



University Courses & Curricula Committee 2018-2019

September 12, 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
- Remarks by Vice Chancellor and Dean Dr. Mike Mullen
- Approval of UCCC August 29th 2018 Minutes
- Course and Curricular Business

New Business

Consent Agenda		
Action	Type	Notes
CS 216 Southern Row Crop Production-Cotton, Peanuts, and Tobacco	Minor	Revisions: Title, offering
FLC 201 Intermediate Chinese I	Minor	Revisions: prerequisite
FLE 101 Academic Writing and Research	Minor	Revisions: prerequisite
FS 351 Sanitation Standard Operating Procedures in Food Safety Control	Drop	Drop: not taught in years
FS 353 Good Manufacturing Practices	Drop	Drop: not taught in years
FS 407 Risk Analysis and Hazard Analysis in Food Safety	Drop	Drop: not taught in years
HS 400 Residential Landscaping	Minor	Requisites, Grading
Animal Science Major (3 concentrations) 120 credit hours	Minor	Removing free electives
Biochemistry 11BIOCHBS 120 credit hours	Minor	Removing free electives
Italian Studies Minor (16ITM)	Minor	Adding FLI 315 to elective list
Spanish Minor (16SPM)	Minor	Removing 3 courses from elective list

College of Design			
Presenter	Reviewers	Action	Type
Rieder	Seracino, Bruce, Despain	ID 244 History of Industrial Design	Revisions: Description, Requisites, SLOs, Eval methods

College of Agriculture and Life Sciences			
Presenter	Reviewers	Action	Type
Bruce	Driscoll, Roise, Rieder	ALS 494 International Learning Experience in Agriculture and Life Sciences	Revisions: Grading to include letter grade option, Description, SLOs
Bruce	Hergeth, Seracino, Despain	CS 218 Southern Row Crop Production - Corn, Small Grains and Soybeans	Revisions: Title, Credit hours, Description, SLOs
Bruce	Hessling, Reynolds, Kuzenski	CSSC 492 Professional Internship Experience in Crop and Soil Sciences	Revisions: Title, Prefix, Credit hours, Component Type, Description, SLOs
Bruce	Carlson Welch, Krause, Griffin Hillis	CSSC 493 Research Experience in Crop and Soil Sciences	Revisions: Title, Prefix, Credit hours, Component Type, Description, SLOs
Bruce	Seracino, Despain, Rieder	CSSC 495 Special Topics in Crop and Soil Sciences	Revisions: Title, Prefix, Credit hours, Component Type, Description, SLOs
Bruce	Planchart, Domingue, Roise	HS 272 Landscape Design/Build	Revisions: Title, Number, Component Type, Description, SLOs
Merrill	Kuzenski, Carlson Welch, Driscoll	HS 492 Horticulture Internship	Revisions: Credit hours, Component Type, Description, SLOs, Requisites
Merrill	Roise, Ophanides, Carlson Welch	HS 493 Research Experience in Horticultural Science	Revisions: Title, Credit hours, Component type, Description, SLOs, Requisites
Merrill	Hessling, Domingue, Muse	HS 494 Teaching Experience in Horticultural Science	New Course
Merrill	Hergeth, Roise, Planchart	Horticultural Science (11HSM)	Revisions
Merrill	Griffin Hillis, Krause, Hessling	Plant Biology (11PBBS)	Revisions

College of Humanities and Social Sciences			
Presenter	Reviewers	Action	Type
Driscoll	Merrill, Carlson Welch, Krause	ANT 251 Physical Anthropology	Revisions: SLOs
Driscoll	Planchart, Orphenides, Domigue	ENG 326 History of the English Language	Revisions: Title, SLOs, eval methods, delivery
Driscoll	Griffin Hillis, Carlson Welch, Ophaniedes	FLF 302 Survey of French Literature from Romanticism to the Contemporary Period	Revisions: SLOs
Driscoll	Domingue, Merrill, Muse	FLF 315 French Civilization and Culture	Revisions: Description, SLOs
Driscoll	Krause, Hessling, Carlson Welch	PHI 205 Introduction to Philosophy	Updates from CUE GER>GEP Review
Driscoll	Hessling, Kuzenski, Bruce	PHI 214 Issues in Business Ethics	Updates from CUE GER>GEP Review
Driscoll	Merrill, Krause, Orphanides	PHI 221 Contemporary Moral Issues	Updates from CUE GER>GEP Review
Driscoll	Rieder, Reynolds, Muse	PHI 300 Ancient Philosophy	Updates from CUE GER>GEP Review
Despain	Krause, Roise, Hergeth	PHI 301 Early Modern Philosophy	Updates from CUE GER>GEP Review
Despain	Planchart, Orphenides, Domigue	PHI 302 19th Century Philosophy	Updates from CUE GER>GEP Review
Despain	Hergeth, Muse, Roise	PHI 305 Philosophy of Religion	Updates from CUE GER>GEP Review
Despain	Kuzenski, Seracino, Merrill	PHI 310 Existentialism	Updates from CUE GER>GEP Review
Despain	Merrill, Krause, Orphanides	PS 312 Introduction to Public Administration	Revisions: SLOs
Despain	Hergeth, Griffin Hillis, Minogue	PS 320 U.S. Environmental Law and Politics	Updates from CUE GER>GEP Review
Despain	Griffin Hillis, Bruce, Kuzenski	PS 341 European Politics	Revisions: SLOs
Despain	Bruce, Rieder, Reynolds	Teaching English as a Foreign Language Minor	New Minor being Proposed

University College			
Presenter	Reviewers	Action	Type
Carlson Welch	Hessling, Domingue, Bruce	USC 116 Introduction to Sustainability for EcoVillage	Revisions: Description, SLOs

SLO= Student Learning Outcomes

Discussion: Collect additional nominations for chair-elect, nominees: Rudi Seracino

Notes:

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

SLO = Student Learning Outcomes

University Courses and Curricula CommitteeAugust 29, 2018
Talley Student Union 5101
Call to Order: 12:46 pm

Members Present: Chair Marta Klesath, Past Chair Helmut Hergeth, Jackie Bruce, Melissa Merrill, Scott Despain, Catherine Driscoll, Kathleen Rieder, Peter Hessling, Rudi Seracino, Kanton Reynolds, Spencer Muse, Wendy Krause, Annie Carlson Welch, Peggy Domingue, Antonio, Planchart, Berkley Griffin Hillis

Members Absent: Andreas Orphanides, Joseph Roise, John Kuzenski,

Guests: Chandra Cox, Pamela Jennings, Heather Lyerly, Daniel Grünh, Janice Odom

Ex-Officio Members Present: Lexi Hergeth, Li Marcus, Bret Smith, John Harrington, Tim Petty, Charles Clift

WELCOME AND INTRODUCTIONS

- **Remarks from Chair Elect** - Welcomed the committee members introduced guests and the XONV and voting members introduced themselves.
- **Remarks from OUCCAS/DASA**- Li Marcus introduced OUCCAS, Lexi Hergeth provided the charge of UCCC, and Bret Smith thanked the committee for their service to the academy and discussed the perception and process of the committee and the approval process and our goal to ensure the quality of the curricula we provide to students.
- **Establishing Quorum:** Scott Despain moved to establish Quorum as 10 voting members. Committee approved quorum as 10 voting members.
- **Presentation from the office of Assessment:** Presented by Stephany Dunstan. Explained how student learning outcomes should align with the objectives and measures, provided examples of clear language and verbiage, recommended Bloom's Taxonomy, and offered the assistance of the office of assessment.
- **Approval of the Minutes from April 25th 2018 – Approved Unanimously**
 - Discussion: Member Wendy Krause moved to approve.

NEW BUSINESS

- **Consent Agenda - Approved Unanimously**
Discussion: Member Scott Despain moved to approve.
- **Art & Design (Bachelor) - Approved Unanimously**
Discussion: Member Kathleen Rieder presented the curricula action and reintroduced guests from Art & Design. Member asked if the advanced writing course was 1 credit hour, however the alignment is correct with the strike through text.
- **MEA 323 Geochemistry of Natural Waters - Approved with Friendly Suggestion**
Discussion: Member Antonio Planchart presented the course action. Member commented that the course is using a nonstandard calendar time; however the schedule in the syllabus uses times that don't match the lecture time, friendly suggestion to revise the format of the course schedule.
- **ECD 310 Caldwell Fellows Honors Seminar: Foundations in Self-Development - Approved Pending with Friendly Suggestions**
Discussion: Member Peter Hessling presented the course action and reintroduced Janice Odom as the guest from the college Education. Member asked for clarification on the process, Li explained that new courses coming through the approval process will go to UCCC first, then CUE for GEP review while existing course come to CUE before UCCC. Members reviewed the comments from an absent member who sent his review notes. Notes indicated: GEP objectives are not listed in the GEP section of the syllabus. The student learning outcomes format is different in CIM and the syllabus.
Member referenced the participation grade inconsistency in CIM and the syllabus, the committee looked at the separate participation rubric. Members discussed if the GEP outcomes are listed in the syllabus. The guest responded to questions if the course is graded or S/U explaining the course is pass/fail (S/U) generally, there is the option to select the course for a grade for students wanting to take the course as an elective.
Member asked for consistency in the minimum for a Satisfactory grade, guest confirmed this should be consistent. Committee discussed if a Satisfactory grade could be a B- instead of the university standard, C-. Member asked what the rationale for having S/U grading, guest explained that a grade in the seminar creates a more neutral stance for the initial course that the students will take and set the pace for the student's academic career. Member reminded the

committee that if the course is counted as a GEP course it should have letter grading instead of S/U grading.

Member Scott Despain motioned to amend the motion to approved pending.

Pending: resolving if the grading is S/U with graded option and what the Satisfactory grading would be (C- or B-) and clarification if students can receive credit for the USD GEP category if using S/U grading.

Friendly suggestion: evaluating the student learning outcomes.

- **COM 112 Interpersonal Communication - Approved with Friendly Suggestions**
Discussion: Member Catherine Driscoll presented the course action. Friendly suggestion from member to proofread the syllabus for grammatical errors. Member also suggested adding the curricula programs using the course as an official elective for.
- **ENG 329 Language in Globalization - Approved with Friendly Suggestions**
Discussion: Member Catherine Driscoll presented the course action. Member made friendly suggestions correcting the British spelling of the word "catalogue" and consistency in the font (from light grey), and percentages for the grading graph provided in the syllabus. Friendly suggestion to include language clarifying that the course is unavailable for S/U.
- **ENG 378 Women & Film - Approved Pending with Friendly Suggestions.**
Discussion: Member presented the course action. Member asked if there were original outcomes, members discussed that the GEP outcomes are the original outcomes. Member asked if the word "expressed" in the student learning outcomes is evaluable. Member suggested removing the word "understand" in the objectives. Member brought attention to the grade portion encompassing attendance, class participation and quizzes and asked that these be broken down for each. Member commented there is a detailed participation breakdown. Member asked if the 10% is broken down for the three areas. Members discussed the standard rounding statement, members confirmed standard rounding is that .5 and above is rounded up and .4 and below are rounded down.
Melissa Merrill moved to amend the motion to approve pending, amendment approved. Pending the breakdown of the 10% clarifying how much of that 10% is attendance, participation, or quizzes.
- **LOG 430/(530) Varieties of Logic - Approved Unanimously**
Discussion: Member Scott Despain presented the new course action. Member asked if it's common practice in CIM for the student evaluation methods to be combined in the CIM field, Li Marcus confirmed there is only one CIM field and the categories are labeled grad or undergrad clearly.
- **PSY 465 Advanced Methods in Psychology - Approved Pending with Friendly Suggestion**
Discussion: Member Scott Despain presented the new course action. Member commented that this course seems to need IRB approval for any studies approved in the class. Member confirmed part of the course's curricula is submitting an IRB. Member made the friendly suggestion to make the DRO statement an active hyperlink.
Member stated this course did not have a consultation with statistics and asked how students will learn ST 311 information. Guest Daniel Grünh responded there is an applied option for students in which they will teach statistics. Member asked if the information being taught in ST 311 is considered overlap. Member moved to amend the motion to approved pending a consultation with statistics. Member asked if the committee should consider the course approved pending until the consultation takes place. Member suggested changing the prerequisite from ST 311 to 312. Li Marcus explained to the committee that if there is discussion or concerns the committee will see the course again as tabled. If there is no discussion or concern the motion will move forward after pending items are correct.
- **Professional Golf Management 15PGMBS - Approved Unanimously**
Discussion: Member Scott Despain presented the curricula action.
- **ISE 489 Special Topics in Industrial and Systems Engineering - Approved with Friendly Suggestions**
Discussion: Member Rudi Seracino presented the new course action. Member indicated the S/U grading is included in the syllabus and suggested removing for clarify as this is not a grading option for the course.
- **Health Physics Minor - Approved Unanimously**
Discussion: Member Kanton Reynolds presented the new curricula action explaining the new minor will provide opportunities for students. Member asked why the minor has 30 + credits needed for non-engineering majors. Member confirmed this is correct and the minor is advertised for student earning their ABM as well as engineering students. Member asked if the physics department should be consulted based on the title, members confirmed consultation is not needed based on the title/name alone.
- **C3 Memo Notification:** Li Marcus explained the notification coming forward from the community colleges.

Discussion: Marta Klesath opened the nominations for Chair Elect and explained the role and what a chair-elect can expect to experience.

Meeting adjourned at 2:32 pm

Respectfully submitted by Lexi Hergeth



College of Agriculture and Life Sciences
 Department of Animal Science
<http://ans.cals.ncsu.edu/>

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Memorandum

To: Dr. Michael D. Mullen, Vice Chancellor and Dean of the Division of Academic and Student Affairs
From: Melissa Merrill, Department of Animal Science, Undergraduate Teaching Coordinator *Melissa Merrill*
Date: August 17, 2018
Subject: Reducing credit hours from 121 to 120

Proposed effective date: January 1, 2019

Justification: As requested by UNC-GA, we are reducing the total number of credit hours in the 3 concentrations offered in the Animal Science major from 121 credit hours to 120 credit hours. We will accomplish this by removing 1 credit hour of Free Elective from each of our three concentrations. The current and proposed 8-semester displays (Format A) are attached with the changes highlighted in yellow.

Required Signatures:

<i>M. Todd</i>	<i>August 8, 2018</i>
Department Head	Date
<i>[Signature]</i>	<i>8/24/18</i>
Chair, College Courses and Curricula Committee	Date
College Dean	Date
Chair, University Courses and Curricula Committee	Date
Dean, Division of Academic and Student Affairs	Date

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: X Proposed: Proposed Effective Semester: 7/2009

Degree/Plan Title: B.S Animal Science

Concentration/Subplan Title: Industry

Plan SIS Code: 11ANSCBS

Subplan SIS Code: 11ANCIAS

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.

Animal Science (BS): Industry Concentration 8 Semester Display (11ANSCBS-11ANCIAS)			
FRESHMAN YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Introductory Topics in Ag/Life Sci	1	CH 101 Chem– A Molecular Science ²	3
ANS 150 Introduction to Animal Science ²	3	CH 102 General Chemistry Lab	1
ANS 151 Into to Animal Science Lab	1	Animal Science Course ³	3
BIO 181 Intro Bio: Ecol, Evol, Biodiv & Lab	4	MA 114 Intro to Finite Math or	
ENG 101 Acad Writing & Research ²	4	MA 121 Elements of Calc or MA 131 Cal for Life & Mgt Sci A	
MA 107 Precalculus I ²	3	BIO 183 Intro Bio: cell & Molec Biol & Lab	3
		HES_***Health & Exercise Studies Course ^f	4
			1
	Total:16		Total:15
SOPHOMORE YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 205 Physiology of Domestic Animals	3	ANS 220 Reproductive Physiology	3
ANS 206 Anatomy of Domestic Animals	1	ANS 221 Reproductive Physiology Lab	1
ANS 215 Agricultural Genetics	3	Business Mgmt or Marketing Elective ⁵	3
ARE 201, EC 201, EC 202, or EC 205 ^d	3	ST 311 Intro to Statistics or ST(BUS)350	3
CH 220 Intro Org Chem or CH 221 Org Chem 1	3	Social Science GEP Course ^d	3
CH 222 Org Chem 1 Lab	4	HES_***Health & Exercise Studies Course ^f	1
COM 110, COM 112, or COM 211	3		
	Total: 17		Total:14
JUNIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 230 Animal Nutrition	3	CALS Group A, B, or C elective ⁴	5
ANS 231 Animal Nutrition Lab	1	Business/Economics Elective ⁶	3
PY 131 Conceptual Physics	4	Animal Science Course ³	2
Business/Economics Elective ⁶	3	Humanities GEP Course ^{9,c}	6
Free Elective ⁹	3		
	Total:14		Total:16
SENIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS Management Elective ⁷	3	ANS Discipline Course Elective ⁸	3
Interdisciplinary Perspectives GEP Courses ^{9,g}	5	ANS Management Elective ⁷	3
Free Elective ⁹	3	Additional Breadth GEP Course ^{9,f}	3
CALS Group A, B, or C Elective ⁴	3	Free Elective ⁹	3
		CALS Group A, B, or C Elective ⁴	3
	Total:14		Total:15
Minimum Credit Hours Required for Graduation ¹ : 121			

Major/Program Footnotes:

1. Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in laboratory procedures involving animals and animal specimens. All activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.

2. ANS 150, MA 107, ENG 101, and CH 101 must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.
3. VMP 420 or any Animal Science (ANS) course (except ANS 225, 301, 480, 492, 493, 494) that is not fulfilling another requirement can fulfill this Animal Science Elective category.
4. Courses for the Minor in Agricultural Business Management fulfill this requirement. The course listings for the College of Agriculture and Life Sciences Group A, Group B, or Group C electives can be found at: (<http://harvest.cals.ncsu.edu/index.cfm?showpage=25>).
5. Select one course (3 credits) from: ARE 303, Farm Management; ARE 304, Agribusiness Management; ARE 311, Agricultural Markets; or ARE 312, Agribusiness Marketing.
6. Select two courses (6 credits) from: ACC 200, Intro to Managerial Accounting; ARE 215, Small Business Accounting; ARE 303, Farm Management; ARE 304, Agribusiness Management; ARE 306, Agricultural Law; ARE 309, Environmental Law & Economic Policy; ARE 311, Agricultural Markets; ARE 312, Agribusiness Marketing; ARE 321, Agricultural Financial Management; ARE 332, Human Resource Management for Agribusiness; BUS 320, Financial Management; BUS 360, Marketing Methods; MIE 310, Intro to Entrepreneurship; or MIE 330, Human Resource Management. Note: this 6 credit requirement is in addition to the 3 credits listed in footnote 5 (total of 9 credit hours). Note: 300-level BUS courses restricted to BUS minors & majors; 400-level BUS courses restricted to BUS majors.
7. Students must select at least two animal management courses (6 credits) from the following list: ANS 400, Companion Animal Management; ANS 402, Beef Cattle Management; ANS 403, Swine Management; ANS 404, Dairy Cattle Management; ANS 408, Small Ruminant Management; ANS 410, Equine Management; ANS 411, Management of Growing and Performance Horses.
8. Total of 3 credit hours (one course) is required from the following approved Animal Science Discipline Courses: ANS(NTR,PO) 415, Comparative Nutrition; NTR 419, Human Nutrition and Chronic Disease; ANS 425, Feed Manufacturing Technology; ANS 440, Selection of Domestic Animals; ANS 452, Advanced Reproductive Physiology and Biotechnology; ANS 453, Growth & Development of Domestic Animals; ANS/NTR 454, Lactation, Milk, and Nutrition; VMP 420, Diseases of Farm Animals; or any 500-level ANS course.
9. Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free Electives.

***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.
- 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:

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: 1/2019

Degree/Plan Title: B.S Animal Science

Concentration/Subplan Title: Industry

Plan SIS Code: 11ANSCBS

Subplan SIS Code: 11ANCIAS

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 ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Introductory Topics in Ag/Life Sci	1	CH 101 Chem– A Molecular Science ²	3
ANS 150 Introduction to Animal Science ²	3	CH 102 General Chemistry Lab	1
ANS 151 Into to Animal Science Lab	1	Animal Science Course ³	3
BIO 181 Into Bio: Ecol, Evol, Biodiv & Lab	4	MA 114 Intro to Finite Math or	
ENG 101 Acad Writing & Research ²	4	MA 121 Elements of Calc or MA 131 Cal for Life &	
MA 107 Precalculus I ²	3	Mgt Sci A	3
		BIO 183 Intro Bio: cell & Molec Biol & Lab	4
		HES_***Health & Exercise Studies Course ^E	1
	<i>Total:16</i>		<i>Total:15</i>
SOPHOMORE YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 205 Physiology of Domestic Animals	3	ANS 220 Reproductive Physiology	3
ANS 206 Anatomy of Domestic Animals	1	ANS 221 Reproductive Physiology Lab	1
ANS 215 Agricultural Genetics	3	Business Mgmt or Marketing Elective ⁵	3
ARE 201, EC 201, EC 202, or EC 205 ^D	3	ST 311 Intro to Statistics or ST(BUS)350	3
CH 220 Intro Org Chem or		Social Science GEP Course ^D	3
(CH 221 Org Chem 1 and CH 222 Org Chem 1 Lab)	4	HES_***Health & Exercise Studies Course ^E	1
COM 110, COM 112, or COM 211	3		
	<i>Total: 17</i>		<i>Total:14</i>
JUNIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 230 Animal Nutrition	3	CALS Group A, B, or C elective ⁴	5
ANS 231 Animal Nutrition Lab	1	Business/Economics Elective ⁶	3
PY 131 Conceptual Physics	4	Animal Science Course ³	2
Business/Economics Elective ⁶	3	Humanities GEP Course ^{9,C}	6
Free Elective ⁹	3		
	<i>Total:14</i>		<i>Total:16</i>
SENIOR YEAR ¹			
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ANS Discipline Course Elective ⁷	3	ANS Discipline Course Elective ⁸	3
Interdisciplinary Perspectives GEP Courses ^{9,G}	5	ANS Management Elective ⁷	3
Free Elective ⁹	3	Additional Breadth GEP Course ^{9,F}	3
CALS Group A, B, or C Elective ⁴	3	Free Elective⁹	2
		CALS Group A, B, or C Elective ⁴	3
	<i>Total:14</i>		<i>Total:14</i>
Minimum Credit Hours Required for Graduation [*] : 120			

Major/Program Footnotes:

1. Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in laboratory procedures involving animals and animal specimens. All activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.
2. ANS 150, MA 107, ENG 101, and CH 101 must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.
3. VMP 420 or any Animal Science (ANS) course (except ANS 225, 301, 480, 492, 493, 494) that is not fulfilling another requirement can fulfill this Animal Science Elective category.
4. Courses for the Minor in Agricultural Business Management fulfill this requirement. The course listings for the College of Agriculture and Life Sciences Group A, Group B, or Group C electives can be found at: (<http://harvest.cals.ncsu.edu/index.cfm?showpage=25>).
5. Select one course (3 credits) from: ARE 303, Farm Management; ARE 304, Agribusiness Management; ARE 311, Agricultural Markets; or ARE 312, Agribusiness Marketing.
6. Select two courses (6 credits) from: ACC 200, Intro to Managerial Accounting; ARE 215, Small Business Accounting; ARE 303, Farm Management; ARE 304, Agribusiness Management; ARE 306, Agricultural Law; ARE 309, Environmental Law & Economic Policy; ARE 311, Agricultural Markets; ARE 312, Agribusiness Marketing; ARE 321, Agricultural Financial Management; ARE 332, Human Resource Management for Agribusiness; BUS 320, Financial Management; BUS 360, Marketing Methods; MIE 310, Intro to Entrepreneurship; or MIE 330, Human Resource Management. Note: this 6 credit requirement is in addition to the 3 credits listed in footnote 5 (total of 9 credit hours). Note: 300-level BUS courses restricted to BUS minors & majors; 400-level BUS courses restricted to BUS majors.
7. Students must select at least two animal management courses (6 credits) from the following list: ANS 400, Companion Animal Management; ANS 402, Beef Cattle Management; ANS 403, Swine Management; ANS 404, Dairy Cattle Management; ANS 408, Small Ruminant Management; ANS 410, Equine Management; ANS 411, Management of Growing and Performance Horses.
8. Total of 3 credit hours (one course) is required from the following approved Animal Science Discipline Courses: ANS(NTR,PO) 415, Comparative Nutrition; NTR 419, Human Nutrition and Chronic Disease; ANS 425, Feed Manufacturing Technology; ANS 440, Selection of Domestic Animals; ANS 452, Advanced Reproductive Physiology and Biotechnology; ANS 453, Growth & Development of Domestic Animals; ANS/NTR 454, Lactation, Milk, and Nutrition; VMP 420, Diseases of Farm Animals; or any 500-level ANS course.
9. Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free Electives.

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.

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- 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.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
_____ Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

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

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: X Proposed: Proposed Effective Semester: 6/2013

Degree/Plan Title: B.S Animal Science

Concentration/Subplan Title: Science

Plan SIS Code: 11ANSCBS

Subplan SIS Code: 11ANSCSAS

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.

Animal Science (BS): Science Concentration 8 Semester Display (11ANSCBS-11ANSCSAS)			
FRESHMAN YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Introductory Topics in Ag/Life Sci	1	CH 101 Chem– A Molecular Science ²	3
ANS 150 Introduction to Animal Science ²	3	CH 102 General Chemistry Lab	1
ANS 151 Into to Animal Science Lab	1	Animal Science Course ³	3
BIO 181 Into Bio: Ecol, Evol, Biodiv & Lab	4	MA 121 Elements of Calc <u>or</u> MA 131 Cal for Life & Mgt Sci	
ENG 101 Acad Writing & Research ²	4	A(MA 141 Calculus I is also accepted)	3
MA 107 Precalculus I ²	3	BIO 183 Intro Bio: cell & Molec Biol & Lab	4
	<i>Total:16</i>		<i>Total:14</i>
SOPHOMORE YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 205 Physiology of Domestic Animals	3	ANS 220 Reproductive Physiology	3
ANS 206 Anatomy of Domestic Animals	1	ANS 221 Reproductive Physiology Lab	1
ANS 215 Agricultural Genetics <u>or</u>		CH 223 Organic Chemistry II	3
CALS Group A, B, or C Elective ^{4,5}	3	CH 224 Organic Chemistry II Lab	1
ARE 201, EC 201, EC 202, <u>or</u> EC 205 ⁰	3	ST 311 Intro to Statistics <u>or</u> ST(BUS)350	3
CH 221 Organic Chemistry I	3	Humanities GEP course ^{9,C}	3
CH 222 Organic Chemistry I Lab	1	HES_***Health & Exercise Studies Course ^f	1
COM 110, COM 112, or COM 211 ⁶	3		
	<i>Total: 17</i>		<i>Total:15</i>
JUNIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 230 Nutrition of Dom Anim	3	GN 311 Principles of Genetics <u>or</u>	
ANS 231 Nutrition of Dom Anim Lab	1	CALS Group A, B, or C elective ^{4,5}	4
CH 201 Chemistry-A Quant Sci	3	CALS Group A, B, or C elective ^{4,5}	5
CH 202 Quantitative Chem Lab	1	HES_***Health & Exercise Studies Course ^f	1
MB 351 General Microbiology <u>or</u>	3	Humanities GEP course ^{9,C}	3
MB 360 Scientific Inq in MB		ANS Animal Management Elective ⁷	3
PY 211 College Physics I & Lab <u>or</u>			
PY 131 Conceptual Physics	4		
	<i>Total:15</i>		<i>Total:16</i>
SENIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS Discipline Course Elective ⁸	3	ANS Discipline Course Elective ⁸	3
Social Science GEP Course ⁰	3	Animal Science Course ³	2
Interdisciplinary Perspectives GEP Courses ^{9,6}	5	Additional Breadth GEP Course ^{9,f}	3
Free Elective ⁹	3	Free Elective ⁹	6
	<i>Total:14</i>		<i>Total:14</i>
Minimum Credit Hours Required for Graduation ⁷ : 121			

Major/Program Footnotes:

1. Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in laboratory procedures involving animals and animal specimens. All activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.
2. ANS 150, MA 107, ENG 101, and CH 101 must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.
3. VMP 420 or any Animals Science (ANS) course (except ANS 225, 301, 480, 492, 493, 494) that is not fulfilling another requirement can fulfill this Animal Science Elective category.
4. Students who are planning to apply to a College of Veterinary Medicine should take BCH 451 (Principles of Biochemistry) and a business course (BUS, ARE, EC, or ACC prefix) to fill the A,B,C elective category. Many Graduate schools also require Biochemistry. Other students: take any courses from the College of Agriculture and Life Sciences Group A, Group B, or Group C electives (<http://harvest.cals.ncsu.edu/index.cfm?showpage=25>)
5. Students are required to take ANS 215 (Basic Ag Genetics) or GN 311 (Principles of Genetics – formerly numbered GN 411). Students who choose to take both should take ANS 215 before GN 311. For students who choose to take both, ANS 215 will count as an Animal Science department elective or a CALS group A elective. Pre-vet students: GN 311 is a vet-school required course.
6. Pre-vet students: this course also meets a vet school requirement.
7. Students must select at least one animal management course from the following list: ANS 400, Companion Animal Management; ANS 402, Beef Cattle Management; ANS 403, Swine Management; ANS 404, Dairy Cattle Management; ANS 408, Small Ruminant Management; ANS 410, Equine Management; ANS 411, Management of Growing and Performance Horses.
8. Total of 6 credit hours is required from the following approved Animal Science Discipline Courses (each course = 3 credit hours): ANS(NTR,PO) 415, Comparative Nutrition; ANS(NTR) 419, Human Nutrition in Health and Disease; ANS (FM) 425, Feed Manufacturing Technology; ANS 440, Selection of Domestic Animals; ANS 452, Advanced Reproductive Physiology and Biotechnology; ANS 453, Growth & Development of Domestic Animals; ANS/NTR 454, Lactation, Milk, and Nutrition; VMP 420, Diseases of Farm Animals; or any 500-level ANS course.
9. Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free Electives.

*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.
- 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:

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: 1/2019

Degree/Plan Title: B.S Animal Science

Concentration/Subplan Title: Science

Plan SIS Code: 11ANSCBS

Subplan SIS Code: 11ANSCSAS

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 ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Introductory Topics in Ag/Life Sci	1	CH 101 Chem– A Molecular Science ²	3
ANS 150 Introduction to Animal Science ²	3	CH 102 General Chemistry Lab	1
ANS 151 Into to Animal Science Lab	1	Animal Science Course ³	3
BIO 181 Into Bio: Ecol, Evol, Biodiv & Lab	4	MA 121 Elements of Calc <u>or</u> MA 131 Cal for Life &	
ENG 101 Acad Writing & Research ²	4	Mgt Sci A(MA 141 Calculus I is also accepted)	3
MA 107 Precalculus I ²	3	BIO 183 Intro Bio: cell & Molec Biol & Lab	4
	<i>Total:16</i>		<i>Total:14</i>
SOPHOMORE YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 205 Physiology of Domestic Animals	3	ANS 220 Reproductive Physiology	3
ANS 206 Anatomy of Domestic Animals	1	ANS 221 Reproductive Physiology Lab	1
ANS 215 Agricultural Genetics <u>or</u>		CH 223 Organic Chemistry II	3
CALS Group A, B, or C Elective ^{4,5}	3	CH 224 Organic Chemistry II Lab	1
ARE 201, EC 201, EC 202, <u>or</u> EC 205 ^D	3	ST 311 Intro to Statistics <u>or</u> ST(BUS)350	3
CH 221 Organic Chemistry I	3	Humanities GEP course ^{9,C}	3
CH 222 Organic Chemistry I Lab	1	HES_***Health & Exercise Studies Course ^E	1
COM 110, COM 112, or COM 211 ⁶	3		
	<i>Total: 17</i>		<i>Total:15</i>
JUNIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 230 Nutrition of Dom Anim	3	GN 311 Principles of Genetics <u>or</u>	
ANS 231 Nutrition of Dom Anim Lab	1	CALS Group A, B, or C elective ^{4,5}	4
CH 201 Chemistry-A Quant Sci	3	CALS Group A, B, or C elective ^{4,5}	5
CH 202 Quantitative Chem Lab	1	HES_***Health & Exercise Studies Course ^E	1
MB 351 General Microbiology <u>or</u>	3	Humanities GEP course ^{9,C}	3
MB 360 Scientific Inq in MB		ANS Animal Management Elective ⁷	3
PY 211 College Physics I & Lab <u>or</u>			
PY 131 Conceptual Physics	4		
	<i>Total:15</i>		<i>Total:16</i>
SENIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS Discipline Course Elective ⁸	3	ANS Discipline Course Elective ⁸	3
Social Science GEP Course ^D	3	Animal Science Course ³	2
Interdisciplinary Perspectives GEP Courses ^{9,G}	5	Additional Breadth GEP Course ^{9,F}	3
Free Elective ⁹	3	Free Elective⁹	5
	<i>Total:14</i>		<i>Total:13</i>
Minimum Credit Hours Required for Graduation*: 120			

Major/Program Footnotes:

1. Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in laboratory procedures involving animals and animal specimens. All activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.
2. ANS 150, MA 107, ENG 101, and CH 101 must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.
3. VMP 420 or any Animals Science (ANS) course (except ANS 225, 301, 480, 492, 493, 494) that is not fulfilling another requirement can fulfill this Animal Science Elective category.
4. Students who are planning to apply to a College of Veterinary Medicine should take BCH 451 (Principles of Biochemistry) and a business course (BUS, ARE, EC, or ACC prefix) to fill the A,B,C elective category. Many Graduate schools also require Biochemistry. Other students: take any courses from the College of Agriculture and Life Sciences Group A, Group B, or Group C electives (<http://harvest.cals.ncsu.edu/index.cfm?showpage=25>)
5. Students are required to take ANS 215 (Basic Ag Genetics) or GN 311 (Principles of Genetics – formerly numbered GN 411). Students who choose to take both should take ANS 215 before GN 311. For students who choose to take both, ANS 215 will count as an Animal Science department elective or a CALS group A elective. Pre-vet students: GN 311 is a vet-school required course.
6. Pre-vet students: this course also meets a vet school requirement.
7. Students must select at least one animal management course from the following list: ANS 400, Companion Animal Management; ANS 402, Beef Cattle Management; ANS 403, Swine Management; ANS 404, Dairy Cattle Management; ANS 408, Small Ruminant Management; ANS 410, Equine Management; ANS 411, Management of Growing and Performance Horses.
8. Total of 6 credit hours is required from the following approved Animal Science Discipline Courses (each course = 3 credit hours): ANS(NTR,PO) 415, Comparative Nutrition; ANS(NTR) 419, Human Nutrition in Health and Disease; ANS 440, Selection of Domestic Animals; ANS 452, Advanced Reproductive Physiology and Biotechnology; ANS 453, Growth & Development of Domestic Animals; ANS/NTR 454, Lactation, Milk, and Nutrition; VMP 420, Diseases of Farm Animals; or any 500-level ANS course.
9. Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free Electives.

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.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
____ Humanities/Social Sciences/Visual and Performing Arts or ____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

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

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: X Proposed: Proposed Effective Semester: 1/2015

Degree/Plan Title: B.S Animal Science

Concentration/Subplan Title: Veterinary Bioscience

Plan SIS Code: 11ANSCBS

Subplan SIS Code: 11ANSCVET

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.

Animal Science (BS) Veterinary Bioscience 8 Semester Display (11ANSCBS-11ANSCVET)			
FRESHMAN YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Introductory Topics in Ag/Life Sci	1	Animal Science Course ³	2
ANS 150 Introduction to Animal Science ²	3	BIO 183 Intro Bio: cell & Molec Biol & Lab	4
ANS 151 Into to Animal Science Lab	1	CH 101 Chem– A Molecular Science ²	3
BIO 181 Into Bio: Ecol, Evol, Biodiv & Lab	4	CH 102 General Chemistry Lab	1
ENG 101 Acad Writing & Research ²	4	MA 121 Elements of Calc <u>or</u> MA 131 Cal for Life & Mgt Sci	3
MA 107 Precalculus I ²	3	A(MA 141 Calculus I is also accepted)	3
	Total:16		Total:13
SOPHOMORE YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 205 Physiology of Domestic Animals	3	ANS 220 Reproductive Physiology	3
ANS 206 Anatomy of Domestic Animals	1	ANS 221 Reproductive Physiology Lab	1
Interdisciplinary Perspectives GEP Course ^{6, G}	2	CH 223 Organic Chemistry II	3
ARE 201, EC 201, EC 202, <u>or</u> EC 205 ^D	3	CH 224 Organic Chemistry II Lab	1
CH 221 Organic Chemistry I	3	ST 311 Intro to Statistics <u>or</u> ST(BUS)350	3
CH 222 Organic Chemistry I Lab	1	Humanities GEP course ^{6, C}	3
COM 110, COM 112, <u>or</u> COM 211	3	Physical Education/ Healthy Living ^f	1
	Total: 16		Total:15
JUNIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 230 Animal Nutrition	3	GN 311 Principles of Genetics	4
ANS 231 Animal Nutrition Lab	1	PY 212 College Physics & Lab	4
ANS 215 <u>or</u> other ANS course ³	3	Physical Education/ Healthy Living ^f	1
MB 351 General Microbiology	3	Humanities GEP course ^{6, C}	3
MB 352 <u>or</u> MB 354 Microbiology Lab	1	ANS Animal Management Elective ⁴	3
PY 211 College Physics I & Lab	4		
	Total:15		Total:15
SENIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS Discipline Course Elective ⁵	3	ANS Discipline Course Elective ⁵	3
Social Science GEP Course ⁹	3	Interdisciplinary Perspectives GEP Course ^{6, G}	3
CH 201 Chemistry– A Quant Sci	3	BCH 351 <u>or</u> BCH 451, Biochemistry	4
CH 202 Quantitative Chemistry Lab	1	Free Elective ⁶	5
Additional Breadth GEP Course ^{6, F}	3		
Free Elective ⁶	3		
	Total:16		Total:15
Minimum Credit Hours Required for Graduation ¹ : 121			

Major/Program Footnotes:

1. Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in lab procedures involving animal and animal specimens. All Activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.
2. ANS 150, MA 107, ENG 101, and CH 101 must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.
3. VMP 420 or any Animal Science course (except ANS 225, ANS 301, ANS 480, ANS 492, ANS 493, ANS 494) that is not fulfilling another requirement can fulfill this Animal Science Elective category. Most pre-vet students take ANS 215 (Agricultural Genetics) to prepare for GN 311.

4. Students must select at least one Animal Management course from the following list: ANS 400, Companion Animal Management; ANS 402, Beef Cattle Management; ANS 403, Swine Management; ANS 404, Dairy Cattle Management; ANS 408, Small Ruminant Management; ANS 410, Equine Breeding Farm Management; or ANS 411, Management of Growing and Performance Horses.
5. Students must select at least two Animal Science Discipline Courses from the following list: ANS(NTR, PO) 415, Comparative Nutrition; ANS(NTR) 419, Human Nutrition in Health and Disease; ANS(FM) 425, Feed Manufacturing Technology; ANS 440, Selection of Domestic Animals; ANS 452, Advanced Reproductive Physiology and Biotechnology; ANS 453, Growth & Development of Domestic Animals; ANS/NTR 454, Lactation, Milk, and Nutrition; VMP 420, Diseases of Farm Animals; or any 500-level ANS course.
6. Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free Electives.

***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.
- 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:

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: 1/2019

Degree/Plan Title: B.S Animal Science

Concentration/Subplan Title: Veterinary Bioscience

Plan SIS Code: 11ANSCBS

Subplan SIS Code: 11ANSCVET

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 ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Introductory Topics in Ag/Life Sci	1	Animal Science Course ³	2
ANS 150 Introduction to Animal Science ²	3	BIO 183 Intro Bio: cell & Molec Biol & Lab	4
ANS 151 Into to Animal Science Lab	1	CH 101 Chem– A Molecular Science ²	3
BIO 181 Into Bio: Ecol, Evol, Biodiv & Lab	4	CH 102 General Chemistry Lab	1
ENG 101 Acad Writing & Research ²	4	MA 121 Elements of Calc <u>or</u> MA 131 Cal for Life &	3
MA 107 Precalculus I ²	3	Mgt Sci A(MA 141 Calculus I is also accepted)	
	Total:16		Total:13
SOPHOMORE YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 205 Physiology of Domestic Animals	3	ANS 220 Reproductive Physiology	3
ANS 206 Anatomy of Domestic Animals	1	ANS 221 Reproductive Physiology Lab	1
Interdisciplinary Perspectives GEP Course ^{6, G}	2	CH 223 Organic Chemistry II	3
ARE 201, EC 201, EC 202, <u>or</u> EC 205 ^D	3	CH 224 Organic Chemistry II Lab	1
CH 221 Organic Chemistry I	3	ST 311 Intro to Statistics <u>or</u> ST(BUS)350	3
CH 222 Organic Chemistry I Lab	1	Humanities GEP course ^{6, C}	3
COM 110, COM 112, <u>or</u> COM 211	3	Physical Education/ Healthy Living ^E	1
	Total: 16		Total:15
JUNIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 230 Animal Nutrition	3	GN 311 Principles of Genetics	4
ANS 231 Animal Nutrition Lab	1	PY 212 College Physics & Lab	4
ANS 215 <u>or</u> other ANS course ³	3	Physical Education/ Healthy Living ^E	1
MB 351 General Microbiology	3	Humanities GEP course ^{6, C}	3
MB 352 <u>or</u> MB 354 Microbiology Lab	1	ANS Animal Management Elective ⁴	3
PY 211 College Physics I & Lab	4		
	Total:15		Total:15
SENIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS Discipline Course Elective ⁵	3	ANS Discipline Course Elective ⁵	3
Social Science GEP Course ^D	3	Interdisciplinary Perspectives GEP Course ^{6, G}	3
CH 201 Chemistry– A Quant Sci	3	BCH 351 <u>or</u> BCH 451, Biochemistry	4
CH 202 Quantitative Chemistry Lab	1	Free Elective⁶	4
Additional Breadth GEP Course ^{6, F}	3		
Free Elective ⁶	3		
	Total:16		Total:14
Minimum Credit Hours Required for Graduation[*]: 120			

Major/Program Footnotes:

1. Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in lab procedures involving animal and animal specimens. All Activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.
2. ANS 150, MA 107, ENG 101, and CH 101 must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.
3. VMP 420 or any Animal Science course (except ANS 225, ANS 301, ANS 480, ANS 492, ANS 493, ANS 494) that is not fulfilling another requirement can fulfill this Animal Science Elective category. Most pre-vet students take ANS 215 (Agricultural Genetics) to prepare for GN 311.
4. Students must select at least one Animal Management course from the following list: ANS 400, Companion Animal Management; ANS 402, Beef Cattle Management; ANS 403, Swine Management; ANS 404, Dairy Cattle Management; ANS 408, Small Ruminant Management; ANS 410, Equine Breeding Farm Management; or ANS 411, Management of Growing and Performance Horses.
5. Students must select at least two Animal Science Discipline Courses from the following list: ANS(NTR, PO) 415, ANS(NTR) 419, ANS 440, ANS 452, ANS 453, ANS 454, VMP 420, or any 500-level ANS course. (see Animal Science Course on page 2)
6. Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free Electives.

***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.
- 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)

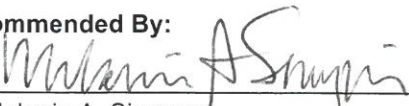
The following Co-Requisites must be satisfied to complete the General Education Program requirements:

- 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.

SIGNATURE PAGE

COURSE ACTION for (FILL IN HERE)

Recommended By:



5/7/18

Dr. Melanie A. Simpson
Head, Department/Program

Date

Recommended By:



8/24/18

Chair, College Curriculum Committee

Date

Endorsed By:

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

MEMORANDUM

DATE: May 7, 2018

TO: Dr. Michael Mullen
Vice Chancellor and Dean

FROM: Dr. Cynthia Hemenway
Undergraduate Advising Coordinator, Department of Molecular and
Structural Biochemistry

RE: Requested Change to comply with UNC BOG 120-credit-hour
mandate

The Department of Molecular and Structural Biochemistry is requesting approval to change our total hours for graduation from 122 to 120 by reducing the Free Elective category from 10 to 8 hours, as noted below. The old Four-Year Plan and our new Four-Year Plan (with changes highlighted) are attached.

Program name and code:	Biochemistry, 11BIOCHBS
Effective date for the change:	Fall, 2018
Proposed Change:	Reduction of Free Elective category hrs from 10 to 8
Justification for Change:	To comply with UNC BOG 120-credit hour mandate

Biochemistry (BS) (11BIOCHBS)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
BCH 103 Intro to Biochemistry ¹⁰	1	BIO 183 Introductory Biology – Cell/Molecular ¹	4
BIO 181 Intro Biology ECO/DIV ¹	4	CH 201 Chemistry – Quantative Science ¹	3
CH 101 Chemistry-Molecular Science ¹	3	CH 202 Quantative Chemistry Lab ¹	1
CH 102 General Chemistry Lab ¹	1	ENG 101 Academic Writing and Research	4
HES_*** Health & Exercise Studies Course ^E	1	MA 241 Calculus II Or MA 231 Calculus B ^{1,2}	3-4
LSC 101 Critical Creative Thinking Life Sci	2		
MA 141 Calculus I Or MA 131 Calculus A ^{1,2}	3-4		
	15-16		15-16

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
CH 221 Organic Chemistry I ¹	3	CH 223 Organic Chemistry II ¹	3
CH 222 Organic Chemistry I Lab ¹	1	CH 224 Organic Chemistry II Lab ¹	1
MA 242 Calculus III or ST 311 Intro Statistics or ST 380 Probability and Stat for Phys Sci ^{1,2}	3-4	MB 351 Gen Microbiology ¹	3
PY 211 College Physics I ^{1,3} or PY 205 Physics for Engr & Sci I and PY 206 Physics for Engr & Sci I Lab	4	MB 352 Gen Microbiology Lab ¹	1
Life Science Elective ^{1,4}	3-4	PY 212 College Physics II ^{1,3} or PY 208 Physics for Engr & Sci II anc PY 209 Physics for Engr & Sci II Lat	4
HES_*** Health & Exercise Studies Course ^E	1	Computer, Math, Statistics ¹ or Free elective ⁵	3
	15-17		15

Junior Year

Fall Semester	Credit	Spring Semester	Credit
BCH 451 Principles of Biochemistry ¹	4	BCH 453 Biochemistry Gene Expression ¹	3
BCH 452 Introductory Biochemistry Lab ^{1,6}	2	BCH 454 Advanced Biochemistry Lab or Research Elective ^{1,6}	3-4

Fall Semester	Credit	Spring Semester	Credit
GN 311 Principles of Genetics ¹	4	ENG 331 Communications for Eng. & Tech. or ENG 333 Communications for Sci & Resch	3
GEP Humanities Elective ^C	3	GEP Social Sciences Elective ^D	3
GEP Social Sciences Elective ^D	3	GEP IP Elective ^G	3
	16		15-16

Senior Year

Fall Semester	Credit	Spring Semester	Credit
Cell Biology or physiology elective ^{1,8}	3-4	CH 433 Physical Chemistry II Or advised elective ^{1,7}	3-4
CH 431 Physical Chemistry I Or CH 331 Introductory Physical Chemistry ^{1,7}	3-4	BCH 455 Proteins and Molecular Mechanisms ¹	3
Free Elective	4	GEP Additional Breadth Elective ^F	3
GEP Humanities Elective ^C	6	Lab Analysis ⁹	3-4
		Free elective	3
	16-18		15-18

Minimum Credit Hours Required for Graduation*: 122

Major/Program Footnotes

1 A minimum grade of C- is required for these courses.

2 There are two sequences for mathematics: MA 131, MA 231, ST 311 [ST 380], and a math/ST/CSC elective OR MA 141, MA 241, and MA 242. The three semester sequence (MA 141, 241 and 242) is the prerequisite for PY 205 and 208 and for CH 431 and 433. This sequence is strongly recommended for those students who plan on graduate studies in Biochemistry and is required for honors in Biochemistry and the BS/MS program. If a student elects to start with MA 141, the sequence of 241 and 242 must be taken. If a student elects to start with MA 131 and MA 231, the sequence of ST 311 [ST 380] and a math/ST/CSC elective must be taken. ST 311 or ST 380 is not a substitute for MA 242.

3 The calculus based physics sequence (PY 205 and 208) is strongly recommended for those students who plan on graduate studies in Biochemistry and is required for honors in Biochemistry and the BS/MS program. If a student chooses PY 205, PY 208 must be taken.

4 This course is an advised elective in the life sciences. BIO 212 or BIO 250 is recommended for those students who are interested in applying to the health related professions. This requirement can also be satisfied by an advised elective from upper level life science courses.

5 If a student has chosen the Math sequence of MA 131, MA 231, and ST 311, another course in

computer science, mathematics or statistics must be chosen except CSC 200. Students who are planning to take the two semester Physical Chemistry sequence are encouraged to enroll in MA 341.

6 Students must select a minimum of two from these three courses: BCH 452, BCH 454 and a research elective. Research elective must be at least 3 hours and may be selected from BCH 492, BCH 493, or ALS 499 (research option). If BCH 452 and the research elective combination is chosen, BCH 454 can be used as the Laboratory Analysis elective. See footnote 9 below.

7 The two semester Physical Chemistry course sequence (CH 431 and 433) is strongly recommended for those students who plan on graduate studies in Biochemistry and is required for honors in Biochemistry and the BS/MS program. If CH 431 is chosen, CH 433 must be taken. If CH 331 is chosen, a student must choose an advised elective from courses offered in either PAMS or CALS.

8 Cell Biology/Physiology electives include BIO 414, BIO 421, PB 414 and PB 421 .

9 Laboratory Analysis electives include BCH 454, BIT 4** (except BIT 410, 492, 493, 495), CH 315, CH 428, or any other course which focuses on laboratory analytical procedures for a minimum of three credit hours. This requirement cannot be fulfilled by a research elective. If a student chooses BCH 454 to fulfill this requirement, at least three credit hours of research elective experience must be taken in addition. See footnote 6 above.

10. ALS 103 may substitute for BCH 103. Please consult with your advisor.

***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: This GEP is met through the Major course requirements.

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: This GEP is met through the Major course requirements.

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 & 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 ___ 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.

Biochemistry (BS) (11BIOCHBS)

Updated 6/7/18

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
BCH 103 Intro to Biochemistry ¹⁰	1	BIO 183 Introductory Biology – Cell/Molecular ¹	4
BIO 181 Intro Biology ECO/DIV ¹	4	CH 201 Chemistry – Quantative Science ¹	3
CH 101 Chemistry-Molecular Science ¹	3	CH 202 Quantative Chemistry Lab ¹	1
CH 102 General Chemistry Lab ¹	1	ENG 101 Academic Writing and Research	4
HES_*** Health & Exercise Studies Course ^E	1	MA 241 Calculus II Or MA 231 Calculus B ^{1,2}	3-4
LSC 101 Critical Creative Thinking Life Sci	2		
MA 141 Calculus I Or MA 131 Calculus A ^{1,2}	3-4		
	15-16		15-16

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
CH 221 Organic Chemistry I ¹	3	CH 223 Organic Chemistry II ¹	3
CH 222 Organic Chemistry I Lab ¹	1	CH 224 Organic Chemistry II Lab ¹	1
MA 242 Calculus III or ST 311 Intro Statistics or ST 380 Probability and Stat for Phys Sci ^{1,2}	3-4	MB 351 Gen Microbiology ¹	3
PY 211 College Physics I ^{1,3} or PY 205 Physics for Engr & Sci I and PY 206 Physics for Engr & Sci I Lab	4	MB 352 Gen Microbiology Lab ¹	1
Life Science Elective ^{1,4}	3-4	PY 212 College Physics II ^{1,3} or PY 208 Physics for Engr & Sci II anc PY 209 Physics for Engr & Sci II Lat	4
HES_*** Health & Exercise Studies Course ^E	1	Computer, Math, Statistics ¹ or Free elective ⁵	3
	15-17		15

Junior Year

Fall Semester	Credit	Spring Semester	Credit
BCH 451 Principles of Biochemistry ¹	4	BCH 453 Biochemistry Gene Expression ¹	3
BCH 452 Introductory Biochemistry Lab ^{1,6}	2	BCH 454 Advanced Biochemistry Lab or Research Elective ^{1,6}	3-4

Fall Semester	Credit	Spring Semester	Credit
GN 311 Principles of Genetics ¹	4	ENG 331 Communications for Eng. & Tech. or ENG 333 Communications for Sci & Resch	3
GEP Humanities Elective ^C	3	GEP Social Sciences Elective ^D	3
GEP Social Sciences Elective ^D	3	GEP IP Elective ^G	3
	16		15-16

Senior Year

Fall Semester	Credit	Spring Semester	Credit
Cell Biology or physiology elective ^{1,8}	3-4	CH 433 Physical Chemistry II Or advised elective ^{1,7}	3-4
CH 431 Physical Chemistry I Or CH 331 Introductory Physical Chemistry ^{1,7}	3-4	BCH 455 Proteins and Molecular Mechanisms ¹	3
Free Elective	3	GEP Additional Breadth Elective ^F	3
GEP Humanities Elective ^C	6	Lab Analysis ⁹	3-4
		Free elective	2
	15-17		14-17

Minimum Credit Hours Required for Graduation*:

120

Major/Program Footnotes

1 A minimum grade of C- is required for these courses.

2 There are two sequences for mathematics: MA 131, MA 231, ST 311 [ST 380], and a math/ST/CSC elective OR MA 141, MA 241, and MA 242. The three semester sequence (MA 141, 241 and 242) is the prerequisite for PY 205 and 208 and for CH 431 and 433. This sequence is strongly recommended for those students who plan on graduate studies in Biochemistry and is required for honors in Biochemistry and the BS/MS program. If a student elects to start with MA 141, the sequence of 241 and 242 must be taken. If a student elects to start with MA 131 and MA 231, the sequence of ST 311 [ST 380] and a math/ST/CSC elective must be taken. ST 311 or ST 380 is not a substitute for MA 242.

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4 This course is an advised elective in the life sciences. BIO 212 or BIO 250 is recommended for those students who are interested in applying to the health related professions. This requirement can also be satisfied by an advised elective from upper level life science courses.

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computer science, mathematics or statistics must be chosen except CSC 200. Students who are planning to take the two semester Physical Chemistry sequence are encouraged to enroll in MA 341.

6 Students must select a minimum of two from these three courses: BCH 452, BCH 454 and a research elective. Research elective must be at least 3 hours and may be selected from BCH 492, BCH 493, or ALS 499 (research option). If BCH 452 and the research elective combination is chosen, BCH 454 can be used as the Laboratory Analysis elective. See footnote 9 below.

7 The two semester Physical Chemistry course sequence (CH 431 and 433) is strongly recommended for those students who plan on graduate studies in Biochemistry and is required for honors in Biochemistry and the BS/MS program. If CH 431 is chosen, CH 433 must be taken. If CH 331 is chosen, a student must choose an advised elective from courses offered in either PAMS or CALS.

8 Cell Biology/Physiology electives include BIO 414, BIO 421, PB 414 and PB 421 .

9 Laboratory Analysis electives include BCH 454, BIT 4** (except BIT 410, 492, 493, 495), CH 315, CH 428, or any other course which focuses on laboratory analytical procedures for a minimum of three credit hours. This requirement cannot be fulfilled by a research elective. If a student chooses BCH 454 to fulfill this requirement, at least three credit hours of research elective experience must be taken in addition. See footnote 6 above.

10. ALS 103 may substitute for BCH 103. Please consult with your advisor.

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

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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: This GEP is met through the Major course requirements.

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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 & 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 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.

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.

August 15, 2018

To: University Courses & Curriculum Committee

From: Department of Foreign Languages & Literatures

Re: Italian Studies Minor

A new course, FLI 315, Italian Civilization and Culture, was approved in the spring of 2018.

The course needs to be added to the Italian Studies Minor (16 ITM) under the

heading: "Elective Courses / AND Any one (1) of the following", degree audit requirement 000031769 (Film, Literature, Civilization).

Thank you.

Italian Studies (16ITM)

Description

The objective of the minor in a foreign language is to enable students majoring in any field to acquire proficiency in a second language, understanding the culture, and knowledge of the countries in which the language is spoken.

Requirements

- Completion of 15 credit hours is required.
- 9 Credit hours must be taken at NC State and a maximum of six (6) credit hours may be transferred into the minor from another institution.
- The Department of Foreign Languages and Literature will determine which courses transferred from other institutions may qualify to meet requirements for the minor.
- A grade of 'C-' or better is required in all courses in the minor program.
- A maximum of TWO (2) course may be used (double-counted) towards both departmental major requirements and minor requirements.
- No courses for the minor may be taken for S/U credit.

Students may declare the minor when they are enrolled in a class that counts toward the minor.

Required Courses

- FLI 201 Intermediate Italian I
- FLI 202 Intermediate Italian II

Elective Courses

Any **two (2)** of the following:

- FLI 208 Intermediate Italian Conversation
- FLI 308 Italian Reading & Conversation

- FL 295 Special Topics in Foreign Language and Literatures
- FL 298 Independent Study in Foreign Languages and Literatures
- FLI 318 Italian Society Through Its Cinema
- FL 495 Special Topics in Foreign Languages and Literatures
- FL 498 Independent Study in Foreign Language and Literature

AND Any **one** (1) of the following:

- **[Add]** FLI 315 Italian Civilization and Culture
- FLI 318 Italian Society Through Its Cinema
- HI 410 Italian Renaissance
- HI 418 Fascist Italy and Nazi Germany
- HA 201 History of Art from Ancient Greece through the Renaissance
- HA 202 History of Art from the Renaissance through the 20th Century

Admissions

Students first download a [Departmental Minor Declaration Form](#) and consult with their major advisor for approval of the minor program. After the student obtains the major advisor's signature, he/she meets with the minor advisor to develop a plan of study indicating required courses and expected dates of completion. A copy of the student's minor plan of study will be kept on file in the Department of Foreign Languages and Literatures.

Certification

A [University Minor Declaration Form](#) should be submitted to Registration and Records for inclusion of the minor on the student's official record. Paperwork for certification should be completed no later than during the registration period for the student's final semester at NC State. Students should meet with the Coordinator of Advising, Ms. Susan Navey-Davis 919.515.9288, <http://www4.ncsu.edu/~navey/>, 321 Withers, to complete the final certification. Students will receive official recognition on their transcripts for the completed minor.

Contact Person

Anna Rita Bonaduce-Dresler
 Withers Hall 222, Box 8106
 919.515.9294
arbonadu@ncsu.edu
SIS Code: 16ITM

[PRINTER FRIENDLY VERSION](#)

CURRICULUM REQUIREMENTS

Format B Minor Adapted

<u>Minor Plan Title:</u> Italian Studies	<u>Plan SIS Code:</u> 16ITM
<u>Concentration/Subplan Title:</u> n/a	<u>Subplan SIS Code:</u> n/a
<u>Indicate requirements status:</u> Current: Proposed: X	<u>Proposed Effective Semester:</u> 2188
<u>New Minor Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MINOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>Notes</i>
<p>Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.</p>		
<p>A minimum grade of C- or better is required in all courses to be used toward the minor</p>		
Required Courses		
FLI 201 Intermediate Italian I	3	
FLI 202 Intermediate Italian II	3	
Elective Courses (Requirement 000031768)- FL 295, 298, 495, 498, FLI 208, 308, 318	6	
Film, Literature, Civilization (Requirement 000031769) – FLI [add (FLI) 315], 318, HA 201, 202, HI 410, 418	3	
Total credit hours required to complete minor <i>Minimum 15 hours required</i>	15	

March 26, 2018

TO: University Courses and Curriculum Committee
FROM: Department of Foreign Languages and Literatures (FLL)
RE: Removal of FL 395, FL 495, and FL 595 from list of Spanish Minor courses

PROPOSED CHANGE:

FL 395 Study Abroad Programs, FL 495 Special Topics in Foreign Languages and Literatures, and FL 595 Special Topics in Foreign Languages and Literatures appear on the Spanish Minor (16 SPM) degree audit in Section 2, Elective courses. FLL requests that FL 395, FL 495, and FL 595 be removed from the list of Elective courses for the Spanish minor on the Spanish Minor degree audit.

A new course, FLS 395 Study Abroad Programs in Spanish was recently approved and is on the Spanish Minor degree audit in that section. FLS 495 Advanced Study Abroad Programs in Spanish has been proposed, is expected to be approved, and will be listed on the Spanish Minor degree audit.

JUSTIFICATION:

FLS 395 is used exclusively for study abroad courses in Spanish and the same is true for the proposed FLS 495. FL 395, FL 495, and FL 595 are used for courses in languages other than Spanish. It is no longer appropriate for FL 395, FL 495, and FL 595 to be included on the Spanish Minor degree audit. They capture courses that are not taught in Spanish and that do not count toward the Spanish minor.

Spanish (16SPM) *Current (No Change)*

Description

The objective of the minor in a foreign language is to enable students majoring in any field to acquire proficiency in a second language, understanding the culture, and knowledge of the countries in which the language is spoken.

Requirements

- Completion of 15 credit hours is required.
- At least nine of the 15 credits must be above the 200 level.
- Nine credit hours must be taken at NC State. A maximum of six (6) credit hours may be transferred into the minor from another institution.
- The Department of Foreign Languages and Literatures will determine which courses transferred from other institutions may qualify to meet requirements for the minor.
- A maximum of six credits from a non-NC State study abroad program may count towards the minor. Credits earned in NC State-sponsored study abroad programs for Spanish count as if they were earned on the NC State campus.
- A grade of 'C-' or better is required in all courses in the minor program and an overall GPA of 2.0 must be maintained in the minor courses.
- All courses in the minor must be taken for a letter grade. Credit-only (S/U) grade is not permitted.
- A maximum of TWO (2) course may be used (double-counted) towards both departmental major requirements and minor requirements.
- No courses for the minor may be taken for S/U credit.

Students may declare the minor when they are enrolled in a class that counts toward the minor.

Required Courses (9 credits)

- FLS 202 Intermediate Spanish II
- FLS 331 – Spanish Oral and Written Expression I
- FLS 332 – Spanish Oral and Written Expression II

Elective Courses – Select from the following (6 credits)

200-level courses: Intended for those who have not taken a 300-level Spanish course.

- FLS 212 Spanish Language, Technology, Culture
- FLS 295 Intermediate Special Topics in Spanish

300-level courses: Check the [course catalog](#) for course pre- or co-requisite requirement.

- FLS 333 The Sounds of Spanish
- FLS 336 Business Spanish I
- FLS 337 Spanish for Tourism in the Hispanic World
- FLS 340 Introduction to Hispanic Literatures and Cultures
- FLS 341 Literature and Culture of Spain I
- FLS 342 Literature and Culture of Spain II
- FLS 343 Literature and Culture of Spain III
- FLS 351 Literature and Culture of Latin America I
- FLS 352 Literature and Culture of Latin America II
- FLS 353 Literature and Culture of Latin America III

- FLS 360 Hispanic Cinema
- FLS 395 Special Topics in Spanish

400-level courses: Prerequisite: 12 hours of 300-level Spanish courses.

- FLS 400 Methods and Techniques in Spanish Translation and Interpretation
- FLS 402 Introduction to Spanish Linguistics
- FLS 405 Spanish-English Comparative Grammar
- FLS 411 Topics in the Culture of Spain
- FLS 412 Topics in the Culture of Latin America and the Caribbean
- FLS 413 Spain and the Americas in Transatlantic Perspective
- FLS 492 Seminar in Hispanic Studies
- FLS 495 Advanced Special Topics in Spanish

Admissions

Students first download a [Departmental Minor Declaration Form](#) and consult with their major advisor for approval of the minor program. After the student obtains the major advisor's signature, he/she meets with the minor advisor to develop a plan of study indicating required courses and expected dates of completion. A copy of the student's minor plan of study will be kept on file in the Department of Foreign Languages and Literatures.

Certification

A [University Minor Declaration Form](#) should be submitted to Registration and Records for inclusion of the minor on the student's official record. Paperwork for certification should be completed no later than during the registration period for the student's final semester at NC State. Students should meet with the Coordinator of Advising, Ms. Susan Navey-Davis (919.515.9288, <http://www4.ncsu.edu/~navey/>, 321 Withers), to complete the final certification. Students will receive official recognition on their transcripts for the completed minor.

Contact Person

Dr. Jim Michnowicz
Spanish Upper Division Coordinator
Dept. Foreign Languages and Literatures
Withers Hall, Campus Box 8106
Raleigh, NC 27695
919.513.9999
michnowicz@ncsu.edu

SIS Code: 16SPM

CURRICULUM REQUIREMENTS

Format B Minor Adapted

<u>Degree/Plan Title:</u> Minor/Spanish	<u>Plan SIS Code:</u> 16SPM
Concentration/Subplan Title: n/a	Subplan SIS Code: n/a
<u>Indicate requirements status:</u> Current: Proposed: X	<u>Proposed</u> Effective Semester: 2188
<u>New Degree Audit required?</u> (Y or N) N	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MINOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>Notes</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.		
A minimum grade of C- or better is required in all courses to be used toward the minor, with an overall average of at least 2.0.		
<u>Required Courses</u> FLS 202 FLS 331 FLS 332	3 3 3	
<u>Elective Courses</u> (Requirement 000031663) [delete FL 395, 495, 595,] FLS 212, 295, 333, 336, 337, 340, 341, 342, 343, 351, 352, 353, 360, 395, 400, 402, 405, 411, 412, 413, 492, 592	6	
Total credit hours required to complete minor <i>Minimum 15 hours required</i>	15	

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

DEPARTMENT(S):
Foreign Languages and Literature

TYPE OF PROPOSAL:
New Minor: _____

TITLE OF THE MINOR:
Spanish

Revision to Minor: X
Discontinuation: _____


PROPOSED EFFECTIVE DATE: 2188 APPROVED EFFECTIVE DATE: _____

ATTACHMENTS INCLUDED:

1. Statement of Justification
2. Statement of Academic Minor Program Objectives
3. List of Courses constituting the Proposed Minor
4. Catalog Description of Proposed Minor
5. Administration of the Minor (Contact information for Administrator of the Minor)
6. Requirements for Admission and Completion of the Minor
7. Statement on Other Departments Likely to be Affected and Summary of Consultations with those Departments
8. Optional: Projected Resources and Enrollment

REQUIRED SIGNATURES:


OTHER REQUIRED SIGNATURES AS NEEDED:



Head, Department Program 1 May 2018
Date



Chair, College Curriculum Committee 8/27/18
Date



College Dean 8/29/18
Date

Chair, College Curriculum Committee Date

College Dean Date

Chair, University Courses & Curricula Committee Date

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

July 26, 2018

Dear Members of the Undergraduate Committee:

I wish to submit a proposal that a minor in Teaching English as a Foreign Language (TEFL) be created and offered as a minor in the Department of Foreign Languages and Literatures.

Teaching English here or abroad is a booming field. There are as many people learning English in China as there are people living in the US (approx. 290 million). The British Council estimates that the number of English language learners will peak in the next decade at 2 billion. In 2011, there were six million teachers of English working worldwide.

NC State offers a non-credit bearing Certificate in Teaching English to Speakers of English (TESOL) which some of our graduating seniors take and pay 2,000 dollars for, so they have credentials to teach abroad. We also have an ESL Add-On licensure program, which is geared toward preservice and in-service teachers in K-12. Both programs attract students, but their scope is either limited or their price tag high.

A minor in TEFL will be attractive to undergraduates who are contemplating going abroad to teach English. Having 15 hours of formal training and classroom practice on their transcript can open a door of opportunity for them. It will also give them exposure to the field and perhaps lead them to making TEFL as life-long career. A minor in TEFL will enable students majoring in a foreign language to work in the target culture. Students majoring in English or international studies will find a minor in TEFL complementary to their studies. International students and returning study abroad students may also be interested in having formal TEFL training.

A minor in TEFL will not incur additional resources but rather strengthen and boost enrollment in existing courses. One of the five courses making up the proposed minor is ENG 326 The History of the English Language. Jason Swarts, Director of Undergraduate Program in the English Department, consulted with Erik Thomas, the lead faculty member in Linguistics, about including ENG 326 in the minor. Dr. Thomas commented the following:

"... that sounds great. I ordinarily have a contingent of students in the class who lack any linguistics background, and even though it's a little challenging for them, I always start the semester off with about three weeks' worth of review of linguistics concepts. One detail you should mention to Jillian, though--because of low enrollments, we've been offering ENG 326 only in the spring for the past couple of years" (July 19, 2018. Email).

Dr. Swarts informed me that they are in the process of getting ENG 326 approved for GEP Humanities and GEP Global Knowledge (at CUE now) and expressed the hope that this would increase the demand so that ENG 326 will be offered more frequently

Here is a description of the minor and the required courses:

MEMORANDUM

TO: University Courses and Curricula Committee (UCCC)

FROM: Dr. Helen Kraus, Undergraduate Coordinator,
Department of Horticultural Science

CC: Li Marcus

DATE: March 28, 2018

SUBJECT: Requested Changed to the minor in Horticultural Science (11HSM)

Please find attached the old and new display for the minor in Horticultural Science. These changes are needed to better reflect the course offerings. We request these changes to be effective as of 8/2018.

The specific changes (indicated in red on the display) are:

- Add HS 242, Introduction to Small Scale Landscape Design. This course has been re-designed to make the content applicable to students in all majors.
- Add HS 280, Hands-On-Horticulture. This is a new course that teaches the basic plant care and construction skills and techniques needed by all horticulturist.
- Delete HS 305, Indoor Plantscapes: Identification and Use. This course is not longer being offered.
- Add HS 451, Plant Nutrition. This course is relevant for students in allied majors (PB, SSC, CS, AEE). Many of these students seek the HS minor.
- Change the name of HS 471 from Tree and Grounds Management (old name) to its current name, Landscape Ecosystem Management.
- Remove the necessity for a student to fill out a paper form for adding a minor.

SIGNATURE PAGE

COURSE ACTION FOR CURRICULUM CHANGES FOR THE HORTICULTURAL SCIENCE MINOR

RECOMMENDED BY:

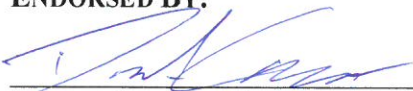


HEAD, DEPARTMENT/PROGRAM

8/20/18

DATE

ENDORSED BY:



CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE

29 Aug 2018

DATE

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

Horticultural Science (11HSM)

Description

The academic minor in Horticultural Science is offered to students who desire a strong foundation in the principles of horticultural science. Students may choose to enhance their own major by selecting courses in a specialized area of horticulture such as fruits and vegetables, ornamentals, floriculture, or landscape horticulture, or they may pursue a more general approach to the entire field of study.

Requirements

- Completion of at least 16 credit hours.
- A grade of "C-" or better must be achieved in each course.

Required Courses (7 credit hours)

- HS 201 The World of Horticulture: Principles and Practices (3 cr)
- HS 301 Plant Propagation (4 cr – offered in Fall)

Elective Courses (9 credit hours)

Choose **three** (3) courses from the following:

- HS 200 Home Horticulture (3 cr)
- HS 302 Gardening With Herbaceous Perennials (3 cr)
- HS 303 Ornamental Plant Identification I (3 cr)
- HS 304 Ornamental Plant Identification II (3 cr)
- HS 305 Indoor Plantscapes: Identification and Use (3 cr)
- HS 411 Nursery Management (3 cr)
- HS 421 Temperate-Zone Tree Fruits: Physiology and Culture (3 cr)
- HS 422 Small Fruit Production (3 cr)
- HS 431 Vegetable Production (4 cr)
- HS 432 Permaculture: Sustainable Living (3 cr)
- HS 440 Greenhouse Management (3 cr)
- HS 442 Floriculturel Crop Production (3 cr)
- HS 462 Postharvest Physiology (3 cr)
- HS 471 Tree and Grounds Maintenance (4 cr)

Admissions

Students who plan to minor in Horticultural Science should contact the Coordinator listed below for consultation and approval. The Undergraduate Coordinator will assign a minor advisor who will monitor the student's progress.

Students should complete a [Declare a Minor](#) form and submit to Registration and Records.

Certification

The student must complete the "Application for Minor" form be kept on file in the Undergraduate Coordinator's office until the student's final semester at which time the proper procedure for certification of the minor will be completed.

Coordinator

Dr. Helen T. Kraus
Department of Horticultural
Science Box 7609, N.C. State
University (Kilgore Hall 132)
Raleigh, NC 27695-7609
919-515-1208
Helen_Kraus@ncsu.edu

SIS Code: 11HSM

Horticultural Science (11HSM)

Description

The academic minor in Horticultural Science is offered to students who desire a strong foundation in the principles of horticultural science. Students may choose to enhance their own major by selecting courses in a specialized area of horticulture such as fruits and vegetables, ornamentals, floriculture, or landscape horticulture, or they may pursue a more general approach to the entire field of study.

Requirements

- Completion of at least 16 credit hours.
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Elective Courses (9 credit hours)

Choose **three** (3) courses from the following:

- HS 200 Home Horticulture (3 cr)
- HS 242 Introduction to Small Scale Landscape Design (3 cr)
- HS 280 Hands-On-Horticulture (3 cr)
- HS 302 Gardening With Herbaceous Perennials (3 cr)
- HS 303 Ornamental Plant Identification I (3 cr)
- HS 304 Ornamental Plant Identification II (3 cr)
- ~~HS 305 Indoor Plantscapes: Identification and Use (3 cr)~~
- HS 411 Nursery Management (3 cr)
- HS 421 Temperate-Zone Tree Fruits: Physiology and Culture (3 cr)
- HS 422 Small Fruit Production (3 cr)
- HS 431 Vegetable Production (4 cr)
- HS 432 Permaculture: Sustainable Living (3 cr)
- HS 440 Greenhouse Management (3 cr)
- HS 442 Floriculturel Crop Production (3 cr)
- HS 451 Plant Nutrition (3 cr)
- HS 462 Postharvest Physiology (3 cr)
- HS 471 Landscape Ecosystem Management (4 cr)

Admissions

Students who plan to minor in Horticultural Science should contact the Coordinator listed below for consultation and approval. The Undergraduate Coordinator will assign a minor advisor who will monitor the student's progress. Students should complete a *Declare a Minor* form and submit to Registration and Records.

Certification

The student must complete the "Application for Minor" form be kept on file in the Undergraduate Coordinator's office until the student's final semester at which time the proper procedure for certification of the minor will be completed.

Coordinator

Dr. Helen T. Kraus
Department of Horticultural
Science Box 7609, N.C. State
University (Kilgore Hall 132)
Raleigh, NC 27695-7609
919-515-1208
Helen_Kraus@ncsu.edu

SIS Code: 11HSM

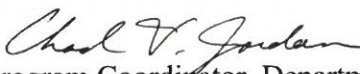


College of Agriculture and Life Sciences
Department of Plant and Microbial Biology
cals.ncsu.edu/pmb

Campus Box 7612
100 Derieux Place
Raleigh, NC 27695-7612
P: 919.515.2727

Curriculum Action Memorandum

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

From: Chad V. Jordan 
Undergraduate Program Coordinator, Department of Plant and Microbial Biology

Date: August 14, 2018

Re: Revisions to B.S. in Plant Biology degree requirements

Curriculum: Plant Biology
Current Degree SIS Code: 11PBBS
CIP Code: 26.0301 027
Proposed Effective Semester: Spring, 2019

The Department of Plant and Microbial Biology proposes to make the following changes to the Bachelor of Science in Plant Biology degree curriculum.

1. Reduce the number of Restricted Electives from 26 to 24.

The current B.S. in Plant Biology curriculum requires students to complete 122 hours of coursework. In order to comply with UNC Policy 400.1.5, we propose to remove two credit hours from Restricted Electives to lower the total number of required credit hours to 120.

2. Include statement about alternatives to LSC 101 for transfer students who do not enter the Plant Biology major through the Life Sciences First Year (LSFY) Program.

LSC 101, Critical and Creative Thinking in the Life Sciences, is a GEP Interdisciplinary Perspectives (IP) course that is taken by students in the LSFY Program. LSC 101 currently appears on the Plant Biology degree audit as a required course. A number of students enter the Plant Biology major have participated in LSFY and therefore meet the LSC 101 requirement. However, there are two populations of students who do not take LSC 101: (1) internal transfer students who did not participate in LSFY in their first year and (2) external transfer students for whom LSFY is not appropriate. For these transfer populations, which constitute approximately half of the students in the major, a manual course substitution for LSC 101 with another GEP IP course must be made each time.

The Department of Plant and Microbial Biology requests that 8-semester display (Format A) and the degree audit for Plant Biology be amended to state that students must complete LSC 101 **or** a GEP IP course. A footnote has been added to Format A to indicate that students in the LSFY Program must take LSC 101.

3. Add PB 325, Culinary Botany, to the Plant Biology Electives course list.

We propose to add PB 325 to the PB 300+ Electives list. PB 325 is a course that was created since the last curriculum revision.

Format A and Format B Revisions

Adjustments to the 8-semester display and footnotes (Format A) have been made to reflect the all of the above changes. Similar changes to the list of required courses have been made on Format B.

North Carolina State University

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

Endorsed By:

 8/15/18
Head, Department/Program Date

Recommended By:

 8/24/18
Chair, College Curriculum Committee Date

Endorsed By:

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

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: X Proposed Effective Semester: Sum 1, 2015

Degree/Plan Title: Plant Biology Concentration/Subplan Title: N/A

Plan SIS Code: 11PBBS Subplan SIS Code: N/A

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
LSC 101 Critical & Creative Thinking in Life Sci. or GEP Interdisciplinary Perspectives ¹	2	BIO 183 Intro Bio: Cell & Molecular Bio ²	4 (CP)
PB 103 Perspectives on Botany or LSC 103 Exploring Life Science Disciplines	1	CH 220 Introductory Organic Chemistry or (CH 221 Organic Chem I and CH 222 Organic Chem I Lab)	4
BIO 181 Intro Bio: Eco/Evol/Biodiv ²	4 (CP)	ENG 101 Academic Writing & Research [*]	4
CH 101 Chem – A Molecular Science	3 (CP)	Restricted Elective ⁷	2
CH 102 Gen Chem Lab	1	Health and Exercise Studies Course [*]	1
MA 121 Elements of Calculus or MA 131 Calc. Life Management Sci A or MA 141 Calculus I ³	3		
Health and Exercise Studies Course [*]	1		
	Total: 15		Total: 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PB 250 Plant Biology ²	4 (CP)	GN 311 Principles of Genetics	4
ST 101 Statistics by Example or ST 311 Intro Statistics ⁴	3	PB Elective ^{5,6}	3
Restricted Elective ⁷	4	GEP Humanities Elective [*]	3
GEP Social Sciences Elective [*]	3	Restricted Elective ⁷	3
		Free Elective	3
	Total: 14		Total: 16
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PB Elective ^{5,6}	3	Advanced Communication Elective ⁹	3
PY 131 Conceptual Physics or PY 211 College Physics I ⁸	4	PB Elective 300-level or higher ^{5,6}	3
Restricted Electives ⁷	5	Applied Plant Science Elective ¹⁰	3
GEP Social Sciences Elective [*]	3	GEP Humanities Elective [*]	3
		Free Elective	3
	Total: 15		Total: 15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PB 492 External Learning Exp or PB 493 Special Prob in Botany or ALS 498 Honors Research or Teaching I	3	Restricted Electives ⁷	6
PB Elective 300-level or higher ^{5,6}	3	Free Electives	6
Restricted Electives ⁷	3	GEP Additional Breadth Elective [*]	3
Free Elective	3		
GEP Interdisciplinary Perspectives Elective [*]	3		
	Total: 15		Total: 15
Minimum Credit Hours Required for Graduation : 120			

Major/Program Footnotes:

¹Students entering NC State through the Life Sciences First Year (LSFY) Program must take LSC 101.

²BIO 105/106, PB 200, and a 4-hour PB course with a lab may be approved by the Plant Biology Undergraduate Coordinator as substitutes for BIO 181, BIO 183, and PB 250.

³Credit is not allowed for more than one of MA 121, MA 131, and MA 141.

⁴Credit is not allowed for both ST 101 and ST 311. Students interested in research are strongly encouraged to take both ST 311 and ST 312 (Experimental Statistics for Biological Sciences II).

⁵A minimum of four Plant Biology elective courses are required and must total 12 credit hours. At least two of these courses must be at the 300-level or higher and must total 6 credit hours. Select from the following list of courses: PB 213, PB 215, PB 219, PB 220, PB 321, PB 345, PB 360, PB 400, PB 403, PB 405, PB 413, PB 414, PB 421, PB 422, PB 445, PB 464, PB/BIT 481, PB 500-level, and PB 600-level. A minimum GPA of 2.00 is required across all PB coursework.

⁶At least one course PB Elective course must have a laboratory or be a laboratory or field-based course. Courses that meet this requirement are PB 220, PB 346, PB 360, PB 400, PB 403/503, PB 405, PB 413, PB 422, PB 445, PB 481, and PB 565.

⁷Courses should be chosen from the CALS Elective Groups A (Biological Sciences and Physical Sciences), B (Economics and Business), and C (Applied Science and Technology) lists.

⁸Students interested in pursuing graduate and professional training should take PY 211 to meet the PY requirement followed by PY 212 (College Physics II) as a Restricted Elective.

⁹Choose one course from the following list: COM 110, COM 211, ENG 215, ENG 323, ENG 331, ENG 332, ENG 333.

¹⁰Choose from the following course list: CS 312, CS 411, CS 413, CS 414, CS 415, CS 424, CS 430, FOR 303, FOR (PP) 318, FOR 339, FOR 411, HS 301, HS 411, HS 421, HS 422, HS 423, HS 431, HS 432, HS 440, HS 451, HS 462, PP 315, PP 501, and PP 540

***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 121 or MA 131 or MA 141, ST 101 or ST 311**
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **BIO 181, BIO 183, CH 101/102, GN 311, PY 131 or PY 211**
- 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: **N/A**
- 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: **N/A**
- 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: **LSC 101**
- 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: **N/A**
- 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: **N/A**
- 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: **X** Proposed: Proposed Effective Semester:

Degree/Plan Title: **Plant Biology** Concentration/Subplan Title: N/A

Plan SIS Code: **11PBBS** Subplan SIS Code: N/A

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
LSC 101 Critical & Creative Thinking in Life Sci.	2	BIO 183 Intro Bio: Cell & Molecular Bio ¹	4 (CP)
PB 103 Perspectives on Botany or LSC 103 Exploring Life Science Disciplines	1	CH 220 Introductory Organic Chemistry or (CH 221 Organic Chem I and CH 222 Organic Chem I Lab)	4
BIO 181 Intro Bio: Eco/Evol/Biodiv ¹	4 (CP)	ENG 101 Academic Writing & Research*	4
CH 101 Chem – A Molecular Science	3 (CP)	Restricted Elective ⁶	3
CH 102 Gen Chem Lab	1	Health and Exercise Studies Course*	1
MA 121 Elements of Calculus or MA 131 Calc. Life Management Sci A or MA 141 Calculus I ²	3		
Health and Exercise Studies Course*	1		
	<i>Total: 15</i>		<i>Total: 16</i>
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PB 250 Plant Biology ¹	4 (CP)	GN 311 Principles of Genetics	4
ST 101 Statistics by Example or ST 311 Intro Statistics ³	3	PB Elective ^{4,5}	3
Restricted Elective ⁶	4	GEP Humanities Elective*	3
GEP Social Sciences Elective*	3	Restricted Elective ⁶	3
		Free Elective	3
	<i>Total: 14</i>		<i>Total: 16</i>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PB Elective ^{4,5}	3	Advanced Communication Elective ⁸	3
PY 131 Conceptual Physics or PY 211 College Physics I ⁷	4	PB Elective 300-level or higher ^{4,5}	3
Restricted Electives ⁶	6	Applied Plant Science Elective ⁹	3
GEP Social Sciences Elective*	3	GEP Humanities Elective*	3
		Free Elective	3
	<i>Total: 16</i>		<i>Total: 15</i>
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PB 492 External Learning Exp or PB 493 Special Prob in Botany or PB 495 Special Topics in Botany or ALS 498 Honors Research or Teaching I	3	Restricted Electives ⁶	6
PB Elective 300-level or higher ^{4,5}	3	Free Electives	6
Restricted Electives ⁶	3	GEP Additional Breadth Elective*	3
Free Elective	3		
GEP Interdisciplinary Perspectives Elective*	3		
	<i>Total: 15</i>		<i>Total: 15</i>
Minimum Credit Hours Required for Graduation* : 122			

Major/Program Footnotes:

²BIO 105/106, PB 200, and a 4-hour PB course with a lab may be approved by the Plant Biology Undergraduate Coordinator as substitutes for BIO 181, BIO 183, and PB 250.

⁴Credit is not allowed for more than one of MA 121, MA 131, and MA 141.

³Credit is not allowed for both ST 101 and ST 311. Students interested in research are strongly encouraged to take both ST 311 and ST 312 (Experimental Statistics for Biological Sciences II).

⁴A minimum of four Plant Biology elective courses are required and must total 12 credit hours. At least two of these courses must be at the 300-level or higher and must total 6 credit hours. Select from the following list of courses: PB 213, PB 215, PB 219, PB 220, PB 321, PB 345, PB 360, PB 400, PB 403, PB 405, PB 413, PB 414, PB 421, PB 422, PB 445, PB 464, PB/BIT 481, PB 500-level, and PB 600-level. A minimum GPA of 2.00 is required across all PB coursework.

⁵At least one course PB Elective course must have a laboratory or be a laboratory or field-based course. Courses that meet this requirement are PB 220, PB 346, PB 360, PB 400, PB 403/503, PB 405, PB 413, PB 422, PB 445, PB 481, and PB 565.

⁶Courses should be chosen from the CALS Elective Groups A (Biological Sciences and Physical Sciences), B (Economics and Business), and C (Applied Science and Technology) lists.

⁷Students interested in pursuing graduate and professional training should take PY 211 to meet the PY requirement followed by PY 212 (College Physics II) as a Restricted Elective.

⁸Choose one course from the following list: COM 110, COM 211, ENG 215, ENG 323, ENG 331, ENG 332, ENG 333.

⁹Choose from the following course list: CS 312, CS 411, CS 413, CS 414, CS 415, CS 424, CS 430, FOR 303, FOR (PP) 318, FOR 339, FOR 411, HS 301, HS 411, HS 421, HS 422, HS 423, HS 431, HS 432, HS 440, HS 451, HS 462, PP 315, PP 501, and PP 540

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 121 or MA 131 or MA 141, ST 101 or ST 311**
- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **BIO 181, BIO 183, CH 101/102, GN 311, PY 131 or PY 211**
- 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: **N/A**
- 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: **N/A**
- 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: **LSC 101**
- 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: **N/A**
- 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: **N/A**
- K. Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

CURRICULUM REQUIREMENTS**Format B**

Degree/Plan Title: Plant Biology	Plan SIS Code: 11PBBS
Concentration/Subplan Title: N/A	Subplan SIS Code: N/A
Indicate requirements status: Current: Proposed: X	<u>Proposed</u> Effective Semester: Spring 2019
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.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
Required Courses/Groups/ Electives:	Credit Hours	GEP category, if applicable
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
Plant Biology Required Courses (A minimum grade of C- is required in all PB courses. A minimum GPA of 2.00 is required across all PB coursework.)		
PB 250 (CP)	4	
GRP XXX Research/Teaching PB 492 or PB 493 or ALS 498	3	
GRP XXX PB Electives 300-level+ PB 321, PB 325 , PB 345, PB 346, PB (AEC 360), PB 400, PB 403, PB 413, PB (BIO 414), PB 421, PB 422, PB 445, PB 464, PB 480, PB (BIT) 481, PB 500-level	6	
GRP XXX PB Electives PB 213, PB 215, PB 219, PB 220, PP 222, PB 277, PB Electives 300+	6	
PB Elective Lab Course Co-requisite (one course) PB 220, PB 346, PB 360, PB 400, PB 403/503, PB 405, PB 413, PB 422, PB 445/545, PB 481, PB 565		
Applied Plant Science Elective CS 312, CS 411, CS 413, CS 414, CS 415, CS 424, CS 430, FOR 303, FOR (PP) 318, FOR 339, FOR 411, HS 301, HS 411, HS 421, HS 422, HS 423, HS 431, HS 432, HS 440, HS 451, HS 462, PP 315, PP 501, PP 540	3	
Natural and Physical Sciences / Mathematics BIO 181 (CP), BIO 183 (CP) (Minimum grade of C- required in both courses)	8	Natural Sciences (4 hours)
GN 311	4	
CH 101 (CP), CH 102 (Minimum grade of C- required in both courses)	4	Natural Sciences (3 hours)
CH 220 or CH 221	3	
CH 222	1	
MA 121 or MA 131 or MA 141	3	Mathematical Sciences (3 hours)
ST 101 or ST 311	3	Mathematical Sciences (3 hours)
PY 131 or PY 211	4	
GRP XXX Advanced Communication COM 110, COM 211, ENG 215, ENG 323, ENG 331, ENG 332, ENG 333	3	Communication in the Major Co-requisite

Restricted Electives Courses from CALS Elective Groups A, B, and C Lists	24	
Concentration Courses/Groups/Electives: N/A		
Free Electives:	14	
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	93 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): PB 103 or LSC 103 or ALS 103 or ALS 303 LSC 101 or GEP Interdisciplinary Perspectives Course	1 2	Interdisciplinary Perspectives (2 hours)
Other: n/a		
Total credit hours under College Requirements:	3	

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 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"> 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 X 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>	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>	6	<i>(Choose statement 1, 2 or 3)</i> 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	<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>	3	<i>(Choose statement 1, 2 or 3)</i> Major/College course requirement satisfies 2 credit hrs of 3 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.	24	
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	<small>(Choose statement 1 or 4)</small> <i>Choose course(s) from the University Approved GEP course list for this category.</i>
Global Knowledge co-requisite (GK)	n/a	<small>(Choose statement 1 or 4)</small> <i>Choose course(s) from the University Approved GEP course list for this category.</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	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.

CURRICULUM REQUIREMENTS**Format B**

Degree/Plan Title: Plant Biology	Plan SIS Code: 11PBBS
Concentration/Subplan Title: N/A	Subplan SIS Code: N/A
Indicate requirements status: Current: X Proposed:	<u>Proposed</u> Effective Semester:
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.	

MAJOR FIELD OF STUDY REQUIREMENTS:	Credit Hours	GEP category, if applicable
Required Courses/Groups/ Electives:		
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
PB 250 (CP)	4	
GRP XXX Research/Teaching PB 492 or PB 493 or ALS 498	3	
GRP XXX PB Electives 300-level+ PB 321, PB 345, PB 346, PB (BIO 360), PB 400, PB 403, PB 405, PB 413, PB (BIO 414), PB 421, PB 422, PB 445, PB 464, PB 480, PB (BIT) 481, PB 500-level	6	
GRP XXX PB Electives PB 213, PB 215, PB 219, PB 220, PP 222, PB 277, PB Electives 300+	6	
PB Elective Lab Course Co-requisite (one course) PB 220, PB 360, PB 400, PB 403/503, PB 405, PB 413, PB 422, PB 445/545, PB 481, PB 565		
Applied Plant Science Elective CS 312, CS 411, CS 413, CS 414, CS 415, CS 424, CS 430, FOR 303, FOR (PP) 318, FOR 339, FOR 411, HS 301, HS 411, HS 421, HS 422, HS 423, HS 431, HS 432, HS 440, HS 451, HS 462, PP 315, PP 501, PP 540	3	
Natural Physical Sciences / Mathematics BIO 181 (CP), BIO 183 (CP) (Minimum grade of C- required in both courses)	8	Natural Sciences (4 hours)
GN 311	4	
CH 101 (CP), CH 102 (Minimum grade of C- required in both courses)	4	Natural Sciences (3 hours)
CH 220 or (CH 221 and CH 222)	4	
MA 121 or MA 131 or MA 141	3	Mathematical Sciences (3 hours)
ST 101 or ST 311	3	Mathematical Sciences (3 hours)
PY 131 or PY 211	4	
GRP XXX Advanced Communication COM 110, COM 211, ENG 215, ENG 323, ENG 331, ENG 332, ENG 333	3	Communication in the Major Co-requisite
Restricted Electives Courses from CALS Elective Groups A, B, and C Lists	26	

Concentration Courses/Groups/Electives: N/A		
Free Electives:	14	
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	95 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): PB 103 or LSC 103 or ALS 303 LSC 101	1 2	Interdisciplinary Perspectives (2 hours)
Other: n/a		
Total credit hours under College Requirements:	3	

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 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) <i>(Choose statement 1, 2 or 3)</i>
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>	X	<i>Minimum requirements are satisfied by Major/College course requirements.</i>
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>	X	<i>Minimum requirements are satisfied by Major/College course requirements.</i>
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>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
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>	6	<i>Choose course(s) from the University Approved GEP course list for this category</i>
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	<i>Choose course(s) from the University Approved GEP course lists for the Humanities/Social Sciences/Visual & Performing Arts.</i>
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>	3	<i>Major/College course requirement satisfies 2 credit hrs of 3 this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
Health and Exercise Studies (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 not satisfied as part of the Major/College requirements.	24	

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 course(s) from the University Approved GEP course list for this category.</i> <small>(Choose statement 1 or 4)</small>
Global Knowledge co-requisite (GK)	n/a	<i>Choose course(s) from the University Approved GEP course list for this category.</i> <small>(Choose statement 1 or 4)</small>
Foreign Language Proficiency	n/a	Proficiency at the FL_102 level required.
The following requirements must be satisfied within the College/Program:		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)	X	Satisfied by College/Program Requirements
Technology Fluency	X	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	122	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Teaching English as a Foreign Language (TEFL) Minor

Description

The objective of a minor in Teaching English as a Foreign Language (TEFL) is to enable students to acquire a deeper understanding of English as an international language and formal training in teaching English as a foreign language in various cultural and/or educational contexts.

Requirements

- Completion of 15 credit hours is required.
- 9 Credit hours must be taken at NC State and a maximum of six (6) credit hours may be transferred into the minor from another institution.
- The Department of Foreign Languages and Literatures will determine which courses transferred from other institutions may qualify in meeting requirements for the minor, as well as the number of transfer credits permitted to meet program requirements.
- It is required that students complete at least three (3) courses either at NC State or at an NC State sponsored study-abroad program.
- A grade of 'C-' or better is required in all courses in the minor program.
- A maximum of ONE (1) course may be used (double-counted) towards both departmental major requirements and minor requirements.
- No courses for the minor may be taken for S/U credit.

Students may declare the minor when they are enrolled in a class that counts toward the minor.

Required Courses (15 credit hours)

FL 424: Linguistics for ESL Professionals (3 credits) - Offered in Fall or Spring, **DE only**. Fulfills ENG 210 Linguistic requirement. *Study of the diachronic nature of language and the phonological, morphological, syntactic, and semantic features of English in relation to other world language groups. Application of linguistic principles to the ESL classroom. Analysis of English speech and writing patterns of non-native speakers. Examination of the ways children, adolescents, and adults learn a second language.*

FL 436: Perspectives on English as a New Language (3 credits) - Offered in Fall or Spring; **DE only**. Fulfills ENG Elective requirement. *Examination of the complexity of multiculturalism in American society and the challenges faced by immigrant families in adapting to U.S. institutions. Emphasis on understanding historical, legal, cultural and pedagogical issues with respect to learning English as a new language (ENL).*

FL 427: Methods and Materials in Teaching English as a Second Language (3 credits) - Offered in Fall or Spring; **DE/face-to-face** *Methodologies and current approaches to teaching English as a Second Language. Techniques and strategies for teaching reading, writing, listening, speaking and culture. Selection, adaptation, and creation of instructional materials for various levels of proficiency and teaching situations. Evaluation and assessment of written and oral language proficiency through standardized and non-standardized assessment tools.*

ENG 326: History of the English Language (3 credits) – Offered in the Spring. *Development of the English language from its Indo-European origins to the present. Emphasis on historical and comparative linguistic methodology and on changes in sound, syntax, and meaning. Prerequisite: ENG 101*

FL 440, Section 2: Internship in Teaching English as a Second Language (3 credits) - Offered in Fall, Spring, Summer. *Skills and techniques required in teaching ESL in a school setting. 15 hours of classroom observation and 30 hours in direct instruction. Demonstration of competencies essential for teaching ESL. The internship course is the culmination of the program.*

Thank you for your time and consideration of this proposal.

Respectfully,

Jillian S. Haeseler

Director, English as a Second Language

Department of Foreign Languages and Literatures

CURRICULUM REQUIREMENTS**Format B Minor Adapted**

Minor Plan Title: Jewish Studies Minor	Proposed Plan SIS Code: 16
Concentration/Subplan Title: n/a	Subplan SIS Code: n/a
Indicate requirements status: Current: Proposed: X	Proposed Effective Semester: 2191
New Minor 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.	

MINOR FIELD OF STUDY REQUIREMENTS:		
Required Courses/Groups/ Electives:	Credit Hours	Notes
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.		
A minimum grade of C- or better is required in all courses to be used toward the minor.		
Required Courses		
FL 424 Linguistics for ESL Professionals	3	
FL 436 Perspectives on English as a New Language	3	
FL 427 Methods and Materials in Teaching English as a Second Language	3	
ENG326 History of the English Language	3	
FL 440 Internship in Teaching English as a Second Language	3	
Total credit hours required to complete minor <i>Minimum 15 hours required</i>	15	

