student Teaching ⁷	10
EMS 472 Teaching Math Topics in High School ⁷	3	EMS 495 Seminar ⁷	2
EMS 490 School Math from an Adv. Perspective ⁷	3		
EMS 470 Methods & Materials for Teaching Math ⁷	3		
GEP Interdiscip. Persp. ^{G,I,J}	3		
	Total:15		Total:12
Minimum Credit Hours Required for Graduation*: 120			

Major/Program Footnotes:

1. COS 100 may substitute for E 115

2. To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the

GEP list of approved science courses.

3. Introduction to programming course must be selected from MA 116, CSC 112, CSC 114, or CSC 116.
4. At most one grade below a C- is permitted in the courses satisfying the science requirement.
5. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
6. Math electives must be chosen from the following, if appropriate co/prerequisites have been met: MA 105 or MA 114; 325, 335, 341, 402, 410, 416, 421, 425, 427, 430, 432, 433, 437, LOG 435.
7. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.
8. MA 341 may be taken in place of MA 351.
9. ST 101H and ST 305 is the preferred Statistics sequence of courses. ST 311 and ST 312 can also be taken to satisfy the Statistics sequence.

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

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

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

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

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2018

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Mathematics Specialization

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDMS

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
MA 141 Calculus I ^{A,5}	4 (CP)	MA 241 Calculus II ^{A,5}	4 (CP)
Science ^{2,B,4}	4	Science ^{2,B,4}	4
ENG 101 Academic Writing & Research ^H	4	ST 311 Introduction to Statistics ⁵	3
E 115 Intro to Computing Environments ¹	1	GEP Humanities Req. ^{C,I,J}	3
ED 100 Intro to Education ⁷	2	HES***Health & Exercise Studies Course ^E	1
	Total:15		Total: 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242 Calculus III ⁵	4 (CP)	MA 225 Foundations of Advanced Math ⁵	3 (CP)
Intro to Programming ^{3,5}	3	ST 312 Intro to Statistics II ^{5,9}	3
MA 351 Intro to Discrete Mathematical Models ^{5,8}	3	ST 307 Statistical Programming ⁵	1
EMS 204 Intro to Mathematics Education ⁷	2 (CP)	GEP Humanities Req. ^{C,I,J}	3
ED 204 Intro to 21 st Century Teaching ⁷	2 (CP)	COM 112 Interpersonal Communication ^D	3
GEP Interdiscip. Persp. ^{G,I,J}	2-3	Science ^{2,B,4}	3
	Total:16-17		Total:16
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 405 Linear Algebra and Matrices ⁵	3	MA 408 Foundations of Euclidean Geometry ⁵	3
MA 403 Intro to Modern Algebra ⁵	3	EMS 480 Teaching Math with Technology ⁷	3
ELP 344 School and Society ⁷	3	Mathematics Elective ^{5,6}	3
EDP 304 Educational Psychology ^{D,7}	3	ED 311 Classroom Assessment Principles & Practices ⁷	2
ECI 416 Teaching Exceptional Students ⁷	3	ED 312 Classroom Assess. Principles & Practices: Prof. Learning Lab ⁷	1
HES***Health & Exercise Studies Course ^E	1	GEP Add. Breadth Req: HUM/SS/VPA ^{F,I,J}	3
		Free Electives	2
	Total:16		Total:1715
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Mathematics Elective ^{5,6}	3	EMS 471 Student Teaching ⁷	10 12
EMS 472 Teaching Math Topics in High School ⁷	3	EMS 495 Seminar⁷	2
EMS 490 School Math from an Adv. Perspective ⁷	3		
EMS 470 Methods & Materials for Teaching Math ^{7,49}	3		
GEP Interdiscip. Persp. ^{G,I,J}	3		
	Total:15		Total:12
Minimum Credit Hours Required for Graduation*: 120			

Major/Program Footnotes:

1. COS 100 may substitute for E 115

2. To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the

GEP list of approved science courses.

3. Introduction to programming course must be selected from MA 116, CSC 112, CSC 114, or CSC 116.
4. At most one grade below a C- is permitted in the courses satisfying the science requirement.
5. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
6. Math electives must be chosen from the following, if appropriate co/prerequisites have been met: MA 105 or MA 114; 325, 335, 341, 402, 410, 416, 421, 425, 427, 430, 432, 433, 437, LOG 435.
7. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.
8. MA 341 may be taken in place of MA 351.
9. ST 101H and ST 305 is the preferred Statistics sequence of courses. ST 311 and ST 312 can also be taken to satisfy the Statistics sequence.
- ~~10. A grade of C or better is required in EMS 470 to continue in school placement full-time.~~

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

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

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

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

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Science elective (At most one grade below a C- is permitted in the courses satisfying the science requirement)	3	GEP Natural Science
Communication: COM 112	3	GEP Social Science
Professional Education: EMS 204 (B- or higher) ED 204 (C or higher) (C- not acceptable) EDP 304 (C or higher) (C- not acceptable) ELP 344 (C or higher) (C- not acceptable) EMS 480 (C or higher) (C- not acceptable) ED 311 (C or higher) (C- not acceptable) ED 312 (C or higher) (C- not acceptable) EMS 472 (C or higher) (C- not acceptable) EMS 470 (C or higher) (C- not acceptable) EMS 471 (C or higher) (C- not acceptable) EMS 490 (C or higher) (C- not acceptable) EMS 495 (C or higher) (C- not acceptable) ECI 416 (C or higher) (C- not acceptable)	2 (CP) 2 (CP) 3 3 3 2 1 3 3 10 3 2 3	GEP Social Science
Free Electives:		
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	98 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ED 100	2	
Other:		
Total credit hours under College Requirements:	2 Hours	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		<u>At least one of the following must be listed:</u>
<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"> 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 <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. 4 Co-requisite is satisfied by a Major/College course requirement. 5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. 6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	<i>Credit hours</i>	<i>How will the GEP requirement be met?</i> <i>(Choose applicable statement from 1-6 listed above)</i>
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> MA 141, MA 241		(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> CH 101/102, CH 201/202, BIO 181/183, PY 201/202, PY 205/208, PY 211/212		(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also</i>	6	(Choose statement 1, 2 or 3)

satisfy either the Global Knowledge or U.S. Diversity co-requisites.		1
Social Sciences (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. COM 112, EDP 304		(Choose statement 1, 2 or 3) 2
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	5	(Choose statement 1, 2 or 3) 1
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	20 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 (USD)	n/a	(Choose statement 1 or 4) 1
Global Knowledge co-requisite (GK)	n/a	(Choose statement 1 or 4) 1
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.	120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2018

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Statistics Specialization

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDST

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
MA 141 Calculus I ^{A,5}	4 (CP)	MA 241 Calculus II ^{A,5}	4 (CP)
Science ^{2,B,4}	4	Science ^{2,B,4}	4
ENG 101 Academic Writing & Research ^H	4	ST 311 Introduction to Statistics ⁵	3
E 115 Intro to Computing Environments ¹	1	COM 112 Interpersonal Communication ^D	3
ED 100 Intro to Education ⁶	2	HES***Health & Exercise Studies Course ^E	1
	Total:15		Total: 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242 Calculus III ⁵	4 (CP)	Science ^{2,B,4}	3
Intro to Programming ^{3,5}	3	MA 405 Linear Algebra and Matrices ⁵	3
MA 225 Foundations of Advanced Math ⁵	3 (CP)	GEP Humanities Req. ^{C,I,J}	3
EMS 204 Intro to Mathematics Education ⁶	2 (CP)	ST 312 Intro to Statistics II ^{5,9}	3
ED 204 Intro to 21 st Century Teaching ⁶	2 (CP)	ST 307 Statistical Programming ⁵	1
GEP Interdiscip. Persp. ^{G,I,J}	2-3	EDP 304 Educational Psychology ^{D,6}	3
	Total:16-17		Total:16
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Humanities Req. ^{C,I,J}	3	ST 422 Intro to Mathematical Statistics II ⁵	3
ST 421 Intro to Mathematical Statistics I ⁵	3	MA 408 Foundations of Euclidean Geometry ⁵	3
MA 403 Intro to Modern Algebra ⁵	3	EMS 480 Teaching Math with Technology ⁶	3
ELP 344 School and Society ⁶	3	ED 311 Classroom Assessment Principles & Practices ⁶	2
MA 351 Intro to Discrete Mathematical Models ^{5,7}	3	ED 312 Classroom Assess. Principles & Practices: Prof. Learning Lab ⁶	1
HES***Health & Exercise Studies Course ^E	1	GEP Interdiscip. Persp. ^{G,I,J}	3
	Total:16		Total: 15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ECI 416 Teaching Exceptional Students ⁶	3	EMS 471 Student Teaching ⁶	10
EMS 472 Teaching Math Topics in High School ⁶	3	EMS 495 Seminar ⁶	2
EMS 490 School Math from an Adv. Perspective ⁶	3		
EMS 470 Methods & Materials for Teaching Math ⁶	3		
GEP Add. Breadth Req: HUM/SS/VPA ^{F,I,J}	3		
	Total:15		Total:12
Minimum Credit Hours Required for Graduation*: 120			

Major/Program Footnotes:

1. COS 100 may substitute for E 115

2. To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the

GEP list of approved science courses.

3. Introduction to programming course must be selected from MA 116, CSC 112, CSC 114, or CSC 116.
4. At most one grade below a C- is permitted in the courses satisfying the science requirement.
5. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
6. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.
7. MA 341 may be taken in place of MA 351.

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

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

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

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

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Fall 2018

Degree/Plan Title: Mathematics Education

Concentration/Subplan Title: Statistics Specialization

Plan SIS Code: 13MTHEDBS

Subplan SIS Code: 13MTHEDST

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
MA 141 Calculus I ^{A,5}	4 (CP)	MA 241 Calculus II ^{A,5}	4 (CP)
Science ^{2,B,4}	4	Science ^{2,B,4}	4
ENG 101 Academic Writing & Research ^H	4	ST 311 Introduction to Statistics ⁵	3
E 115 Intro to Computing Environments ¹	1	COM 112 Interpersonal Communication ^D	3
ED 100 Intro to Education ⁶	2	HES***Health & Exercise Studies Course ^E	1
	Total:15		Total: 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242 Calculus III ⁵	4 (CP)	Science ^{2,B,4}	3
Intro to Programming ^{3,5}	3	MA 405 Linear Algebra and Matrices ⁵	3
MA 225 Foundations of Advanced Math ⁵	3 (CP)	GEP Humanities Req. ^{C,I,J}	3
EMS 204 Intro to Mathematics Education ⁶	2 (CP)	ST 312 Intro to Statistics II ^{5,9}	3
ED 204 Intro to 21 st Century Teaching ⁶	2 (CP)	ST 307 Statistical Programming ⁵	1
GEP Interdiscip. Persp. ^{G,I,J}	2-3	EDP 304 Educational Psychology ^{D,6}	3
	Total:16-17		Total:16
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Humanities Req. ^{C,I,J}	3	ST 422 Intro to Mathematical Statistics II ⁵	3
ST 421 Intro to Mathematical Statistics I ⁵	3	MA 408 Foundations of Euclidean Geometry ⁵	3
MA 403 Intro to Modern Algebra ⁵	3	EMS 480 Teaching Math with Technology ⁶	3
ELP 344 School and Society ⁶	3	ED 311 Classroom Assessment Principles & Practices ⁶	2
MA 351 Intro to Discrete Mathematical Models ^{5,7}	3	ED 312 Classroom Assess. Principles & Practices: Prof. Learning Lab ⁶	1
HES***Health & Exercise Studies Course ^E	1	GEP Interdiscip. Persp. ^{G,I,J}	3
		Free Electives	2
	Total:16		Total:17 15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ECI 416 Teaching Exceptional Students ⁶	3	EMS 471 Student Teaching ⁶	10 2
EMS 472 Teaching Math Topics in High School ⁶	3	EMS 495 Seminar⁶	2
EMS 490 School Math from an Adv. Perspective ⁶	3		
EMS 470 Methods & Materials for Teaching Math ^{6,9}	3		
GEP Add. Breadth Req: HUM/SS/VPA ^{F,I,J}	3		
	Total:15		Total:12
Minimum Credit Hours Required for Graduation*: 120			

Major/Program Footnotes:

1. COS 100 may substitute for E 115

2. To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the

GEP list of approved science courses.

3. Introduction to programming course must be selected from MA 116, CSC 112, CSC 114, or CSC 116.
4. At most one grade below a C- is permitted in the courses satisfying the science requirement.
5. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
6. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.
7. MA 341 may be taken in place of MA 351.
- ~~8. A grade of C or better is required in EMS 470 to continue in school placement full-time.~~

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

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

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

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

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement:
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Communication: COM 112		
Professional Education: EMS 204 (B- or higher) ED 204 (C or higher) (C- not acceptable) EDP 304 (C or higher) (C- not acceptable) ELP 344 (C or higher) (C- not acceptable) EMS 480 (C or higher) (C- not acceptable) ED 311 (C or higher) (C- not acceptable) ED 312 (C or higher) (C- not acceptable) EMS 472 (C or higher) (C- not acceptable) EMS 470 (C or higher) (C- not acceptable) EMS 471 (C or higher) (C- not acceptable) EMS 490 (C or higher) (C- not acceptable) EMS 495 (C or higher) (C- not acceptable) ECI 416 (C or higher) (C- not acceptable)	2 (CP) 2 (CP) 3 3 3 2 1 3 3 10 3 2 3	GEP Social Science
Free Electives:		
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	98 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ED 100	2	
Other:		
Total credit hours under College Requirements:	2 Hours	

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

Social Sciences (Courses from <i>two different disciplines</i>) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. COM 112, EDP 304	(6 credits)		(Choose statement 1, 2 or 3) 2
Additional Breadth (Choose approach that is <i>different</i> from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	(3 credits)	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(5 credits)	5	(Choose statement 1, 2 or 3) 1
Health and Exercise Studies (Including one <i>Fitness and Wellness</i> course)	(2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.		20 hours	
GEP Co-Requisites:			<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>
U.S. Diversity co-requisite	(USD)	n/a	(Choose statement 1 or 4) 1
Global Knowledge co-requisite	(GK)	n/a	(Choose statement 1 or 4) 1
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.		120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

NC STATE UNIVERSITY ~ COLLEGE OF EDUCATION
SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION DEPARTMENT IS SUBMITTING
UPDATES TO THE FOLLOWING SCIENCE EDUCATION DEGREE PROGRAMS

13SCIEDBS-13SCIEDMID, 13SCIEDCH, 13SCIEDES, 13SCIEDPY, 13SCIEDBIO

RECOMMENDED BY:



10/20/18

HEAD, DEPARTMENT/PROGRAM

DATE

ENDORSED BY:



10/21/18

CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE

DATE



10/22/18

COLLEGE DEAN

DATE

APPROVED BY:

CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE

DATE

CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION

DATE

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

APPROVED EFFECTIVE DATE _____

CURRICULUM ACTION MEMORANDUM

Date: September 26, 2018

To: University Courses and Curricula Committee (UCCC)

Cc: Dr. Aaron Clark, Department Head, STEM Education

From: Dr. Penny Shumaker Jeffrey, SED Coordinator of Undergraduate Programs

Re: 120 hr. rule revision in Science Education Degree Plans
(13SCIEDBS-13SCIEDBIO, 13SCIEDPY, 13SCIEDCH, 13SCIEDES,
13SCIEDMID)

The proposed changes to our current 8-semester displays outlined here is in response to the UNC Policy 400.1.5 stipulating that Constituent institutions will require no more than 120 semester credit hours for a four-year baccalaureate degree program. Below is a list of the changes being proposed:

13SCIEDBIO: Omit 4 credits of free elective, and 4 credits of biological science elective

13SCIEDPY: Omit 7 credits of physics elective and 1 credit of free elective

13SCIEDCH: Omit 1 credit geology lab, 3 credits of chemistry electives, and 4 credits of free electives

13SCIEDES: Omit 1 credit geology lab, 3 credits of earth science electives, and 4 credits of free electives

13SCIEDMID: Omit 6 credits of free electives

Proposed effective date: Fall 2019

Consultation: No other departments or programs will be impacted by this change.

Science Education (BS): Biology (9-12 Licensure) (13SCIEDBS-13SCIEDBIO)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁵	2	MEA 101 Phy Geology ^{B,11}	3
CH 101 Che- A Molec Science ^{B,11}	3	MEA 110 Phy Geology Lab ^{B,11}	1
CH 102 Molecular Chem Lab ^{B,11}	1	CH 201 Chem – A quant Science ¹¹	3
MA 121 Elements of Calculus OR MA 131 Calc Life & Managt Sci A ^A	3	CH 202 Quantitative Chem Lab ¹¹	1
ENG 101 Acad. Writing & Res ^H	4	MA 231 Calc Life and Managmt Sci B OR ST 311 Intro to Stat ^A	3
COM 110 Public Speaking	3	GEP Humanities Reqt. ^C	3
		Social Sciences Reqt. ^{4,D}	3
	16		17

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
BIO 181 Intro Bio: Ecol/Evol/Div ¹¹	4	BIO 183 Intro Bio Cell/Molecular Bio ¹¹	4
CH 221 Organic Chemistry I ¹¹	3	EDP 304 Educational Psych ^{5,D}	3
CH 222 Org Chem I Lab ¹¹	1	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Addtl. Breadth Reqt.(HUM/SS/VPA) ^F	3	EMS 205 Intro to Teaching Science ⁵	2
GEP Humanities Reqt. ^C	3	HES_*** Health & Exercise Studies Course ^E	1
History/Philosophy of Science Elective ^{1,G}	3		12
HES_*** Health & Exercise Studies Course ^E	1		
	18		

Junior Year

Fall Semester	Credit	Spring Semester	Credit
GN 311 Principles of Genetics ¹¹	4	Biological Science Elective ^{9,11}	4
ELP 344 School & Society ⁵	3	PY 212 College Physics II ¹¹	4
EMS 373 Instr. Materials in Science ⁵	3	ED 311 Classroom Assess. Princ. & Pract. ⁵	2
PY 211 College Physics I ¹¹	4	ED 312 Classroom Asses. Princ. & Pract. Lab ⁵	1
		EMS 375 Methods of Teach Sci I ^{3,5}	3
	14	ECI 416 Teach Except Students ⁵	3
			17

Senior Year

Fall Semester	Credit	Spring Semester	Credit
EMS 475 Methods of Teach Sci ^{2,5}	3	EMS 476 Student Teaching in Science ^{6,5}	10
BCH 351 General Biochemistry OR MB 351/352 Gen. Microbiology & Lab	4	EMS 495 Senior Seminar in Math & Science Ed ^{6,5}	2
ES 200 Climage Change & Sustainability ^{7,6,11}	3		
BIO/PB 360 Ecology ¹¹	4		
	14		12
Minimum Credit Hours Required for Graduation ^{*,l,j,k} :			120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205, EMS 375, and EMS 475.
6. Offered only in the spring semester. Prior admission to the Professional Semester is required.
7. Fulfills 3 hours of GEP Interdisciplinary Perspectives
8. If you are a BLS double major, choose MA 131 and MA 231
9. If you are a BLS double major, choose MB 351 and MB 352
10. Choose from PB 421 or PB/BIO 414. If you are a BLS double major, choose from BIO 212, BIO 250 or PB 321.
11. A grade of C (2.0) or better is required for core content courses, up to two courses with a grade below a C is permitted.

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

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 121/131, MA 231/ST 311

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/CH 102 and CH 201, 202, 221, 222, MEA 101, 110, BIO 181, 183, 260, BCH 351 or MB 351/352, GN 311, PY 211, 212

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

Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: 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: EDP 304, Social Science Requirement

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

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

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

Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: History/Philosophy of Science Elective, ES 200

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: ES 200

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

Science Education (BS): Biology (9-12 Licensure) (13SCIEDBS-13SCIEDBIO)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁵	2	MEA 101 Phy Geology ^{B,11}	3
CH 101 Che- A Molec Science ^{B,11}	3	MEA 110 Phy Geology Lab ^{B,11}	1
CH 102 Molecular Chem Lab ^{B,11}	1	CH 201 Chem – A quant Science ¹¹	3
MA 121 Elements of Calculus OR MA 131 Calc Life & Managt Sci A ^A	3	CH 202 Quantitative Chem Lab ¹¹	1
ENG 101 Acad. Writing & Res ^H	4	MA 231 Calc Life and Managmt Sci B OR ST 311 Intro to Stat ^A	3
COM 110 Public Speaking	3	GEP Humanities Reqt. ^c	3
		Social Sciences Reqt. ^{4,D}	3
	16		17

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
BIO 181 Intro Bio: Ecol/Evol/Div ¹¹	4	BIO 183 Intro Bio Cell/Molecular Bio ¹¹	4
CH 221 Organic Chemistry I ¹¹	3	Biological Science Elective ^{9,11}	3-4
CH 222 Org Chem I Lab ¹¹	1	EDP 304 Educational Psych ^{5,D}	3
GEP Addtl. Breadth Reqt.(HUM/SS/VPA) ^F	3	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Humanities Reqt. ^c	3	EMS 205 Intro to Teaching Sciences ⁵	2
History/Philosophy of Science Elective ^{1,G}	3	Free Electives	1
HES_*** Health & Exercise Studies Course ^E	1	HES_*** Health & Exercise Studies Course ^E	1
	18		16-17 12

Junior Year

Fall Semester	Credit	Spring Semester	Credit
GN 311 Principles of Genetics ¹¹	4	Biological Science Electives ^{9,11}	3-4
ELP 344 School & Society ⁵	3	PY 212 College Physics II ¹¹	4
EMS 373 Instr. Materials in Sciences ⁵	3	ED 311 Classroom Assess. Princ. & Pract. ⁵	2
BIO/PB 360 Ecology ¹¹	4	ED 312 Classroom Asses. Princ. & Pract. Labs ⁵	1
PY 211 College Physics I ¹¹	4	EMS 375 Methods of Teach Sci I ^{3,5}	3
		ECI 416 Teach Except Students ⁵	3
	18-14		16-17

Moved to senior fall semester

Senior Year

Fall Semester	Credit	Spring Semester	Credit
EMS 475 Methods of Teach Sci ^{2,5}	3	EMS 476 Student Teaching in Science ^{6,5}	10
BCH 351 General Biochemistry OR MB 351/352 Gen. Microbiology & Lab	4	EMS 495 Senior Seminar in Math & Science Ed ^{6,5}	2
ES 200 Climage Change & Sustainability ^{7,6,11}	3		
BIO/PB 360 Ecology ¹¹	4		
Free Electives	3-5-1		
	13-15		12

Minimum Credit Hours Required for Graduation*^{i,j,k}:

128-120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205, EMS 375, and EMS 475.
6. Offered only in the spring semester. Prior admission to the Professional Semester is required.
7. Fulfills 3 hours of GEP Interdisciplinary Perspectives
8. If you are a BLS double major, choose MA 131 and MA 231
9. If you are a BLS double major, choose MB 351 and MB 352
10. Choose from PB 421 or PB/BIO 414. If you are a BLS double major, choose from BIO 212, BIO 250 or PB 321.
11. A grade of C (2.0) or better is required for core content courses, up to two courses with a grade below a C is permitted.

*General Education Program (GEP) requirements and GEP Footnotes

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 121/131, MA 231/ST 311

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/CH 102 and CH 201, 202, 221, 222, MEA 101, 110, BIO 181, 183, 260, BCH 351 or MB 351/352, GN 311, PY 211, 212

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

Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: 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: EDP 304, Social Science Requirement

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

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

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

X Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: History/Philosophy of Science Elective, ES 200

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

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

I. U.S. Diversity (USD)

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

None

J. Global Knowledge (GK)

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

ES 200

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B – GEP 2009

Degree Title: Bachelor of Science in Science Education

Current Degree Key: 13SED097Z

Effective Date of Revision: 1/2019 13SCIEDBIO

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<p><u>Mathematics</u> MA 121 or MA 131 (3) MA 231 or ST 311 (3)</p> <p><u>Core Science</u> CH 101 (3), CH 102 (1) CH 201 (3), CH 202 (1) MEA 101 (3), MEA 110 (1) PY 211 (4), PY 212 (4) ES 200 (3)</p> <p><u>Science Education</u> EMS 205 (2) (B- wall) EMS 373 (3) (C- wall) EMS 375 (3) (B- wall) EMS 475 (3) (B- wall) EMS 476 (10) EMS 495 (2)</p> <p><u>History/Philosophy of Science Elective:</u> HI 321, 322, 341, 480; PHI 340; STS 301</p> <p><u>Social Science Elective:</u> Any course on GEP Social Science list EXCEPT PSY courses.</p>	<p>6</p> <p>23</p> <p>23</p> <p>3</p> <p>3</p>	<p>Mathematics (6 hours)</p> <p>Natural Sciences (7 hours)</p> <p>GEP - Interdisciplinary Perspectives (3 hours)</p> <p>Satisfies Technology Fluency co-requisite</p> <p>GEP IP</p> <p>GEP Social Science</p>
<p><u>Concentration Courses/Groups/Electives:</u></p> <p><u>Sciences</u> BIO 181 (4) BIO 183 (4) BIO 360 (4) GN 311 (4) BCH 351 or MB 351/352 (4) GRP XXX - Biological Science Elective (3) (PB 421, PB/ZO 414, BIO 212, BIO 250, PB 321) CH 221 (3) CH 222 (1)</p>	<p>27</p>	
<p><u>Free Electives:</u></p>	<p>1</p>	

Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	86	
COLLEGE REQUIREMENTS:		
Orientation Course(s):		
Other: Education and Psychology ED 100 (2) (C- wall) ED 204 (2) (C- wall) ELP 344 (3) (C- wall) ED 311 (2) (C- wall) ED 312 (1) (C- wall) ECI 416 (3) (C- wall) EDP 304 (3) (C- wall) Communications COM 110 (3)	19	GEP Social Science Elective (3 hours) Satisfies Communication in the Major GEP co-requisite
Total credit hours under College Requirements:	19	

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

Diversity co-requisites.			
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Minimum requirements are satisfied by Major/College course requirements.	
Physical Education/Healthy Living (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.	
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	15		
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 (USD)	n/a	(Choose statement 1 or 4)	
Global Knowledge co-requisite (GK)	n/a	(Choose statement 1 or 4)	
Foreign Language Proficiency	n/a	Proficiency at the FL_102 level required.	
The following requirements must be satisfied within the College/Program:	XX	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 (COM 110)	
Technology Fluency	X	Satisfied by College/Program Requirements (EMS 373)	
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	120	As applicable, indicate here the overall GPA requirement for degree completion including course completion.	

Science Education (BS): Chemistry (9-12 Licensure) (13SCIEDBS-13SCIEDCH)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁵	2	CH 201 Chem – A Quantitative Science ^{B,9}	3
CH 101 Chem- A Molecular Science ^{B,9}	3	CH 202 Quantitative Chemistry Lab ^{B,9}	1
CH 102 Molecular Chemistry Lab ^{B,9}	1	MA 241 Calculus II ^A	4
MA 141 Calculus I ^A	4	MEA 101 Geology I: Physical ^{B,9}	3
ENG 101 Acad. Writing & Research ^H	4	Social Sciences Requirement ^{4,D}	3
GEP Humanities Requirement ^C	3	HES_*** Health & Exercise Studies Course ^E	1
	17		15

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
PY 205 Physics for Eng & Sci I ⁹	4	PY 208 Physics for Eg & Sci II ⁹	4
CH 221 Organic Chem I ⁹	3	CH 223 Organic Chem II ⁹	3
CH 222 Organic Chem Lab ⁹	1	CH 224 Organic Chem Lab II ⁹	1
COM 110 Public Speaking	3	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Addtl. Breadth Reqt(HUM/SS/VPA) ^F	3	EMS 205 Intro to Teaching Science ⁵	2
Hist/Philosophy of Science Elective ^{1,G}	3	EDP 304 Educational Psychology ^{D,5}	3
	17		15

Junior Year

Fall Semester	Credit	Spring Semester	Credit
CH 331 Intro Phy Chem ⁹	4	CH 315 Quantitative Analysis ⁹	4
BIO 181 Intro Bio Ecol/Evol/Diversity ⁹	4	BIO 183 Intro Bio Cell/Molecular Biol. ⁹	4
EMS 373 Instr. Materials in Science ⁵	3	ED 311 Class. Assess. Princ. & Pract. ⁵	2
ELP 344 School & Society ⁵	3	ED 312 Class. Assess. Princ. & Pract. Lab ⁵	1
		EMS 375 Methods of Teach Sci I ^{3,5}	3
	14	ECI 416 Teach Except Students ⁵	3
			17

Senior Year

Fall Semester	Credit	Spring Semester	Credit
EMS 475 Methods of Teach Science II ^{2,5}	3	EMS 476 Student Teaching in Science ^{6,5}	10
CH 401 System Inorg Chem ⁹	3	EMS 495 Senior Seminar in Math & Science Ed ^{6,5}	2
ES 200 Climate Change & Sustainability ^{8,6,9}	3		
HES_***Health & Exercise Studies Course ^E	1		
GEP Humanities requirement ^C	3		
	13		12

Minimum Credit Hours Required for Graduation^{*I,J,K}:

120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205, EMS 375, and EMS 475.
6. Offered only in the spring semester. Prior admission to the Professional Semester is required.
7. Chosen from CH 428, TC 203, FS 402, or WPS 332; or CH 403, CH 415, or CH 441 if double majoring in Chemistry (BA).
8. Fulfills 3 hours of GEP Interdisciplinary Perspectives
9. A grade of C (2.0) or better is required for core content courses. Up to two courses with a grade below a "C" is permitted.

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

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/CH 102, MEA 101, MEA 110, CH 201, CH 202, BIO 181, BIO 183, PY 205, PY 208, CH 221, CH 222, CH 223, CH 224, CH 331, CH 401, CH 315, Chemistry Elective

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

Choose from the University approved GEP Humanities course list. 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: EDP 304. Social Science requirement

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

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

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

X Humanities/Social Sciences/Visual and Performing Arts.

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement : History/Philosophy of Science Elective, ES 200

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: ES 200

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

Science Education (BS): Chemistry (9-12 Licensure) (13SCIEDBS-13SCIEDCH)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁵	2	CH 201 Chem – A Quantitative Science ^{B,9}	3
CH 101 Chem- A Molecular Science ^{B,9}	3	CH 202 Quantitative Chemistry Lab ^{B,9}	1
CH 102 Molecular Chemistry Lab ^{B,9}	1	MA 241 Calculus II ^A	4
MA 141 Calculus I ^A	4	MEA 101 Geology I: Physical ^{B,9}	3
ENG 101 Acad. Writing & Research ^H	4	MEA 110 Geology I: Lab ^{B,9}	1
GEP Humanities Requirement ^C	3	Social Sciences Requirement ^{4,D}	3
		HES_*** Health & Exercise Studies Course ^E	1
	17		16 15

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
PY 205 Physics for Eng & Sci I ⁹	4	PY 208 Physics for Eg & Sci II ⁹	4
CH 221 Organic Chem I ⁹	3	CH 223 Organic Chem II ⁹	3
CH 222 Organic Chem Lab ⁹	1	CH 224 Organic Chem Lab II ⁹	1
COM 110 Public Speaking	3	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Addtl. Breadth Reqt(HUM/SS/VPA) ^F	3	EMS 205 Intro to Teaching Science ⁵	2
Hist/Philosophy of Science Elective ^{1,G}	3	EDP 304 Educational Psychology ^{D,5}	3
		GEP Humanities Requirement ^C	3
	17	Moved to Senior Fall Semester	18 15

Junior Year

	Fall Semester	Credit	Spring Semester	Credit
	CH 331 Intro Phy Chem ⁹	4	CH 315 Quantitative Analysis ⁹	4
Moved to Senior Fall Semester	CH 401 System Inorg Chem ⁹	3	BIO 183 Intro Bio Cell/Molecular Biol. ⁹	4
	BIO 181 Intro Bio Ecol/Evol/Diversity ⁹	4	ED 311 Class. Assess. Princ. & Pract. ⁵	2
	EMS 373 Instr. Materials in Science ⁵	3	ED 312 Class. Assess. Princ. & Pract. Lab ⁵	1
	ELP 344 School & Society ⁵	3	EMS 375 Methods of Teach Sci I ^{3,5}	3
			ECI 416 Teach Except Students ⁵	3
		17		17
		14		

Senior Year

	Fall Semester	Credit	Spring Semester	Credit
	EMS 475 Methods of Teach Science II ^{2,5}	3	EMS 476 Student Teaching in Science ^{6,5}	10
	Chemistry Elective ^{7,9}	3	EMS 495 Senior Seminar in Math & Science Ed ^{6,5}	2
	ES 200 Climate Change & Sustainability ^{8,6,9}	3		
	Free Electives	4		
	HES_***Health & Exercise Studies Course ^E	1		
	CH 401 System Inorg Chem ⁹	3		
	GEP Humanities Requirement ^C	3		
		14		12
		13		

Minimum Credit Hours Required for Graduation^{*,I,J,K}: ~~128~~ 120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205, EMS 375, and EMS 475.
6. Offered only in the spring semester. Prior admission to the Professional Semester is required.
7. Chosen from CH 428, TC 203, FS 402, or WPS 332; or CH 403, CH 415, or CH 441 if double majoring in Chemistry (BA).
8. Fulfills 3 hours of GEP Interdisciplinary Perspectives
9. A grade of C (2.0) or better is required for core content courses. Up to two courses with a grade below a "C" is permitted.

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

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/CH 102, MEA 101, MEA 110, CH 201, CH 202, BIO 181, BIO 183, PY 205, PY 208, CH 221, CH 222, CH 223, CH 224, CH 331, CH 401, CH 315, Chemistry Elective

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

Choose from the University approved GEP Humanities course list. 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: EDP 304. Social Science requirement

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

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

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

X Humanities/Social Sciences/Visual and Performing Arts.

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement : History/Philosophy of Science Elective, ES 200

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: ES 200

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B – GEP 2009

Degree Title: Bachelor of Science in Science Education – Chemistry Specialization

Current Degree Key: 13SED097C

Effective Date of Revision: 1/2019 13SCIEDCH

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<p>Mathematics MA 141(4), MA 241(4)</p>	8	Mathematics (6 hours)
<p>Core Sciences BIO 181 (4) BIO 183 (4) MEA 101 (3) PY 205 (4) PY 208 (4) ES 200 (3)</p>	22	Natural Sciences (7 hours)
<p>Science Education EMS 205 (2) (B- wall) EMS 373 (3) (C- wall) EMS 375 (3) (B- wall) EMS 475 (3) (B- wall) EMS 476 (10) EMS 495 (2)</p>	23	GEP- Interdisciplinary Perspectives (3 hours)
<p>Social Science elective: Choose any course from GEP SS list EXCEPT PSY.</p>	3	GEP SS
<p>History/Philosophy of Science elective: Choose from HI 321, 322, 341, 480; PHI 340: STS 301</p>	3	GEP IP
<p>Concentration Courses/Groups/Electives:</p>		
<p>Sciences CH 101 (3), CH 102 (1) CH 201 (3), CH 202 (1) CH 221 (3), CH 222 (1) CH 223 (3), CH 224 (1) CH 331 (4) CH 401 (3) CH 315 (4)</p>	27	
<p>Free Electives:</p>		
<p>Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i></p>	86	

COLLEGE REQUIREMENTS:		
Orientation Course(s):		
Other: Professional Education and Psychology ED 100 (2) (C- wall) ED 204 (2) (C- wall) ELP 344 (3) (C- wall) ED 311 (2) (C- wall) ED 312 (1) (C- wall) ECI 416 (3) (C- wall) EDP 304 (3) (C- wall) Communications COM 110 (3)	19	GEP Social Science Elective (3 hours) Satisfies Communication in the Major GEP co-requisite
Total credit hours under College Requirements:	19	

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

Diversity co-requisites.		Performing Arts. See Freshman fall semester.
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Major & College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category (HI/PHI of Science Elective).
Physical Education/Healthy Living (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	15	
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 (USD)	n/a	(Choose statement 1 or 4) Co-requisite is satisfied by a Major/College course requirement.
Global Knowledge co-requisite (GK)	n/a	(Choose statement 1 or 4) Co-requisite is satisfied by a Major/College course requirement.
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 (COM 110)
Technology Fluency	X	Satisfied by College/Program Requirements (EMS 373)
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	120	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Science Education (BS): Earth Science (9-12 Licensure) (13SCIEDBS-13SCIEDES)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁵	2	MEA 202 Geology II Historical ^{B,9}	3
MEA 101 Phy Geology ^{B,9}	3	CH 201 Quant Chemistry ^{B,9}	3
MEA 110 Phy Geology Lab ^{B,9}	1	CH 202 Quant Chemistry Lab ⁹	1
CH 101 Chem-A MolecScience ^{B,9}	3	MA 231 Calc Life & Manage Sci B OR MA 241 Calc Life & Manage Sci A ^A	3-4
CH 102 Molecular Chem Lab ^{B,9}	1	Social Sciences Reqt ^{4,D}	3
MA 131 Calc Life & Manage Sci A OR MA 141 Calculus I ^A	3-4	HES_*** Health & Exercise Studies Course ^E	1
ENG 101 Acad. Writing & Res ^H	4		14-15
	17-18		

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
MEA 410 Intro to Mineralogy & Petrology ⁹	4	MEA 200 Intro to Oceanography ⁹	3
PY 211 College Physics I ⁹	4	PY 212 College Physics II ⁹	4
COM 110 Public Speaking	3	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Addtl. Breadth Reqt. ^F	3	EMS 205 Intro to Teach Math & Sci ⁵	2
Hist/Phil of Science Elective ¹	3	EDP 304 Educational Psychology ^{5,D}	3
HES_*** Health & Exercise Studies Course ^E	1	GEP Humanities Reqt. ^C	3
	18		17

Junior Year

Fall Semester	Credit	Spring Semester	Credit
MEA 130 Intro to Weather & Climate ⁹ OR MEA 311 The Global Atmosphere ⁹	3	BIO 183 Intro Bio Cell/Molecula Bio ⁹	4
MEA 451 Structural Geology ⁹	3	ED 311 Class Assessment Princ & Pract ⁵	2
BIO 181 Intro Bio: Ecol/Evol/Div ⁹	4	ED 312 Class Assess. Princ. & Pract. Lab ⁵	1
EMS 373 Instr. Materials in Science ⁵	4	EMS 375 Methods of Teach Sci I ^{3,5}	3
ELP 344 School & Society ⁵	3	ECI 416 Teach Except Students Mainstr Class ⁵	3
			13
	17		

Senior Year

Fall Semester	Credit	Spring Semester	Credit
EMS 475 Methods of Teach Science ^{2,5}	3	EMS 476 Student Teaching in Science ^{6,5}	10
PY 123 Stellar Astron. ⁹ OR PY 124 Solar Sys. Astron. ⁹	3	EMS 495 Sr. Seminar in Math & Science Ed. ^{6,5}	2
GEP Humanities Reqt. ^C	3		
ES 200 Climate Change & Sustainability ^{8,G,9}	3		
	12		
			12

Minimum Credit Hours Required for Graduation^{*I,J,K}:

128

Minimum Credit Hours Required for Graduation*^{I,J,K}:

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205, EMS 375, and EMS 475.
6. Offered only in the spring semester. Prior admission to the Professional Semester is required.
7. Choose from MEA 300, MEA 415, MEA 440, MEA 450, MEA 465, MEA 470, MEA 481, MEA 493
8. Fulfills 3 hours of GEP Interdisciplinary Perspectives and GK
9. A grade of C (2.0) or better is required for core content courses, up to two courses with a grade below a C is permitted.

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

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

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

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 131 or MA141, MA 231 or MA 241

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101, CH 102, MEA 101, MEA 110, CH 201, CH 202, BIO 181, BIO 183, PY 211, PY 212, MEA 102, MEA 111, MEA 130 or MEA 311, MEA 200, MEA 451, MEA 410, PY 123 or 124

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

Choose from the University approved GEP Humanities course list. See sophomore year spring semester & senior year fall semester.

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: Social Science Requirement and EDP 304

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

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

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

X Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the

following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: History & Philosophy of Science Elective , ES 200

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

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

I. U.S. Diversity (USD)

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

The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)

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

The following course(s) completed as part of the Major requirements may fulfill this requirement: ES 200

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

Science Education (BS): Earth Science (9-12 Licensure) (13SCIEDBS-13SCIEDES)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁵	2	MEA 202 Geology II Historical ^{B,9}	3
MEA 101 Phy Geology ^{B,9}	3	MEA 211 Geology II Historical Lab^{B,9}	1
MEA 110 Phy Geology Lab ^{B,9}	1	CH 201 Quant Chemistry ^{B,9}	3
CH 101 Chem-A MolecScience ^{B,9}	3	CH 202 Quant Chemistry Lab ⁹	1
CH 102 Molecular Chem Lab ^{B,9}	1	MA 231 Calc Life & Manage Sci B OR MA 241 Calc Life & Manage Sci A ^A	3-4
MA 131 Calc Life & Manage Sci A OR MA 141 Calculus I ^A	3-4	Social Sciences Reqt ^{4,D}	3
ENG 101 Acad. Writing & Res ^H	4	HES_*** Health & Exercise Studies Course ^E	1
	17-18		14-15- 16

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
MEA 410 Intro to Mineralogy & Petrology ⁹	4	MEA 200 Intro to Oceanography ⁹	3
PY 211 College Physics I ⁹	4	PY 212 College Physics II ⁹	4
COM 110 Public Speaking	3	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Addtl. Breadth Reqt. ^F	3	EMS 205 Intro to Teach Math & Sci ⁵	2
Hist/Phil of Science Elective ¹	3	EDP 304 Educational Psychology ^{5,D}	3
HES_*** Health & Exercise Studies Course ^E	1	GEP Humanities Reqt. ^C	3
	18		17

Junior Year

Fall Semester	Credit	Spring Semester	Credit
MEA 130 Intro to Weather & Climate ⁹ OR MEA 311 The Global Atmosphere ⁹	3	Earth Science Elective ^{7,9}	3
MEA 451 Structural Geology ⁹	3	BIO 183 Intro Bio Cell/Molecula Bio ⁹	4
BIO 181 Intro Bio: Ecol/Evol/Div ⁹	4	ED 311 Class Assessment Princ & Pract ⁵	2
EMS 373 Instr. Materials in Science ⁵	4	ED 312 Class Assess. Princ. & Pract. Lab ⁵	1
ELP 344 School & Society ⁵	3	EMS 375 Methods of Teach Sci I ^{3,5}	3
		ECI 416 Teach Except Students Mainstr Class ⁵	3
	17		16-13

Senior Year

Fall Semester	Credit	Spring Semester	Credit
EMS 475 Methods of Teach Science ^{2,5}	3	EMS 476 Student Teaching in Science ^{6,5}	10
PY 123 Stellar Astron. ⁹ OR PY 124 Solar Sys. Astron. ⁹	3	EMS 495 Sr. Seminar in Math & Science Ed. ^{6,5}	2
GEP Humanities Reqt. ^C	3		
ES 200 Climate Change & Sustainability ^{8,6,9}	3		
Free Electives	2-4		
	14-16		12
	12		

Minimum Credit Hours Required for Graduation*^{I,J,K}:

128 120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205, EMS 375, and EMS 475.
6. Offered only in the spring semester. Prior admission to the Professional Semester is required.
7. Choose from MEA 300, MEA 415, MEA 440, MEA 450, MEA 465, MEA 470, MEA 481, MEA 493
8. Fulfills 3 hours of GEP Interdisciplinary Perspectives and GK
9. A grade of C (2.0) or better is required for core content courses, up to two courses with a grade below a C is permitted.

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

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

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

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 131 or MA141, MA 231 or MA 241

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101, CH 102, MEA 101, MEA 110, CH 201, CH 202, BIO 181, BIO 183, PY 211, PY 212, MEA 102, MEA 111, MEA 130 or MEA 311, MEA 200, MEA 451, MEA 410, PY 123 or 124

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

Choose from the University approved GEP Humanities course list. See sophomore year spring semester & senior year fall semester.

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: Social Science Requirement and EDP 304

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

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

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

X Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the

following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: History & Philosophy of Science Elective , ES 200

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: ES 200

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B – GEP 2009

Degree Title: Bachelor of Science in Science Education	
Current Degree Key: 13SED097E	
Effective Date of Revision: 1/2019	13SCIEDES

MAJOR FIELD OF STUDY REQUIREMENTS:	Credit Hours	GEP category, if applicable
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<u>Mathematics</u> GRP XXX - MA 131 (3) or MA 141 (4) GRP XXX - MA 231 (3) or MA 241 (4)	6-8	Mathematics (6 hours)
<u>Core Sciences</u> BIO 181 (4) BIO 183 (4) CH 101 (3) CH 102 (1) CH 201 (3) CH 202 (1) PY 211 (4) PY 212 (4)	24	Natural Sciences (7 hours)
<u>Science Education</u> EMS 205 (2) EMS 373 (3) EMS 375 (3) EMS 475 (3) EMS 476 (10) EMS 495 (2)	23	Satisfies Technology Fluency co-requisite
<u>History/Philosophy of Science Elective:</u> HI 321, 322, 341, 480; PHI 340; STS 301	3	GEP IP
<u>Social Science Elective:</u> Any course on GEP Social Science list EXCEPT PSY courses.	3	GEP Social Science
<u>Concentration Courses/Groups/Electives:</u>		
<u>Sciences</u> MEA 101 (3) MEA 110 (1) MEA 202 (3) GRP XXX - MEA 130 (3) or MEA 311 (3) MEA 200 (3) MEA 451 (4) MEA 410 (4) GRP XXX - PY 123 (3) or PY 124 (3) ES 200 (3)	27	GEP - Interdisciplinary Perspectives (3 hours)
<u>Free Electives:</u>		

Additional Breadth (3 credits) (Choose approach that is <i>different</i> from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	(Choose statement 1, 2 or 3) Major/College course requirement satisfies <u>3</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. (HI/PHI of Science Elective, ES 200)
Physical Education/Healthy Living (2 credits) (Including one <i>Fitness and Wellness</i> course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	15	
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 (USD)	n/a	(Choose statement 1 or 4) Co-requisite is satisfied by a Major/College course requirement.
Global Knowledge co-requisite (GK)	n/a	(Choose statement 1 or 4) Co-requisite is satisfied by a Major/College course requirement.
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.	120	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Science Education (BS): Middle Grades Science (13SCIEDBS-13SCIEDMID)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
CH 101 Molecular Chemistry ^{B,7}	3	MEA 101 Geology I: Physical ^{B,7}	3
CH 102 Molecular Chemistry Lab ^{B,7}	1	MEA 110 Geology I: Laboratory ^{B,7}	1
MA 121 Elemental Calculus OR MA 131 Calc Life & Manag Science A ^A	3	MA 231 Calc Life & Manag Science B OR ST 311 Intro to Statistics ^A	3
ENG 101 Acad. Writing & Research ^H	4	FS 201 Food Science and the Consumer ^{B,7}	3
COM 110 Public Speaking	3	HES_*** Health & Exercise Studies Course ^E	1
ED 100 Intro to Education ⁵	2	Social Sciences Reqt ^{4,D}	3
	16		14

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
BIO 105 Biology in the Modern World ⁷	3	PY 124 Solar System Astronomy ⁷	3
PY 131 Conceptual Physics ⁷	4	NTR 301 Intro to Human Nutrition ⁷	3
MEA 130 Intro to Weather & Clim ⁷	3	EMS 205 Intro to Teaching Science ⁵	2
MEA 135 Intro to Weather & Clim Lab ⁷	1	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Add'l Breadth Reqt ^F	3	EDP 304 Educational Psychology (GEP SS) ^{5,D}	3
HES_*** Health & Exercise Studies Course ^E	1	GEP Humanities Reqt. ^C	3
	15		16

Junior Year

Fall Semester	Credit	Spring Semester	Credit
GN 301 Genetics in Human Affairs ⁷	3	GEP Interdisc. Persp. Elective ⁶	2-3
Science Elective ⁷	3	Science Elective ⁷	3
EMS 373 Instr. Materials in Science ⁵	3	EMS 375 Methods of Teach Sci I ^{3,5}	3
ECI 309 Teaching in Middle Years ⁵	3	ECI 306 Middle Years Reading ^{3,5}	3
ELP 344 School & Society ⁵	3	ECI 416 Teach Except Students ⁵	3
		ED 311 Classroom Assess. Princ. & Pract. ⁵	2
		ED 312 Classroom Assess. Princ. & Pract. Lab ⁵	1
	15		
			17-18

Senior Year

Fall Semester	Credit	Spring Semester	Credit
PB 213 Plants & Civilization ⁷	3	EMS 476 Student Teaching in Science ^{6,5}	10
EMS 475 Methods of Teach Sci II ^{2,5}	3	EMS 495 Senior Seminar in Math & Science Ed ^{6,5}	2
Hist/Phil of Science Elective (IP) ^{1,G}	3		
GEP Humanities Reqt. ^C	3		
Science Elective ⁷	3		
	15		
			12

Minimum Credit Hours Required for Graduation*^{I,J,K}:

120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205 EMS 375, and EMS 475.
6. Offered only in the Spring Semester. Prior Admission to the Professional Semester is required.
7. A grade of C (2.0) or better is required for core content courses, up to two courses with a grade below a C is permitted.

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

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 121 or MA 131 and MA 231 or ST 311

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/CH 102 and MEA 101/MEA 110

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

Choose from the University approved GEP Humanities course list. 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: EDP 304, Social Science Req

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

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

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

Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

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

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: NONE

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: NONE

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

Science Education (BS): Middle Grades Science (13SCIEDBS-13SCIEDMID)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
CH 101 Molecular Chemistry ^{B,7}	3	MEA 101 Geology I: Physical ^{B,7}	3
CH 102 Molecular Chemistry Lab ^{B,7}	1	MEA 110 Geology I: Laboratory ^{B,7}	1
MA 121 Elemental Calculus OR MA 131 Calc Life & Manag Science A ^A	3	MA 231 Calc Life & Manag Science B OR ST 311 Intro to Statistics ^A	3
ENG 101 Acad. Writing & Research ^H	4	FS 201 Food Science and the Consumer ^{B,7}	3
COM 110 Public Speaking	3	HES_*** Health & Exercise Studies Course ^E	1
ED 100 Intro to Education ⁵	2	Social Sciences Reqt ^{4,D}	3
	16		14

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
BIO 105 Biology in the Modern World ⁷	3	PY 124 Solar System Astronomy ⁷	3
PY 131 Conceptual Physics ⁷	4	NTR 301 Intro to Human Nutrition ⁷	3
MEA 130 Intro to Weather & Clim ⁷	3	EMS 205 Intro to Teaching Science ⁵	2
MEA 135 Intro to Weather & Clim Lab ⁷	1	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Add'l Breadth Reqt ^F	3	EDP 304 Educational Psychology (GEP SS) ^{5,D}	3
HES_*** Health & Exercise Studies Course ^E	1	GEP Humanities Reqt. ^C	3
	15		16

Junior Year

Fall Semester	Credit	Spring Semester	Credit
GN 301 Genetics in Human Affairs ⁷	3	GEP Interdisc. Persp. Elective ⁶	2-3
Science Elective ⁷	3	Science Elective ⁷	3
EMS 373 Instr. Materials in Science ⁵	3	EMS 375 Methods of Teach Sci I ^{3,5}	3
ECI 309 Teaching in Middle Years ⁵	3	ECI 306 Middle Years Reading ^{3,5}	3
ELP 344 School & Society ⁵	3	ECI 416 Teach Except Students ⁵	3
Free Elective	3	ED 311 Classroom Assess. Princ. & Pract. ⁵	2
		ED 312 Classroom Assess. Princ. & Pract. Lab ⁵	1
	18		17-18

Senior Year

Fall Semester	Credit	Spring Semester	Credit
PB 213 Plants & Civilization ⁷	3	EMS 476 Student Teaching in Science ^{6,5}	10
Free Elective	3	EMS 495 Senior Seminar in Math & Science Ed ^{6,5}	2
EMS 475 Methods of Teach Sci II ^{2,5}	3		
Hist/Phil of Science Elective (IP) ^{1,G}	3		
GEP Humanities Reqt. ^C	3		
Science Elective ⁷	3		
	18		12

Minimum Credit Hours Required for Graduation^{*I,J,K}:

126120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205 EMS 375, and EMS 475.
6. Offered only in the Spring Semester. Prior Admission to the Professional Semester is required.
7. A grade of C (2.0) or better is required for core content courses, up to two courses with a grade below a C is permitted.

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

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 121 or MA 131 and MA 231 or ST 311

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/CH 102 and MEA 101/MEA 110

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

Choose from the University approved GEP Humanities course list. 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: EDP 304, Social Science Req

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

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

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

Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

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

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: NONE

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: NONE

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B – GEP 2009

Degree Title: Bachelor of Science in Science Education – Middle Grades Science

Current Degree Key: 13MSS097

Effective Date of Revision: 1/2019 13SCIEDMID

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
Mathematics MA 121 or MA 131 (3), MA 231 or ST 311 (3)	6	Mathematics (6 hours)
Sciences CH 101 (3), CH 102 (1) MEA 101 (3), MEA 110 (1) MEA 130 (3), MEA 135 (1) PY 131 (4) PY 124 (3) BIO 105 (3) PB 213 (3) FS 201 (3) GN 301 (3) NTR 301 (3) Science elective (3) Science elective (3) Science elective (3)	43	Natural Sciences (7 hours)
Science Education EMS 205 (2) (B- wall) EMS 373 (3) (C- wall) EMS 375 (3) (B- wall) EMS 475 (3) (B- wall) EMS 476 (10) EMS 495 (2)	23	Satisfies Technology Fluency co-requisite
<u>History/Philosophy of Science Elective:</u> HI 321, 322, 341, 480; PHI 340; STS 301	3	GEP IP
<u>Social Science Elective:</u> Any course on GEP Social Science list EXCEPT PSY courses.	3	GEP SS
Free Electives:		
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	78	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ED 100	2	
Other: Professional Education and Psychology ED 204 (2) (C- wall) ELP 344 (3) (C- wall) ED 311 (2) (C- wall) ED 312 (1) (C- wall) ECI 416 (3) (C- wall) EDP 304 (3) (C- wall) ECI 306 (3) (C- wall)	20	GEP Social Science Elective (3 hours)

ECI 309 (3) (C- wall)	3	
Communications COM 110 (3)		Satisfies Communication in the Major GEP co-requisite
Total credit hours under College Requirements:	25	

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

GEP Co-Requisites:			<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>
U.S. Diversity co-requisite	(USD)	n/a	<i>(Choose statement 1 or 4)</i> Co-requisite is satisfied by a Major/College course requirement.
Global Knowledge co-requisite	(GK)	n/a	<i>(Choose statement 1 or 4)</i> Co-requisite is satisfied by a Major/College course requirement.
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 (COM 110)
Technology Fluency		X	Satisfied by College/Program Requirements (EMS 373)
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.		120	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Science Education (BS): Physics (9-12 Licensure) (13SCIEDBS-13SCIEDPY)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁵	2	PY 202 University Physics II OR PY 208 Physics for Engrs and Sci II ^{9,11,B}	4
PY 201 University Physics I OR PY 205 Physics for Engrs and Sci I ^{9,11,B}	4	CH 201 Quantitative Chemistry ¹¹	3
CH 101 Molecular Chem ^{B,11}	3	CH 202 Quantitative Chemistry Lab ¹¹	1
CH 102 Molecular Chem Lab ^{B,11}	1	MA 241 Calculus II ^A	4
MA 141 Calculus I ^A	4	GEP Humanities Reqt ^C	3
ENG 101 Acad. Writing & Res ^H	4	HES_*** Health & Exercise Studies Course ^E	1
	18		16

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
Physics Elective ^{8,11}	3	Astronomy Elective ^{7,11}	3
BIO 181 Intro Bio Ecol/Evol/Diversity ¹¹	4	BIO 183 Intro Bio Cell/Molecular Biol. ¹¹	4
MA 242 Calculus III	4	MA 341 App Diff Equations I	3
COM 110 Public Speaking	3	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Addtl. Breadth Reqt. (HUM/SS/VPA) ^F	3	EMS 205 Intro to Teaching Science ⁵	2
		EDP 304 Educational Psychology ^{5,D}	3
	17		17

Junior Year

Fall Semester	Credit	Spring Semester	Credit
Physics Elective ^{8,11}	3	Physics Elective ^{8,11}	2
MEA 101 Geology I: Physical ¹¹	3	ELP 344 School & Society ⁵	3
MEA 110 Geology I: Lab ¹¹	1	ED 311 Class Assess. Princ. & Pract. ⁵	2
EMS 373 Instr. Materials in Science ⁵	3	ED 312 Class Assess. Princ. & Pract. Lab ⁵	1
GEP Humanities Requirement ^C	3	EMS 375 Methods of Teach Sci I ^{3,5}	3
		ECI 416 Teach Except Students Mainstr. Class ⁵	3
	13		14

Senior Year

Fall Semester	Credit	Spring Semester	Credit
EMS 475 Methods of Teach Math ^{2,5}	3	EMS 476 Student Teaching in Science ^{6,5}	10
Hist/Phil. of Science Elective ^{1,G}	3	EMS 495 Sr. Seminar in Math & Science Ed. ^{6,5}	2
ES 200 Climate Change & Sustainability ^{10,11,G}	3		
Social Sciences Reqt. ^{4,D}	3		
HES_*** Health & Exercise Studies Course ^E	1		
	13		12
Minimum Credit Hours Required for Graduation ^{*I,J,K} :			120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205, EMS 375, and EMS 475.
6. Offered only in the spring semester. Prior admission to the Professional Semester is required.
7. Chosen from PY 123: Stellar and Galactic Astronomy or PY 124: Solar System Astronomy
8. For students double majoring in Physics, the elective is chose from PY 203, 328, 401, 407, 411, 413, 414. For students not double majoring, chose from PY 125, 126, 133, 203, 328, 341, 401, 402, 407, 411, 412, 413, 414, 415, 463, 499.
9. For students double majoring in Physics, the sequence is PY 201 & PY 202
10. Fulfills 3 hours of GEP Interdisciplinary Perspectives
11. A grade of C (2.0) or better is required for core content courses, up to two courses with a grade below a C is permitted.

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

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241, 242, 341

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/CH 102, MEA 101 , MEA 110, CH 201, CH 202, BIO 181, BIO 183, Physics courses

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

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

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

Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: EDP 304, Soc. Science requirement

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

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

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

Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: History & Phil of Science; ES 200

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

better)

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: ES 200

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

Science Education (BS): Physics (9-12 Licensure) (13SCIEDBS-13SCIEDPY)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
ED 100 Intro to Education ⁵	2	PY 202 University Physics II OR PY 208 Physics for Engrs and Sci II ^{9,11,B}	4
PY 201 University Physics I OR PY 205 Physics for Engrs and Sci I ^{9,11,B}	4	CH 201 Quantitative Chemistry ¹¹	3
CH 101 Molecular Chem ^{B,11}	3	CH 202 Quantitative Chemistry Lab ¹¹	1
CH 102 Molecular Chem Lab ^{B,11}	1	MA 241 Calculus II ^A	4
MA 141 Calculus I ^A	4	GEP Humanities Reqt ^C	3
ENG 101 Acad. Writing & Res ^H	4	HES_*** Health & Exercise Studies Course ^E	1
	18		16

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
Physics Elective ^{8,11}	3	Astronomy Elective ^{7,11}	3
BIO 181 Intro Bio Ecol/Evol/Diversity ¹¹	4	BIO 183 Intro Bio Cell/Molecular Biol. ¹¹	4
MA 242 Calculus III	4	MA 341 App Diff Equations I	3
COM 110 Public Speaking	3	ED 204 Intro to 21st Century Teaching ⁵	2
GEP Addtl. Breadth Reqt. (HUM/SS/VPA) ^F	3	EMS 205 Intro to Teaching Science ⁵	2
		EDP 304 Educational Psychology ^{5,D}	3
	17		17

Junior Year

Fall Semester	Credit	Spring Semester	Credit
Physics Elective ^{8,11}	3	Physics Elective ^{8,11}	3
Physics Elective ^{8,11}	3	Physics Elective ^{8,11}	3
MEA 101 Geology I: Physical ¹¹	3	ELP 344 School & Society ⁵	3
MEA 110 Geology I: Lab ¹¹	1	ED 311 Class Assess. Princ. & Pract. ⁵	2
EMS 373 Instr. Materials in Science ⁵	3	ED 312 Class Assess. Princ. & Pract. Lab ⁵	1
GEP Humanities Requirement ^C	3	EMS 375 Methods of Teach Sci I ^{3,5}	3
		ECI 416 Teach Except Students Mainstr. Class ⁵	3
	16 -13		18 -14

Senior Year

Fall Semester	Credit	Spring Semester	Credit
EMS 475 Methods of Teach Math ^{2,5}	3	EMS 476 Student Teaching in Science ^{6,5}	10
Hist/Phil. of Science Elective ^{1,G}	3	EMS 495 Sr. Seminar in Math & Science Ed. ^{6,5}	2
ES 200 Climate Change & Sustainability ^{10,11,G}	3		
Free Elective	1		
Social Sciences Reqt. ^{4,D}	3		
HES_*** Health & Exercise Studies Course ^E	1		
	14 -13		12

Minimum Credit Hours Required for Graduation^{*I,J,K}: ~~128~~120

1. Choose one from HI 321, HI 322, HI 341, HI 480, PHI 340, or STS 301 (Fulfills 3 hours of GEP Interdisciplinary Perspectives).
2. Offered only in the Fall semester.
3. Offered only in the Spring semester.
4. Choose a course from the GEP Social Science list EXCEPT PSY course. Social Science elective may NOT be a Psychology course.
5. A grade of C (2.0) or better is required for all ECI, ELP, and ED courses, EDP 304, EMS 373, EMS 476, EMS 495. B- or better is required for EMS 205, EMS 375, and EMS 475.
6. Offered only in the spring semester. Prior admission to the Professional Semester is required.
7. Chosen from PY 123: Stellar and Galactic Astronomy or PY 124: Solar System Astronomy
8. For students double majoring in Physics, the elective is chose from PY 203, 328, 401, 407, 411, 413, 414. For students not double majoring, chose from PY 125, 126, 133, 203, 328, 341, 401, 402, 407, 411, 412, 413, 414, 415, 463, 499.
9. For students double majoring in Physics, the sequence is PY 201 & PY 202
10. Fulfills 3 hours of GEP Interdisciplinary Perspectives
11. A grade of C (2.0) or better is required for core content courses, up to two courses with a grade below a C is permitted.

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

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

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241, 242, 341

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/CH 102, MEA 101 , MEA 110, CH 201, CH 202, BIO 181, BIO 183, Physics courses

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

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

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

Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: EDP 304, Soc. Science requirement

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

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

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

X Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: History & Phil of Science; ES 200

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

better)

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: ES 200

K. Foreign Language proficiency – Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS

Format B – GEP 2009

Degree Title: Bachelor of Science in Science Education

Current Degree Key: 13SED097P

Effective Date of Revision: 1/2019 13SCIEDPY

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement		List GEP category and hours satisfied by a Major requirement
<p>Mathematics MA 141 (4) MA 241 (4)</p>	8	Mathematics (6 hours)
<p>Core Sciences BIO 181 (4) BIO 183 (4) CH 101 (3) CH 102 (1) CH 201 (3) CH 202 (1) MEA 101 (3) MEA 110 (1) ES 200 (3)</p>	23	Natural Sciences (7 hours)
<p>Science Education EMS 205 (2) (B- wall) EMS 373 (3) (C- wall) EMS 375 (3) (B- wall) EMS 475 (3) (B- wall) EMS 476 (10) EMS 495 (2)</p>	23	GEP - Interdisciplinary Perspectives (3 hours)
<p>Social Science elective: Choose any course from GEP SS list EXCEPT PSY.</p>	3	Satisfies Technology Fluency co-requisite
<p>History/Philosophy of Science elective: Choose from HI 321, 322, 341, 480; PHI 340: STS 301</p>	3	GEP SS
		GEP IP
<p>Concentration Courses/Groups/Electives:</p> <p>Sciences and supporting mathematics GRP XXX - First Semester Physics (4) (PY 201 or PY 205) GRP XXX - Second Semester Physics (4) (PY 202 or PY 208) GRP XXX - Physics Electives (8) (PY 125, 126, 133, 203, 328, 341, 401, 402, 407, 411, 412, 413, 414, 415, 463, 499) GRP XXX - Astronomy Elective (3) (PY 123 or PY 124) MA 242 (4) MA 341 (3)</p>	26	
<p>Free Electives:</p>		
<p>Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i></p>	86	

COLLEGE REQUIREMENTS:		
Orientation Course(s):		
Other: Professional Education and Psychology ED 100 (2) (C- wall) ED 204 (2) (C- wall) ELP 344 (3) (C- wall) ED 311 (2) (C- wall) ED 312 (1) (C- wall) ECI 416 (3) (C- wall) EDP 304 (3) (C- wall) Communication COM 110 (3)	19	GEP - Social Sciences Elective (3 hours) Satisfies communication in the Major GEP Co-requisite
Total credit hours under College Requirements:	19	

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

Interdisciplinary Perspectives (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> Major/College course requirement satisfies <u>3</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. (HI/PHI of Science Elective)
Physical Education/Healthy Living (2 credits) <i>(Including one Fitness and Wellness course)</i>	2	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	15	
GEP Co-Requisites:		<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>
U.S. Diversity co-requisite (USD)	n/a	<i>(Choose statement 1 or 4)</i> Co-requisite is satisfied by a Major/College course requirement.
Global Knowledge co-requisite (GK)	n/a	<i>(Choose statement 1 or 4)</i> Co-requisite is satisfied by a Major/College course requirement.
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.	120	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

MEMORANDUM

To: University Course and Curriculum Committee

From: Nolan Fahrner, Undergraduate Program Coordinator,
Technology, Engineering and Design Education

Date: September 28th 2018

RE: Technology, Engineering, and Design Education: Licensure Degree Revision

To whom it may concern,

The program has decided to update the 2014 curriculum for Technology, Engineering, and Design Education: Licensure degree. These revisions include required, critical path, core, and electives courses. These changes are due to faculty discussion on what courses should and should not be required, and what should be considered a major elective. We have also made some content changes within certain courses based on current trends/issues in our field and have made changes regarding pre and co requisites.

Here is an outline of the changes:

1. Removed TDE 101 as option for an orientation course (no longer required or offered).
2. Re-categorized major courses into: Professional Education, Professional TDE or GC Technical Content, and TDE or GC Technical Electives.
3. Decreased the number of required hours for the major content from 38 to 24 and increased the number of required elective hours from 6 to 12.
4. Removed one major elective to adjust degree program hours to 120.
5. Added ECI 416: Teaching Exceptional Students to the curriculum plan.
6. Updated the 8-semester plan for course changes made in CIM and submitted to the UCCC including which semester the courses are offered.

We believe the revisions will help provide a clearer understanding of the requirements for our major and an eight-semester display that reflects this. A record of these revisions is provided as a tracked version of the curriculum display.

Sincerely,



Nolan E. Fahrner

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X

Proposed Effective Semester: 8.2019

Degree/Plan Title: Technology, Engineering, & Design Education

Concentration/Subplan Title: Licensure

Plan SIS Code: 13TDEBS

Subplan SIS Code: 13TDEEDL

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
ED 100 Intro to Prof. Edu. or E 101 ²	1-2	CH 100 or CH 101 & 102 Chemistry ^B	4
ENG 101 Acad Writing & Research ^H	4	COM 110 Public Speaking	3
GC 120 Found. of Graphic Comm ^{1,3}	3 ^{CP}	GC 250 Architectural Graphic Comm. ³	3
GEP Mathematics ^{A,5}	3	GEP Humanities Req ^{C,I,J}	3
HESF *** Health & Exercise Studies Course ^E	1	MA 121, 131, or 141 Calculus ^{A,5}	3-4
TDE 110 Materials & Processes ^{1,3}	3 ^{CP}		
	<i>Total:15-16</i>		<i>Total:16-17</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
HESF *** Health & Exercise Studies Course ^E	1	BIO 105 Bio in Mod. World ^B	3
PY 131 or PY 201 or PY 205/206 or PY 211 ^B	4	GEP Humanities Req. ^{C,I,J}	3
ED 204 Intro to 21st Century Teaching ^{1,2}	2 ^{CP}	GEP Social Sciences Req. ^{D,I,J,6}	3
TDE 202 Intro to Teaching Tech Ed. ^{1,2}	2 ^{CP}	ISE 216 Manuf. Engr. Practicum or D 100 Design Thinking ³	3
TDE 131 Tech Eng & Design I ^{1,3}	3 ^{CP}	TDE or GC Technical Elective I ⁴	3
TDE 205 Desk Pub & Imaging Tech ^{1,3}	3 ^{CP}		
	<i>Total:15</i>		<i>Total:15</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ED 311 Classroom Assess. Princ. & Prac. ²	2	GEP Addtl. Breadth Req.(HUM/SS/VPA) ^{F,I,J}	3
ED 312 Classroom Assess. Princ. & Prac. Lab ²	1	PSY 376 Develop. Psychology ^D	3
EDP 304 Educational Psychology ²	3	STS 302 Contemp. Sci. Tech & Hum. Values ^{G,J}	3
ELP 344 School & Society ²	3	TDE 331 Tech Engr & Design II ³	3
TDE or GC Technical Elective II ⁴	3	TDE or GC Technical Elective IV ⁴	3
TDE or GC Technical Elective III ⁴	3		
	<i>Total:15</i>		<i>Total:15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ECI 416 Teaching Exceptional Students ²	3	TDE 452 Lab Planning in Tech. Education ²	3
Free Electives ^{I,J,K}	3	TDE 457 Student Teaching in Tech. Education ²	8
GEP Interdiscp. Persp. Req. ^{G,I,J}	2-3	TDE 495 Senior Seminar in Tech. Education ²	3
TDE 456 Curr. & Methods in Tech. Educ ²	4		
TDE 481 R&D in Tech. Educ. ³	3		
	<i>Total:15-16</i>		<i>Total:14</i>
Minimum Credit Hours Required for Graduation ^{*,I,K} : 120			

Major/Program Footnotes:

1. **Critical Path (CP):** GC 120, TDE 110, TDE 131, TDE 205, TDE 202 and ED 204 are required in the first three semesters of TDE and part of the critical path.
2. **Professional Education:** Required courses (35 credit hours) include Intro Professional Education (ED 100 or E 101), ED 204, TDE 202, ELP 344, ED 311, ED 312, EDP 304, ECI 416, TDE 452, TDE 456, TDE 457, and TDE 495 (a **C (2.0)** or better is required for courses in this category).
3. **Professional TDE or GC Technical Content:** Required courses (24 credit hours) include: D 100 or ISE 216, GC 120, GC250, TDE 110, TDE 131, TDE 205, TDE 331, and TDE 481 (a **C (2.0)** or better is required for courses in this category).
4. **TDE or GC Technical Electives:** Required courses (12 credit hours) may be selected from the following: GC 320, GC 330, GC 340, GC 350, GC 420, GC 450, TDE 230, TDE 261, TDE 351, TDE 359, TDE 371, or TDE 385 (a **C- or better** is required for courses in this category).
5. **Mathematical Sciences** (Only one course in this category may be passed with a D. The other course must be at least a C-).
6. This course cannot be a Psychology course if using PSY 376 to fulfill 3 hours of GEP Social Science 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 <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 103, and MA 121, 131, or 141 Calculus.**
- B. **Natural Sciences** (11 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 100 or CH 101 & 102 Chemistry, PY 131 or PY 201 or PY 205/206 or PY 211, and BIO 105**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **PSY 376**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
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: **STS 302**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **STS 302**
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: 8.2018

Degree/Plan Title: Technology, Engineering, & Design Education Concentration/Subplan Title: Licensure

Plan SIS Code: 13TDEBS

Subplan SIS Code: 13TDEEDL

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
TDE 101 , ED 100 Intro to Prof. Edu. , or E 101 ^{1,2}	1-2	CH 100 or CH 101 & 102 Chemistry ^B	4
ENG 101 Acad Writing & Research ^H	4	COM 110 Public Speaking	3
GC 120 Found. of Graphic Comm ^{1,3}	3 ^{CP}	GC 250 Architectural Graphic Comm. ³	<u>3</u>
GEP Mathematics ^{A,25}	3	GEP Humanities Req ^{C,I,J}	3
HESF *** Health & Exercise Studies Course ^E	1	MA 121, 131, or 141 Calculus ^{A,25}	3-4
TDE 110 Materials & Processes ^{1,3}	4 ^{3CP}	TDE 131 Tech Eng & Design I ¹	3
	<i>Total: 15-16</i>		<i>Total: 16-17</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
HESF *** Health & Exercise Studies Course ^E	<u>3</u>	BIO 105 Bio in Mod. World ^B	3
GEP Social Sciences Req. ^{D,I,J}	3	GC 350 Applied CAD ¹	3
PY 131 or PY 201 or PY 205/206 or PY 211 ^B	4	GEP Humanities Req. ^{C,I,J}	3
ED 204 Intro to 21st Century Teaching ^{1,2}	2 ^{CP}	GEP Social Sciences Req. ^{D,I,J,7}	<u>3</u>
TDE 202 Intro to Teaching Tech Ed. ^{1,2}	1 ^{2CP}	HES *** Health & Exercise Studies Course ^E	1
TDE 131 Tech Eng & Design I ^{1,3}	<u>3</u> ^{CP}	ISE 216 Manuf. Engr. Practicum or D 100 Design Thinking ^{2,1}	3
TDE 205 Desk Pub & Imaging Tech ^{1,3}	3 ^{CP}	TDE 261 Digital Media Education ¹	3
TDE Technical Elective I ^{1,4}	3	TDE or GC Technical Elective I ¹	<u>3</u>
	<i>Total: 15¹⁶</i>		<i>Total: 15¹⁶</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ED 311 Classroom Assess. Princ. & Prac. ^{1,2}	2	GEP Addtl. Breadth Req.(HUM/SS/VPA) ^{F,I,J}	3
ED 312 Classroom Assess. Princ. & Prac. Lab ^{1,2}	1	PSY 376 Develop. Psychology ^D	3
EDP 304 Educational Psychology ^{1,2}	3	STS 302 Contemp. Sci. Tech & Hum. Values ^{G,J}	3
ELP 344 School & Society ^{1,2}	3	TDE 331 Tech Engr & Design II ^{1,3}	3
TDE 359 Electronics Tech ¹	3	TDE 385 Robotics Education ¹	3
TDE 371 Emerging Issues Tech ¹	3	TDE 386 Robotics Education Lab ¹	1
TDE or GC Technical Elective II ^{1,4}	<u>3</u>	TDE or GC Technical Elective IV ^{1,4}	<u>3</u>
TDE or GC Technical Elective III ^{1,4}	<u>3</u>		
	<i>Total: 15</i>		<i>Total: 15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ECI 416 Teaching Exceptional Students ²	<u>3</u>	TDE 452 Lab Planning in Tech. Education ^{1,2}	3
Free Electives ^{I,J,K}	3	TDE 457 Student Teaching in Tech. Education ^{1,2}	8
GEP Interdiscp. Persp. Req. ^{G,I,J}	2-3	TDE 495 Senior Seminar in Tech. Education ^{1,2}	3
TDE 456 Curr. & Methods in Tech. Educ ^{1,2}	4		
TDE 481 R&D in Tech. Educ. ^{1,3}	3		
TDE Technical Elective II ^{1,4}	3		
	<i>Total: 15-16</i>		<i>Total: 14</i>
Minimum Credit Hours Required for Graduation ^{*,I,K} : 124 <u>120</u>			

Major/Program Footnotes:

1. ~~Professional Education and Professional TDE Technical Teaching Content (a C (2.0) or better is required for courses in this category).~~
1. **Critical Path (CP):** GC 120, TDE 110, TDE 131, TDE 205, TDE 202 and ED 204 are required in the first three semesters of TDE and part of the critical path.
2. ~~Mathematical Sciences (Only one course in this category may be passed with a D. The other course must be at least a C-).~~
2. **Professional Education:** Required courses (35 credit hours) include Intro Professional Education (TDE 101, ED 100, or E 101), ED 204, TDE 202, ELP 344, ED 311, ED 312, EDP 304, ECI 416, TDE 452, TDE 456, TDE 457, and TDE 495 (a C (2.0) or better is required for courses in this category).
3. ~~This course cannot be a Psychology course if using PSY 376 to fulfill 3 hours of GEP Social Science requirement.~~
3. **Professional TDE or GC Technical Content:** Required courses (24 credit hours) include: D 100 or ISE 216, GC 120, GC250, TDE 110, TDE 131, TDE 205, TDE 331, and TDE 481 (a C (2.0) or better is required for courses in this category).
4. ~~TDE Technical Electives Choose from the following courses: GC250, GC 230, GC 340, GC 420, GC 498, TDE 230, TDE 351, and a grade of a C- or better is required for courses in the Tech Elective category.~~
4. **TDE or GC Technical Electives:** Required courses (12 credit hours) may be selected from the following: GC 320, GC 330, GC 340, GC 350, GC 420, GC 450, TDE 230, TDE 261, TDE 351, TDE 359, TDE 371, or TDE 385(a C- or better is required for courses in this category).
5. **Mathematical Sciences (Only one course in this category may be passed with a D. The other course must be at least a C-).**
6. This course cannot be a Psychology course if using PSY 376 to fulfill 3 hours of GEP Social Science 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 <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 103, and MA 121, 131, or 141 Calculus.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 100 or CH 101 & 102 Chemistry, PY 131 or PY 201 or PY 205/206 or PY 211, and BIO 105**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **PSY 376**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **STS 302**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **STS 302**
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

COLLEGE REQUIREMENTS:		
<u>PROFESSIONAL EDUCATION REQUIREMENT</u> NOTE: Course grouping has C-wall (2.0) grade requirement. Choose either ED 100 (req. for freshman) or E 101. All other courses are required. Orientation Course(s): ED 100 - Introduction to Education (Req. for freshman) E 101 - Introduction to Engineering & Problem Solving <i>(Choose 1 course from above)</i>	2 1	
Other Course(s): ED 204 - Introduction to 21st Century Teaching(CP) TDE 202 - Introduction to Teaching Technology Education(CP) ELP 344 - School and Society ED 311 - Classroom Assessment Principles and Practices ED 312 - Classroom Assessment Principles Lab EDP 304 - Educational Psychology ECI 416 - Teaching Exceptional Students TDE 452 - Lab Planning in Technology Education TDE 456 - Curriculum and Methods in Technology Education TDE 457 - Student Teaching in Technology Education TDE 495 - Senior Seminar in Technology Education	2 2 3 2 1 3 3 3 4 8 3	
Total credit hours under College Requirements:	Minimum of 35 Hours	

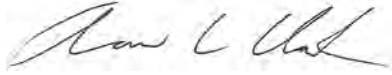
<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		<u>At least one of the following must be listed:</u>
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p>Specific courses should not be listed in any of the fields below other than ENG 101.</p>		<ol style="list-style-type: none"> Choose course(s) from the University Approved GEP course list for this category. Minimum requirements are satisfied by Major/College course requirements. Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. Co-requisite is satisfied by a Major/College course requirement. Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> MA 103, and MA 121, 131, or 141 Calculus.	6	(Choose statement 1, 2 or 3) 1 or 3
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> CH 100 or CH 101 & 102 Chemistry, PY 131 or PY 201 or PY 205/206 or PY 211, and BIO 105	11	(Choose statement 1, 2 or 3) 1 or 3
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	(Choose statement 1, 2 or 3) 1
Social Sciences (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i> PSY 376	6	(Choose statement 1, 2 or 3) 1 or 3

Additional Breadth (Choose approach that is <i>different</i> from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites. <i>(3 credits)</i>	3	5 <i>(Choose statement 5 or 6)</i>
Interdisciplinary Perspectives 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. STS 302 <i>(5 credits)</i>	5	1 or 3 <i>(Choose statement 1, 2 or 3)</i>
Health and Exercise Studies (Including one <i>Fitness and Wellness</i> course) <i>(2 credits)</i>	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	43 hours	
GEP Co-Requisites:		<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>
U.S. Diversity co-requisite <i>(USD)</i>	n/a	1 <i>(Choose statement 1 or 4)</i>
Global Knowledge co-requisite STS 302 <i>(GK)</i>	n/a	1 or 4 <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) COM 110	3	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.	120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

NC STATE UNIVERSITY ~ COLLEGE OF EDUCATION ~ SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION DEPARTMENT SUBMITTING UPDATES TO THE FOLLOWING DEGREE PROGRAMS:

13TDEBS-13TDEGS AND 13TDEBS-13TDEEDL

RECOMMENDED BY:



10/20/18 _____
HEAD, DEPARTMENT/PROGRAM DATE

ENDORSED BY:

 _____ 10/21/18
CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE DATE

 _____ 10/22/18

COLLEGE DEAN DATE

APPROVED BY:

CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE DATE

CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION DATE

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

APPROVED EFFECTIVE DATE _____

MEMORANDUM

To: University Course and Curriculum Committee

From: Nolan Fahrer, Undergraduate Program Coordinator,
Technology, Engineering and Design Education

Date: September 28th 2018

RE: Technology, Engineering, and Design Education: Graphic Communications Degree
Revision

To whom it may concern,

The program has decided to update the 2011 curriculum for Technology, Engineering, and Design Education: Graphic Communications degree. These revisions include required, critical path, core, and elective courses. These changes are due to faculty discussion on what courses should and should not be required, and what should be considered a major elective. We have also made some content changes within certain courses based on current trends/issues in our field and have made changes regarding pre and co requisites.

Here is an outline of the changes:

1. Removed TDE 101 as option for an orientation course (no longer required or offered).
2. Re-categorized major courses into: Professional Education, Professional TDE or GC Technical Content, TDE or GC Technical Electives, and Management Electives.
3. Decreased the number of required hours for the major content from 30 to 21 and increased the number of required elective hours from 12 to 21.
4. Removed one major elective to adjust degree program hours to 119.
5. Updated the 8-semester plan for course changes made in CIM and submitted to the UCCC including which semester the courses are offered.

We believe the revisions will help provide a clearer understanding of the requirements for our major and an eight-semester display that reflects this. A record of these revisions is provided as a tracked version of the curriculum display.

Sincerely,



Nolan E. Fahrer

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X

Proposed Effective Semester: 8.2019

Degree/Plan Title: Technology, Engineering, & Design Education

Concentration/Subplan Title: Graphic Communications

Plan SIS Code: 13TDEBS

Subplan SIS Code: 13TDECG

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
ED 100 Intro to Prof. Edu. or E 101 ²	1-2	CH 100 or CH 101 & 102 Chemistry ^B	4
ENG 101 Acad Writing & Research ^H	4	COM 110 Public Speaking	3
GC 120 Found. of Graphic Comm ^{1,3}	3 ^{CP}	MA 121, 131, or 141 Calculus ^{A,5}	3-4
GEP Mathematics ^{A,5}	3	TDE 205 Desk Pub & Imaging Tech ^{1,3}	3 ^{CP}
HESF *** Health & Exercise Studies Course ^E	1	TDE or GC Technical Elective I ⁴	3
TDE 110 Materials & Processes ^{1,3}	3 ^{CP}		
	<i>Total:15-16</i>		<i>Total:16-17</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
EDP 304 Educational Psychology ²	3	BIO 105 Bio in Mod. World ^B	3
GC 250 Architectural Graphic Comm. ³	3	GEP Addtl. Breadth Req.(HUM/SS/VPA) ^{F,I,J}	3
Management Elective I ⁷	3	GEP Humanities Req. ^{C,I,J}	3
PY 131 or PY 201 or PY 205/206 or PY 211 ^B	4	ISE 216 Manuf. Engr. Practicum or D 100 Design Thinking ³	3
TDE 131 Tech Eng & Design I ^{1,3}	3 ^{CP}	TDE or GC Technical Elective II ⁴	3
	<i>Total:16</i>		<i>Total:15</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ELP 344 School & Society ²	3	HES_*** Health & Exercise Studies Course ^E	1
GEP Social Sciences Req. ^{D,I,J,6}	3	Management Elective III ⁷	3
Management Elective II ⁷	3	PSY 376 Develop. Psychology ^D	3
TDE or GC Technical Elective III ⁴	3	STS 302 Contemp. Sci. Tech & Hum. Values ^{G,J}	3
TDE or GC Technical Elective IV ⁴	3	TDE or GC Technical Elective V ⁴	3
		TDE 331 Tech Engr & Design II ³	3
	<i>Total:15</i>		<i>Total:16</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GEP Humanities Req ^{C,I,J}	3	Free Electives ^{I,J,K}	3
GEP Interdiscp. Persp. Req. ^{G,I,J}	2-3	TDE 407 Field Work in TDE ²	6
TDE 481 R&D in Tech. Educ. ²	3	TDE 452 Lab Planning in Tech. Education ²	3
TDE or GC Technical Elective VI ⁴	3		
Management Elective IV ⁷	3		
	<i>Total:14-15</i>		<i>Total:12</i>
Minimum Credit Hours Required for Graduation^{*,I,K}: 119			

Major/Program Footnotes:

1. **Critical Path (CP):** TDE 110, TDE 131, TDE 205, and GC 120 are required in the first three semesters of TDE and part of the critical path.
2. **Professional Education:** Required courses (16 credit hours) include Intro Professional Education (ED 100 or E 101), ELP 344, EDP 304, TDE 452, TDE 407 (6 credit hours) (a **C (2.0)** or better is required for courses in this category).
3. **Professional TDE or GC Technical Content:** Required courses (24 credit hours) include: D 100 or ISE 216, GC 120, GC 250, TDE 110, TDE 131, TDE 205, TDE 331, and TDE 481 (a **C (2.0)** or better is required for courses in this category).
4. **TDE or GC Technical Electives:** Required courses (18 credit hours) may be selected from the following: GC 320, GC 330, GC 340, GC 350, GC 420, GC 450, TDE 230, TDE 261, TDE 351, TDE 359, TDE 371, or TDE 385 (a **C- or better** is required for courses in this category).
5. **Mathematical Sciences** (Only one course in this category may be passed with a D. The other course must be at least a C-).
6. This course cannot be a Psychology course if using PSY 376 to fulfill 3 hours of GEP Social Science requirement.
7. **Management Electives** (Select 12 credit hours from courses listed in the degree audit) Note: All BUS courses 300 level or higher are restricted to Business majors and minors.

***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 103, and MA 121, 131, or 141 Calculus.***
- B. **Natural Sciences** (11 credit hours – include one laboratory course or course with a lab)
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 100 or CH 101 & 102 Chemistry, PY 131 or PY 201 or PY 205/206 or PY 211, and BIO 105***
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **PSY 376***
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **STS 302***
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. **Global Knowledge (GK)**
*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **STS 302***
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: 8.2018

Degree/Plan Title: Technology, Engineering, & Design Education

Concentration/Subplan Title: Graphic Communications

Plan SIS Code: 13TDEBS

Subplan SIS Code: 13TDECG

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
TDE 101 , ED 100 Intro to Prof. Edu. , or E 101 ^{4,2}	1-2	CH 100 or CH 101 & 102 Chemistry ^B	4
ENG 101 Acad Writing & Research ^H	4	COM 110 Public Speaking	3
GC 120 Found. of Graphic Comm ^{4,1,3}	3 ^{CP}	MA 121, 131, or 141 Calculus ^{A,5}	3-4
GEP Mathematics^{A,5}	3	TDE 131 Tech Eng & Design I⁴	3
HESF *** Health & Exercise Studies Course ^E	1	TDE 205 Desk Pub & Imaging Tech ^{4,1,3}	3 ^{CP}
MA 103 Topics in Cont. Math^{A,5}	3	TDE or GC Technical Elective I⁴	3
TDE 110 Materials & Processes ^{4,1,3}	4 ³ ^{CP}		
	<i>Total:15-16</i>		<i>Total:16-17</i>
	-17		
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
EDP 304 Educational Psychology ^{4,2}	3	BIO 105 Bio in Mod. World ^B	3
GC 250 Architectural Graphic Comm. ^{4,3}	3	GC Elective^{3,4}	3
GEP Social Sciences Req.^{D,I,J}	3	GEP Humanities Req. ^{C,I,J}	3
TDE, GC, or Management Elective I ^{1,4,7}	3	GEP Addtl. Breadth Req.(HUM/SS/VPA) ^{F,I,J}	3
PY 131 or PY 201 or PY 205/206 or PY 211 ^B	4	ISE 216 Manuf. Engr. Practicum or D 100 Design Thinking³	3
TDE 131 Tech Eng & Design I^{1,3}	3	TDE or GC Technical Elective II^{2,4}	3
	<i>Total:16</i>		<i>Total:15</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GC 350 Applied CAD/D & Geometric Controls⁴	3	HES_*** Health & Exercise Studies Course ^E	1
GEP Social Sciences Req.^{D,I,J,6}	3	Management Elective III⁷	3
ELP 344 School & Society ^{4,2}	3	PSY 376 Develop. Psychology ^D	3
TDE, GC, or Management Elective II ^{1,4,7}	3	STS 302 Contemp. Sci. Tech & Hum. Values ^{G,J}	3
TDE 331 Tech Engr & Design II^{4,2}	3	TDE 331 Tech Engr & Design II³	3
TDE or GC Technical Elective III^{2,3,4}	3	TDE 385 Robotics Education⁴	3
TDE or GC Technical Elective IV⁴	3	TDE 386 Robotics Education Lab⁴	1
		TDE or GC Technical Elective V^{2,4}	3
	<i>Total:15</i>		<i>Total:16</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
GC 420 Visual Thinking⁴	3	Free Electives ^{I,J,K}	3
GEP Humanities Req. ^{C,I,J}	3	GC Elective³	3
GEP Interdiscp. Persp. Req. ^{G,I,J}	2-3	TDE 452 Lab Planning in Tech. Education ^{4,2}	3
TDE 481 R&D in Tech. Educ. ²	3	TDE 407 Field Work in TDE ^{4,2}	6
TDE or GC Technical Elective VI⁴	3		
TDE or GC Management Elective IV ^{2,3,4,7}	3		
	<i>Total:14-15</i>		<i>Total:1512</i>
Minimum Credit Hours Required for Graduation ^{*,I,K} : 122 119			

Major/Program Footnotes:

1. ~~Select from Concentration Group I list of courses in the degree audit under concentration requirements (13TDEGC—Spring 2011)~~

~~Note: All BUS courses 300 level or higher are restricted to Business majors and minors.~~

1. ~~Critical Path (CP): TDE 110, TDE 131, TDE 205, and GC 120 are required in the first year of TDE and part of the critical path.~~

2. ~~Select from Concentration Group II list in the degree audit which includes TDE 220, 230, 261, 351, 359, 371, 456.~~

2. **Professional Education:** Required courses (16 credit hours) include Intro Professional Education (ED 100 or E 101), ELP 344, EDP 304, TDE 452, TDE 407 (6 credit hours) (a C (2.0) or better is required for courses in this category).

3. ~~Select from Concentration Group III list in the degree audit which includes GC 320, 330, 340, 450.~~

3. **Professional TDE or GC Technical Content:** Required courses (24 credit hours) include: D 100 or ISE 216, GC 120, GC250, TDE 110, TDE 131, TDE 205, TDE 331, and TDE 481 (a C (2.0) or better is required for courses in this category).

4. ~~Professional Education and Professional TDE Technical Teaching Content (all courses in this category must have a grade of "C" or higher).~~

4. **TDE or GC Technical Electives:** Required courses (18 credit hours) may be selected from the following: GC 320, GC 330, GC 340, GC 350, GC 420, GC 450, TDE 230, TDE 261, TDE 351, TDE 359, TDE 371, or TDE 385(a C- or better is required for courses in this category).

5. **Mathematical Sciences** (Only one course in this category may be passed with a D. The other course must be at least a C-).

6. This course cannot be a Psychology course if using PSY 376 to fulfill 3 hours of GEP Social Science requirement.

7. **Management Electives** (Select 12 credit hours from courses listed in the degree audit) Note: All BUS courses 300 level or higher are restricted to Business majors and minors.

*** 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 103, and MA 121, 131, or 141 Calculus.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 100 or CH 101 & 102 Chemistry, PY 131 or PY 201 or PY 205/206 or PY 211, and BIO 105**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **PSY 376**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **STS 302**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **STS 302**
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

MANAGEMENT ELECTIVES REQUIREMENT (12 credit hours) Select 12 credit hours (4 courses) from the list below: ACC 200, 210, 220, 280; AFS 305; ANT 261; ARE 201, 201A, 301, 304, 309, 336; BUS 320, 340, 350, 360, 370; EC 201, 202, 205, 301, 302, 305, 336, 348, 351, 404, 410, 413, 431, 436, 437, 449, 451, 468, 474, 480, 490, 495, 498; ENG 331, 332, 333; MA 105, 231, 241, 242; MIE 201, 330, 335, 432; PHI 214; PS 201, 202, 203, 204, 231, 236, 303, 309, 310, 312, 314, 320, 335, 336, 418; PSY 200, 307, 311, 312, 340, 411; SOC 205, 261, 305; ST 311, 350; STS 214; TDE 456; WGS 418	TOTAL = 12	
Free Electives:	3	
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	57 Hours	
COLLEGE REQUIREMENTS:		
PROFESSIONAL EDUCATION REQUIREMENT NOTE: Course grouping has C-wall (2.0) grade requirement. Choose either ED 100 (req. for freshman) or E 101. All other courses are required. Orientation Course(s): ED 100 - Introduction to Education (Req. for freshman) E 101 - Introduction to Engineering & Problem Solving <i>(Choose 1 course from above)</i>	2 1	
Other Course(s): ELP 344 - School and Society EDP 304 - Educational Psychology TDE 452 - Lab Planning in Technology Education TDE 407 - Field Work in Technology Education	3 3 3 6	
Total credit hours under College Requirements:	Minimum of 16 Hours	

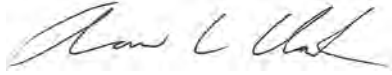
NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS		At least one of the following must be listed:
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		1 Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		2 Minimum requirements are satisfied by Major/College course requirements.
		3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
		4 Co-requisite is satisfied by a Major/College course requirement.
		5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
		6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. MA 103, and MA 121, 131, or 141 Calculus.	6	(Choose statement 1, 2 or 3) 1 or 3
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. CH 100 or CH 101 & 102 Chemistry, PY 131 or PY 201 or PY 205/206 or PY 211, and BIO 105	11	(Choose statement 1, 2 or 3) 1 or 3
English 101 (C- or better required) (4 credits)	4	ENG 101

Humanities (Courses from <i>two different disciplines</i>) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	(6 credits)	6	(Choose statement 1, 2 or 3) 1
Social Sciences (Courses from <i>two different disciplines</i>) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. PSY 376	(6 credits)	6	(Choose statement 1, 2 or 3) 1 or 3
Additional Breadth (Choose approach that is <i>different from the approach of the Major</i>) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	(3 credits)	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives 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. STS 302	(5 credits)	5	(Choose statement 1, 2 or 3) 1 or 3
Health and Exercise Studies (Including one <i>Fitness and Wellness</i> course)	(2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.		43 hours	
GEP Co-Requisites:			<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>
U.S. Diversity co-requisite (USD)		n/a	(Choose statement 1 or 4) 1
Global Knowledge co-requisite STS 302 (GK)		n/a	(Choose statement 1 or 4) 1 or 4
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) COM 110		3	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.		119 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

NC STATE UNIVERSITY ~ COLLEGE OF EDUCATION ~ SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS EDUCATION DEPARTMENT SUBMITTING UPDATES TO THE FOLLOWING DEGREE PROGRAMS:

13TDEBS-13TDEGS AND 13TDEBS-13TDEEDL

RECOMMENDED BY:



10/20/18 _____
HEAD, DEPARTMENT/PROGRAM DATE

ENDORSED BY:

 _____ 10/21/18
CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE DATE

 _____ 10/22/18

COLLEGE DEAN DATE

APPROVED BY:

CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE DATE

CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION DATE

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

APPROVED EFFECTIVE DATE _____

MEMO

Date: October 31, 2018
To: Office of Courses, Curricula, and Academic Standards
From: Dr. Jason DeRousie, Director of Curriculum and Advising, College of Management
Subject: Updates to Minor Declaration Process

The Poole College of Management proposes to update our webpages for the Economics and Accounting minors to reflect a new online declaration process. We request that the minor pages be updated as follows.

Economics**OLD**

To be admitted into the Economics Minor, students must have a 3.0 or better cumulative NC State GPA, and complete a Minor Declaration form, available at: <https://drive.google.com/file/d/0B-kU5Wp0Rm2MdVV1ZGVrREw2aEE/view> This link will open in a new window.

The completed form should be submitted to the Poole College of Management Office of Undergraduate Programs (2150 Nelson). Staff in that office will address providing the Minor Coordinator's name and signature, and submit the form to Registration and Records for processing.

NEW

To be admitted into the Economics Minor, students must have a 3.0 or better cumulative NC State GPA, and complete a Minor Declaration form, available at: <https://goo.gl/forms/whNchXFKPfur9Auz1>

Delete the second paragraph...

Accounting**OLD**

Admissions and Certification of Minor

Applications for a Minor in Accounting are available in 2150 Nelson. If transfer credits contribute to the completion of the minor, you'll also need to submit a copy of the Advanced Standing Certificate (ASC) showing the transfer credits.

Declaring the Minor

Students should complete the declaration form before starting classes for the minor to allow greater access to classes. The form is located in the Office of Undergraduate Programs, 2150 Nelson and the Poole College of Management website.

NEW

Delete the Admissions and Certification paragraph

Declaring the Minor

Students should complete the declaration form available at <https://goo.gl/forms/whNchXFKPfur9Auz1> before starting classes for the minor to allow greater access to classes.