

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

University Courses & Curricula Committee 2016-2017

August 24th, 2016 Talley Student Union 4140 12:45pm-2:45pm

Call to Order 12:45pm

- > Welcome, Instructions, and Instructions Chair Andy Nowel
- > Remarks from Associate Vice Provost, Dr. Barbara Kirby
- Establishment of Quorum
- > Approval of UCCC May 4th, 2016 Minutes
- Course and Curricular Business

New Business

Review: Consent Agenda

Action	Туре	Notes
MUS 206 America's Music	Minor Revision	Fees, Add S/U Grading Basis
Biomedical and Health Sciences Engineering BS Joint Degree with UNC Chapel Hill	Special	Per creation of dual degree with UNC-CH Creation of BMME prefix and addition of existing BMME courses approved at Chapel hill to NCSU catalog
TT 331 Performance Evaluation of Textile Materials	Minor Revision	Prerequisites

College of Agricultural & Life Sciences					
Presenter	Reviewers	Action		Туре	
Tarpy	Banks, Lindsay, Orphanide	s SSC 342 Soil and Plant Nutrient Analysis	Revisior	1	
Trivedi	Banks, Peretti, Wu	Agroecology & Sustainable Food Systems	Reques	t to Establish	
		College of Design			
Presenter	Reviewers	Action		Туре	
Rieder	Ferguson, Lindsay, Despai	n 12IDB Industrial Design		C Wall requirements	
Rieder	Ferguson, Lindsay, Despai	n 12BEDA Environmental Design Architect	ure	C Wall requirements	
		College of Sciences			
Presenter	Reviewers	Action		Туре	
Klesath	Hessling, Trivedi, Tarpy	CH 220 Introductory Organic Chemistry	Revisi	on	
Klesath	Hessling, Trivedi, Tarpy	CH 222 Organic Chemistry I Lab	Revisi	on	
Klesath	Ferguson, Peretti, Despair	GN 451 Genome Science	Revisi	on	
University College					
Presenter	Reviewers	Action		Туре	
Beller	Rieder, Orphanides, Driscoll	MUS 205 Introduction to Music in Western Society		on	
		Humanities & Social Sciences			
Presenter	Reviewers	Action		Туре	
Driscoll	Podurgal, Rieder, Fath	ANT 475 Environmental Archaeology	Revisi	on	
Despain	Peretti, Banks, Trivedi	FLS 212 Spanish: Language, Technology, Culture	Revisi	on	
Driscoll	Fath, Beller, Rieder	HI 253 Early American History	New C	Course Proposal	
		Poole College of Management			
Presenter	Reviewers	ers Action		Туре	
Podurgal	Podurgal Hergeth, Peretti, Beller All Programs: 20ACCBS, 20BUSBS, 20ECONBA Revisions				
College of Textiles					
Presenter	Reviewers	Action		Туре	
Hergeth	Orphanides, Beller, Peretti	TT 351 Woven Products and Processes	Revision	IS	

		College of Engineering	
Presenter	Reviewers	Action	Туре
Ferguson	Wu, Fath, Klesath	NE 401 Reactor Analysis and Design	Revisions
Ferguson	Hessling, Hergeth, Klesath	ECE 463 Microprocessor Architecture	Revisions

- Other Business:

 Presentation Office of Assessment
 Syllabus Availability Subcommittee
 Chair Elect Process- accepting nominations next meeting
 Notes and updates from OUCC

Notes:

- All linked course actions are viewable in CIM. ٠
- ٠
- 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 <u>https://next-catalog.ncsu.edu/courseadmin/</u> and type the course prefix and number into the search bar. ٠



University Courses and Curricula Committee - May 4th, 2016

Talley Student Union 3222 Call to Order: 12:36 PM

Members Present: Chair, Scott Despain,

Ex-Officio Members Present:, Li Marcus, Sarah Howard,

Guests: Robert Sandruck

Welcome and Introductions

- Chair Dr. Scott Despain—Thanked everyone for their service and acknowledged those who are returning off UCCC.
- Dr. Kirby—Encouraged members to work with OUCC over the summer on edits as needed.

Approval of UCCC April 27th, 2016 Minutes

• The minutes were presented and approved without further discussion.

New Business:

- Consent Agenda—Approved Unanimously
 - **Discussion:** The consent agenda was presented and members noted a misspelling of "offering" on an item. The consent agenda was approved without further discussion.
- Course and Curricular Business

Renewal of PCOM Dual Degree with Germany-- Approved Unanimously

Discussion: Guest Robert Sandruck presented the dual degree to the committee. Dr. Kirby mentioned that section 10 regarding assessment and outcomes has not been updated with new material or indications of review, which is needed for the renewal of external dual degree arrangements. Sandruck agreed that they would look into assessment to submit to Rebecca Swanson for SCRT.

ANS 402 Beef Cattle Management -- Approved Pending

- Discussion: There was a question about which curricula were affected and if CALS needed a consult. It was confirmed that the affected curricula are all within the college and all have this course as "elective." Friendly suggestion to revise the "E" in the grading scale, rubric, and include a price for the textbook.
- ANS 404 Dairy Cattle Management– Approved Pending
 - Discussion: There was a small mistype in the catalog description. A member complimented the grading breakdown.
- ARE 415 Introduction to Commodity Future Markets -- Approved Unanimously
 - Discussion: Members noted the liberal attendance policy

ARE 420 Taxation in Agriculture, Production, and Agribusiness -- Approved Pending

- Discussion: The members noted the lack of reading and wondered if there were several handouts for the course. This was discussed during the college-level meeting. The Wallstreet Journal's cost was include in the course and there are a number of current events that students will be evaluated on. It is possible to bring this back to the college committee and ask what tax issues they wish to address, especially with no text indicated. This course has been taught a few times, and should be able to furnish the syllabus with this information. Approved pending with follow-up about the textbook.
- ARE 448 International Agricultural Trade -- Approved Pending
 - **Discussion:** A friendly suggestion for an electronic hosting statement and office hours. A commendation for the parts that describe how to help other classmates. The course was approved without further discussion.
- ARE 455 Agribusiness Analytics Tabled Unanimously
 - Discussion: There is a PCOM course as a prerequisite, but no consultation with PCOM. The issue here is that course is restricted to PCOM students. Friendly suggestion to consult with PCOM and COS to find a different ST course that would be a better fit. The address on the disabilities section needs to be updated, as well as the electronic hosting statement for Moodle. No textbook, office hours. The course was tabled unanimously until the fall semester.
- SSC 341 Soil Fertility and Nutrient Management -- Approved Unanimously
 - **Discussion:** This is the lecture portion of a lecture/lab course. Dr. Kirby commended the department for bringing forward this course for review as it has not been updated in some time. A member asked why the class was being split up into a lecture class and a lab class. The department wanted students to be able to take the lecture component while enabling students to take the lab (which has more restricted seating) at a different time.
- Soil Science Minor 11SSM -- Approved Unanimously
 - Discussion: The members thought the revisions looked nice and clean. The minor was approved

without further discussion.

- Agribusiness Management 11AGBAAS -- Approved Unanimously
- Discussion: The changes were presented and approved without further discussion.
- Industrial Engineering 14IEBS—14IEFUR -- Approved Unanimously
 - **Discussion:** Minor changes to the 14IEBS displays, and the larger change is discontinuing the 14IEFUR concentration, which no longer exists. The action was approved without further discussion.
- NE 301 Fundamentals of Nuclear Engineering -- Approved Unanimously
 - Discussion: The course was presented and approved without further discussion.
- NE 403 Nuclear Reaction Laboratory -- Approved Unanimously
 - **Discussion:** Member from Engineering explained that the lecture portion was to provide guidance for the actual labs that the students would be a part of.
- GIS 205 Spatial Thinking in GIS -- Approved Unanimously
 - **Discussion:** Friendly suggestion to make the evaluation methods more specific. There is a typo in the syllabus where "receive" is spelled wrong.
- Statistics BS 17STBS -- Approved Unanimously
 - Discussion: The curriculum was presented and approved without further discussion.
- 18TEXTECHBS—18TEXTECHMT Medical Textiles; 18TEXTECHSC Supply Chain Operations; 18TEXTECHTT Technical Textiles -- Approved Unanimously
 - Discussion: The curriculum was presented and approved without further discussion.
- Global Perspectives Certificate -- Approved Unanimously
 - **Discussion:** There was a small typo under #3 where "DS" should be "D." The members briefly discussed how the Global Perspectives Certificate is put together. There will be another advisory committee in the Fall.
- Political Science: Law and Justice 16PSLJ -- Approved Pending
 - Discussion: A member requested that the listing of courses be reviewed in order to remove some electives that are no longer offered and which courses are heavily restricted such as BUS 305 and ADN 202 (restricted to majors only, for example).
 - Law and Justice 16PSBA—16PSLLJ; Law and Theory 16PSLJL -- Approved Unanimously
 - **Discussion:** The action was presented and approved without further discussion.

Service Learning Subcommittee Report

Consider an admin approval to give those eight courses the Service Learning aspect and update any other courses from this list that could be considered by the body for the Service Learning attribute. This is wide open for resubmission through the regular process. All of these were good courses.

This was a very good, involved process to look at very special courses. Any feedback about the work of subcommittees as a screening group for these categorical approvals?

The Chair entertained a motion to approve the eight courses. Seconded. The courses were **approved unanimously** without further discussion.

Think we should work very hard on the "maybe" courses for Carnegie Report.

Presented a gift to the Chair Scott Despain for this work this year. He appreciated his office. The gift was an engraved gavel.

Meeting Adjourned at: 2:13 PM

Respectfully Submitted by Sarah Howard



Joint Department of Biomedical Engineering The University of North Carolina at Chapel Hill and North Carolina State University



Lianne A. Cartee, PhD Teaching Associate Professor, Biomedical Engineering Dept. Director of Undergraduate Studies 911 Oval Drive, Campus Box 7115 Raleigh, NC 27695-7625 Phone: 919.515.6726 FAX: 919.513.3814 http://www.bme.ncsu.edu e-mail: lacartee@ncsu.edu

DATE:	July 20	2016
DATE.	July 20,	2010

TO: Office of the Registrar

FROM: Lianne Cartee, BME Director of Undergraduate Studies

SUBJECT: Request for BMME course prefix

The Biomedical Engineering department requests the creation of the course prefix BMME for Biomedical and Health Sciences Engineering Chapel Hill Campus. The prefix falls under the CIP code 14.0501. We request immediate activation of the code.

The Biomedical and Health Sciences Engineering program is a joint program with students at both UNC-CH and NC State. The BMME courses are part of the curriculum for the joint program included in the Biomedical and Health Sciences Engineering Appendix C, the request to establish the program, which was approved by the BME department, the COE Courses and Curriculum Committee, UCCC, the Chancellors of both universities, and UNC-GA. All courses included under the BMME prefix were approved through the UNC-CH course approval system. Future courses will also be approved through that system. The courses will only be offered on the UNC-CH campus, but they will be part of the joint degree program. As courses offered through the joint program, these courses must also be included in the NC State course catalog.

Thank you for your help creating this unique joint program. Should you need any additional information, please feel free to contact me

Sincerely,

Lianne A. Cartee, Ph.D.

SIGNATURE PAGE

RECOMMENDED BY: 7/20 any all ADDITIONAL SIGNATURES (IF NEEDED) HEAD, DEPARTMENT/PROGRAM ENDORSED BY: 25 Jul 2016 DATE ADDITIONAL SIGNATURES (IF NEEDED) CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE wel ADDITIONAL SIGNATURES (IF NEEDED) OLLEGE DEAN **APPROVED BY:** CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE DATE

DEAN OF ACADEMIC AND STUDENT AFFAIRS

DATE

BMME 89 First-Year Seminar: Special Topics (3). Special topics course. Content will vary each semester.

BMME 101 Frontiers of Biomedical Engineering (1). An introduction to the groundbreaking tools and topics of biomedical engineering, including medical imaging, medical robotics, rehabilitative engineering, regenerative medicine, and medical device design.

BMME 150 Introduction to Materials Science (3). Prerequisite, CHEM 102 or CH 101; corequisites, MATH 383 or MA 341 and PHYS 117 or PHYS 119 or PY 208. Focus on the materials science and processing of electronic, metallic, polymeric, ceramic, and composite materials. The electronic, optical, magnetic, and structural properties of materials are related to their applications.

BMME 160 Statics (3). Prerequisites, MATH 232 or MA 241, and PHYS 116 or PHYS 118 or PY 205. Course covers rigid body mechanics of bodies at equilibrium or at rest (statics), and an introduction to rigid body mechanics of bodies in motion (dynamics). A foundation in engineering concepts and practices required to design and analyze many types of structural members is presented. Provides a foundation for more advanced courses.

BMME 190 Special Topics in Biomedical Engineering (1–3). A study in the special fields under the direction of the faculty. Offered as needed for presenting material not normally available in regular BMME courses.

BMME 201 Matlab for Scientists and Engineers (3) Prerequisites, MATH 231 or MA 141; corequisite, MATH 232 or MA 241. This course introduces students to problem solving techniques using the MATLAB programming language. Fundamental computer science basics are taught as they relate to problems encountered in biomedical engineering and other scientific disciplines. Programming activities will incorporate actual data (e.g., stress/strain data and microscopy images) for relevant, real-world examples.

BMME 210 BME Design and Manufacturing I (2). Corequisite, PHYS 117 or PHYS 119 or PY 208. Students will learn: use of design software (SolidWorks and support/analysis programs); basic techniques for directly measuring solid objects; electronic assembly techniques; and how to design simple electronic circuits. Note, BME Toolkit purchase is required for this course.

BMME 310 BME Design and Manufacturing II (2). Prerequisite, BMME 210 or BME 252. Students learn basic tools and procedures of modern design practice traditional and modern rapid manufacturing technologies/techniques. Laboratory exercises and Web-based instructional content.

BMME 341 Thermodynamics and Kinetics Applied to Solids (3). Prerequisites, BMME 150 or BME/MSE 203, MATH 383, or MA 341 and PHYS 117 or PHYS 119 or PY 208. The elements of thermodynamics and phenomenological kinetics of diffusion appropriate to solids are examined. Topics include equations of state, heat capacity, polyphase equilibria, phase transitions, diffusion, and interfaces.

BMME 350 Electronics for Biomedical Engineers (4). Prerequisite, PHYS 117 or PHYS 119 or PY 208. Fundamentals of analog and digital circuit analysis and design as applied to biomedical instrumentation and measurement of biological potentials. Class will consist of lectures and problem solving of analog and digital circuits. In lab students will design, develop, and test circuits, and acquire data to a computer using LabView.

BMME 351 Human Physiology and Biological Measurements for Engineers (4). Prerequisite, BMME 350 or BME 210; corequisite, BIOL 252 or BIO 183. A course on the quantitative aspects of basic human physiology. Class work will provide students with a basic understanding of human anatomy and physiology. A laboratory portion will explore actual physiological measurement techniques and quantitatively evaluate human physiology using statistical analyses.

BMME 395 Research in Biomedical Engineering for Undergraduates (1–4). Permission of the director of undergraduate studies. At least nine hours of independent work a week. Research with a faculty mentor. Approved learning contract required. Research proposal and final research paper also required.

BMME 396 Independent Study in Biomedical Engineering (1–3). Permission of the director of undergraduate studies. Independent study under a member of the biomedical engineering faculty.

BMME 405 Biomechanics I (3) Prerequisites, MATH 383 or MA 341, and PHYS 116 or PHYS 118 or PY 205. This course provides an overview of musculoskeletal anatomy, and of the mechanical behavior of biological tissues and biological systems. Students learn to apply fundamental principles of mechanics to analyze movement in humans and other animals. Applications in rehabilitation and orthopedics are emphasized.

BMME 410 Systems and Signals (3). Prerequisite, MATH 383 or MA 341; corequisite, MATH 528. Analysis of linear systems by transform methods to networks, including Fourier transforms, Laplace transforms, and convolution. Survey of linear systems applications to biomedical problems.

BMME 445 Systems Neuroscience (3). Prerequisite, BIOL 252 or BME 301. Introduction to methodologies used to characterize a) the aggregate behavior of living neural networks and b) the changes in that behavior that occur as a function of stimulus properties, pharmacological manipulations, and other factors that dynamically modify the functional status of the network.

BMME 455 Biofluid Mechanics (3). Prerequisites, BMME 160 or MAE 206 or CE 214, MATH 528 or MA 341, and BMME 201 or COMP 116 or BME 201. This course introduces students to basics of fluid mechanics (steady and pulsatile flows, laminar and turbulent flows, and Newtonian and non-Newtonian flows). Students learn the fundamental relationships and governing equations describing these types of flows and the basic physiology of certain systems that are highly associated with fluid flows.

BMME 465 Biomedical Instrumentation I (4). Prerequisites, BMME 350 or BME 210, and COMP 116 or BMME 201 or BME 201. Topics include basic electronic circuit design, analysis of medical instrumentation circuits, physiologic transducers (pressure, flow, bioelectric, temperate, and displacement). This course includes a laboratory where the student builds biomedical devices. Note, an embedded computer kit purchase is required for this course.

BMME 470 Tissue Engineering (3). Prerequisites, (BIOL 252 and BMME 351) or BME 302. Lectures in this course address how to quantitatively evaluate functional engineered tissues. The course provides an overview of the field, with emphasis on detailed evaluation of scientific and commercial progress over time, and design principles that must be met to develop a process or fabricate a functional tissue-engineered part.

BMME 475 Transport Processes (3). This course serves as introduction for engineers pursuing transport phenomena and for future pharmaco-engineers requiring predictive models of mass transfer or pharmacodynamic models. Material is designed to address heat and mass transfer issues in nanotechnology, microfabrication, mems, cell therapies, bioartificial organs, as well as pharmacodynamic modeling of dynamic "omics" datasets.

BMME 485 Biotechnology (3). Prerequisites, BIOL 101 and 101L or BIO 183, CHEM 102 and 102L or CH 101, and PHYS 117 or PHYS 119 or PY 208. This course is designed to prepare a biomedical engineering student with the survey tools to understand key components in modern biotechnologies. Fundamental concepts, theory, design, operation, and analysis of the most common biotechnologies in bioengineering will be presented.

BMME 490 Special Topics in Biomedical Engineering (3–9). A study in the special fields under the direction of the faculty. Offered as needed for presenting material not normally available in regular BME department.

BMME 505 Biomechanics II (3),Prerequisites, MATH 383 or MA 341, BMME 160 and 405 or MAE 206 or CE 214. A firm understanding of the principles of mechanics is an important foundation to biomechanics. This course builds upon what was learned in BMME 405 by providing a deep understanding of the mechanics of materials with applications to the strength of the bone, implant analysis, and testing of biological materials.

BMME 510 Biomaterials (3). Prerequisites, BIOL 101 or BIO 183 and BMME 150 or BME/MSE 203. Focus on the mechanical, chemical, and biocompatibility considerations of any material (e.g., metal, ceramic, or polymer) designed to interface with the body. Various applications of biomaterials are presented and analyzed, including femoral implants and vascular grafts, in order to guide students in a semester-long design project.

BMME 515 Introduction to Systems Biology (3). Prerequisite, MATH 383 or MATH 528 or MATH 341. Cells, tissues, organs, and organisms have been shaped through evolutionary processes to perform their functions in robust, reliable manners. This course investigates design principles and structure-function relationships of biomolecular networks. Emphasis will be placed on gene- and protein-circuits and their role in controlling cellular behavior and phenotype.

BMME 550 Medical Imaging: Ultrasonic, Optical, and Magnetic Resonance Systems (3). Prerequisites, BIOS 550 and 430, and PHYS 128. Physical and mathematical foundations of ultrasonic, optical, and magnetic resonance imaging systems in application to medical diagnostics. Each imaging modality is examined, highlighting critical system characteristics: underlying physics of the imaging system, including mechanisms of data generation and acquisition; image creation; and relevant image processing methods, such as noise reduction.

BMME 551 Medical Device Design I (3). Student multidisciplinary teams work with local medical professionals to define specific medical device concepts for implementation.

BMME 552 Medical Device Design II (3). Device prototypes designed in the first course in series. Good manufacturing practices; process validation; FDA quality system regulations; design verification and validation; regulatory approval planning; and intellectual property protection.

BMME 560 Medical Imaging: X-Ray, CT, and Nuclear Medicine Systems (3). Prerequisites, BIOS 550, BMME 410, and PHYS 128. Overview of medical imaging systems using ionizing radiation. Interaction of radiation with matter. Radiation production and detection. Radiography systems and applications. Tomography. PET and SPECT systems and applications.

BMME 565 Biomedical Instrumentation I (4). Prerequisite, PHYS 351 or BME 210. Topics include basic electronic circuit design, analysis of medical instrumentation circuits, physiologic transducers (pressure, flow, bioelectric, temperate, and displacement). This course includes a laboratory where the student builds biomedical devices.

BMME 576 Mathematics for Image Computing (COMP 576) (3). Prerequisites, COMP 116 or 401 or BME 201, and MATH 233 or MA 242. Mathematics relevant to image processing and analysis using real image computing objectives and provided by computer implementations.

BMME 580 Microcontroller Applications I (3). Prerequisites, BIOL 252 or BME 301, BMME 350 or BME 210, and COMP 116 or BMME 201 or BME 201; corequisite, BMME 351 or BME 302. Introduction to digital computers for real-time processing and control of signals and systems. Programming input and output devices using C and assembly language is stressed. Case studies are used to present software design strategies for real-time laboratory systems.

BMME 581 Microcontroller Applications II (3). Prerequisites, BMME 465 or BME 422 and BMME 580 or BME 480. Problems of interfacing computers with biomedical and systems are studied. Students

collaborate to develop a new biomedical instrument. Projects have included process control, data acquisition, disk systems interfaces, and DMW interfaces between interconnected computers.

BMME 691H Honors Thesis (3). Research honors course. Prior approval needed from the chair or associate chair of the program for topic selection and faculty research mentor. Minimum GPA requirement, written report, and abstract requirements as set forth by the honors program.

BMME 692H Honors Thesis (3). Research honors thesis continuation with required GPA, research topic selection with approved faculty mentor. Written abstract and report per honors program guidelines submitted by specific deadlines.

BMME 697 Senior Design Project I (3). Prerequisite, BMME 310 or (BME 352 and BME 302 and 2 BME Electives). Conceptual prelude and preparation to BMME 698, in which the theoretical and practical knowledge acquired during the undergraduate tenure is applied to develop a solution to a real-world problem.

BMME 698 Senior Design Project II (3). Prerequisite, BMME 697. Implementation phase of the senior design experience. Students apply the theoretical and practical knowledge they have acquired in their previous seven semesters to the design and implementation of a solution to a real-world problem.

UNIVERSITY OF NORTH CAROLINA REQUEST TO ESTABLISH A NEW DEGREE PROGRAM – ANY DELIVERY METHOD

Date: August 15, 2016
Constituent Institution: North Carolina State University (NC State)
Is the proposed program a joint degree program? Yes No_X
Joint Partner campus
Title of Authorized Program: Agroecology and Sustainable Food SystemsDegree Abbreviation: B.S
CIP Code (6-digit): 01.0308 Level: B X M I D
CIP Code Title: Agroecology and Sustainable Agriculture
Does the program require one or more UNC Teacher Licensure Specialty Area Code? YesNo X
If master's, is it a terminal master's (i.e. not solely awarded en route to Ph.D.)? Yes No_X_
Proposed term to enroll first students in degree program: Term Spring Year 2017
Does the proposed program constitute a substantive change as defined by SACS? Yes NoX
Provide a brief statement from the university SACSCOC liaison regarding whether the new program is or is not a substantive change.
No, this proposed program does not constitute a substantive change as defined by SACS.
Identify the objective of this request (select one or more of the following)
⊠ Launch new program on campus
Launch new program online; Maximum percent offered online Program will be listed in LINC Online
One or more online courses in the program will be listed in UNC Online

□ Launch new site-based program (list new sites below; add lines as needed)

□ Instructor present (off-campus delivery)

□ Instructor remote (site-based distance education)

Site #1

North Carolina State University Raleigh, Wake County, NC 27695

100%

(address, city, county, state)

(max. percent offered at site)

Supply basic program information for UNC Academic Program Inventory (API) and UNC Online

Minimum credit hours required

Expected number of full-time terms to completion

Do the following sections of your previously submitted and approved Request to Plan document require any change or updated information? If yes, note the items and explain.

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We responded to questions raised from the GA summary on June 27, 2016 and those questions and answers are included in Appendix A (Response to GA Summary #1) attached with this document.

Review Status (Campus)	Yes X	No
Description and Purpose	Yes X	No
Student Demand	Yes X	No
Societal Demand	Yes X	No
Unnecessary Duplication	Yes	NoX
Enrollment	Yes	No X

I. Program Requirements and Curriculum

A. Program Planning

- 1. List the names of institutions with similar degree programs regarded as high quality programs by the developers of the proposed program.
 - 1. Pennsylvania State University Bachelors of Science (BS) in Agroecology, initiated 1996
 - 2. University of California (UC) Davis BS in Sustainable Agriculture and Food Systems, initiated 2011
 - 3. University of Maine BS in Sustainable Agriculture, initiated 1988
 - 4. University of Missouri BS in Agriculture with Sustainable Agriculture Concentration, initiated 2008-2009
 - 5. University of Montana BS in Sustainable Food and Bioenergy Systems, initiated 2009
 - 6. University of Kentucky BS in Sustainable Agriculture, initiated 2011
 - 7. University of Wyoming BS in Agroecology, initiated 2004
 - 8. Washington State University BS in Agricultural and Food Systems, Concentration in Organic Agriculture, initiated 2007.
 - University of California (UC), Santa Cruz BS in Environmental Studies, Concentration in Agroecology and Sustainable Agriculture, initiated in 2015, Sustainable Agriculture Apprentice program initiated 1967 (oldest and most well-known apprenticeship program in sustainable agriculture in USA).

Nationwide, the two foremost sustainable agriculture undergraduate programs at Land-Grant Universities and ones that this proposed curriculum are modeled after are:

• UC Davis- Sustainable Agriculture and Food Systems, B.S. at University of California (UC), Davis and

- Sustainable Agriculture, B.S. at the University of Kentucky
- 2. List institutions visited or consulted in developing this proposal. Also discuss or append any consultants' reports or committee findings generated in planning the proposed program.

We consulted with program leaders of the following programs:

- Pennsylvania State University BS in Agroecology
- University of California Davis Bachelors of Science (BS) in Sustainable Agriculture and Food Systems, approved in 2011
- University of California, Santa Cruz BS in Environmental Studies with Agroecology and Sustainable Agriculture concentration, Sustainable Agriculture Apprentice program initiated 1967 (oldest and most well known in USA).
- University of Missouri BS in Agriculture with Sustainable Agriculture Concentration, initiated 2008-2009
- University of Kentucky BS in Sustainable Agriculture, initiated 2011
- Washington State University BS in Agricultural and Food Systems, Concentration in Organic Agriculture, initiated in 2007

Because we found the Sustainable Agriculture major at the University of Kentucky and the Sustainable Agriculture and Food Systems (SAFS) major at UC Davis to be of the highest quality and most similar to what we wanted to develop at NC State, we asked these program leaders to share their student enrollment listed below.

- The University of Kentucky has over 70 students enrolled in the Sustainable Agriculture undergraduate major after 5 years.
- UC Davis SAFS program leaders shared their yearly student enrollment data on Feb 5, 2016 which illustrates the growth of the program from when they began in 2011 until this current semester below.

	Fall	Spring								
	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016
No of	9	23	43	60	89	92	98	94	101	101
students										
enrolled										
in UC										
Davis										
SAFS										
major*										

*Note this does not include the number of transfer students

The consistent growth in the number of students in the UC Davis program is also reflected in the many other sustainable agriculture, agroecology and related programs nationwide. Just in the past few years, there have been a number of

new agroecology related undergraduate major programs, such as the Soils and Sustainable Crop Systems B.S. program at Clemson University that changed its name in 2014 from Plant and Environmental Sciences. There are also a growing number of agroecology related concentration programs under major programs that are too new or difficult to demonstrate student enrollment data but point to the evident growing student demand for these programs.

We are confident that a program like this at NC State will attract new students to the university, especially considering the growing community interest in local and sustainable food in our state and our recognized research and extension programs in sustainable agriculture at NC State and through the Center for Environmental Farming Systems.

B. Admission. List the following:

1. Admissions requirements for proposed program (indicate minimum requirements and general requirements).

Admission to this degree program will utilize the "common application" and general criteria set by admissions for NC State and the UNC System including:

• High school diploma or equivalent

• High School coursework must meet minimum course work (MCR), which includes:

• Six course units in language, including four units in English emphasizing grammar, composition, and literature, and two units of a language other than English.

• Four course units of mathematics, in any of the following combinations (It is recommended that prospective students take a mathematics course in the twelfth grade):

- Algebra I and II, Geometry, and one unit beyond Algebra II,
- Algebra I and II, and two units beyond Algebra II, or

Integrated Math I, II, and III, and one unit beyond Integrated Math III.

• Three course units in science, including at least one unit in a life or biological science (for example, Biology), at least one unit in Physical Science (for example, Physical Science, Chemistry, Physics), and at least one laboratory course.

• Two course units in social studies, including one unit in U.S. History, but an applicant who does not have the unit in U.S. History may be admitted on the condition that at least three semester hours in that subject will be passed by the end of the sophomore year.

Admission to this new degree program for incoming freshman and transfer students will meet the competitive standards for all programs at NC State University and applications will be reviewed utilizing a 'holistic approach' including leadership, service activities, interest in the major, individual determination and others.

2. Documents to be submitted for admission (listing).

- SAT or ACT plus Writing
- High School transcript
- Official college transcript(s) if applying as a transfer student

C. Degree requirements. List the following:

1. Total hours required. State requirements for Major, Minor, General Education, etc.

This major will require 120 credit hours for its completion. The major requirements component of the major will require 88 credits. There will be three concentrations with an additional 32 credits that are focused within each concentration.

2. Other requirements (e.g. residence, comprehensive exams, thesis, dissertation, clinical or field experience, "second major," etc.).

A 3-credit internship or research experience is required.

For graduate programs only, please also answer the following:

NA- not a graduate program

3.-7. NA

- 3. **Proportion of required program courses open only to graduate students**
- 4. Grades required
- 5. **Amount of transfer credit accepted**
- 6. Language and/or research requirements
- 7. Any time limits for completion
- D. For all programs, list existing courses by title and number and indicate (*) those that are required. Include an explanation of numbering system. List (under a heading marked "new") and describe new courses proposed.

The Agroecology and Sustainable Food Systems proposed major will comprise 88 credits of core courses requirements (*) plus students will choose one of the three concentrations (Agroecology Research and Production, Community Food Systems, or Urban Horticulture) of 32 credits each. The new courses listed in the curriculum (CS/HS 410 and CS/HS 480) were approved by the NC State CALS and University Course and

Curriculum committees in fall 2015 and will commence being taught when this proposed major is initiated. See Format A and B as attachments

Course Number	Course Title	Credits		
Required courses for all three concentrations (*)				
ALS 103	Freshman Transitions and Diversity in Agriculture & Life Sciences	1		
MA 107	Precalculus I	3		
or MA 114	Introduction to Finite Mathematics with Applications			
MA 121	Elements of Calculus	3		
or MA 131	Calculaus for Life and Management Sciences A			
or MA 141	Calculus I			
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4		
BIO 183	Introductory Biology: Cellular and Molecular Biology	4		
or PB 200	Plant Life			
CH 101	Chemistry - A Molecular Science	3		
CH 102	General Chemistry Laboratory	1		
AEC/PB 360	Ecology	4		
COM 110	Public Speaking	3		
or COM 112	Interpersonal Communication			
ENG 331	Communication for Engineering and Technology,	3		
or ENG 332	or Communication for Business and Management,			
or ENG 333	or Communication for Science and Research,			
or AEE 311	Communication Methods and Media			
HS 290	Horticulture Careers and Opportunities	1		
or CS 290	Professional Development			
CS 492/3	Internship or Research	3		
or HS 492/3	Internship or Research			
CS 230	Introduction to Agroecology	3		
CS 415	Integrated Pest Management	3		
CS 430	Advanced Agroecology	4		
New				
courses				
CS/HS 410	Community Food Systems	3		
CS/HS 480	Sustainable Food Production (capstone)	1		
ARE 201	Introduction to Agricultural & Resource Economics	3		
SSC 200	Soil Science	3		
SSC 201	Soil Science Laboratory	1		

STS 323	World Population and Foods Prospects	3
SSC/HS 427	Biological Approaches to Sustainable Soil Systems or	3
or SSC 332	Environmental Soil Microbiology	Ū.
SOC 241	Sociology of Agriculture and Rural Societies	
SSC/HS 428	Service-Learning in Urban Agricultural Systems	1
IDS 201	Environmental Ethics	3
or IDS 211	Fating through American History or	Ū.
or IDS 303	Humans and the Environment	
ENG 101	Academic Writing and Research	4
Humanities		·
GEP		6
Additional Br	readth	3
Free		
electives		6
Health and E	xercise Studies	2
Foundationa	l electives specific to each concentration	11
Restrictive el	ectives specific to each concentration	21
Agroecology	Research and Production Concentration:	
Group 1:		
CH 220	Introductory Organic Chemistry	4
CH 221	Organic Chemistry I	3
and CH 222	Organic Chemistry I Lab	1
Group 2:		
CS 213	Crops Adaptation and Production	4
HS 431	Vegetable Production	4
Group 3:		
PY 131	Conceptual Physics	4
PY 211	College Physics 1	4
ST 311	Introduction to Statistics	3
AEC 380	Water Resources: Global Issues in Ecology, Policy, Management, and Advocacy	3
AEC 400	Applied Ecology	3
ANS 150	Introduction to Animal Science	3
ANS 408	Small Ruminant Management	3
BAE 442	Systems Approach to Agricultural and Environmental Issues	3
BIO 165	Introduction to Environmental Research	5
CH 223	Organic Chemistry II	3
CH 224	Organic Chemistry II Jab	1
CS 211	Plant Genetics	2
CJ Z T T		3

CS 213	Crops Adaptation and Production	4
CS 224	Seeds, Biotechnology and Societies	3
CS 312	Grassland Management for Natural Resources Conservation	3
CS 411	Crop Ecology	3
CS/SSC 462	Soil-Crop Management Systems	3
ENT 203	An Introduction to the Honey Bee and Beekeeping	3
ENT 425	General Entomology	4
ENT 526	Organic Agriculture: Principles and Practices	3
ES 200	Climate Change and Sustainability	3
ES 300	Energy and Environment	3
ET 203	Pollution Prevention	1
FOR 220	Urban and Community Forestry	3
FW 221	Conservation of Natural Resources	3
FSA/FS 520	Pre-Harvest Food Safety	3
FSA/530	Post-Harvest Food Safety	3
HS 201	World of Horticulture: Principles and Practice	3
HS 431	Vegetable Production	4
HS 432	Permaculture	3
HS 451	Plant Nutrition	3
HS 462	Post Harvest Physiology	3
HS 472	Horticulture Business Administration and Management	3
MEA 150	Environmental Issues in Water Resources	4
PB 345	Economic Botany	3
PB 346	Economic Botany Lab	1
PP 315	Principles of Plant Pathology	4
PP 318	Forest Pathology	3
SSC 341	Soil Fertility and Fertilizers	3
SSC 342	Soil Fertility Laboratory	1
SSC 461	Soil Physical Properties and Plant Growth	3
<u>Community</u>	Food Systems Concentration:	
Group 1:		
NTR 220	Food and Culture	3
NTR 420	Community Nutrition	4
SOC 311	Community Relationships	3
Group 2:		
GPH 201	Fundamentals of Global Public Health	3
NTR 301	Introduction to Human Nutrition	3
515 214	Introduction to Science, Technology, and Society	3

Group 3:		
AEE 230	Introduction to Cooperative Extension	3
AEE 311	Communications Methods and Media	3
NPS 340	Fundamentals of Grant Development for Nonprofits	
AEE 311	Communication Methods and Media	3
AEE 323	Leadership Development in Agriculture and Life Sciences	3
AEE 325	Planning and Delivering Non-Formal Education	3
AEE 434	Collaborative Leadership: Building Partnerships across Community Programs	3
ARE/EC 301	Intermediate Microeconomics	3
ARE 433	U.S. Agricultural Policy	3
ES 200	Climate Change and Sustainability	3
HS 201	World of Horticulture: Principles and Practices	3
HS 203	Home Food Production	3
HS 431	Vegetable Production	4
HS 432	Permaculture	3
IDS 201	Environmental Ethics	3
IDS 211	Eating through American History	3
IDS/NR 303	Humans and the Environment	3
NTR 220	Food and Culture	3
PB 215	Medicinal Plants	3
PB 345	Economic Botany	3
PB 346	Economic Botany Lab	1
SOC 342	International Development	3
SOC 350	Food and Society	3
SOC 402	Urban Sociology	3
linhan liantia		
Group 1:		
	Introduction to Managorial Accounting	2
ACC 200		5
215	Basic Agricultural Genetics	3
or CS 211	Plant Genetics	3
CH 220	Introductory Organic Chemistry	3
or CH 221	Organic Chemistry I	3
and CH 222	Organic Chemistry I Lab	1
Group 2:		
ARE 304	Agribusiness Management	3
ARE 306	Agricultural Law	3
HS 201	World of Horticulture: Principles and Practice	3

HS 432	Permaculture	3
PB 321	Introduction to Whole Plant Physiology	3
ARE 303	Farm Management	3
ARE 309	Environmental Law and Economic Policy	3
ARE/EC 336	Introduction to Resource and Environmental Ethics	3
ENT 203	An introduction to the Honey Bee and Beekeeping	3
ENT 401	Honey Bee Biology and Management	3
ENT 425	General Entomology	4
ENT 501	Advanced Beekeeping	3
FSA/FS 520	Pre-Harvest Food Safety	3
FSA/FS 530	Post-Harvest Food Safety	3
HS 421	Temperate-Zone Tree Fruits: Physiology and Culture	4
HS 422	Small Fruit Production	3
HS 423	Viticulture	3
HS 431	Vegetable Production	4
HS 440	Greenhouse Management	3
HS 451	Plant Nutrition	3
HS 462	Postharvest Physiology	3
HS 472	Horticulture Business Administration and Management	3
PB 345	Economic Botany	3
PB 346	Economic Botany Lab	1
SSC 341	Soil Fertility and Fertilizers	3
SSC 342	Soil Fertility Laboratory	1

Undergraduate Level Course Numbering Should Be Assigned as Follows:

- 100-199 courses under the College of Agriculture and Life Sciences are offered by the Agricultural Institute and are designed to meet specific requirements of the Associate of Applied Science degree.
- 100-299 courses are intended primarily for freshman and sophomores [290-299 introductory seminars and special topics courses intended primarily for freshman or sophomores]
- 300-399 courses are intended primarily for juniors
- 400-499 courses are intended primarily for seniors [490-498 advanced undergraduate seminars and special topics courses; 499 advanced undergraduate research]

II. <u>Faculty</u>

 A. (For undergraduate and master's programs) List the names, ranks and home department of faculty members who will be directly involved in the proposed program. The official roster forms approved by SACSCOC may be submitted. For master's programs, state or attach the criteria that faculty must meet in order to be eligible to teach graduate level courses at your institution. The following two faculty members will serve as the main advisors and oversee the program as a whole. Michelle Schroeder-Moreno Associate Professor and Agroecology Minor and Concentration Advisor Department of Crop and Soil Sciences, Phone: 919-513-0085 Email: <u>michelle_schroeder@ncsu.edu</u>

Helen Kraus

Associate Professor and Undergraduate Coordinator Department of Horticultural Science Phone: 919-515-1208 Email: <u>helen_kraus@ncsu.edu</u>

1. The faculty listed below are involved in teaching core, foundational or restrictive elective courses in the proposed program.

Name	Rank	Home Department/College
Jacklyn Bruce	Associate Professor	Agricultural and Extension Education
David Jones	Associate Professor	Agricultural and Extension Education
Mark Kistler	Associate Professor	Agricultural and Extension Education
Theodore Feitshans	Extension Professor	Agricultural and Resource Economics
Melissa Hendrickson	Lecturer	Agricultural and Resource Economics
Edward Kick	Professor	Agricultural and Resource Economics
Frederick Parker	Assistant Professor	Agricultural and Resource Economics
Roderick Rejesus	Associate Professor	Agricultural and Resource Economics
Tomislav Vukina	Professor	Agricultural and Resource Economics
Barry Godwin	Professor	Agricultural and Resource Economics
William Flowers	Professor	Animal Science
Jeannette Moore	Professor	Animal Science
Melissa Merrill	Associate Professor	Animal Science
David Derek Aday	Professor	Applied Ecology
Michael Burchell	Associate Professor	Biological and Agricultural
		Engineering
Scott Hale	Professor	Biological and Agricultural
		Engineering
Keith Edmisten	Professor	Crop and Soil Sciences
David Jordan	Professor	Crop and Soil Sciences
Susana Milla-Lewis	Associate Professor	Crop and Soil Sciences
Robert Patterson	Professor	Crop and Soil Sciences
Michelle Schroeder-	Associate Professor	Crop and Soil Sciences
Moreno		
Lori Unruh Snyder	Associate Professor	Crop and Soil Sciences

Randy Wells	Professor	Cron and Soil Sciences			
David Orr	Associate Professor	Entomology			
David Tarov	Professor	Entomology			
Sarah Ash	Professor	Enconology Econd Bioprocessing and Nutrition			
Sarah Ash	110123301	Sciences			
Natalie Cooke	Teaching Assistant	Food Bioprocessing and Nutrition			
	Professor	Sciences			
Anril Fogleman	Assistant Professor	Food Bioprocessing and Nutrition			
April i Ogiciliari	Assistant Professor	Sciences			
Lora Suzie Goodell	Associate Professor	Food Bioprocessing and Nutrition			
	A330Clate 1101C3301	Sciences			
Lee-Ann Javkus	Professor	Food Bioprocessing and Nutrition			
	110103001	Sciences			
Hamid Ashrafi	Assistant Professor	Horticultural Science			
Burton James	Associate Professor	Horticultural Science			
William Fonteno	Professor	Horticultural Science			
Christopher Gunter	Associate Professor	Horticultural Science			
Helen Kraus	Assistant Professor	Horticultural Science			
Elisabeth Meyer	Lecturer	Horticultural Science			
Michael Parker	Associate Professor	Horticultural Science			
Anne Spafford	Associate Professor	Horticultural Science			
Sara Spayd	Professor	Horticultural Science			
Chad Jordan	Teaching Associate	Plant and Microbial Biology			
	Professor				
Thomas Wentworth	Professor	Plant and Microbial Biology			
David Benson	Professor	Plant Pathology			
Howard David Shew	Professor	Plant Pathology			
David Crouse	Associate Professor	Crop and Soil Sciences			
Alexandria Graves	Associate Professor	Crop and Soil Sciences			
John Havlin	Professor	Crop and Soil Sciences			
Sarah Bowman	Associate Professor	Sociology and Anthropology			
Toby L Parcel	Professor	Sociology and Anthropology			
Melissa McHale	Associate Professor	Forestry and Environmental			
		Resources			
Sarah Warren	Associate Professor	Forestry and Environmental			
		Resources			
William Winner	Professor	Forestry and Environmental			
		Resources			
Thomas Wiggins	Lecturer	Interdisciplinary Studies			

B. (For doctoral programs) List the names, ranks, and home department of each faculty member who will be directly involved in the proposed program. The official roster forms approved by SACSCOC may be submitted. Provide complete information on each faculty

member's education, teaching and research experience, research funding, publications, and experience directing student research including the number of theses and dissertations directed. **NA**

C. **Estimate the need for new faculty for the proposed program over the first four years.** If the teaching responsibilities for the proposed program will be absorbed in part or in whole by the present faculty, explain how this will be done without weakening existing programs.

The Agroecology and Sustainable Food Systems major will share advising, assessment, recruitment and advertising, and teaching resources of the departments of Crop and Soil Sciences and Horticultural Science. Dr. Schroeder-Moreno currently directs the Agroecology Concentration in the Plant and Soil Sciences bachelor's degree in the department of Crop and Soil Sciences. This concentration will be replaced by the Agroecology and Sustainable Food Systems major. Dr. Schroeder-Moreno, in CS, will advise the students in the Agroecology Research and Production Concentration and Community Food Systems Concentration. Dr. Helen Kraus, in the department of Horticultural Science, will advise the students in the Urban Horticulture Concentration. No additional faculty members are anticipated to be required. Existing NC State faculty already teach the courses proposed in this major. No negative impact on teaching commitments for these faculty members is anticipated.

The two new courses needed for this degree program were developed and already approved in Fall 2015 by NC State college and university curriculum committees. The needed increase in instruction and the anticipated enrollment increases in the two departments with the Agroecology and Sustainable Food Systems major will not overload the existing faculty or courses. In fact, this new major will likely return course enrollments, and numbers of majors within each department to optimal levels. Student numbers in the degree programs in each department have decreased somewhat potentially due to the current degree offerings not meeting the needs of students interested in sustainable food production and food security issues.

D. Explain how the program will affect faculty activity, including course load, public service activity, and scholarly research.

Since most courses already exist, influence on faculty activities is anticipated to be minimal. Additionally, the popularity of this major and the unique ability of this program to attract new and non-traditional students to agricultural sciences as the service-learning experiences of students in this major will enrich our current programs and students in agriculture and related programs, as well and enhance visibility of NC State University.

The uniqueness of this program supported across two departments will foster increased teaching scholarship and research collaborations among faculty and students, as well as

engage the many public and private stakeholders that support various programs in each of these departments.

This program will also include a required internship or undergraduate research experience that will further enhance student skill set, awareness, and competitiveness for the various career possibilities available with an agroecology and sustainable food system degree. Undergraduate students will have numerous opportunities to engage with the various NC State faculty research and extension programs in agroecology and sustainable food systems, as well as with faculty at surrounding institutions (e.g., Duke, UNC Chapel Hill and NC Agricultural and Technical State University) that conduct collaborative research in this area with NC State faculty. Moreover the undergraduate research projects will reflect the highly multidisciplinary nature of agroecology and sustainable food systems and can enhance the scientific understanding and best practices of this field.

Students in this program will be exposed to service learning working with community partners through the agroecology and related courses as well as various experiential learning opportunities available through the Agroecology Education Farm near campus. These experiences in addition to the multidisciplinary curriculum will help strengthen community relationships and collaboration with the university as well as provide unique professional development opportunities and communication skills, especially with diverse audiences for students in the Agroecology and Sustainable Food Systems program.

- III. <u>Delivery Considerations.</u> Provide assurances of the following (not to exceed 250 words per lettered item):
 - A. Access (online, site-based distance education, and off-campus programs). Students have access to academic support services comparable to services provided to on-campus students and appropriate to support the program, including admissions, financial aid, academic advising, delivery of course materials, and placement and counseling. NA
 - B. **Curriculum delivery (online and site-based distance education only).** The distance education technology to be used is appropriate to the nature and objectives of the program. The content, methods and technology for each online course provide for adequate interaction between instructor and students and among students. **NA**
 - C. *Faculty development* (online and site-based distance education only). Faculty engaged in program delivery receive training appropriate to the distance education technologies and techniques used. NA
 - D. **Security** (online and site-based distance education only). The institution authenticates and verifies the identity of students and their work to assure academic honesty/integrity.

The institution assures the security of personal/private information of students enrolled in online courses. **NA**

IV. Library

A. Provide a statement as to the adequacy of present library holdings for the proposed program to support the instructional and research needs of this program.

The present library holdings occurring at three different libraries at NC State (D.H. Hill, Hunt, and the Veterinary campus) are comprehensive in the various STEM, agricultural sciences, food security, and nutrition and food science areas and has maintained a comprehensive collection of text and peer review journals for these for many years. These will be more than adequate for supporting the implementation of the proposed degree program.

B. If applicable, state how the library will be improved to meet new program requirements for the next four years. The explanation should discuss the need for books, periodicals, reference material, primary source material, etc. What additional library support must be added to areas supporting the proposed program?

No additional library support is needed for the proposed program but continual evaluation and review of books, journals and other reference materials will occur to maintain and increase library holdings and address any new program requirement.

C. Discuss the use of other institutional libraries.

The NC State library currently has access to many other institutional libraries, which are sufficient for the proposed program.

V. <u>Facilities and Equipment</u>

A. Describe facilities available for the proposed program.

The Crop and Soil Sciences (CSS) and Horticultural Science (HS) departments have already contributed significant resources to the establishment of the classroom, greenhouse and field production spaces required to support the classroom-based and hands-on student learning activities of this degree program. Additionally, the education and research facilities at the Center for Environmental Farming Systems (CEFS, <u>https://cefs.ncsu.edu/</u>), one of the nation's largest (over 2,000 acres) and most important centers for research, extension, and education in sustainable agriculture and community-based food systems, will be utilized by students in this major.

Another important resource for students in this new major will be the Agroecology Education Farm (<u>http://agroecologyfarm.ncsu.edu/</u>), a new 6 acre student farm and community educational center located near campus (~10 min) at the Lake Wheeler Field Station. The Agroecology Education Farm, directed by Dr. Schroeder-Moreno with an advisory board representing various faculty from the Crop and Soil Sciences, Horticultural Science, Entomology, and Agriculture Education and Extension departments and staff from University Dining provides a critical resource for a diversity of students at NC State to learn about agroecology and sustainable food systems through hands-on education. This facility is helps students develop deeper engagement in research and community engagement throughout their curriculum. CEFS, the College of Agriculture and Life Sciences (CALS), and the Department of Crop and Soil Sciences at NC State has provided continued support for the development of this important facility and most recently, University Dining has added funding to develop season extension so that the Agroecology Education Farm can produce local food for NC State students in the cafeteria and bring Agroecology education to a greater number of students in an innovative way through their campus food.

In addition to the many field and greenhouse spaces, students in this proposed major will also have access to various high-quality classroom and laboratory spaces at NC State main campus. One of the unique classroom spaces is a SCALE-UP (or flipped classroom) located in the Department of Crop and Soil Sciences designed by Dr. Schroeder-Moreno and currently utilized by the agroecology courses. This SCALE-Up classroom intentionally shifts instruction to a student-centered model in which class time explores topics in greater depth and creates meaningful learning opportunities, while educational technologies such as online videos are used to deliver content outside of the classroom. Significant college and departmental resources have been put into this classroom to enhance technology and student learning.

B. Describe the effect of this new program on existing facilities and indicate whether they will be adequate, both at the commencement of the program and during the next decade.

The proposed program will have minimal impact on existing facilities in the HS and CSS departments and these are sufficient for the next decade.

C. Describe information technology and services available for the proposed program.

The departments of CSS and HS have sufficient information technology resources and services available to support the degree program's establishment, marketing, and student support including web and print material design.

D. Describe the effect of this new program on existing information technology and services and indicate whether they will be adequate, both at the commencement of the program and during the next decade.

The proposed program will have minimal impact on existing information technology and services in the HS and CSS Departments and these are sufficient for the next decade.

VI. Administration

A. **Describe how the proposed program will be administered, giving the responsibilities of each department, division, school, or college.** Explain any inter-departmental or interunit administrative plans. Include an organizational chart showing the "location" of the proposed new program.

As a degree program at North Carolina State University, the Agroecology and Sustainable Food Systems major will be located on campus and administered by the Provost and Executive Vice Chancellor. As departments in the College of Agricultural and Life Sciences (CALS), the Dean and of the jointly by the departments of Crop and Soil Sciences (CSS) and Horticultural Science (HS) Drs. Schroeder-Moreno (CSS) and Kraus (HS) will be ultimately responsible for working collaboratively to advertise and recruit for the program, advise students and evaluate the program. Dr. Schroeder-Moreno (CSS) will be responsible for advising students in the Agroecology Research and Production and Community Food Systems concentrations and Dr. Kraus (HS) will be responsible for advising students in the Urban Horticulture concentration as illustrated below. Organizational Flowchart for Oversight of the Proposed Agroecology and Sustainable Food Systems Bachelors of Science Degree.



- Illustrates the departments will work together on this proposed degree
- B. For joint programs only, include documentation that, at minimum, the fundamental elements of the following institutional processes have been agreed to by the partners:

NA – this is not a joint program.

- 1. Admission process
- 2. Registration and enrollment process for students
- 3. Committee process for graduate students
- 4. Plan for charging and distributing tuition and fees
- 5. Management of transcripts and permanent records
- 6. Participation in graduation
- 7. Design of diploma

VII. Accreditation and Licensure

- A. Where appropriate, describe how all licensure or professional accreditation standards will be met, including required practica, internships, and supervised clinical experiences. NA
- B. Indicate the names of all accrediting agencies normally concerned with programs similar to the one proposed. Describe plans to request professional accreditation. NA
- C. If the new degree program meets the SACSCOC definition for a substantive change, what campus actions need to be completed by what date in order to ensure that the substantive change is reported to SACSCOC on time?

Within one year after the program is approved and students are enrolled, an assessment plan will be put into place that will evaluate, annually, one of each of the following student learning outcomes:

- Demonstrate the ability to describe and evaluate agriculture and food systems that holistically, integrate social, environmental and economic perspectives using of understanding the parts and their interactions.
- Apply scientific reasoning and critical thinking to address sustainability challenges in real world problems in local and global agricultural and food systems.
- Demonstrate effective communication, leadership, and teamwork with diverse audiences and viewpoints gained through various experiential learning and community engagement opportunities.

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Evidence of student's abilities in each learning outcome will be collected from student projects in the Advanced Agroecology (CS 430), Sustainable Food Systems (CS/HS 410), and Sustainable Food Production Capstone (CS/HS 480) courses which have been identified as critical pathway courses. Evaluation of the strengths and areas for improvement in student's performance will be used to define actions that need to be taken to improve the program.

D. If recipients of the proposed degree will require licensure to practice, explain how program curricula and title are aligned with requirements to "sit" for the licensure exam.

Not applicable.

VIII. <u>Supporting Fields</u>. Discuss the number and quality of lower-level and cognate programs for supporting the proposed degree program. Are other subject-matter fields at the proposing institution necessary or valuable in support of the proposed program? Is there needed improvement or expansion of these fields? To what extent will such improvement or expansion be necessary for the proposed program?

All lower-level courses (MA, BIO, and CH), cognate programs (humanities, interdisciplinary studies, social sciences, and additional breadth), and subject-matter fields (entomology, plant pathology, plant biology, soil science, crop science, and horticultural science) are in place and sufficient for this degree program. It is not anticipated that the number of majors in this the Agroecology and Sustainable Food Systems degree will increase enrollments in any of these area in a burdensome way. Only two new courses are required for the support of this degree:

- CS/HS 410– Community Food Systems (CP) 3 credits
- CS/HS 480 Sustainable Food Production (capstone) (CP) 1 credit

These two courses will be developed and taught by existing CS and HS faculty.

IX. <u>Additional Information</u>. Include any additional information deemed pertinent to the review of this new degree program proposal.

Not applicable.

- X. <u>Budget</u>
 - A. Complete and insert the Excel budget template provided showing <u>incremental</u> continuing and one-time costs required each year of the first four years of the program.
 Supplement the template with a budget narrative for each year.
 The budget excel sheet is attached
 - B. Based on the campus' estimate of available existing resources or expected non-state financial resources that will support the proposed program (e.g., federal support, private sources, tuition revenue, etc.), will the campus:
 - 1. Seek enrollment increase funds or other additional state appropriations (both onetime and recurring) to implement and sustain the proposed program? If so, please elaborate.

No. While enrollment growth funding is desirable, the program can be established and sustained via reallocation of College and department funds.

- 2. Require differential tuition supplements or program-specific fees? No
 - If so, please elaborate.
 - a. State the amount of tuition differential or program-specific fees that will be requested.

NA

b. Describe specifically how the campus will spend the revenues generated. $\ensuremath{\mathsf{NA}}$

- c. Does the campus request the tuition differential or program-specific fees be approved by the Board of Governors prior to the next Tuition and Fee cycle? NA
- C. If enrollment increase funding, differential tuition, or other state appropriations noted in the budget templates are not forthcoming, can the program still be implemented and sustained and, if so, how will that be accomplished? Letters of commitment from the Chancellor and/or Chief Academic Officer should be provided.

The College of Agriculture and Life Sciences (CALS) Academic Programs, the newly merged Department of Crop and Soil Sciences and the Department of Horticultural Science at NC State recognize the importance of recruiting to support the Agroecology and Sustainable Food Systems major. We feel there is demand for this interdepartmental major, but realize that without recruiting and publicity, potential students will not know about its availability.

All three units are committed to working together to support recruitment and development of program materials specifically for the proposed Agroecology and Sustainable Food Systems major.

The new course (CS/HS 410) will be taught by an existing faculty member with expertise in the field. Funding for developing and teaching CS/HS 410 will come from the existing CSS and HS budgets. The new course (CS/HS 480) will be taught by existing faculty and will create an overload for them.

XI. <u>Evaluations Plans</u>.

A. Criteria to be used to evaluate the quality and effectiveness of the program, including academic program student learning outcomes.

In addition to the assessment evaluation and actions required for SACS, the enrollment, number of applications, degrees awarded, SAT scores (total of math and verbal) and selectivity (admitted/applications) will be evaluated annually, and the degree program will be evaluated by the productivity standards defined by the Task Force for Review of Academic Programs after the eighth year.

B. Measures (metrics) to be used to evaluate the program (include enrollments, number of graduates, and student success).

Analysis of the number of enrollments, number of applications, degrees awarded, SAT scores (total of math and verbal) and selectivity (admitted/applications) will be used as the metrics of success of the program.

C. The plan and schedule to evaluate the proposed new degree program prior to the completion of its fourth year of operation.

Annually, the program objectives and student learning outcomes will be evaluated. The performance metrics (as described in B) will be analyzed after the fourth and the eighth year. Additionally, once every 10 years, an external review of the degree program will be conducted by a team of peers as a part of each department's review.

XII. <u>Attachments</u>. Attach the final approved Request to Plan as the first attachment following this document.

See attached Request to Plan and associated responses to GA summary

This proposal to establish a new degree program has been reviewed and approved by the appropriate campus committees and authorities.

Chancellor:	Date:	
Chancellor (Joint Partner Campus):	Date:	

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM INSTITUTION NCSU DATE 5-Aug-16 1.0308 Program (CIP, Name, Level) Degree(s) to be Granted B.S. Program Year Vear 1 (2017-2018) Differential tuition requested per student per academic yr no Projected annual FTE students 10 Projected annual differential tuition \$0 Percent differential tuition for financial aid 0% Differential tuition remainder 0

	ADDITIONAL FUNDS REQUIRED - BY SOURCE									
	Rea	llocation of	Proj	ected	Enro	ollment	(Other New		Total
		Present	Diffe	rential	Increa	se Funds	A	Allocations		
	In	stitutional	Tui	ition				(Identify)		
	F	Resources								
EPA/SPA Regular Salaries	.	10 000 00	¢		٨		.		¢	40,000,00
Program recruitment support	\$	40,000.00	\$	-	\$	-	\$	-	\$	40,000.00
EPA Academic Salaries										
(Identify positions)	\$	-	\$	-	\$	-	\$	-	\$	-
Social Security	\$	-	\$	-	\$	-	\$	-	\$	-
State Retirement	\$	-	\$	-	\$	-	\$	-	\$	-
Medical Insurance	\$	-	\$	-	\$	-	\$	-	\$	-
Graduate Stipends										
(Identify number, amount)	\$	-	\$	-	\$	-	\$	-	\$	-
Supplies and Materials										
(Identify)	\$	-	\$	-	\$	-	\$	-	\$	-
Current Services										
(Identify)	\$	-	\$	-	\$	-	\$	-	\$	-
Travel			\$	-	\$	-	\$	-	\$	-
Communications	\$	-	\$	-	\$	-	\$	-	\$	-
Printing and Binding	\$	3,000.00	\$	-	\$	-	\$	-	\$	3,000.00
Advertising	\$	3,000.00	\$	-	\$	-	\$	-	\$	3,000.00
Fixed Charges										
Capital Outlay (Equipment)										
Libraries	\$	-	\$	-	\$	-	\$	-	\$	-
TOTAL ADDITIONAL COSTS	\$	46,000.00	\$	-	\$	-	\$	-	\$	46,000.00

Narrative:

The College of Agriculture and Life Science and Departments of Crop and Soil Sciences and Horticultural Science will pool existing resources to support the recruitment efforts for this program, including development and printing of brochures, web pages and videos, and advertising.

(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

 Indicate display status:
 Current:
 Proposed: X
 Proposed
 Effective Semester:
 1/2017

 Degree/Plan Title:
 Agroecology and Sustainable Food Systems
 Concentration/Subplan Title:
 Agroecology

 Research and Production Concentration
 Concentration/Subplan Title:
 Agroecology

Plan SIS Code: Subplan SIS Code:

<u>New Degree Audit required</u>? (Y or N) Y

	FR	RESHMAN YEAR	
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 103 or ALS 103	1	BIO 183 Intro Biology: Cellular & Molecular Bio or	4
BIO 181 Intro Biology: Ecol, Evol, Biodiversity	4	PB 200 Plant Life	
ENG 101	4	MA 121 Elements of Calculus or	3-4
MA 107	3	MA 131 Calculus for Life and Management Sci A or	
Foundation Elective ¹	3	MA 141 Calculus 1 (4 crd)	
		GEP Humanities Requirement ²	3
		COM 110 Public Speaking or	3
		COM 112 Interpersonal Communication	
		HESA 100 or 200 Health and Exercise Studies	1
	<i>Total:</i> 15		<i>Total:</i> 14-15
	SO	PHOMORE YEAR	
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 290 Professional Dev. in Plant and Soil Sci.	1	ARE 201 Intro to Agricultural & Res Economics	3
CH 101 Chemistry - A Molecular Science	3	AEC/PB 360 Ecology	4
CH 102 General Chemistry Laboratory	1	SSC 200 Soil Science	3
CS 230 Intro to Agroecology (CP)	3	SSC 201 Soil Science Lab	1
IDS 201 Environmental Ethics or	3	Foundation Elective	4
IDS 211 Eating through American History or			
IDS 303 Humans and the Environment			
GEP Humanities Requirement	3		
HESA 100 or 200 Health and Exercise Studies	1		
	Total: 15		Total: 15
		JUNIOR YEAR	
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
SOC 241 Sociology of Ag. and Rural Soc.	3	CS 430 Advanced Agroecology (CP)	4
SSC/HS 427 Bio Approaches to Sust. Soil Sys.	3	SSC/HS 428 Service-Learning in Urban Ag Systems	1
or SSC 332 Env. Soil Microbiology		STS 323 World Pop. and Food Prospects	3
CS/HS 410 Community Food Systems (CP)	3	Restricted Elective ³	3
Foundation Elective	4	Restricted Elective	3
ENG 331 Comm. for Engin. and Tech, ENG	3		
332- Comm. for Bus. and Management,			
ENG 333 – Comm. for Sci and Research, or			
AEE 311- Comm. Meth. and Media			
	Total:16	<u> </u>	Total: 14
		SENIOR YEAR	·····
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS/HS 480 Sustainable Food Prod. (capstone)	1	CS 415 Integrated Pest Management	3
Restricted Elective	3	GEP Additional Breadth ⁴	3
Restricted Elective	3	Restricted Elective	3
Restricted Elective	3	Restricted Elective	3
CS 492/493 Internship	3	Free Elective	3
Free Elective	3		
	Total:16		Total:15

Major/Program Footnotes:

¹Foundational Electives (Must choose at least one course from each group)

Group 1: CH 220 – Introductory Organic Chemistry CH 221 and CH 222 – Organic Chemistry I and Organic Chemistry I Lab Group 2: CS 213 – Crops Adaptation and Production HS 431 – Vegetable Production <u>Group 3:</u> PY 131 – Conceptual Physics PY 211 – College Physics 1 ST 311 – Introduction to Statistics

²GEP Humanities Choose from the University approved GEP Humanities course list

³Restricted Electives (Must choose at least one course from each group) AEC 400 - Applied Ecology ANS 150 - Introduction to Animal Science ANS 408 - Small Ruminant Management BAE 442 - Systems Approach to Agricultural and Environmental Issues BIO 165 – Introduction to Environmental Research AEC 380 - Water Resources: Global Issues in Ecology, Policy, Management, and Advocacy CH 223 – Organic Chemistry II CH 224 – Organic Chemistry II lab CS 211 – Plant Genetics CS 213 – Crops Adaptation and Production CS 224 – Seeds, Biotechnology and Societies CS 312 - Grassland Management for Natural Resources Conservation CS 411 - Crop Ecology CS/SSC 462 - Soil-Crop Management Systems ENT 203 – An Introduction to the Honey Bee and Beekeeping ES 200 - Climate Change and Sustainability ES 300 - Energy and Environment ET 203 - Pollution Prevention ENT 425 – General Entomology ENT 526 - Organic Agriculture: Principles and Practices, FOR 220 – Urban and Community Forestry FOR/FW 221 - Conservation of Natural Resources FSA/FS 520 - Pre-Harvest Food Safety FSA/530 - Post-Harvest Food Safety HS 201 - World of Horticulture: Principles and Practice HS 431 - Vegetable Production HS 432 – Permaculture HS 451 – Plant Nutrition HS 462 – Post Harvest Physiology HS 472 – Horticulture Business Administration and Management (course action in progress) MEA 140 - Natural Hazards and Global Change MEA 150 - Environmental Issues in Water Resources PB 321- Introduction to Whole Plant Physiology PB 345- Economic Botany PB 346- Economic Botany Lab PP 315 – Principles of Plant Pathology or PP 318 - Forest Pathology SSC 341 - Soil Fertility and Fertilizers SSC 342 - Soil Fertility Laboratory SSC 461 - Soil Physical Properties and Plant Growth
⁴Additional GEP Breadth - Selected from the following checked University approved GEP course lists

CURRICULUM REQUIREMENTS

Format B

Degree/Plan Title: Agroecology and Sustainable Food Sy	stems <u>Plan SIS Code</u> :
Concentration/Subplan Title: Agroecology Research and Pr	oduction Concentration Subplan SIS Code:
Indicate requirements status: Current: Proposed:	X Proposed Effective Semester: 1/2017
New Degree Audit required? (Y or N) Y	
Critical Path Courses - Identify using the code (CP) which cou	rses are considered critical path courses which represent specific

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

MAJOR FIELD OF STUDY REQUIREMENTS:		
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
MA 107 or MA 114	3	Mathematics (6 hours)
MA 121 or MA 131 or MA 141	3	
BIO 181	4	Natural Sciences (16 hours)
BIO 183 or PB 200	4	
CH 101	3	
CH 102	1	
AEC/PB 360	4	
COM 110 or COM 112	3	
ENG 331, 332, 333 or AEE 311	3	
CS 290 – Professional Development	1	
CS 492/3 or HS 492/3– Internship or Research	3	
CS 230 – Introduction to Agroecology (CP)	3	
CS 415 – Integrated Pest Management	3	Interdisciplinary Perspectives and Global
CS 430 – Advanced Agroecology (CP)	4	Knowledge (3 hours)
CS/HS 410 – Community Food Systems (CP)	3	
CS/HS 480 – Sustainable Food Production (capstone) (CP)	1	
	2	
ARE 201	3	
SSC 200	3	Social Science (3 credits)
SSC 201	1	
STS 323 – World Population and Foods Prospects	3	
SSC/HS 427 – Biological Approaches to Sustainable Soil Systems or	3	
SSC 332 Environmental Soil Microbiology	3	
SOC 241 – Sociology of Agriculture and Rural Societies	3	Social Science (3 credits)
SSC/HS 428 – Service-Learning in Urban Agricultural Systems	1	
IDS 201 – Environmental Ethics or	3	Interdisciplinary Perspectives (3 hours)
IDS 211 – Eating through American History or		IDS 201 is also a GK
IDS 303 – Humans and the Environment		
Concentration Courses/Groups/Electives:	11	
Foundational electives	11	
	21	
Free Electives:	6	
Total credit hours under Major Field of Study:	104	
Minimum 27 hours required in program area.		

COLLEGE REQUIREMENTS:		
Orientation Course(s):		
ALS 103 or	1	ALS 103 counts for Diversity
CS 103		
<u>Other</u> :		
Total credit hours under College Requirements:	105	

NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS		At least one of the following must be listed: 1 Choose course(s) from the University Approved GEP course list for this category. 2 Maintimum requirements are satisfied by Maint/College
Courses in the Major and/or Minor may also fulfill a General Educ requirement; however, a GEP category <u>may not be subset</u> to requ specific course from the category list. Required courses must be list the Major/College requirements.	 Minimum requirements are satisfied by Major/College course requirements. Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. Co-requisite is satisfied by a Major/College course requirement. 	
than ENG 101.	iner	 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:	Credit	How will the GEP requirement be met?
Minimum 39-40 hrs	hours	(Choose applicable statement from 1-6 listed above) (Choose statement 1, 2 or 3)
INATHEMATICAL SCIENCES (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	2
Natural Sciences (7 credits)		(Choose statement 1, 2 or 3)
(At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits)		(Choose statement 1, 2 or 3)
(Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	1, 3
Social Sciences (6 credits)		(Choose statement 1, 2 or 3)
(Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	2
Additional Breadth (3 credits)		(Choose statement 5 or 6)
(Choose approach that is <i>different</i> from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	5
Interdisciplinary Perspectives (5 credits)		(Choose statement 1, 2 or 3)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	2
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course) (2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	15	
GEP Co-Requisites:		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite (USD)	n/a	(Choose statement 1 or 4)
Global Knowledge co-requisite (GK)	0	(Choose statement 1 or 4) 4
Foreign Language Proficiency	n/a	Proficiency at the FL_102 level required.

The following requirements must be satisfied within the			Place an ${\bf X}$ in the credit hour box to indicate below that the	
College/Program:			requirement is "Satisfied by College/Program Requirements"	
Communication in the Major (Advanced Communication)		х	Satisfied by College/Program Requirements	
Technology Fluency		х	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.	

Foundational Electives (11 credits from the following, must choose one course from each group):

Group 1: CH 220 – Introductory Organic Chemistry CH 221 and CH 222 – Organic Chemistry I and Organic Chemistry I Lab

Group 2: CS 213 – Crops Adaptation and Production HS 431 – Vegetable Production

Group 3: PY 131 – Conceptual Physics PY 211 – College Physics 1 ST 311 – Introduction to Statistics

<u>Restricted Electives</u> (21 credits from the following, must choose at least 9 hours from 300 level courses or greater):

AEC 400 – Applied Ecology

ANS 150 – Introduction to Animal Science

ANS 408 - Small Ruminant Management

BAE 442 - Systems Approach to Agricultural and Environmental Issues

BIO 165 - Introduction to Environmental Research

AEC 380 - Water Resources: Global Issues in Ecology, Policy, Management, and Advocacy

CH 223 – Organic Chemistry II

CH 224 – Organic Chemistry II lab

CS 211 – Plant Genetics

CS 213 – Crops Adaptation and Production

CS 224 - Seeds, Biotechnology and Societies

CS 312 - Grassland Management for Natural Resources Conservation

CS 411 - Crop Ecology

CS/SSC 462 – Soil-Crop Management Systems

ENT 203 - An Introduction to the Honey Bee and Beekeeping

ES 200 - Climate Change and Sustainability

ES 300 - Energy and Environment

ET 203 – Pollution Prevention

ENT 425 – General Entomology

ENT 526 - Organic Agriculture: Principles and Practices,

FOR 220 - Urban and Community Forestry

FOR/FW 221 - Conservation of Natural Resources

FSA/FS 520 – Pre-Harvest Food Safety

FSA/530 - Post-Harvest Food Safety

HS 201 - World of Horticulture: Principles and Practice

HS 431 – Vegetable Production

HS 432 – Permaculture

HS 451 - Plant Nutrition

HS 462 - Post Harvest Physiology

HS 472 – Horticulture Business Administration and Management (course action in progress)

MEA 140 - Natural Hazards and Global Change

MEA 150 - Environmental Issues in Water Resources

PB 321- Introduction to Whole Plant Physiology

PB 345- Economic Botany

PB 346- Economic Botany Lab

PP 315 – Principles of Plant Pathology or PP 318 – Forest Pathology

SSC 341 - Soil Fertility and Fertilizers

SSC 342 – Soil Fertility Laboratory

SSC 461 - Soil Physical Properties and Plant Growth

(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

 Indicate display status:
 Current:
 Proposed: X
 Proposed
 Effective Semester:
 1/2017

 Degree/Plan Title:
 Agroecology and Sustainable Food Systems
 Concentration/Subplan Title:
 Community Food

 Systems
 Systems
 Concentration/Subplan Title:
 Concentration/Subplan Title:

Plan SIS Code:

Subplan SIS Code:

New Degree Audit required? (Y or N) Y

FRESHMAN YEAR				
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS	
CS 103 or ALS 103	1	BIO 183 Intro Biology: Cellular & Molecular Bio or	4	
BIO 181 Intro Biology: Ecol, Evol, Biodiversity	4	PB Plant Life		
ENG 101	4	MA 121 Elements of Calculus or	1	
MA 107	3	MA 131 Calculus for Life and Management Sci A or	3-4	
Foundation Elective ¹	3	MA 141 Calculus 1		
	1	GEP Humanities Requirement ²		
		COM 110 Public Speaking or	3	
		COM 112 Interpersonal Communication	3	
		HESA 100 or 200 Health and Exercise Studies		
			1	
	Total: 15		Total: 14-15	
	SO	PHOMORE YEAR		
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS	
CS 290 Perspective in Horticultural Science	1	ARE 201 Intro to Agricultural & Res Economics	3	
CH 101 Chemistry - A Molecular Science	3	AEC/PB 360 Ecology	4	
CH 102 General Chemistry Laboratory	1	SSC 200 Soil Science	3	
CS 230 Intro to Agroecology (CP)	3	SSC 201 Soil Science Lab	1	
IDS 201 Environmental Ethics or	3	Foundation Elective	4	
IDS 211 Eating through American History or				
IDS 303 Humans and the Environment				
GEP Humanities Requirement	3			
HESA 100 or 200 Health and Exercise Studies	1			
	Total: 15		Total: 15	
		JUNIOR YEAR		
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS	
SOC 241 Sociology of Ag. and Rural Soc.	3	CS 430 Advanced Agroecology (CP)	4	
SSC/HS 427 Bio Approaches to Sust. Soil Sys.	3	SSC/HS 428 Service-Learning in Urban Ag Systems	1	
or SSC 332 Env. Soil Microbiology		STS 323 World Pop. and Food Prospects	3	
CS/HS 410 Community Food Systems (CP)	3	Restricted Elective ³	3	
Foundation Elective	4	Restricted Elective	3	
ENG 331 Comm. for Engineering and	3			
Technology, ENG 332- Comm. for Business				
and Management, ENG 333 – Comm. for Sci				
and Research, or AEE 311- Comm. Methods				
and Media				
	Total:16		Total: 14	
		SENIOR YEAR		
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS	
CS/HS 480 Sustainable Food Prod. (capstone)	1	CS 415 Integrated Pest Management	3	
Restricted Elective	3	GEP Additional Breadth ⁴	3	
Restricted Elective	3	Restricted Elective	3	
Restricted Elective	3	Restricted Elective	3	

CS 492/493 Internship	3	Free Elective	3
Free Elective	3		
	Total:16		Total:15
Minimum Credit Hours Required for Graduation : 120			

Major/Program Footnotes:

 ¹Foundational Electives (Must choose at least one course from each group) <u>Group 1:</u> NTR 220 – Food and Culture, NRT 420 – Community Nutrition, SOC 311 – Community Relationships <u>Group 2:</u> GPH 201 – Fundamentals of Global Public Health, NTR 301 – Introduction to Human Health, STS 214 – Introduction to Science, Technology, and Society <u>Group 3:</u> AEE 206 – Introduction to Teaching Agriculture, AEE 230 – Introduction to Cooperative Extension, AEE 311 – Communications Methods and Media, NPS 340 – Fundamentals of Grant Development for Nonprofits

²GEP Humanities Choose from the University approved GEP Humanities course list

³Restricted Electives (21 credits from the following, must choose at least 9 hours from 300 level courses or greater):

AEE 311 - Communication Methods and Media, AEE 323 – Leadership Development in Agriculture and Life Sciences, AEE 325 - Planning and Delivering Non-Formal Education, AEE 434 - Collaborative Leadership: Building Partnerships across Community Programs, ARE/EC 301 - Intermediate Microeconomics, ARE 433 - U.S. Agricultural Policy, ES 200 - Climate Change and Sustainability, HS 201 - World of Horticulture: Principles and Practices, HS 203 – Home Food Production, HS 431 – Vegetable Production, HS 432 - Permaculture, IDS 201 - Environmental Ethics, IDS 211 - Eating through American History, IDS/NR 303–Humans and the Environment, NTR 220 – Food and Culture, PB 215 - Medicinal Plants, PB 321- Introduction to Whole Plant Physiology, PB 345- Economic Botany, PB 346- Economic Botany Lab, SOC 342 - International Development, SOC 350 - Food and Society,

SOC 402 – Urban Sociology

⁴Additional Breadth - Selected from the University approved GEP course lists

CURRICULUM REQUIREMENTS

Format B

Degree/Plan Title: Agroecology and Sustainable Food Systems	<u>Plan SIS Code</u> :	
Concentration/Subplan Title: Community Food Systems Subplan SIS Code	2:	
Indicate requirements status: Current: Proposed: X	Proposed Effective Semester: 1/2017	
<u>New Degree Audit required</u> ? (Y or N) Y		
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the		

course.

MAJOR FIELD OF STUDY REQUIREMENTS:		
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
MA 107 or MA 114	3	Mathematics (6 hours)
MA 121 or MA 131 or MA 141	3	
BIO 181	4	Natural Sciences (16 hours)
BIO 183 or PB 200	4	
CH 101	3	
CH 102	1	
AEC/PB 360	4	
COM 110 or COM 112	3	
ENG 331, 332, 333 or AEE 311	3	
HS 290 or CS 290 – Professional Development	1	
CS 492/3 or HS 492/3 – Internship or Research	3	
CS 230 – Introduction to Agroecology (CP)	3	Interdisciplinary Perspectives and Global
CS 415 – Integrated Pest Management	3	Knowledge (3 hours)
CS 430 – Advanced Agroecology (CP)	4	
CS/HS 410 – Community Food Systems (CP)	3	
CS/HS 480 – Sustainable Food Production (capstone) (CP)	1	
ARE 201	3	Social Science (3 credits)
SSC 200	3	
SSC 201	1	
STS 323 – World Population and Foods Prospects	3	
SSC/HS 427 – Biological Approaches to Sustainable Soil Systems or	3	
SSC 332 Environmental Soil Microbiology		Social Science (3 credits)
SOC 241 – Sociology of Agriculture and Rural Societies	3	
SSC/HS 428 – Service-Learning in Urban Agricultural Systems	1	Interdisciplinary Perspectives (3 hours)
IDS 201 – Environmental Ethics or	3	IDS 201 is also a GK
IDS 211 – Eating through American History or		
IDS 303 – Humans and the Environment		
Concentration Courses/Groups/Electives:		
Foundational electives	11	
Restricted electives	21	
Free Electives:	6	

Total credit hours under Major Field of Study: Minimum 27 hours required in program area.	104	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ALS 103 or CS 103	1	ALS 103 counts for Diversity
<u>Other</u> :		
Total credit hours under College Requirements:	105	

		As losses and also follow the mount has the states.
NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS Courses in the Major and/or Minor may also fulfill a General Education		 At least one of the following must be listed: Choose course(s) from the University Approved GEP course list for this category. Minimum requirements are satisfied by Major/College course requirements.
requirement; however, a GEP category <u>may not be subset</u> to requise specific course from the category list. Required courses must be list the Major/College requirements.	 Major/College course requirement satisfies <u>A</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. Co-requisite is satisfied by a Major/College course 	
Specific courses should not be listed in any of the fields below other than ENG 101.		 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:	Credit hours	How will the GEP requirement be met?
	nours	(Choose deppicable statement from 1-0 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites	0	(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits)		(Choose statement 1, 2 or 3)
(Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	1, 3
Social Sciences (6 credits)		(Choose statement 1, 2 or 3)
(Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	2
Additional Breadth (3 credits)		(Choose statement 5 or 6)
(Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	5
Interdisciplinary Perspectives (5 credits)		(Choose statement 1, 2 or 3)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	2
Health and Exercise Studies(2 credits)(Including one Fitness and Wellness course)(2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	15	
GEP Co-Requisites:		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite (USD)	n/a	(Choose statement 1 or 4)
Global Knowledge co-requisite (GK)	0	(Choose statement 1 or 4)
Foreign Language Proficiency	n/a	Proficiency at the FL_102 level required.

The following requirements must be satisfied within the		Place an X in the credit hour box to indicate below that the
College/Program:		requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)	х	Satisfied by College/Program Requirements
Technology Fluency	х	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.

Foundational Electives (11 credits from the following, must choose at least one course from each group):

Group 1:

NTR 220 – Food and Culture

NRT 420 - Community Nutrition,

SOC 311 - Community Relationships

Group 2:

GPH 201 – Fundamentals of Global Public Health,

NTR 301 – Introduction to Human Nutrition,

STS 214 – Introduction to Science, Technology, and Society

Group 3:

AEE 206 - Introduction to Teaching Agriculture,

AEE 230 – Introduction to Cooperative Extension,

AEE 311 – Communications Methods and Media,

NPS 340 - Fundamentals of Grant Development for Nonprofits

<u>Restricted Electives</u> (21 credits from the following, must choose at least 9 hours from 300 level courses or greater):

- AEE 311 Communication Methods and Media
- AEE 323 Leadership Development in Agriculture and Life Sciences
- AEE 325 Planning and Delivering Non-Formal Education
- AEE 434 Collaborative Leadership: Building Partnerships across Community Programs

ARE/EC 301 - Intermediate Microeconomics

ARE 433 – U.S. Agricultural Policy,

ES 200 - Climate Change and Sustainability

HS 201 - World of Horticulture: Principles and Practices

HS 203 – Home Food Production

HS 431 - Vegetable Production

HS 432 - Permaculture

IDS 201 - Environmental Ethics

IDS 211 - Eating through American History

IDS/NR 303- Humans and the Environment

NTR 220 - Food and Culture

PB 215 – Medicinal Plants

PB 321- Introduction to Whole Plant Physiology

PB 345- Economic Botany

PB 346- Economic Botany Lab

SOC 342 – International Development

SOC 350 - Food and Society

SOC 402 – Urban Sociology

(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

 Indicate display status:
 Current:
 Proposed: X
 Proposed
 Effective Semester:
 1/2017

 Degree/Plan Title:
 Agroecology and Sustainable
 Food
 Systems
 Concentration/Subplan Title:
 Urban Horticulture

 Plan SIS Code:
 Subplan SIS Code:
 New Degree Audit required? (Y or N) Y

FRESHMAN YEAR				
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS	
ALS 103 Introductory Topics in ALS	1	BIO 183 Intro Biology: Cellular & Molecular Bio or	4	
BIO 181 Intro Biology: Ecol, Evol, Biodiversity	4	PB Plant Life		
ENG 101	4	HS 290 Perspective in Horticultural Science	1	
HS 201 World of Horticulture	3	MA 121 Elements of Calculus or	3-4	
MA 107	3	MA 131 Calculus for Life and Management Sci A or		
HESA 100 or 200 Health and Exercise Studies	1	MA 141 Calculus 1		
		GEP Humanities Requirement ¹	3	
		COM 110 Public Speaking or	3	
		COM 112 Interpersonal Communication		
		HESA 100 or 200 Health and Exercise Studies	1	
	Total: 16		<i>Total:</i> 15-16	
	SOI	PHOMORE YEAR	1	
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS	
CH 101 Chemistry - A Molecular Science	3	ARE 201 Intro to Agricultural & Res Economics	3	
CH 102 General Chemistry Laboratory	1	AEC/PB 360 Ecology	4	
CS 230 Intro to Agroecology (CP)	3	SSC 200 Soil Science	3	
IDS 201 Environmental Ethics or	3	SSC 201 Soil Science Lab	1	
IDS 211 Eating through American History or	-	Foundation Elective	4	
IDS 303 Humans and the Environment				
Foundation Elective ²	4			
GEP Humanities Requirement	3			
нн	Total: 14		Total: 15	
IUNIOR YFAR			i	
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS	
SOC 241 Sociology of Ag. and Rural Soc.	3	CS 430 Advanced Agroecology (CP)	4	
SSC/HS 427 Bio Approaches to Sust. Soil Sys.	3	SSC/HS 428 Service-Learning in Urban Ag Systems	1	
CS/HS XXX Community Food Systems (CP)	3	STS 323 World Pop. and Food Prospects	3	
Foundation Elective	3	Restricted Elective ³	3	
ENG 331 Comm. for Engineering and	3	Restricted Elective	3	
Technology, ENG 332- Comm. for Business				
and Management, ENG 333 – Comm. for				
Sci and Research, or AEE 311- Comm.				
Methods and Media				
	Total:15		Total: 14	
		SENIOR YEAR		
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS	
CS/HS XXX Sustainable Food Prod. (capstone)	1	CS 415 Integrated Pest Management	3	
Restricted Elective	3	GEP Additional Breadth ⁴	3	
Restricted Elective	3	Restricted Elective	3	
Restricted Elective	3	Restricted Elective	3	
HS 492/493 Internship	3	Free Elective	3	
Free Elective	3			
	Total:16		Total:15	

Major/Program Footnotes:

¹GEP Humanities *Choose from the University approved GEP Humanities course list or the following course(s)*

²Foundational Electives (from the follow must choose at least one course from each group):

Group 1: ACC 200– Introduction to Managerial Accounting, ANS/HS 215 – Basic Agricultural Genetics, or CS 211 – Plant Genetics CH 220 – Introductory Organic Chemistry, or CH 221 – Organic Chemistry I and CH 222 – Organic Chemistry I Lab

Group 2:

ARE 304 – Agribusiness Management, ARE 306 – Agricultural Law,

HS 201 – World of Horticulture: Principles and Practice,

HS 432 – Permaculture,

PB 321 – Introduction to Whole Plant Physiology

³Restricted Electives (21 credits from the following, least 9 hours at 300 or greater level):

ARE 303 – Farm Management,

ARE 309 - Environmental Law and Economic Policy,

ARE/EC 336 - Introduction to Resource and Environmental Ethics,

ENT 203 – An introduction to the Honey Bee and Beekeeping,

ENT 401 – Honey Bee Biology and Management,

ENT 425 – General Entomology,

ENT 501 – Advanced Beekeeping,

FSA/FS 520–Pre-Harvest Food Safety,

FSA/FS 530 – Post-Harvest Food Safety,

HS 421 – Temperate-Zone Tree Fruits: Physiology and Culture,

HS 422 – Small Fruit Production,

HS 423 - Viticulture,

HS 431 – Vegetable Production HS 451 – Plant Nutrition,

HS 462 – Postharvest Physiology,

HS 440 – Greenhouse Management,

HS 472 - Horticulture Business Administration and Management (course action in progress),

SSC 341 – Soil Fertility and Fertilizers,

SSC 342 – Soil Fertility Laboratory

⁴Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists)

CURRICULUM REQUIREMENTS

Format B

Degree/Plan Title: Agroecology and Sustainal	ole Food Systems	<u>Plan SIS Code</u> :
Concentration/Subplan Title: Urban Horticultur	e	Subplan SIS Code:
Indicate requirements status: Current:	Proposed: X	Proposed Effective Semester: 1/2017
New Degree Audit required? (Y or N) Y		
Critical Path Courses - Identify using the code (C	P) which courses are c	onsidered 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
MA 107 or MA 114	3	Mathematics (6 hours)
MA 121 or MA 131 or MA 141	3	
BIO 181	4	Natural Sciences (16 hours)
BIO 183 or PB 200	4	
CH 101	3	
CH 102	1	
AEC/PB 360	4	
COM 110 or COM 112	3	
ENG 331, 332, 333 or AEE 311	3	
HS 290 – Professional Development	1	
HS 492/3 – Internship or Research	3	
CS 230 – Introduction to Agroecology (CP)	3	Interdisciplinary Perspectives and Global
CS 415 – Integrated Pest Management	3	Knowledge (3 hours)
CS 430 – Advanced Agroecology (CP)	4	
CS/HS 410 – Community Food Systems (CP)	3	
CS/HS 480 – Sustainable Food Production (capstone) (CP)	1	
ARE 201	3	Social Science (3 credits)
SSC 200	3	
SSC 201	1	
STS 323 – World Population and Foods Prospects	3	
SSC/HS 427 – Biological Approaches to Sustainable Soil Systems or	3	
SSC 332 Environmental Soil Microbiology		Social Science (3 credits)
SOC 241 – Sociology of Agriculture and Rural Societies	3	
SSC/HS 428 – Service-Learning in Urban Agricultural Systems	1	Interdisciplinary Perspectives (3 hours)
IDS 201 – Environmental Ethics or	3	IDS 201 is also a GK
IDS 211 – Eating through American History or		
IDS 303 – Humans and the Environment		
Concentration Courses/Groups/Electives:		
Foundational electives	11	
Restricted electives	21	
Free Electives:	6	

Total credit hours under Major Field of Study: Minimum 27 hours required in program area.	104	
COLLEGE REQUIREMENTS:		
Orientation Course(s):		
ALS 103 or	1	ALS 103 counts for Diversity
CS 103		
Other:		
Total credit hours under College Requirements:	105	

NCSU GENERAL EDUCATION PROGRAM REQUIREMEN	ITS	At least one of the following must be listed: Choose course(s) from the University Approved GEP course
Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements. Specific courses should not be listed in any of the fields below other than ENG 101.		 list for this category. Minimum requirements are satisfied by Major/College course requirements. Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. Co-requisite is satisfied by a Major/College course requirement. Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: Minimum 39-40 hrs	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits)		(Choose statement 1, 2 or 3)
(Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	1, 3
Social Sciences (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledae or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course) (2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	15	
GEP Co-Requisites:		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite (USD)	n/a	(Choose statement 1 or 4)
Global Knowledge co-requisite (GK)	0	(Choose statement 1 or 4) 4

Revised 4/2013

Foreign Language Proficiency	n/a	Proficiency at the FL 102 level required.
The following requirements must be satisfied within the		Place an ${\boldsymbol{X}}$ in the credit hour box to indicate below that the
College/Program:		requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)		Satisfied by College/Program Requirements
Technology Fluency		Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	120	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Foundational Electives (11 credits from the following, must choose at least one course from each group):

Group 1: ACC 200 Introduction to Managerial Accounting ANS/HS 215 – Basic Agricultural Genetics or CS 211 – Plant Genetics

CH 220 – Introductory Organic Chemistry or

CH 221 - Organic Chemistry I and CH 222 - Organic Chemistry I Lab

Group 2:

ARE 304 - Agribusiness Management,

ARE 306 – Agricultural Law

HS 201 – World of Horticulture: Principles and Practice

HS 432 – Permaculture

PB 321 – Introduction to Whole Plant Physiology

Restricted Electives (21 credits from the following, least 9 hours at 300 or greater level):

ARE 303 - Farm Management,

ARE 309 - Environmental Law and Economic Policy,

ARE/EC 336 - Introduction to Resource and Environmental Ethics,

ENT 203 – An introduction to the Honey Bee and Beekeeping,

ENT 401 - Honey Bee Biology and Management,

ENT 425 - General Entomology,

ENT 501 - Advanced Beekeeping,

FSA/FS520 – Pre-Harvest Food Safety,

FSA/FS 530 – Post-Harvest Food Safety,

HS 421 – Temperate-Zone Tree Fruits: Physiology and Culture,

- HS 422 Small Fruit Production,
- HS 423 Viticulture,
- HS 431 Vegetable Production HS 451 Plant Nutrition,
- HS 462 Postharvest Physiology,
- HS 440 Greenhouse Management,
- HS 472 Horticulture Business Administration and Management (course action in progress)
- SSC 341 Soil Fertility and Fertilizers,
- SSC 342 Soil Fertility Laboratory

North Carolina State University

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

Endorsed By:	
Conter	
5 0	Aug 15, 2016
Head, Crop a Soil Science Department	Date
Warne Fahles	8/18/16
Head, Horficultu. Science Department/Program	Date
Recommended B	
All I-	8/18/16
Chair, College Curric Committee	Date
Endorsed By:	8/18/2016
College/Dean	Date
Recommended By:	
NA	
Vice Provost, DELTA (if DE degree/certificate)	Date
Recommended By:	
Chair, University Courses & Curricula Committee	Date
Approved By:	
NA Dean (DASA or the Graduate School)	Date
	Dale
Recommended By:	
Dean's Council	Date
Approved By:	serve and the server of the
Арргочей Бу.	
Executive Vice Chancellor and Provost	Date
Approved By:	



College or Design Department of Graphic Design and Industrial Design

design.ncsu.edu

Campus Box 7701 215 Brooks Hall Raleigh, NC 27695-7701 P: 919.515.8340

MEMORANDUM

To: Office of University Courses and Curricula and Academic Standards From: Tsai Lu Liu, Head, Department of Graphic Design and Industrial Design

Joailer Lin

May 27th, 2016

The Industrial Design faculty in the Department of Graphic Design and Industrial Design has decided to require a C-Wall to the critical path courses of the Industrial Design undergraduate program to ensure the quality of student learning and success. These courses include:

D 100: 3 credit hours D 104: 6 credit hours D 101: 3 credit hours D 105: 6 credit hours ID 201: 6 credit hours ID 215: 3 credit hours ID 318: 3 credit hours ID 202: 6 credit hours ID 315: 3 credit hours ID 418: 3 credit hours ID 255: 3 credit hours ID 300: 2x6 credit hours ID 415: 3 credit hours ID 445: 3 credit hours ID 400: 2x6 credit hours ID 444: 3 credit hours

Please enter these requirements in the system effective Fall 2016.

Industrial Design (Bachelor) (12IDB)

Semester Display Effective Date: 7.2013

Fall Semester	Credit	Spring Semester	Cred
D 100 Design Thinking	3	D 101 Design Thinking II ⁴	3
D 104 First Year Studio 14	6	D 105 First Year Studio 11 4	6
ENG 101 Academic Writing and Research H	4	GEP Mathematical Sciences Req. A	3
GEP Mathematical Sciences Req A	3	HES_***Health & Exercise Studies Course E	1
HES_***Health & Exercise Studies Course E	1	GEP Humanities Requirement ^C	3
	17		16

SOPHOMORE YEAR

Fall Semester	Credit	Spring Semester	Credi
ID 201 Basic Industrial Design Studio 1 ⁴ ID 215 Introduction to Digital Techniques ⁴ ID 318 Ideation 1 ⁴ GEP Natural Sciences Requirement ^B	6 3 3 4	ID 202 Basic Industrial Design Studio I1 ⁴ ID 315 Digital Product Modeling ⁴ ID 418 Ideation II ⁴ ID 255 Contemporary Mfg. Processes I ⁴	6 3 3 3
	16		15

JUNIOR YEAR - International Experience requirement³

Fall Semester	Credit	Spring Semester	Credit
ID 300 Interm. ID Digital Studio Series 1.4	6	ID 300 Interm. ID Dig. Studio Series 1.4	6
ID 415 Adv. Digital Design Process	3	GEP Add. Breadth Requirement F	3
GEP Natural Sciences Requirement B	3	Free Elective	2
GEP Social Sciences Requirement D	3	ID 445 Human-Centered Design	3
Design Elective ²	3		
			14
	18		

SENIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
ID 400 Adv. ID Studio Series ^{1.4} GEP Social Sciences Requirement ^D GEP Humanities Requirement ^C Design Elective ²	6 3 3 3 15	ID 400 Adv. Industrial Studio ^{1.4} ID 444 History of Industrial Design ⁴ Free Elective	6 3 3 12
Minimum Credit Hours Required for Graduation	on* ^{1.J.K.3} ;		123

Major/Program Footnotes:

1. Students who major in Industrial Design may elect one (1) six-credit-hour studio from the following list: ADN 400, 460, 470, 480, ARC 400, GD 201, 202, ID 400, LAR 200 and 400. Declaration of intent to enroll in studios other than Industrial Design during any semester must be made during the pre-registration period prior to enrollment. No more than one (1) studio may be taken in any given semester.

2. Any (3) credit course from the following: ID 262 Professional Practice in Industrial Design; ADN 212, 219, 272, 273, 281, 312,319, 384,386, 413, 414, 419, 472, 481, 486, ARC 162, GD 494, 495, 510, and 517, ID 256.

3. The Fall or Spring semester of the junior year may be taken at the Prague Institute or some other approved international program to fulfill the department's International Experience requirement. In addition, a summer international studio in Industrial Design or other design discipline may also fulfill this requirement. Please consult with your advisor.

4. A grade of C- or higher is required.

* The sequence of Elective and GEP courses is illustrative only and not mandatory. Students may schedule Elective and GEP courses in any order which support their educational objectives.

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

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

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

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

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: none

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

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

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

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

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

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

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

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

F. Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists) Humanities/Social Sciences/Visual and Performing Arts or X Mathematical Sciences/Natural Sciences/Engineering

G. Interdisciplinary Perspectives (5-6 credit hours)

Satisfied by courses taken as part of the major requirements.

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) (1 course)

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

J. Global Knowledge(GK) (1 course)

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

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

OFFICE OF UNDERGRADUATE COURSES & CURRICULA

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Industrial Design (Bachelor) (12IDB)

Semester Display Effective Date: Mon, 2013-07-01

FRESHMAN YEAR			
Fall Semester	Credit	Spring Semester	Credit
D 100 Design Thinking CP	3	D 101 Design Thinking II CP	3
D 104 First Year Studio I CP	6	D 105 First Year Studio II	6
ENG 101 Academic Writing and Research	3	GEP Mathematical Sciences Req. A	1
GEP Mathematical Sciences Req A	1	HES_***Health & Exercise Studies Course E	3
HES_***Health & Exercise Studies Course	17	GEP Humanities Requirement	16
SOPHOMORE YEAR			19 1 E
Fall Semester	Credit	Spring Semester	Credit
ID 201 Basic Industrial Design Studio I CP	6	ID 202 Basic Industrial Design Studio II CP	6
ID 215 Introduction to Digital Techniques CP	3	ID 315 Digital Product Modeling CP	3
ID 318 Ideation I CP	3	ID 418 Ideation II CP	3
GEP Natural Sciences Requirement	14	1D 255 Contemporary wilg. Processes 1	3
	16		15
JUNIOR YEAR - International Experience requ	irement ³		
Fall Semester	Credit	Spring Semester	Credit
ID 300 Interm ID Digital Studio Series ¹ CP	6	ID 300 Interm. ID Dig. Studio Series ¹ CP	6
ID 415 Adv. Digital Design Process CP	3	GEP Add Breadth Requirement ^F	3
GEP Natural Sciences Requirement B	3	Free Elective	2
GEP Social Sciences Requirement ^D	3	ID 445 Human-Centered Design CP	5
Design Elective ²	18		14
	II		
SENIOR YEAR			Prov
Fall Semester	Credit	Spring Semester	Credit
ID 400 Adv. ID Studio Series 1 CP	6	ID 400 Adv. Industrial Studio	6
GER Social Sciences Requirement D	3	ID 444 History of Industrial Design CP	3
GEP Humanities Requirement C	3	Free Elective	3
Design Elective ²	3	52in iš	12
	15		
Minimum Credit Hours Required for Graduation*	I,J,K,3		123
	1		1
Footnotes:			

Major/Program Footnotes:

1. Students who major in Industrial Design may elect one (1) six-credit-hour studio from the following list: ADN 400, 460, 470, 480, ARC 400, GD 201, 202, ID 400, LAR 200 and 400. Declaration of intent to enroll in studios other than Industrial Design during any semester must be made during the pre-registration period prior to enrollment. No more than one (1) studio may be taken in any given semester.

2. Any (3) credit course from the following: ID 262 Professional Practice in Industrial Design; ADN 212, 219, 272, 273, 281, 312,319, 384,386, 413, 414, 419, 472, 481, 486, ARC 162, GD 494, 495, 510, and 517.

3. The Fall or Spring semester of the junior year may be taken at the Prague Institute or some other approved international program to fulfill the department's International Experience requirement. In addition, a summer international studio in Industrial Design or other design discipline may also fulfill this requirement. Please consult with your advisor.

* The sequence of Elective and GEP courses is illustrative only and not mandatory. Students may schedule Elective and GEP courses in any order which support their educational objectives.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

____Humanities/Social Sciences/Visual and Performing Arts or X_Mathematical Sciences/Natural Sciences/Engineering

G. Interdisciplinary Perspectives (5-6 credit hours)

Satisfied by courses taken as part of the major requirements.

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) (1 course)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: None **J. Global Knowledge**(GK) (1 course)

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

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

Printer-friendly version | Tags: Current Display, Industrial Design

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North Carolina State University

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

Endorsed By:	8-23-H
Head, Department/Program	Date
Recommended By: Chair, College Curriculum Committee	8.23.16 Date
Endorsed By: MK Tickow of W5 M College Dean	8/23/16 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



College of Design School of Architecture

ncsu.edu/design

Campus Box 7701 50 Pullen Rd Raleigh, NC 27695-7701 P: 919.515.8350

MEMORANDUM

To: Office of University Courses and Curricula and Academic Standards From: Robin Abrams, Head, School of Architecture

July 20, 2016

The Architecture Design faculty in the School of Architecture has decided to require c-wall to the critical path courses of the Architecture undergraduate program to ensure the quality of student learning and success. These courses include:

D 104:	4 credit hours
D 105:	3 credit hours
ARC 201:	6 credit hours
ARC 211:	3 credit hours
ARC 241:	3 credit hours
ARC 202:	6 credit hours
ARC 232:	3 credit hours
ARC 242:	3 credit hours
ARC 301:	6 credit hours
ARC 331:	3 credit hours
ARC 441:	3 credit hours
ARC 302:	6 credit hours
ARC 332:	3 credit hours
ARC 414:	3 credit hours
ARC 490/401:	6 credit hours
ARC 402:	6 credit hours

Please enter these requirements in the system effective Fall 2016

Environmental Design in Architecture (Bachelor) (12EDAB)

Semester Display Effective Date: 7.2015

Fall Semester	Credit	Spring Semester	Credi
D 100 Design Thinking D 104 First Year Studio 1 ⁸ ENG 101 Acad. Writing & Research ^(H) MA 107, 111, 121, 131, 108, or 141 ^(A)	3 6 4 3	D 101 Design Thinking II D 105 First Year Studio II ⁸ ARC 162 Introduction to Architecture PY 211 College Physics I ^(B)	3 6 3 4
	16		16

SOPHOMORE YEAR

Fall Semester	Credit	Spring Semester	Credit
ARC 201 Arch. Design: Environment ⁸ ARC 211 Natural Systems & Architecture ⁸ ARC 241 Intro to World Architecture ⁸ GEP Mathematical Sciences ^(A) GEP Health & Exercise Studies ^(E)	6 3 3 1 16	ARC 202 Arch. Design: Form ⁸ ARC 232 Structures & Materials ⁸ ARC 242 History of Western Arch ^{(C,)8} ARC 251 Digital Representation GEP Natural Sciences ^(B)	6 3 3 3 3 18

JUNIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
ARC 301 Arch. Design: Tectonics ⁸ ARC 331 Arch. Structures 1 ⁸ ARC 432 Arch. Construction Systems ARC 441 History of Contemporary Arch ⁸ HES_*** Health & Exercise Studies Course ^(E)	6 3 3 3 1 16	ARC 302 Arch. Design: Technology ⁸ ARC 332 Arch. Structures II ⁸ ARC 414 Environmental Controls ⁸ GEP Social Sciences ^(D)	6 3 3 3 15

SENIOR YEAR - International Experience³

Fall Semester	Credit	Spring Semester	Credit
ARC 490/ARC 401 Arch. Design: Urban ^{4,6,8} Free Elective ⁵ Free Elective ⁵ GEP Additional Breadth ^(F) : HUM/SS VPA	6 2 3 3 14	ARC 402 Arch. Design: Advanced ^{2, 3, 4, 6,8} Restricted Elective (300-level or above) ^{5,7} GEP Social Sciences ^(D) GEP Humanities ^(C)	6 3 3 3 15

Minimum Credit Hours Required for Graduation* ^{1,J,K} :	126
Major/Program Footnotes:	
• No more than one studio may be taken in any semester.	
• Foreign language proficiency at 102 level is required for graduation but does not count toward the degree requirement	nts.
1. No more than one studio may be taken in any semester.	
 <u>ARC 402</u> Architectural Design: Advanced may be substituted with one 6 credit-hour design studio from the following list: 400, 460, 470, 480, GD 201, 202, ID 201, LAR 500 and 501 (with consent of the LAR Department Head). 	ADN
3. <u>ARC 402</u> Architectural Design: Advanced may be substituted with one 6 credit-hour Design/Build Studio offered in the su between Junior and Senior years.	ımmer
4. ARC 401 & 402 studios may be offered as vertical studios with sections of the graduate level studio ARC 503.	
5. The sequence of free elective and GEP courses is illustrative only and not mandatory. Students may schedule elective cou any order which support their educational objectives.	rses in
6. The Fall or Spring Semester of the Senior year may be taken at the Prague Institute or some other approved international p fulfill the department's International Experience requirement. In addition, a summer international design studio will also fulfi International Experience requirement. Please contact your advisor for more detail.	rogram to II the
7. Restricted Elective (300 Level of above) may be fulfilled by any 300 level or above course offered in the College of Desig	n.
8. A minimum grade of C- is required for all professional degree pre-requisite and required courses to be credited toward a Architecture degree	3achelor (
*General Education Program (GEP) requirements and GEP Footnotes: To complete the requirements for graduation and the General Education Program, the following category credit hours and co- requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at http://oucc.dasa.ncsu.edu/general-education-program/.	•
A. Mathematical Sciences (6 credit hours – one course with MA or ST prefix) <u>Choose from the University approved GEP Mathematical Sciences course list.</u> Mathematical Science pre-requisite for PY 211: MA 107 or 111 or 121 or 131 or 108 or 141 with a C- or better, or 480 on the Subject Test in Mathematics Level 2 or the NCSU Math Skills Test, or 2 or better on an AP Calculus exam. B. Natural Sciences (7 credit hours – include one laboratory course or course with a lab)	SAT

Choose from the University approved GEP Natural Sciences course list. PY 211 fulfills 4 hours of this requirement. Choose an additional 3 hours.

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: ARC 242 fulfills 3 hours of this requirement. Choose an additional 3 hours in a discipline other than ARC.

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

Choose from the University approved GEP Social Sciences course list

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

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

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

X_Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

Satisfied by courses taken as part of the major requirements.

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.

Revised 4/2013

CURRICULUM REQUIREMENTS Format B

Degree/Plan Title: Bachelors Environmental Design Architecture	Plan SIS Code: 12BEDA
Concentration/Subplan Title:	Subplan SIS Code:
Indicate requirements status: Current: Proposed:	Proposed Effective Semester: Fall 2016
New Degree Audit required? (Y or N)	
Critical Path Courses - Identify using the code (CP) which courses are consi	dered 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
Path courses – indicate with (CP) next to applic. course.The faculty has decided to require C-wall on these Critical Path course:D 104:4 credit hoursD 105:3 credit hoursARC 201:6 credit hoursARC 211:3 credit hoursARC 241:3 credit hoursARC 202:6 credit hoursARC 202:6 credit hoursARC 232:3 credit hoursARC 301:6 credit hoursARC 301:6 credit hoursARC 301:6 credit hoursARC 302:6 credit hoursARC 414:3 credit hoursARC 414:3 credit hoursARC 490/401:6 credit hoursARC 402:6 credit hours		
Concentration Courses/Groups/Electives:		ika menangan kenangan kenanga Kenangan kenangan kena Kenangan kenangan kena
Free Electives:		Section 1. 1. 1.
Total credit hours under Major Field of Study: Minimum 27 hours required in program area.	hours	
COLLEGE REQUIREMENTS:	-	-

Orientation Course(s):		
<u>Other</u> :		
Total credit hours under College Requirements:	Hours	

NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements. Specific courses should not be listed in any of the fields below other than ENG 101.		 At least one of the following must be listed: 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:	Credit	How will the GEP requirement be met?
Minimum 39-40 hrs	hours	(Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.		(Choose statement 1, 2 or 3)
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) (7 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.		(Choose statement 1, 2 or 3)
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) (6 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity on requisitor		(Choose statement 1, 2 or 3)
Social Sciences (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.		(Choose statement 1, 2 or 3)
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6)
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.		(Choose statement 1, 2 or 3)
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course) (2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	hours	
GEP Co-Requisites:		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite (USD)	n/a	(Choose statement 1 or 4)
Global Knowledge co-requisite (GK)	n/a	(Choose statement 1 or 4)
Foreign Language Proficiency	n/a	Proficiency at the FL_102 level required.

Revised 4/2013

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	tion)	Satisfied by College/Program Requirements
Technology Fluency		Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

North Carolina State University

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

Endorsed By:	
p. b. GAU HOMING	8.18.2016
/ 200/VY / 00004 10 00000	Date
Head, Departmenteriogram	Date
Recommended By:	<u>en 1 1 11</u>
Kerm, & Denley	8/23/2016
Chair, College Curriculum Committee	Date
Endorsed By:	
Ink Einen for Westin	073/16
College Dean	Date
Recommended By:	
Recommended by:	
Vice Desured DELTA (if DE degree/partificate)	Date
VICE Provosi, DELTA (II DE degree/certificate)	ball
Recommended By:	
Chair, University Courses & Curricula Committee	Date
Approved By:	
Dean, (DASA or the Graduate School)	Date
Recommended Pivi	
Recommentaeu by.	
	Data
Dean's Council	Dale
Approved By:	
Executive Vice Chancellor and Provost	Date
Approved By:	
Chancellor	Date

North Carolina State University is a landgrant university and a constituent institution of The University of North Carolina

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MEMO

Date: June 21, 2016

Poole College of Management Campus Box 8614 Raleigh, NC 27695-8614

919.515.5565 (phone) 919.515.5564 (fax)

To: Dr. Barbara Kirby, Associate Vice Provost, Academic Programs & Services

From: Dr. Tamah Morant, Associate Dean, Management

Subject: Modifications to Poole College of Management Curricula

The Poole College of Management proposes the following requirements effective spring semester 2017:

All programs:

- Modify the eight semester displays within all programs to better reflect when courses are offered and to better advise students toward their academic plan of work. This modification affects the Management-Undeclared, first year curriculum, which is now identical within the first two semesters of the B.S. in Accounting, B.S. in Business Administration and B.A. in Economics curricula. All PCOM students enter into Management Undeclared as first year students before choosing a degree in their second year in any of PCOM's degree programs.
- Replace the MA 132, Computational Mathematics for the Life and Management Sciences, requirement with ST 307, Introduction to Statistical Programming Using SAS. In consultation with the College of Sciences, the newly developed ST 307 course will prepare PCOM students with better quantitative and statistical skills.

B.S. in Accounting:

- Modify the concentrations from a 12 hour requirement to a 9 hour requirement. Create a new governmental/nonprofit concentration for students pursuing a career in that area. Also allow students to choose a general degree with no concentration (effectively allowing students to enroll in an additional 9 hours of free electives). This will provide a more flexible degree for students with more options. This flexibility will be attractive to transfer students, especially those preparing for the Masters in Accounting program who choose not to complete a concentration.
- Add BUS 340, *Information Systems Management*, as a required course. This is an essential course for students pursuing a business-related degree.
- Replace the 3-credit Ethics requirement with an Ethics corequisite requirement. The current Ethics requirement is a list of five Philosophy courses which meet the Humanities GEP requirement. The new requirement will allow students to take a broader set of ethics courses while increasing the Humanities requirement within the degree from three to six hours. This better fits the spirit of the GEP and will allow PCOM to develop more ethics-related course options for students.

- B.S. in Business Administration:
 - Add MIE 310, Introduction to Entrepreneurship, as a required course and slightly modify the entrepreneurship concentration by replacing MIE 411, Managing the Growth Venture, with MIE 412, Finance and Accounting for Entrepreneurs, as a required course. Our program now is able to allow all students to enroll in MIE 310 and add it as a requirement with new faculty resources available in entrepreneurship. MIE 310 expands business knowledge and critical thinking to better prepare students for internship and career opportunities. Also the entrepreneurship faculty believe MIE 412 a better fit for students completing the concentration.
 - Replace the 3-credit Ethics requirement with an Ethics corequisite requirement. Rationale mentioned above.

B.A. in Economics

• Replace ACC 200, Introduction to Managerial Accounting, with ACC 210, Concepts of Financial Reporting, as a required course. The Accounting Program will soon modify these courses as a two semester sequence and renumber ACC 200 to ACC 220. ACC 220 will be the second course in the sequence with ACC 210 as a prerequisite. As students are required to complete only one accounting course. ACC 210 is more appropriate given the anticipated changes. Currently ACC 200 is a not a prerequisite to ACC 210

PROPOSED EFFECTIVE: SPRING 2017

ENDORSED BY:	<i>k</i>
_ Andre I Mourt	6/2/11
CHAIR, COLLEGE COURSES & CURRICULA COMMITAGE	DATE
(all ml)	6/21/16
COLLEGE DEAN	Date
APPROVED BY:	
CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE	Date
CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION	Date

DEAN OF UNDERGRADUATE ACADEMIC PROGRAMS

Accounting (BS): (20ACCBS)

FRESHMAN YEAR

Fall Semester	Credit	Spring Semester	Credit
M 100 Professionalism, Diversity and Success in Mgmt ¹	1	MA 114 Finite Math ⁷	3
ENG 101^2 or Natural Science (with Lab) ³	4	Communication ⁸ or Humanities ⁹	3
MA 121/131 Calculus ⁴	3	ENG 101^2 or Natural Science (with Lab) ³	4
FL_201 ⁵	3	EC 201 Principles of Microeconomics ¹⁰	3
MIE 201 Intro to Bus Processes	3	ACC 210 Concepts of Financial Reporting ¹¹	3
HES_*** Health & Exercise Studies Course (HES 100 level) ⁶	1		
	15		16

SOPHOMORE YEAR

Fall Semester	Credit	Spring Semester	Credit
ACC 200 Intro Mang Acct ¹¹	3	ACC 310 Intermed. Financial Accounting I ¹¹	3
Communication ⁸ or Humanities ⁹	3	BUS 340 Information Systems Management	3
BUS/ST 350 Econ Bus Statistics ¹²	3	BUS 320, 360, 370, MIE 305, 330	3
Natural Science ³	3	PSY 200 Intro. to Psychology	3
EC 202 Prin. of Macroeconomics	3	Additional Breadth ¹³	3
ST 307 Intro Stat Programming-SAS	1		
	16		15

JUNIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
ACC 311Intermed. Financial Accounting II ¹¹	3	ACC 330 Intro. To Income Tax ¹¹	3
ACC 340 Accounting Info. Systems ¹¹	3	BUS 320, 360, 370, MIE 305, 330	9
BUS 320, 360, 370, MIE 305, 330	6	Concentration or Free Elective ¹⁶	3
Advanced Writing Elective ¹⁴	3	Free Elective ¹⁷	3
HES_*** Health & Exercise Studies Course ¹⁵	1		
	16		15

SENIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
ACC 450 Auditing & Assurance Services ¹¹ Concentration or Free Elective ¹⁶ Interdisciplinary Perspectives ¹⁸ Free Elective ¹⁷ Humanities ⁹	3 3 2-3 3-4 3	Concentration or Free Elective ¹⁶ MIE 480 Business & Policy Strategy Free Electives ¹⁷	3 3 6
	15		12
Minimum Credit Hours Required for Graduation*:			120

Minimum Credit Hours Required for Graduation*:

- 1. Students should take M 100 their first semester in the program
- 2. A grade of C- or better is required.
- 3. 7 credit hours-include one laboratory course or course with a lab from the GEP Natural Sciences list.
- 4. MA 141 may substitute (the fourth hour will count as a free elective credit).

5. Unless a placement exam is completed, students are required to complete FL_201 - three semesters of a foreign language through the intermediate level. Students will not receive credit for courses below 102 unless starting a language different from their high school proficiency. Students who place beyond FL_201 and choose not to take a foreign language course will have satisfied the foreign language requirement but will not receive hour credit

- 6. 1 hour of Health & Exercise Studies at the 100 level. (HES 101 through 109 will satisfy this requirement.)
- 7. MA 242 may substitute
- 8. COM 110, 112, or 211
- 9. Choose two courses from the GEP Humanities list from two different subject areas.
- 10. ARE 201 may substitute.
- 11. COURSES REQUIRING "C- or C+" PREREQUISITES:

ACC 310: C+ or better in ACC 210 ACC 311: C- or better in ACC 310 ACC 330: C- or better in ACC 210 ACC 410: C- or better in ACC 210 ACC 420: C- or better in ACC 200 ACC 440: C- or better in ACC 340 ACC 450: C- or better in ACC 311

12. ST 302, 361, 370 or 372 may substitute for BUS 350

13. Take one from the GEP Additional Breadth- Humanities/Social Sciences/Visual Performing Arts list.

14. Select one of the following courses: ENG 331 Communication for Engineering and Technology, ENG 332 Communication for Business Mgmt., or ENG 333 Communication for Science and Research.

15. 1 hour of Health & Exercise Studies. (PEC, PEF, PEH, PEO and PES courses cannot be taken to satisfy this requirement.) (HES courses may be taken credit only.)

16. Students have the option of choosing a 9 hour concentration or having 9 hours of additional free electives. Students choosing a concentration should pick from the following concentration lists:

Financial Analysis – ACC 411 and two of the following: BUS 420, BUS 422, BUS 425, BUS 426, BUS 428, EC 404 or EC 474.

Managerial – ACC 420 and two of the following: MIE 435, BUS 470, BUS 472, BUS 473, BUS 474, BUS 475 or BUS 479.

Information Systems – ACC 440 and two of the following: BUS 440, BUS 441, BUS 442, BUS 444, BUS 449, BUS 458 or BUS 459.

Internal Auditing – ACC 440 and ACC 451 and one of the following: BUS 440, BUS 441, BUS 470, BUS 472, EC 404 OR EC 474

Governmental/Nonprofit – ACC 460 (formerly ACC 410), ACC 420 and one of the following: PS 202, PS 203, PS 312, HI 380 and COM 466

17. Free elective credit will not be allowed for FL 101 or 105 (in any language in which proficiency requirement is met), and MA 101, 103, 105. ACC 499 can count for up to 6 hours of free electives. Free electives may be taken for credit only.18. Choose one from the GEP Interdisciplinary Perspectives list.

* Students must also complete as a part of their degree requirements one course from the GEP U.S. Diversity list (no credit hour requirement), one course from the GEP Global Knowledge list (no credit hour requirement), and one course from the Poole College of Management Ethics list- MIE 306, PHI 214, 221, 312, 375 (no credit hour requirement). Overall GPA for all courses attempted at NC State must be 2.0 or higher; and Overall GPA for all ACC courses attempted at NC State must be 2.0 or higher.

Accounting (BS): (Undeclared) (20ACCBS)

Semester Display Effective Date: 1.2016

FRESHMAN YEAR

			1
Fall Semester	Credit	Spring Semester	Credit
M 100 Intro to COM ¹⁶	1	MA 114 Finite Math ²⁰	3
ENG 101 Academic Writing & Research ²	4	MA 132 Comp Math for Life & Mgmt Sci ¹⁹	1
MA 121 Elements of Calculus ³	3	Communications ⁴	3
Natural Science ⁵	4	MIE 201 Intro Bus Processes	3
FL_201 ¹⁵	3	Natural Science ⁵	3
HES_*** Health & Exercise Studies Course ¹	1	HES_*** Health & Exercise Studies Course ²¹	1
	16		14

SOPHOMORE YEAR

Fall Semester	Credit	Spring Semester	Credit
ACC 200 Intro Mang Acct ⁸	3	ACC 210 Concepts of Financial Reporting ⁸	3
ACC 200P Intro to Mang Acct Lab	0	(ACC 210P Prob. Session)	
EC 201 Principles of Microeconomics ⁹	3	EC 202 Prin. of Macroeconomics	3
Humanities ²³	3	PSY 200 Intro. to Psychology	3
ST/BUS 350 Econ Bus Statistics ¹⁰	3	Free Elective ⁷	3
Additional Breadth ¹⁸	3	Free Elective ⁷	3
	15		15

JUNIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
ACC 310 Intermed. Financial Accounting I ⁸	3	ACC 311 Intermed. Financial Accounting II ⁸	3
ACC 330 Intro. To Income Tax ⁸	3	ACC 340 Accounting Info. Systems ⁸	3
BUS/MIE 305 Legal & Reg. Environment	3	BUS 320 Financial Mgmt.	3
MIE 330 Human Resource Mgt.	3	BUS 360 Marketing Methods	3
Ethics Elective ⁶	3	BUS 370 Operations Mgmt.	3
	15		15

SENIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
Interdisciplinary Perspectives ¹⁷	2-3	ACC 450 Auditing & Assurance Services ⁸	3
Free Elective ⁷	3-4	Accounting Elective ^{12, 8, 14}	3
ACC 411, 420 or 440 or 451	3	Concentration Elective ^{11, 14}	3
Concentration Elective ^{11, 14}	3	Concentration Elective ^{11, 14}	3
Advanced Writing Elective ¹³	3	MIE 480 Business & Policy Strategy	3
	15		15

Minimum Credit Hours Required for Graduation:

120²²

1. 1 hour of Health & Exercise Studies at the 100 level. (HES 101 through 109 will satisfy this requirement.)

2. A grade of C- or better is required.

3. MA 131 or 141 may substitute.

4. COM 110, 112, or 211.

5. 7 credit hours-include one laboratory course or course with a lab from the GEP Natural Sciences list.

6. PHI 214, 221, 309, 313, 375.
7. Free elective credit will not be allowed for FL 101 or 105 (in any language in which proficiency requirement is met), and MA 101, 103, 105. Free electives may be taken for credit only.
8. COURSES REQUIRING "C- or C+" PREREQUISITES:

ACC 310: C+ or better in ACC 210 ACC 311: C- or better in ACC 310 ACC 330: C- or better in ACC 210 ACC 410: C- or better in ACC 210 ACC 420: C- or better in ACC 200 ACC 440: C- or better in ACC 340 ACC 450: C- or better in ACC 311

9. ARE 201 may substitute.
10. ST 302, 361, 370 or 372 may substitute for BUS 350.
11. Select a concentration. Then select three courses from the specific concentration list:

- Financial Analysis BUS 420, BUS 422, BUS 425, BUS 426, EC 404 or EC 474.
- Managerial MIE 435, BUS 472, BUS 474, BUS 475, BUS 470, BUS 479.
- Information Systems BUS 440, BUS 441, BUS 442, BUS 443, BUS 444, BUS 449.
- Internal Auditing—ACC 440; and one from BUS 440, BUS 441, BUS 470, BUS 472, EC 404 OR EC 474; and one from COM 202, COM 322, COM 342, COM 442, COM 456

12. Select one of the following courses:

- Financial Analysis ACC 410, ACC 420, ACC 440, ACC 451.
- Managerial ACC 410, ACC 411, ACC 440, ACC 451.
- Information Systems ACC 410, ACC 411, ACC 420, ACC 451
- Internal Auditing—ACC 410, ACC 411, ACC 420, ACC 440

13. Select one of the following courses: ENG 331 Communication for Engineering and Technology, ENG 332 Communication for Business Mgmt., or ENG 333 Communication for Science and Research.

14. ACC 499 may be substituted for the ACC elective and 1 elective in the student's concentration.

15. Unless a placement exam is completed, students are required to complete FL_201 - three semesters of a foreign language through the intermediate level. Students will not receive credit for courses below 102 unless starting a language different from their high school proficiency. Students who place beyond FL_201 and choose not to take a foreign language course will have satisfied the foreign language requirement but will not receive hour credit.

16. Students should take M 100 their first semester in the program.

17. Take one from the GEP Interdisciplinary Perspectives list.

18. Take one from the GEP Additional Breadth- Humanities/Social Sciences/Visual Performing Arts list.

19. MA 121(3) and MA 132(1) - Elements of Calculus and Comp Math for Life& Mgmt Sci (MA 131(3) and 132(1), or MA 141 may substitute.

20. MA 242 may substitute.

21. 1 hour of Health & Exercise Studies. (PEC, PEF, PEH, PEO and PES courses cannot be taken to satisfy this requirement.) (HES courses may be taken credit only.)

22. Overall GPA for all courses attempted at NC State must be 2.0 or higher; and Overall GPA for all ACC courses attempted at NC State must be 2.0 or higher.

23. Choose one from the GEP Humanities list.

* Students must also complete as a part of their general education requirements one course from the GEP U.S. Diversity list (no credit hour requirement) and one course from the GEP Global Knowledge list (no credit hour requirement).

CURRICULUM REQUIREMENTS Format B

Degree/Plan Title: B.S. Accounting	<u>Plan SIS Code</u> :
Concentration/Subplan Title: ACC-Undeclared, Financial Analysis, Inforn Governmental/Nonprofit	nation Systems, Internal Auditing, Managerial, Subplan SIS Code:
Indicate requirements status: Current: Proposed: x	Proposed Effective Semester: Spring 2017
New Degree Audit required? (Y or N) Y	
Critical Path Courses - Identify using the code (CP) which courses are con	nsidered 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
Math MA 121 or 131 or 141; MA 114 (MA 114 or 242)	6	Mathematics (6 hours)
Major (non- ACC/BUS/MIE) Advanced Writing (ENG 331, 332, 333) EC 201 (EC 201 or ARE 201) EC 202 PSY 200 FL 201 Communication/Speech (COM 110, 112, 211) ST 307 Major (ACC/BUS/MIE) BUS/ST 350 (BUS/ST 350, ST 302, 361, 370, 372) MIE 201 MIE 305 BUS 320 MIE 330 BUS 340 BUS 360 BUS 370	3 3 3 3 3 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Advanced Communication (3 hours) Social Sciences (3 hours) Social Sciences (3 hours) Technology Fluency (3 hours) Interdisciplinary Perspectives (3 hours) Technology Fluency (3 hours)
MIE 480 ACC 210 (C+ or better) ACC 200 (C- or better) ACC 310 (C- or better) ACC 311 (C- or better) ACC 330 (C- or better) ACC 340 (C- or better) ACC 450	3 3 3 3 3 3 3 3	
Financial Analysis: ACC 411 and two from BUS 420, 422, 425, 426, 428, EC 404 or 474 Information Systems: ACC 440 and two from BUS 440, 441, 442, 444. 449. 458, 459 Internal Auditing: ACC 440 and 451 and two from BUS 440, 441.	9	

470, 472, EC 404 or 474 Managerial: ACC 420 and two from MIE 435, BUS 470, 472, 473, 474, 475, 479 Governmental/Nonprofit: ACC 460 (formerly ACC 410) and 420 and one from PS 202, 203, 312, HI 380, COM 466		
Free Electives: May not be MA 101, 103, 105, or FL 101 or 105 (in the language in which proficiency is met)	13	This assumes students complete a 2 hr Interdisciplinary Perspectives course
Total credit hours under Major Field of Study: Minimum 27 hours required in program area.	95 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): M 100	1	U.S. Diversity Corequisite
Other: Ethics Corequisite One from the following: MIE 306, PHI 214, 221, 312, 375	0	
Total credit hours under College Requirements:	96 Hours	

		At least one of the following must be listed:
NCSU GENERAL EDUCATION PROGRAM REQUIREMEN	<u>ITS</u>	 Choose course(s) from the University Approved GEP course list for this category. Minimum requirements are satisfied by Major/College
Courses in the Major and/or Minor may also fulfill a General Educ	ation	course requirements.
requirement; however, a GEP category may not be subset to requ	3 Major/College course requirement satisfies <u>X</u> credit hrs of	
specific course from the category list. Required courses must be li	sted in	this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the
the Maior/College requirements.		category.
		4 Co-requisite is satisfied by a Major/College course
Specific courses should not be listed in any of the fields below of	her	requirement.
than ENG 101		lists for the Humanities/ Social Sciences/ Visual &
		Performing Arts.
		6 Choose course(s) from the University Approved GEP course
General Education Program Requirements:	Credit	How will the GEP requirement be met?
Minimum 39-40 hrs	hours	(Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits)		7 Minimum and in a set of the Maria (Callers
(At least 1 course with MA or ST prefix)	v	course requirements.
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.		
Natural Sciences (7 credits)		8 (Choose statement 1, 2 or 3) Choose source (a) from the University Approximation of CED sources
(At least 1 lab course or course with a lab)	-	List for this category
Course(s) in the Major may double-count to satisfy this requirement and also	/	nst for this category.
satisfy either the Global Knowledge or U.S. Diversity co-requisites.		
English 101 (C- or better required)(4 credits)	4	ENG 101
		g (Choose statement 1, 2 or 3)
Humanities (6 credits)		Choose course(s) from the University Approved GEP
(Courses from <i>two different</i> disciplines)	6	course list for this category.
Course(s) in the Major may double-count to satisfy this requirement and also		
Social Sciences		10 (Choose statement 1, 2 or 5)
Social Sciences (6 credits)		Minimum requirements are satisfied by Major/College
(Courses from two different disciplines)	х	course requirements.
satisfy either the Global Knowledge or U.S. Diversity co-requisites		
satisfy either the clobal knowledge of 0.5. Directive to requisites.		
Additional Breadth (3 credits)		(Choose statement 5 or 6)
(Choose approach that is <i>different</i> from the approach of the Major)		11 Choose course(s) from the University Approved GEP course
Major/College requirements cannot satisfy this requirement and an AB course	3	lists for the Humanities/ Social Sciences/ Visual &
cumoi de doudie-counted except in satisjying the Global Knowledge of U.S. Diversity co-requisites		Performing Arts.
Interdisciplinary Perspectives (5 credits)		12 Major/Collago course requirement satisfies 2 credit brs of
Course(s) in the Major may double-count to satisfy this requirement and also	2	this requirement. Remaining hours required must be chosen
satisfy either the Global Knowledge or U.S. Diversity co-requisites.	_	from the University Approved GEP course list for the
		category.

Health and Exercise Studies (2 cr (Including one Fitness and Wellness course)	redits)	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 hours	
GEP Co-Requisites:			Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite	(USD)	n/a	 Co-requisite is satisfied by a Major/College course requirement.
Global Knowledge co-requisite	(GK)	n/a	14 Choose statement 2 of 4) Choose course(s) from the University Approved GEP course list for this category.
Foreign Language Proficiency		n/a	FL 201 required.
The following requirements must be satisfied within the College/Program:		х	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)		х	Satisfied by College/Program Requirements
Technology Fluency		х	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	120 To	otal hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Business Administration (BS): (20BUSBS)

FRESHMAN YEAR

Fall Semester	Credit	Spring Semester	Credit
M 100 Professionalism, Diversity and Success in Mgmt ¹¹ ENG 101 ² or Natural Science (with Lab) MA 121/131 Calculus ^{2, 3} FL_ 201 ⁵ MIE 201 Intro to Bus Processes HES_*** Health & Exercise Studies Course (HES 100 level) ⁶	1 4 3 3 3 1 15	MA 114 Finite Math ⁷ Communications ¹⁵ or Humanities ¹⁸ ENG 101 ² or Natural Science (with Lab) EC 201 Principles of Microeconomics ^{2, 10} ACC 210 Concept of Financial Reporting ²	3 3 4 3 3 16

SOPHOMORE YEAR

Fall Semester	Credit	Spring Semester	Credit
ACC 200 Intro to Mang Acct ² Communications ¹⁵ or Humanities ¹⁸ BUS/ST 350 Econ/Bus Statistics ^{2, 12} Natural Science ⁴ EC 202 Principles of Macroeconomics ST 307 Intro Stat Programming- SAS	3 3 3 3 1 16	BUS 320, 340, 360, 370, MIE 305, 310, 330 ¹⁴ PSY 200 Intro to Psychology Additional Breadth ¹³ HES_*** Health & Exercise Studies Course ⁹	9 3 3 1 16

JUNIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
BUS 320, 340, 360, 370, MIE 305, 310, 330 ¹⁴ Advanced Writing ¹⁷ Free electives ¹⁶	6 3 6 15	BUS 320, 340, 360, 370, MIE 305, 310, 330 ¹⁴ Concentration course ¹ Free Electives ¹⁶	6 3 6 15

Fall Semester	Credit	Spring Semester	Credit

Concentration courses ¹	6		MIE 480 Business Policy & Strategy	3
Humanities ²⁰	3		Free Electives ¹⁶	6
Free Elective ¹⁶	3-4			
	15			12
Minimum Credit Hours Required for Graduation*:				120
GPA Graduation Requirements:				
Overall GPA for all courses attempted at NC State n	nust be 2.0	or hig	her; and	
Overall GPA for all BUS and MIE courses attempte	d at NC Sta	ite mu	ist be 2.0 or higher.	
1. Concentration courses: Students may conc Technology Operations Management Marketing or	entrate in E	lntrep See ea	reneurship, Human Resources Management, Informa ch curriculum for specific concentration courses	tion
 Must be completed with "C-" or better. 	i manee		en currentan for specific concentration courses.	
3. MA 141 may substitute (the fourth hour wi	ll count as a	a free	elective credit).	
 7 credit nours-include one laboratory cours Unless a placement exam is completed, stu- 	e or course dents are re	auire	d to complete FL 201 - three semesters of a foreign	language
through the intermediate level. Students will not rec	eive credit	for co	urses below 102 unless starting a language different f	rom their
high school proficiency. Students who place beyond	FL_201 ar	nd cho	ose not to take a foreign language course will have s	atisfied the
6. 1 hour of Health & Exercise Studies at the	100 level. (HES	101 through 109 will satisfy this requirement.)	
7. MA 242 may substitute.	(
8. Take one from the GEP Interdisciplinary Po	erspectives	list.	and DES courses connect he taken to esticify this reco	inomant)
(HES courses may be taken credit only.)	, РЕГ, РЕП	, PEC	and PES courses cannot be taken to satisfy this requ	irement.)
10. ARE 201 may substitute. The requirement	must be me	t with	C- or better.	
11. Students should take M 100 their first seme	ester in the	progra	am.	
12. ST 302, 361, 370 or 372 may substitute. The Take one from the GEP Additional Breadth	e requirem	ent m	ust be met with C- or better.	
14. BUS 320 has prerequisites of ACC 210 and	1 EC 201. E	BUS 3	60 and MIE 330 have prerequisite of MIE 201.	
15. COM 110, 112, or 211.				_
16. Some courses will not count as free elective mathematical MA_{101} 103 105 (12 hours of free elective	s, such as F	FL 101	, or 105 (in the language in which proficiency requir	ement is
17. ENG 331, 332, 333.	es may be t	aken	ior create only.)	
18. Choose two courses from the GEP Humani	ties list from	m two	different subject areas.	
* Students must also complete as a part of their degr	ree requiren	nents	one course from the GEP U.S. Diversity list (no cred	it hour
requirement), one course from the GEP Global Know	wledge list	(no ci	edit hour requirement), and one course from the Poo	le College of
Management Ethics list- MIE 306, PHI 214, 221, 31	2, 375 (no	credit	hour requirement). Overall GPA for all courses atte	mpted at NC
State must be 2.0 of higher; and Overan OPA lof all	bus and f		ourses allempted at the state must be 2.0 of higher.	

Business Administration (BS): (Undeclared) (20BUSBS)

Semester Display Effective Date: 6.2013

FRESHMAN YEAR

Fall Semester	Credit	Spring Semester	Credit
M 100 Intro to COM ¹²	1	MA 114 Finite Math ⁷	3
ENG 101 Academic Writing & Research ²	4	MA 132 Comp Math for Life & Mgmt Sci ⁸	1
MA 121 Elements of Calculus ^{2, 3}	3	Communications ¹⁷	3
Natural Science ⁴	4	MIE 201 Intro to Bus Processes	3
FL_201 ⁵	3	Natural Science ⁴	3
HES_*** Health & Exercise Studies Course ⁶	1	HES_*** Health & Exercise Studies Course ¹⁰	1
	16		14

SOPHOMORE YEAR

Fall Semester	Credit	Spring Semester	Credit
ACC 200 Intro to Mang Acct ² ACC 200P Intro to Mang Acct Lab EC 201 Principles of Microeconomics ^{2, 11} Humanities ²⁰ BUS/ST 350 Econ/Bus Statistics ^{2, 13} Additional Breadth ¹⁴	3 0 3 3 3 3 3 15	ACC 210 Concept of Financial Reporting ² (ACC 210P Prob. Session) EC 202 Principles of Macroeconomics BUS 340, 360, 370, MIE 330 ¹⁵ Free Elective ¹⁸ PSY 200 Intro to Psychology	3 3 3 3 3 15

JUNIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
BUS 320 Financial Management BUS 340, 360, 370, MIE 330 ¹⁵ BUS 340, 360, 370, MIE 330 ¹⁵ Advanced Writing ¹⁹ Concentration course or Free elective ^{1, 18}	3 3 3 3 3 15	BUS 340, 360, 370, MIE 330 ¹⁵ BUS 305 Legal & Reg Environment Concentration course ¹ Free Elective ¹⁸ Concentration course or Free Elective ^{1, 18}	3 3 3 3 3 15

Fall Semester	Credit	Spring Semester	Credit
Concentration course ¹	3	MIE 480 Business Policy & Strategy	3
Interdisciplinary Perspectives ⁹	2-3	Concentration course ¹	3
Ethics Elective ¹⁶	3	Free Electives ¹⁸	3
Free Elective ¹⁸	3-4	Free Electives ¹⁸	3

Free Elective ¹⁸	3	Free Electives ¹⁸	3
	15		15
Minimum Credit Hours Required for Graduation	on:		120
GPA Graduation Requirements:			I
Overall GPA for all courses attempted at NC S Overall GPA for all BUS and MIE courses atte	tate must be 2.0 empted at NC Sta	or higher; and te must be 2.0 or higher.	
 Concentration courses: Students may concerd Operations Management, Marketing or Finance Must be completed with "C-" or better. MA 131 or MA 141 may substitute. 7 credit hours-include one laboratory course Unless a placement exam is completed, stude the intermediate level. Students will not receive school proficiency. Students who place beyond foreign language requirement but will not receive school proficiency. Students who place beyond foreign language requirement but will not receive school proficiency. Students who place beyond foreign language requirement but will not receive school proficiency. Students who place beyond foreign language requirement but will not receive school proficiency. Students who place beyond foreign language requirement but will not receive school proficiency. Students who place beyond foreign language requirement but will not receive school proficiency. Students who place beyond foreign language requirement but will not receive school proficiency. Students who place beyond foreign language requirement but will not receive school proficiency. Students who place beyond foreign language requirement must be the form the GEP Interdisciplinary Per 10. 1 hour of Health & Exercise Studies. (PEC, courses may be taken credit only.) ARE 201 may substitute. The requirement for the GEP Additional Breadth 15. BUS 320 has prerequisites of ACC 210 and for other prerequisites of core courses. PHI 214, 221, 309, 313, 375 COM 110, 112, or 211. Some courses will not count as free elective MA 101, 103, 105 (Credit is not allowed for bc for credit only.) FNG 331, 332, 333 	ntrate in Entrepr e. See each curri or course with a ents are required e credit for course I FL_201 and che ive hour credit. 00 level. (HES 1 alculus and Com C- or better. rspectives list. , PEF, PEH, PEC must be met with ester in the progr he requirement m h- Humanities/So d EC 201 and Bl es, such as FL 10 oth MA 111 and	eneurship, Human Resources Managemen culum for specific concentration courses. lab from the GEP Natural Sciences list. to complete FL_ 201 - three semesters of es below 102 unless starting a language d bose not to take a foreign language course 01 through 109 will satisfy this requiremen p Math for Life& Mgmt Sci (MA 131(3) a 0 and PES courses cannot be taken to satisfy a C- or better. am. ust be met with C- or better. cial Sciences/Visual Performing Arts list. JS 370 has a prerequisite of BUS/ST 350. 01, or 105 (in the language in which profice either MA 107 or MA 108). (12 hours of the	a foreign language through ifferent from their high will have satisfied the ent.) and 132(1), or MA 141 may sfy this requirement.) (HES . Consult the course catalog ciency requirement is met), or free electives may be taken
19. ENG 331, 332, 333.20. Choose one from the Humanities GEP list.			
* Students must also complete as a part of their hour requirement) and one course from the GE	r general educati P Global Knowl	on requirements one course from the GEP edge list (no credit hour requirement).	U.S. Diversity list (no credit

CURRICULUM REQUIREMENTS

Format B

Degree/Plan Title: B.A. Economics		<u>Plan SIS Code</u> :
Concentration/Subplan Title: Subplan SIS Code:		
Indicate requirements status: Current:	Proposed: x	Proposed Effective Semester: Spring 2017
New Degree Audit required? (Y or N) Y		
Critical Path Courses - Identify using the code	(CP) which courses are o	considered critical nath courses which represent specific

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

MAJOR FIELD OF STUDY REQUIREMENTS:		
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
Math MA 121 or 131 or 141; MA 114 (MA 114 or 242)	6	Mathematics (6 hours)
Major (non- EC) Advanced Writing (ENG 331, 332, 333) FL 201 Communication/Speech (COM 110, 112, 211) ACC 210 MIE 201 BUS/ST 350	3 3 3 3 3 3 3	Advanced Communication (3 hours) Interdisciplinary Perspectives (3 hours) Technology Fluency (3 hours)
ST 307 Major (EC/ECG) EC 201 (EC 201 or 205 or ARE 201) EC 301 EC 302 EC 351 or 480 EC 490 Economics Electives: 300/400/500 level EC/ECG courses. At least 6	1 3 3 3 3 3 3 15	Social Sciences (3 hours) Technology Fluency (3 hours)
hours must be at the 400/500 level		
Concentration Courses/Groups/Electives: Advised Electives: Please consult with academic advisor. May not be MA 101, 103, 105, or FL 101 or 105 (in the language in which proficiency is met) or HES courses.	15	
Free Electives: May not be MA 101, 103, 105, or FL 101 or 105 (in the language in which proficiency is met)	22	This assumes students complete a 2 hr Interdisciplinary Perspectives course

Total credit hours under Major Field of Study: Minimum 27 hours required in program area.	92 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): M 100	1	U.S. Diversity Corequisite
<u>Other</u> :	0	
Total credit hours under College Requirements:	93 Hours	

NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category <u>may not be subset</u> to require a specific course from the category list. Required courses must be listed in the Major/College requirements. Specific courses should not be listed in any of the fields below other than ENG 101.		 At least one of the following must be listed: Choose course(s) from the University Approved GEP course list for this category. Minimum requirements are satisfied by Major/College course requirements. Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. Co-requisite is satisfied by a Major/College course requirement. Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements:	Credit	How will the GEP requirement be met?
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	X	7 Choose applicable statement from 1-6 instea above) 7 Minimum requirements are satisfied by Major/College course requirements.
Natural Sciences(7 credits)(At least 1 lab course or course with a lab)Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	7	8 Choose course(s) from the University Approved GEP course list for this category.
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities(6 credits)(Courses from two different disciplines)Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	9 Choose course(s) from the University Approved GEP course list for this category.
Social Sciences (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	3	10 Choose statement 1, 2 or 37 Major/College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
Additional Breadth(3 credits)(Choose approach that is different from the approach of the Major)Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	 (Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	2	12 Major/College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course) (2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	27 hours	

Revised 4/2013

GEP Co-Requisites:			Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite	(USD)	n/a	 13 Co-requisite is satisfied by a Major/College course requirement.
Global Knowledge co-requisite	(GK)	n/a	14 Choose course(s) from the University Approved GEP course list for this category.
Foreign Language Proficiency		n/a	FL 201 required.
The following requirements must be satisfied within the College/Program:		х	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)		х	Satisfied by College/Program Requirements
Technology Fluency		х	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	120 To	otal hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Economics (BA) (20ECONBA)

Semester Display Proposed

FRESHMAN YEAR

Fall Semester	Credit	Spring Semester	Credit
M 100 Professionalism, Diversity and Success in Mgmt ¹⁴ ENG 101 ¹ or Natural Science (with Lab) ⁴ MA 121 or 131 Calculus ² FL_ 201 ³ MIE 201 Intro to Bus Processes HES_*** Health & Exercise Studies Course(HES 100 level) ¹⁹	1 4 3 3 3 1 15	MA 114 Finite Math ⁶ Communication ¹⁰ or Humanities ¹¹ ENG 101 ¹ or Natural Science (with Lab) ⁴ EC 201 Principles of Microeconomics ⁷ ACC 210 Concepts of Financial Reporting	3 3 3 3 3 15

SOPHOMORE YEAR

Fall Semester	Credit	Spring Semester	Credit
EC 301 Intermed Microeconomics BUS/ST 350 Econ Bus Statistics ⁸ Communication ¹⁰ or Humanities ¹¹ Natural Science ⁴ Interdisciplinary Perspectives ⁵ ST 307 Intro Stat Programming- SAS	3 3 3 2-3 1	EC 302 Intermed Macroeconomics Humanities ¹¹ Additional Breadth ⁹ Free Electives ¹⁷	3 3 6-7 15-16
	15-16		

JUNIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
EC 480, Intro Econ Research, or EC 351, Data Analysis for Economists Economics Elective ¹² Advanced Writing ¹³ Free Electives ¹⁷ HES_*** Health & Exercise Studies Course ¹⁸	3 3 6 1 16	Economics Elective ¹² Social Science ¹⁵ Advised Electives ¹⁶ Free Electives ¹⁷	3 3 6 3 15

Fall Semester	Credit	Spring Semester	Credit

Economics Electives ¹² Advised Electives ¹⁶ Free Elective ¹⁷	6 6 3 15	EC 490 Research Seminar in Economics Economics Elective ¹² Advised Elective ¹⁶ Free Elective ¹⁷	3 3 3 3
			12
	1	I	1

120

Minimum Credit Hours Required for Graduation*:

GPA Graduation Requirements:

Overall GPA for all courses attempted at NC State must be 2.0 or higher; and

Overall GPA for all EC and ECG attempted at NC State must be 2.0 or higher.

1. Must be completed with "C-" or better.

2. MA 141 may substitute.

3. Unless a placement exam is completed, students are required to complete FL_201 - three semesters of a foreign language through the intermediate level. Students will not receive credit for courses below 102 unless starting a language different from their high school proficiency. Students who place beyond FL_201 and choose not to take a foreign language course will have satisfied the foreign language requirement but will not receive hour credit.

- 4. 7 credit hours-include one laboratory course or course with a lab from the GEP Natural Sciences list.
- 5. Take one from the GEP Interdisciplinary Perspectives list.
- **6.** MA 242 may substitute.
- 7. EC 205 or ARE 201 may substitute.
- 8. ST 302, ST 361, ST 370 or 372 may substitute for ST/BUS 350. Credit will not be given for more than one of these courses.
- 9. Take one from the GEP Additional Breadth- Humanities/Social Sciences/Visual Performing Arts list.
- **10.** COM 110, 112, or 211.
- 11. Choose two courses from the GEP Humanities list from two different subject areas.
- 12. 300/400/500 level EC/ECG courses. At least 6 hours must be at the 400/500 level.
- **13.** Choose from: ENG 331, 332, or 333.
- 14. Students should take M 100 their first semester in the program.
- **15.** One course from the GEP Social Sciences list.

16. Students are urged to discuss these courses with their adviser and to consider using these electives to pursue a minor. 15 hours chosen from any university course offerings except FL 101 or 105 (in the language in which proficiency requirement is met), or MA 101, 103, 105 or PE/PEH courses. (NOTE: Certain courses may not be taken in combination with other courses of similar content. SEE CATALOG FOR RESTRICTIONS.)

- **17.** Some courses will not count as free electives, such as FL 101 or 105 (in the language in which proficiency requirement is met), or MA 101, 101, 103, 105. (12 hours of free electives may be taken for credit only.)
- 18. PEC, PEF, PEH, PEO, and PES courses cannot be taken to satisfy this requirement. (HES courses may be taken credit only.)
- 19. 1 hour of Health & Exercise Studies at the 100 level. (HES 101 through 109 will satisfy this requirement.)

*Students must also complete as a part of their general education requirements one course from the GEP U.S. Diversity list (no credit hour requirement) and one course from the GEP Global Knowledge list (no credit hour requirement). Overall GPA for all courses attempted at NC State must be 2.0 or higher; and Overall GPA for all EC and ECG courses attempted at NC State must be 2.0 or higher.

Economics (BA) (20ECONBA)

Semester Display Effective Date: 6.2013

FRESHMAN YEAR

Fall Semester	Credit	Spring Semester	Credit
M 100 Intro to COM ¹⁴	1	MA 114 Finite Math ⁶	3
ENG 101 Academic Writing & Research ¹	4	MA 132 Comp Math for Life & Mgmt Sci ¹⁸	1
MA 121 Elements of Calculus ²	3	Communications ¹⁰	3
Natural Science ⁴	4	MIE 201 Intro Bus Processes	3
FL_201 ³	3	Natural Science ⁴	3
HES_*** Health & Exercise Studies Course ²¹	1	HES_*** Health & Exercise Studies Course ¹⁹	1
	16		14

SOPHOMORE YEAR

Credit	Spring Semester	Credit
3 3 3 3 3 15	EC 301 Intermed Microeconomics Humanities ¹¹ Interdisciplinary Perspectives ⁵ Free Electives ¹⁷	3 3 2-3 6-7 15
	Credit 3 3 3 3 3 3 15	CreditSpring Semester3EC 301 Intermed Microeconomics3Humanities ¹¹ 3Interdisciplinary Perspectives ⁵ 3Free Electives ¹⁷ 15Interdisciplinary Perspectives

JUNIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
EC 302 Intermed Macroeconomics EC 480, Intro Econ Research, or EC 351, Data Analysis for Economists Economics Elective ¹² Advanced Writing ¹³ Free Electives ¹⁷	3 3 3 2-3 15	Economics Elective ¹² Social Science ¹⁵ Advised Electives ¹⁶ Free Electives ¹⁷	3 3 6 3 15

Fall Semester	Credit	Spring Semester	Credit
Economics Electives ¹²	6	EC 490 Research Seminar in Economics ²⁰	3
Advised Electives ¹⁶	6	Economics Elective ¹²	3
Free Elective ¹⁷	3	Advised Elective ¹⁶	3
		Free Electives ¹⁷	6
	15		

15 Minimum Credit Hours Required for Graduation*: 120 **GPA Graduation Requirements:** Overall GPA for all courses attempted at NC State must be 2.0 or higher; and Overall GPA for all EC and ECG attempted at NC State must be 2.0 or higher. 1. Must be completed with "C-" or better. 2. MA 131 may substitute for MA 121; MA 141 may substitute for MA 121 and 132. MA 242 may substitute for MA 114. Students who qualify for MA 131 or 141 are encouraged to take one of these courses. 3. Unless a placement exam is completed, students are required to complete FL 201 - three semesters of a foreign language through the intermediate level. Students will not receive credit for courses below 102 unless starting a language different from their high school proficiency. Students who place beyond FL_201 and choose not to take a foreign language course will have satisfied the foreign language requirement but will not receive hour credit. 4. 7 credit hours-include one laboratory course or course with a lab from the GEP Natural Sciences list. 5. Take one from the GEP Interdisciplinary Perspectives list. 6. MA 242 may substitute. 7. EC 205 or ARE 201 may substitute.

8. ST 302, ST 361, ST 370 or 372 may substitute for ST/BUS 350. Credit will not be given for more than one of these courses.

9. Take one from the GEP Additional Breadth- Humanities/Social Sciences/Visual Performing Arts list.

10. COM 110, 112, or 211.

11. Choose two courses from the GEP Humanities list from two different subject areas.

12. 300/400/500 level EC/ECG courses. At least 6 hours must be at the 400/500 level.

13. Choose from: ENG 331, 332, or 333.

14. Students should take M 100 their first semester in the program.

15. One course from the GEP Social Sciences list.

16. Students are urged to discuss these courses with their adviser and to consider using these electives to pursue a minor. 15 hours chosen from any university course offerings except FL 101 or 105 (in the language in which proficiency requirement is met), or MA 101, 103, 105, 107, 108, or 111, or PE/PEH courses. (NOTE: Certain courses may not be taken in combination with other courses of similar content. SEE CATALOG FOR RESTRICTIONS.)

17. Some courses will not count as free electives, such as FL 101 or 105 (in the language in which proficiency requirement is met), or MA 101, 103, 105 (Credit is not allowed for both MA 111 and either MA 107 or MA 108). (12 hours of free electives may be taken for credit only.)

18. MA 121(3) and MA 132(1) - Elements of Calculus and Comp Math for Life& Mgmt Sci (MA 131(3) and 132(1), or MA 141 may substitute.

19. PEC, PEF, PEH, PEO, and PES courses **cannot** be taken to satisfy this requirement. (HES courses may be taken credit only.)

20. Honors students should take EC 490H in the fall semester.

21. 1 hour of Health & Exercise Studies at the 100 level. (HES 101 through 109 will satisfy this requirement.)

*Students must also complete as a part of their general education requirements one course from the GEP U.S. Diversity list (no credit hour requirement) and one course from the GEP Global Knowledge list (no credit hour requirement).

CURRICULUM REQUIREMENTS

Format B

Degree/Plan Title: B.A. Economics		<u>Plan SIS Code</u> :
Concentration/Subplan Title: Subplan SIS Code:		
Indicate requirements status: Current:	Proposed: x	Proposed Effective Semester: Spring 2017
New Degree Audit required? (Y or N) Y		
Critical Path Courses - Identify using the code	(CP) which courses are o	considered critical nath courses which represent specific

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

MAJOR FIELD OF STUDY REQUIREMENTS:		
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
Math MA 121 or 131 or 141; MA 114 (MA 114 or 242)	6	Mathematics (6 hours)
Major (non- EC) Advanced Writing (ENG 331, 332, 333) FL 201 Communication/Speech (COM 110, 112, 211) ACC 210 MIE 201	3 3 3 3 3	Advanced Communication (3 hours)
BUS/ST 350 ST 307	3 1	Technology Fluency (3 hours)
Major (EC/ECG) EC 201 (EC 201 or 205 or ARE 201) EC 301 EC 302 EC 351 or 480 EC 490 Economics Electives: 300/400/500 level EC/ECG courses. At least 6 hours must be at the 400/500 level	3 3 3 3 15	Social Sciences (3 hours) Technology Fluency (3 hours)
Advised Electives: Please consult with academic advisor. May not be MA 101, 103, 105, or FL 101 or 105 (in the language in which proficiency is met) or HES courses.	15	
Free Electives: May not be MA 101, 103, 105, or FL 101 or 105 (in the language in which proficiency is met)	22	This assumes students complete a 2 hr Interdisciplinary Perspectives course

Total credit hours under Major Field of Study: Minimum 27 hours required in program area.	92 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): M 100	1	U.S. Diversity Corequisite
<u>Other</u> :	0	
Total credit hours under College Requirements:	93 Hours	

NCSU GENERAL EDUCATION PROGRAM REQUIREMEN Courses in the Major and/or Minor may also fulfill a General Educ requirement; however, a GEP category <u>may not be subset</u> to requi specific course from the category list. Required courses must be list the Major/College requirements. Specific courses should not be listed in any of the fields below of than ENG 101.	 At least one of the following must be listed: Choose course(s) from the University Approved GEP course list for this category. Minimum requirements are satisfied by Major/College course requirements. Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. Co-requisite is satisfied by a Major/College course requirement. Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences. 	
General Education Program Requirements:	Credit	How will the GEP requirement be met?
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	x	7 (Choose statement from 1-6 listed above) 7 Minimum requirements are satisfied by Major/College course requirements.
Natural Sciences(7 credits)(At least 1 lab course or course with a lab)Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	7	8 Choose course(s) from the University Approved GEP course list for this category.
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities(6 credits)(Courses from two different disciplines)Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	9 Choose course(s) from the University Approved GEP course list for this category.
Social Sciences (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	3	10 Choose sublimit 1, 2 or 37 Major/College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	 (Choose statement 5 or 6) Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	2	12 (those statement 3, 2 or 5) Major/College course requirement satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
Health and Exercise Studies(2 credits)(Including one Fitness and Wellness course)(2 credits)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	27 hours	

Revised 4/2013

GEP Co-Requisites:			Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite	(USD)	n/a	 13 Co-requisite is satisfied by a Major/College course requirement.
Global Knowledge co-requisite	(GK)	n/a	14 Choose course(s) from the University Approved GEP course list for this category.
Foreign Language Proficiency		n/a	FL 201 required.
The following requirements must be satisfied within the College/Program:		х	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)		х	Satisfied by College/Program Requirements
Technology Fluency		х	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	120 Total hour		As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Consultation with College of Sciences in regard to replacing MA 132 with ST 307:

Tamah Morant <tcmorant@ncsu.edu>

Montse, Dennis, Jo-Ann,

Please let me know if/when we can provide help in regard to spring schedule planning...i.e. enrollment numbers, etc. We really appreciate your help in making this adjustment to our curriculum; our students will absolutely benefit from the additional training in statistics.

Best, Tamah

On Thu, May 12, 2016 at 3:14 PM, Tamah Morant <<u>tcmorant@ncsu.edu</u>> wrote: Montse,

Glad to hear it! We'll move forward.

Thanks much! Tamah

On Thu, May 12, 2016 at 3:05 PM, Montserrat Fuentes < head@stat.ncsu.edu> wrote:

Dear Tamah,

we are ready and excited to offer the hybrid version of ST 307 to accommodate all your students Spring 17. Best wishes,

Montse

PS: I cc: here our Associate Head, Dennis Boos.

On 5/12/2016 2:26 PM, Tamah Morant wrote: Hi Montse,

Congratulations on your impending move!

I wanted to followup re: the plan for PCOM to replace MA 132 in our requirements with ST 307 beginning spring 17. Since you're heading out, I just want to verify that all the pieces are in place to proceed with this plan. We're planning to pull the paperwork together to present to UCCC for review at the first fall meeting.

Best, Tamah Morant

<u>Consultation with College of Humanities and Social Sciences regarding new concentration in</u> <u>ACC degree:</u>

From: Deanna Dannels <<u>dpdannel@ncsu.edu</u>>

Date: Wed, Jan 6, 2016 at 1:04 PM

Subject: Re: consultation regarding proposal for new governmental/nonprofit concentration in accounting To: Roby Sawyers Roby Sawyers.com Sawyers https://www.sawyers.com Sawyers https://www.sawyers.com Sawyers https://www.sawyers.com Sawyers https://www.sawyers.com Sawyers https://www.sawyers.com"/>https://www.sawyers.com Sawyers https://www.sawyers.com Sawyers https://www.sawyers.com"/>https://www.sawyers.com Sawyers https://www.sawyers.com"/>https://www.sawyers.com Sawyers https://www.sawyers.com"/>https://www.sawyers.com Sawyers.com Sawyer

Cc: Richard Clerkin <<u>rmclerki@ncsu.edu</u>>, David Zonderman <<u>david_zonderman@ncsu.edu</u>>, Traciel Reid <<u>tvreid@ncsu.edu</u>>, William Kimler <<u>kimler@ncsu.edu</u>>, Andy Nowel <<u>nowel@ncsu.edu</u>>, Tamah Morant <<u>tcmorant@ncsu.edu</u>>

Hi Roby---

Happy New Year!

I'm going to ask my colleagues to weigh in (you've cc'd all the relevant parties) regarding the suitability and availability of the courses you've identified.

As a side note, students who decide to do this concentration and also decide to do the minor nonprofit studies (which is a great opportunity for those interested) can only double count 3 credit hours (one class) for the major/concentration and the minor. Here is the link to the Nonprofit Studies minor (below)-- this also lists other courses that you've probably already looked at but just in case, I wanted to include it here.

https://oucc.dasa.ncsu.edu/nonprofit-studies-16npm/

Let me know if you need anything further! Best, Deanna

On Wed, Jan 6, 2016 at 12:44 PM, Roby Sawyers <<u>Roby_Sawyers@ncsu.edu</u>> wrote: Deanna,

The Department of Accounting is proposing the creation of a new Governmental/Nonprofit concentration within our accounting major.

The new 9 hour concentration would require that students complete ACC 410 (3 hours) and ACC 420 (3 hours) and another 3 hour course to be identified. Our curriculum committee has tentatively identified six courses in CHASS that we think would be suitable for the concentration:

PS 202 - State and Local Government PS 203 - Introduction to Nonprofits PS 312 - Intro to Public Administration HI 380 - History of Nonprofits COM 466- Nonprofit Leadership and Development

I would like to ask your help in evaluating the suitability (and availability) of these and other courses that you might recommend as options.

It is somewhat difficult to estimate the demand for the courses and new concentration as this proposal to add the new concentration will also allow our students for the first time to earn an accounting degree without a concentration. However, based on the current enrollments in our managerial and internal audit concentrations, I would estimate that between 20 and 30 students would choose the new governmental/nonprofit concentration increasing the demand in each course by 3 to 5 students per year.

If you have any questions, please give me a call.

Best regards,

Roby

Professor Roby B. Sawyers, Faculty Athletics Representative Undergraduate Program Director, Dept. of Accounting Campus Box 8113, 3106 Nelson Hall Poole College of Management NC State University Raleigh, NC 27695-8113 919 515 4443 ----- Forwarded message ------

From: David Zonderman < david zonderman@ncsu.edu>

Date: Wed, Jan 6, 2016 at 2:28 PM

Subject: Re: consultation regarding proposal for new governmental/nonprofit concentration in accounting To: Roby Sawyers Roby Sawyers@ncsu.edu>

Cc: Deanna Dannels <<u>dpdannel@ncsu.edu</u>>, Richard Clerkin <<u>rmclerki@ncsu.edu</u>>, Traciel Reid <<u>tvreid@ncsu.edu</u>>, William Kimler <<u>kimler@ncsu.edu</u>>, Andy Nowel <<u>nowel@ncsu.edu</u>>, Tamah Morant <<u>tcmorant@ncsu.edu</u>>

Roby--HI 380 is currently offered every spring, it has capacity for 70 students and usually enrolls 55-60 so currently there should be room for 3-5 additional students each spring, they are more than welcome to enroll.....DZ

-----Forwarded message ------From: Traciel Reid <<u>tvreid@ncsu.edu</u>> Date: Tue, Jan 19, 2016 at 10:45 AM Subject: Re: consultation regarding proposal for new governmental/nonprofit concentration in accounting To: Roby Sawyers <<u>Roby_Sawyers@ncsu.edu</u>> Cc: Deanna Dannels <<u>dpdannel@ncsu.edu</u>>

Hello Roby,

The Department of Political Science has no objection to having PS 202, PS 203 and PS 312 in your concentration.

Cordially,

Trace Reid

----- Forwarded message ------

From: Richard Clerkin < Richard Clerkin@ncsu.edu>

Date: Tue, Jan 19, 2016 at 10:47 AM

Subject: Re: consultation regarding proposal for new governmental/nonprofit concentration in accounting To: Roby Sawyers <<u>Roby Sawyers@ncsu.edu</u>>

Roby,

Yes, they can take NPS 340; we offer the course each Spring.

Rich

On Tue, Jan 19, 2016 at 10:43 AM, Roby Sawyers <<u>Roby_Sawyers@ncsu.edu</u>> wrote: Rich,

I like the idea and would certainly counsel our students who want to work in the nonprofit area to get the minor. I will discuss with our curriculum committee when we meet on Wed. If we end up going with a less intensive concentration like the one I proposed, could our students take the NPS 340 class?

Best,

Roby

On Tue, Jan 19, 2016 at 9:26 AM, Richard Clerkin <<u>Richard_Clerkin@ncsu.edu</u>> wrote: Roby,

Sorry for my delay in getting back to you.

Given the presumably US focus of your accounting classes, I am not sure that HI 381 would provide the domestic nonprofit context you may be looking to provide students in their concentration. You might want to consider adding COM 466 (Nonprofit Leadership and Development) to the list of courses.

As I have been thinking about this consultation request and the potential for accounting students to graduate without a concentration, I began to wonder if you would have some students for whom getting a minor in nonprofit studies might be more in their interest than the government/nonprofit concentration. The minor consists of 3 core courses (PS 203, HI 380, and COM 466), an elective, an internship (either in the student's department or NPS490), and a 1 credit capstone course (NPS 498). In thinking about an accounting major with a nonprofit interest, ACC410 would count as the elective. While we typically require internships to be with a nonprofit organization, the case could be made that accounting majors doing internships with organizations with other tax statuses but working with nonprofit clients or on nonprofit related issues as part of their internship duties would be in alignment with program mission and outcomes we want from a student's internship experience and could count towards this requirement. Please let me know if this is of interest and if you would like to discuss further.

Rich