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


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


| College of Engineering |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :--- | :---: | :---: | :---: | :---: |
| Presenter | Reviewers | Action | Type |  |  |  |  |
| 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.
- To view actions, please click on the hyperlink. You may need to use your Unity ID to log in.
- If you experience issues logging in, please go to https://next-catalog.ncsu.edu/courseadmin/ and type the course prefix and number into the search bar.


## University Courses and Curricula Committee - 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:

o 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.
o 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.

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

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DATE: July 20, 2016
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.


Approved By:

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 nonNewtonian 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 <br> REQUEST TO ESTABLISH <br> 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 $\qquad$ No X
Joint Partner campus $\qquad$
Title of Authorized Program: Agroecology and Sustainable Food Systems $\qquad$ Degree Abbreviation: B.S.

CIP Code (6-digit): $\qquad$ Level: B X $\qquad$ I _ D $\qquad$

CIP Code Title: Agroecology and Sustainable Agriculture $\qquad$
Does the program require one or more UNC Teacher Licensure Specialty Area Code? Yes $\qquad$ No X

If master's, is it a terminal master's (i.e. not solely awarded en route to Ph.D.)? Yes $\qquad$ No__X_

Proposed term to enroll first students in degree program: Term $\qquad$ Year 2017

Does the proposed program constitute a substantive change as defined by SACS? Yes $\qquad$ No $\qquad$ X

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 campusLaunch new program online; Maximum percent offered online $\qquad$Program will be listed in UNC OnlineOne or more online courses in the program will be listed in UNC OnlineLaunch 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
100\%
Raleigh, Wake County, NC 27695
(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

120
8
$\qquad$

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.
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)
Description and Purpose
Student Demand
Societal Demand
Unnecessary Duplication
Enrollment
Yes $X$
Yes_X_
Yes $X$
$\qquad$
No

No $\qquad$
No $\qquad$
No $X$
No $\quad X$ 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.
2. Pennsylvania State University - Bachelors of Science (BS) in Agroecology, initiated 1996
3. University of California (UC) Davis - BS in Sustainable Agriculture and Food Systems, initiated 2011
4. University of Maine - BS in Sustainable Agriculture, initiated 1988
5. University of Missouri - BS in Agriculture with Sustainable Agriculture Concentration, initiated 2008-2009
6. University of Montana - BS in Sustainable Food and Bioenergy Systems, initiated 2009
7. University of Kentucky - BS in Sustainable Agriculture, initiated 2011
8. University of Wyoming - BS in Agroecology, initiated 2004
9. Washington State University - BS in Agricultural and Food Systems, Concentration in Organic Agriculture, initiated 2007.
10. 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 <br> 2011 | Spring <br> 2012 | Fall <br> 2012 | Spring <br> 2013 | Fall <br> 2013 | Spring <br> 2014 | Fall <br> 2014 | Spring <br> 2015 | Fall <br> 2015 | Spring <br> 2016 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| No of <br> students <br> enrolled <br> in UC | 9 | 23 | 43 | 60 | 89 | 92 | 98 | 94 | 101 | 101 |
| Davis <br> SAFS <br> 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:
o Six course units in language, including four units in English emphasizing grammar, composition, and literature, and two units of a language other than English.
o 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.
o 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.
o 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 $\left({ }^{*}\right)$ 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 or MA 114 | Precalculus I <br> Introduction to Finite Mathematics with Applications | 3 |
| MA 121 <br> or MA 131 <br> or MA 141 | Elements of Calculus <br> Calculaus for Life and Management Sciences A Calculus I | 3 |
| BIO 181 | Introductory Biology: Ecology, Evolution, and Biodiversity | 4 |
| BIO 183 or PB 200 | Introductory Biology: Cellular and Molecular Biology Plant Life | 4 |
| CH 101 | Chemistry - A Molecular Science | 3 |
| CH 102 | General Chemistry Laboratory | 1 |
| AEC/PB 360 | Ecology | 4 |
| COM 110 <br> or COM $112$ | Public Speaking <br> Interpersonal Communication | 3 |
| ENG 331 <br> or ENG 332 <br> or ENG 333 <br> or AEE 311 | Communication for Engineering and Technology, or Communication for Business and Management, or Communication for Science and Research, Communication Methods and Media | 3 |
| $\begin{aligned} & \text { HS } 290 \\ & \text { or CS } 290 \end{aligned}$ | Horticulture Careers and Opportunities Professional Development | 1 |
| $\begin{aligned} & \hline \text { CS 492/3 } \\ & \text { or HS } \\ & 492 / 3 \\ & \hline \end{aligned}$ | Internship or Research Internship or Research | 3 |
| 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 |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { SSC/HS } 427 \\ & \text { or SSC } 332 \end{aligned}$ | Biological Approaches to Sustainable Soil Systems or Environmental Soil Microbiology | 3 |
| SOC 241 | Sociology of Agriculture and Rural Societies |  |
| SSC/HS 428 | Service-Learning in Urban Agricultural Systems | 1 |
| IDS 201 <br> or IDS 211 <br> or IDS 303 | Environmental Ethics <br> Eating through American History or Humans and the Environment | 3 |
| ENG 101 <br> Humanities GEP <br> Additional B Free electives Health and E | Academic Writing and Research eadth xercise Studies | 4 6 3 6 2 |
| Foundational | 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 lab | 1 |
| CS 211 | Plant Genetics | 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 |
| Community 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 |
| STS 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 <br> 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 | 3 |
| SOC 342 | International Development | 3 |
| SOC 350 | Food and Society | 3 |
| SOC 402 | Urban Sociology | 3 |
| Urban Horticulture Concentration: | 3 |  |
| Group 1: |  | 3 |
| ACC 200 | Introduction to Managerial Accounting | 3 |
| ANS/HS | Basic Agricultural Genetics | 3 |
| 215 | 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 | 3 |
| Group 2: |  | 3 |
| 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 | 3 |

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. Faculty
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. <br> Michelle Schroeder-Moreno <br> Associate Professor and Agroecology Minor and Concentration Advisor <br> Department of Crop and Soil Sciences, <br> Phone: 919-513-0085 <br> Email: michelle schroeder@ncsu.edu

## Helen Kraus

Associate Professor and Undergraduate Coordinator
Department of Horticultural Science
Phone: 919-515-1208
Email: helen kraus@ncsu.edu

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 <br> Engineering |
| Scott Hale | Professor | Biological and Agricultural <br> 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- <br> Moreno | Associate Professor | Crop and Soil Sciences |
| Lori Unruh Snyder | Associate Professor | Crop and Soil Sciences |

Request to Establish

Adopted 08/05/2016

| Randy Wells | Professor | Crop and Soil Sciences |
| :---: | :---: | :---: |
| David Orr | Associate Professor | Entomology |
| David Tarpy | Professor | Entomology |
| Sarah Ash | Professor | Food, Bioprocessing and Nutrition Sciences |
| Natalie Cooke | Teaching Assistant Professor | Food, Bioprocessing and Nutrition Sciences |
| April Fogleman | Assistant Professor | Food, Bioprocessing and Nutrition Sciences |
| Lora Suzie Goodell | Associate Professor | Food, Bioprocessing and Nutrition Sciences |
| Lee-Ann Jaykus | Professor | Food, Bioprocessing and Nutrition 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 Professor | Plant and Microbial Biology |
| 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 servicelearning 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. Delivery Considerations. 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. Facilities and Equipment

## 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, https://cefs.ncsu.edu/), 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 (http://agroecologyfarm.ncsu.edu/), a new 6 acre student farm and community educational center located near campus ( $\sim 10 \mathrm{~min}$ ) 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:
$N A-$ 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.
- 

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. Supporting Fields. 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. Additional Information. Include any additional information deemed pertinent to the review of this new degree program proposal.

Not applicable.
X. Budget
A. Complete and insert the Excel budget template provided showing incremental 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. 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. Evaluations Plans.
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. Attachments. 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: $\qquad$ Date: $\qquad$

Chancellor (Joint Partner Campus): $\qquad$ Date: $\qquad$

# SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM 



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: $\quad$ Proposed: X Proposed Effective Semester: 1/2017
Degree/Plan Title: Agroecology and Sustainable Food Systems Concentration/Subplan Title: Agroecology
Research and Production Concentration

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

## Minimum Credit Hours Required for Graduation : 120

## Major/Program Footnotes:

${ }^{1}$ Foundational 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
Group 3:
PY 131 - Conceptual Physics
PY 211 - College Physics 1
ST 311 - Introduction to Statistics
${ }^{2}$ GEP Humanities Choose from the University approved GEP Humanities course list
${ }^{3}$ Restricted 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
${ }^{4}$ Additional GEP Breadth - Selected from the following checked University approved GEP course lists

## CURRICULUM REQUIREMENTS

## Format B

| Degree/Plan Title: Agroecology and Sustainable Food Systems | Plan SIS Code: |
| :--- | :--- |
| Concentration/Subplan Title: Agroecology Research and Production Concentration | Subplan SIS Code: |
| Indicate requirements status: Current: $\quad$ Proposed: X | Proposed Effective Semester: $1 / 2017$ |
| New Degree Audit required? (Y or N) Y |  |
| Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific <br> major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the <br> 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 <br> MA 121 or MA 131 or MA 141 <br> BIO 181 <br> BIO 183 or PB 200 <br> CH 101 <br> CH 102 <br> AEC/PB 360 <br> COM 110 or COM 112 <br> ENG 331, 332, 333 or AEE 311 <br> CS 290 - Professional Development <br> CS 492/3 or HS 492/3- Internship or Research <br> CS 230 - Introduction to Agroecology (CP) <br> CS 415 - Integrated Pest Management <br> CS 430 - Advanced Agroecology (CP) <br> CS/HS 410 - Community Food Systems (CP) <br> CS/HS 480 - Sustainable Food Production (capstone) (CP) <br> ARE 201 <br> SSC 200 <br> SSC 201 <br> STS 323 - World Population and Foods Prospects <br> SSC/HS 427 - Biological Approaches to Sustainable Soil Systems or <br> SSC 332 Environmental Soil Microbiology <br> SOC 241 - Sociology of Agriculture and Rural Societies <br> SSC/HS 428 - Service-Learning in Urban Agricultural Systems <br> IDS 201 - Environmental Ethics or <br> IDS 211 - Eating through American History or <br> IDS 303 - Humans and the Environment | 3 3 <br> 4 <br> 4 <br> 3 <br> 1 <br> 4 <br> 3 <br> 3 <br> 1 <br> 3 <br> 3 <br> 3 <br> 4 <br> 3 <br> 1 <br> 3 <br> 3 <br> 1 <br> 3 <br> 3 <br> 3 <br> 3 <br> 1 3 | Mathematics (6 hours) <br> Natural Sciences (16 hours) <br> Interdisciplinary Perspectives and Global Knowledge (3 hours) <br> Social Science (3 credits) <br> Social Science (3 credits) <br> Interdisciplinary Perspectives (3 hours) <br> IDS 201 is also a GK |
| Concentration Courses/Groups/Electives: <br> Foundational electives <br> Restricted electives | $\begin{aligned} & 11 \\ & 21 \end{aligned}$ |  |
| Free Electives: | 6 |  |
| Total credit hours under Major Field of Study: <br> Minimum 27 hours required in program area. | 104 |  |


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

## NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS

Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.

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

## At least one of the following must be listed:

1 Choose course(s) from the University Approved GEP course list for this category.
2 Minimum requirements are satisfied by Major/College course requirements.
3 Major/College course requirement satisfies $\boldsymbol{X}$ credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
4 Co-requisite is satisfied by a Major/College course requirement.
5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/Visual \& Performing Arts.
6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements:
Minimum 39-40 hrs
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.

## Natural Sciences

(At least 1 lab course or course with a lab)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.
English 101 (c- or better required)

## Humanities

(Courses from two different disciplines)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

## Social Sciences

(Courses from two different disciplines)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

## Additional Breadth

(Choose approach that is different from the approach of the Major)
Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.
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.

| Health and Exercise Studies (2 credits) <br> (Including one Fitness and Wellness course) | 2 | Choose course(s) from the University Approved GEP course <br> list for this category. |
| :--- | :---: | :--- | :--- |
| Total credit hours needed to complete GEP that are not <br> satisfied as part of the Major/College requirements. | 15 |  |
| GEP Co-Requisites: |  | Courses taken in the Major, GEP, or Minor may double-count to <br> fulfill the co-requisites. Courses that satisfy the U.S. Diversity or <br> Global Knowledge co-requisite are marked on course lists with $a$ |
| "USD" or "GK" indicator. |  |  |


| The following requirements must be satisfied within the <br> College/Program: |  | Place an $\mathbf{X}$ in the credit hour box to indicate below that the <br> requirement is "Satisfied by College/Program Requirements" |
| :--- | :---: | :--- | :--- |
| Communication in the Major (Advanced Communication) | x | Satisfied by College/Program Requirements |
| Technology Fluency | x | Satisfied by College/Program Requirements |
| Total credit hours required to complete Degree: <br> Total must be within 120-128 credit hours. | 120 | As applicable, indicate here the overall GPA <br> requirement for degree completion including course <br> 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

Restricted Electives ( 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: $\quad$ Proposed: X Proposed Effective Semester: 1/2017
Degree/Plan Title: Agroecology and Sustainable Food Systems Concentration/Subplan Title: Community Food Systems
Plan SIS Code: $\quad$ Subplan SIS Code: $\quad$ New Degree Audit required? (Y or N) Y

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


| CS 492/493 Internship Free Elective | $\begin{aligned} & 3 \\ & 3 \end{aligned}$ | Free Elective | 3 |
| :---: | :---: | :---: | :---: |
|  | Total:16 |  | Total:15 |
| Minimum Credit Hours Required for Graduation* 120 |  |  |  |

## Major/Program Footnotes:

${ }^{1}$ Foundational Electives (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 Health, 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
${ }^{2}$ GEP Humanities Choose from the University approved GEP Humanities course list
${ }^{3}$ Restricted 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
${ }^{4}$ Additional Breadth - Selected from the University approved GEP course lists

## CURRICULUM REQUIREMENTS

## Format B

| Degree/Plan Title: Agroecology and Sustainable Food Systems | Plan SIS Code: |
| :--- | :--- |
| Concentration/Subplan Title: Community Food Systems $\quad$ Subplan SIS Code: |  |
| Indicate requirements status: |  |
| Newrent: $\quad$ Proposed: X | Proposed Effective Semester: $1 / 2017$ |
| Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific <br> major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the <br> 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 <br> MA 121 or MA 131 or MA 141 <br> BIO 181 <br> BIO 183 or PB 200 <br> CH 101 <br> CH 102 <br> AEC/PB 360 <br> COM 110 or COM 112 <br> ENG 331, 332, 333 or AEE 311 <br> HS 290 or CS 290 - Professional Development <br> CS 492/3 or HS 492/3 - Internship or Research <br> CS 230 - Introduction to Agroecology (CP) <br> CS 415 - Integrated Pest Management <br> CS 430 - Advanced Agroecology (CP) <br> CS/HS 410 - Community Food Systems (CP) <br> CS/HS 480 - Sustainable Food Production (capstone) (CP) <br> ARE 201 <br> SSC 200 <br> SSC 201 <br> STS 323 - World Population and Foods Prospects <br> SSC/HS 427 - Biological Approaches to Sustainable Soil Systems or <br> SSC 332 Environmental Soil Microbiology <br> SOC 241 - Sociology of Agriculture and Rural Societies <br> SSC/HS 428 - Service-Learning in Urban Agricultural Systems <br> IDS 201 - Environmental Ethics or <br> IDS 211 - Eating through American History or <br> IDS 303 - Humans and the Environment | $\begin{aligned} & 3 \\ & 3 \\ & 4 \\ & 4 \\ & 4 \\ & 3 \\ & 1 \\ & 4 \\ & 3 \\ & 3 \\ & \hline 1 \\ & 3 \\ & \hline 3 \\ & 3 \\ & 4 \\ & 3 \\ & 1 \\ & 3 \\ & 3 \\ & 1 \\ & \hline \end{aligned}$ | Mathematics (6 hours) <br> Natural Sciences (16 hours) <br> Interdisciplinary Perspectives and Global Knowledge (3 hours) <br> Social Science (3 credits) <br> Social Science (3 credits) <br> Interdisciplinary Perspectives (3 hours) <br> IDS 201 is also a GK |
| Concentration Courses/Groups/Electives: <br> Foundational electives <br> Restricted electives | $\begin{aligned} & 11 \\ & 21 \end{aligned}$ |  |
| Free Electives: | 6 |  |


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

## NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS

Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.

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

At least one of the following must be listed:
1 Choose course(s) from the University Approved GEP course list for this category.
2 Minimum requirements are satisfied by Major/College course requirements.
3 Major/College course requirement satisfies $\underline{\mathbf{X}}$ credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
4 Co-requisite is satisfied by a Major/College course requirement.
5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual \& Performing Arts.
6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.

| General Education Program Requirements: <br> Minimum 39-40 hrs | Credit hours | How will the GEP requirement be met? <br> (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) <br> 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 | $\begin{aligned} & \text { (Choose statement 1, } 2 \text { or 3) } \\ & 2 \end{aligned}$ |
| English 101 (c- or better required) (4 credits) | 4 | ENG 101 |
| Humanities <br> (Courses from two different disciplines) <br> Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites. | 6 | (Choose statement 1, 2 or 3) $1,3$ |
| Social Sciences (6 credits) <br> (Courses from two different disciplines) <br> Course(s) in the Major may double-count to satisfy this requirement and also <br> satisfy either the Global Knowledge or U.S. Diversity co-requisites. <br> Addithan | 0 | $\begin{aligned} & \text { (Choose statement 1, } 2 \text { or 3) } \\ & 2 \end{aligned}$ |
| Additional Breadth <br> (Choose approach that is different from the approach of the Major) <br> Major/College requirements cannot satisfy this requirement and an $A B$ course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites. | 3 | (Choose statement 5 or 6) <br> 5 |
| Interdisciplinary Perspectives <br> 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 <br> (Including one Fitness and Wellness course) | 2 | Choose course(s) from the University Approved GEP course list for this category. |
| Total credit hours needed to complete GEP that are not 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 <br> College/Program: |  | Place an $\mathbf{X}$ in the credit hour box to indicate below that the <br> requirement is "Satisfied by College/Program Requirements" |
| :--- | :---: | :--- |
| Communication in the Major (Advanced Communication) | x | Satisfied by College/Program Requirements |
| Technology Fluency | X | Satisfied by College/Program Requirements |
| Total credit hours required to complete Degree: Total <br> must be within 120-128 credit hours. | 120 | As applicable, indicate here the overall GPA requirement <br> 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
Restricted 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

## (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: $\quad$ Proposed: X Proposed Effective Semester: 1/2017
Degree/Plan Title: Agroecology and Sustainable Food Systems Concentration/Subplan Title: Urban Horticulture Plan SIS Code: $\quad$ Subplan SIS Code: $\quad$ New Degree Audit required? (Y or N) Y

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

## Major/Program Footnotes:

${ }^{1}$ GEP Humanities Choose from the University approved GEP Humanities course list or the following course(s)
${ }^{2}$ Foundational 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
${ }^{3}$ 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/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
${ }^{4}$ Additional 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 Sustainable Food Systems | Plan SIS Code: |
| :--- | :--- |
| Concentration/Subplan Title: Urban Horticulture | Subplan SIS Code: |
| Indicate requirements status: | Current: |
| New Degree Audit required? (Y or N) Y | Proposed: X |
| Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific <br> major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the <br> course. |  |


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


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

## NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS

Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.

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

| General Education Program Requirements: <br> Minimum 39-40 hrs |
| :--- |
| Mathematical Sciences (6 credits) (At least 1 course with MA or ST <br> prefix) Course(s) in the Major may double-count to satisfy this requirement and <br> also satisfy either the Global Knowledge or U.S. Diversity co-requisites. |

## Natural Sciences

(At least 1 lab course or course with a lab)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.
English 101 (c- or better required)

## Humanities

(Courses from two different disciplines)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

## Social Sciences

(Courses from two different disciplines)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

## Additional Breadth <br> (3 credits)

(Choose approach that is different from the approach of the Major)
Major/College requirements cannot satisfy this requirement and an $A B$ course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.

## Interdisciplinary Perspectives (5 credits)

Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

| Health and Exercise Studies (2 credits) <br> (Including one Fitness and Wellness course) | 2 | Choose course(s) from the University Approved GEP course <br> list for this category. |  |
| :--- | :--- | :--- | :--- |
| Total credit hours needed to complete GEP that are not <br> satisfied as part of the Major/College requirements. | 15 |  |  |
| GEP Co-Requisites: |  | Courses taken in the Major, GEP, or Minor may double-count to <br> fulfill the co-requisites. Courses that satisfy the U.S. Diversity or <br> Global Knowledge co-requisite are marked on course lists with a <br> "USD" or "GK" indicator. |  |
| U.S. Diversity co-requisite | (USD) | $\mathrm{n} / \mathrm{a}$ | (Choose statement 1 or 4) |
| Global Knowledge co-requisite | (GK) | 0 | 4 |


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


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
Recommended By:

Dean's Council Date
Approved By:

Executive Vice Chancellor and Provost
Date

Approved By:

## MEMORANDUM

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

May $27^{\text {th }}, 2016$

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: $2 \times 6$ credit hours
ID 415: 3 credit hours
ID 445: 3 credit hours
ID 400: $2 \times 6$ credit hours
ID 444: 3 credit hours

Please enter these requirements in the system effective Fall 2016.

## Industrial Design (Bachelor) (12IDB)

| FRESHMAN YEAR |  |  | Credit |
| :---: | :---: | :---: | :---: |
| Fall Semester | Credit | - Spring Semester |  |
| D 100 Design Thinking ${ }^{4}$ <br> D 104 First Year Studio $1^{4}$ <br> ENG 101 Academic Writing and Research ${ }^{H}$ <br> GEP Mathematical Sciences Req ${ }^{\text {A }}$ <br> HES_***Health \& Exercise Studies Course ${ }^{\text {E }}$ | $\begin{aligned} & 3 \\ & 6 \\ & 4 \\ & 3 \\ & 1 \\ & 17 \end{aligned}$ | D 101 Design Thinking $11{ }^{4}$ <br> D 105 First Year Studio $11{ }^{4}$ <br> GEP Mathematical Sciences Req. ${ }^{\text {A }}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{\text {E }}$ GEP Humanities Requirement ${ }^{c}$ | $\begin{aligned} & 3 \\ & 6 \\ & 3 \\ & 1 \\ & 3 \\ & \hline \end{aligned}$ |
| SOPHOMORE YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ID 201 Basic Industrial Design Studio $1^{4}$ ID 215 Introduction to Digital Techniques ${ }^{4}$ ID $318{\text { Ideation } I^{4}}^{4}$ GEP Natural Sciences Requirement ${ }^{B}$ | $\begin{aligned} & 6 \\ & 3 \\ & 3 \\ & 4 \\ & 4 \\ & 16 \end{aligned}$ | ID 202 Basic Industrial Design Studio II ${ }^{\text {4 }}$ <br> ID 315 Digital Product Modeling ${ }^{4}$ <br> ID 418 Ideation $\mathrm{II}^{4}$ <br> ID 255 Contemporary Mfg. Processes $1^{4}$ | $\begin{aligned} & 6 \\ & 3 \\ & 3 \\ & 3 \\ & 15 \end{aligned}$ |
| JUNIOR YEAR - International Experience requirement ${ }^{3}$ |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ID 300 Interm. ID Digital Studio Series ID 415 Adv. Digital Design Process ${ }^{4}$ GEP Natural Sciences Requirement ${ }^{B}$ GEP Social Sciences Requirement ${ }^{D}$ Design Elective ${ }^{2}$ | $\begin{aligned} & 6 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 18 \end{aligned}$ | ID 300 Interm. ID Dig. Studio Series GEP Add. Breadth Requirement ${ }^{F}$ Free Elective ID 445 Human-Centered Design | 6 <br> 3 <br> 2 <br> 3 <br> 14 |
| SENIOR YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ID 400 Adv. ID Studio Series GEP Social Sciences Requirement ${ }^{D}$ GEP Humanities Requirement ${ }^{〔}$ Design Elective ${ }^{2}$ | 6 3 3 3 15 | ID 400 Adv. Industrial Studio ${ }^{1.4}$ ID 444 History of Industrial Design ${ }^{4}$ Free Elective | $\begin{aligned} & 6 \\ & 3 \\ & 3 \\ & 12 \end{aligned}$ |
| Minimum Credit Hours Required for Graduation* ${ }^{\text {1.J. } 3}: 123$ |  |  |  |

## 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 Prooram (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.

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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 <br> D 104 First Year Studio I CP <br> ENG 101 Academic Writing and Research ${ }^{H}$ GEP Mathematical Sciences Req ${ }^{\text {A }}$ <br> HES ***Health \& Exercise Studies Course ${ }^{\text {E }}$ | $17$ | D 101 Design Thinking II CP D 105 First Year Studio II GEP Mathematical Sciences Req. A HES_***Health \& Exercise Studies Course ${ }^{\mathrm{E}}$ GEP Humanities Requirement ${ }^{C}$ | $16$ |
| SOPHOMORE YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ID 201 Basic Industrial Design Studio 1 ID 215 Introduction to Digital Techniques ID 318 Ideation I CP <br> GEP Natural Sciences Requirement ${ }^{B}$ | $16$ | ID 202 Basic Industrial Design Studio II ID 315 Digital Product Modeling ID 418 Ideation II ID 255 Contemporary Mfg. Processes I | $\begin{aligned} & 6 \\ & 3 \\ & 3 \\ & 3 \\ & 15 \end{aligned}$ |
| JUNIOR YEAR - International Experience requirement ${ }^{3}$ |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ID 300 Interm. ID Digital Studio Series ${ }^{1}$ ID 415 Adv. Digital Design Process GEP Natural Sciences Requirement ${ }^{B}$ GEP Social Sciences Requirement ${ }^{D}$ Design Elective ${ }^{2}$ | $18$ | ID 300 Interm. ID Dig. Studio Series ${ }^{1}$ <br> GEP Add. Breadth Requirement ${ }^{F}$ <br> Free Elective <br> ID 445 Human-Centered Design <br> CP | $\begin{aligned} & 6 \\ & 3 \\ & 2 \\ & 3 \\ & 14 \end{aligned}$ |
| SENIOR YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ID 400 Adv. ID Studio Series ${ }^{1}$ GEP Social Sciences Requirement ${ }^{\text {D }}$ GEP Humanities Requirement ${ }^{\text {C }}$ Design Elective ${ }^{2}$ |  | ID 400 Adv . Industrial Studio ${ }^{1}$ ID 444 History of Industrial Design CP Free Elective | $\begin{aligned} & 6 \\ & 3 \\ & 3 \\ & 12 \end{aligned}$ |
| Minimum Credit Hours Required for Graduation ${ }^{* 1, J, K, 3}$ : |  |  | 123 |
| 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 $\underline{\mathbf{X}}$ 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.

## North Carolina State University

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


## Recommended By:

| Vice Provost, DELTA (if DE degree/certificate) |
| :--- |
| 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:

## Approved By:

College of Design<br>School of Architecture<br>ncsu.edu/design

Campus Box 7701
50 Pullen Rd
Raleigh, NC 27695-7701

## MEMORANDUM

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

## Enviranmental Design in Architecture (Bachelor) (12EDAB)

## FRESHMAN YEAR

| Fall Semester | Credit | Spring Semester | Credit |
| :---: | :---: | :---: | :---: |
| D 100 Design Thinking <br> D 104 First Year Studio I ${ }^{\text {8 }}$ <br> ENG 101 Acad. Writing \& Research ${ }^{(\mathrm{H})}$ <br> MA $107,111,121,131,108$, or $141^{(A)}$ | $\begin{aligned} & 3 \\ & 6 \\ & 4 \\ & 3 \\ & 16 \end{aligned}$ | D 101 Design Thinking II <br> D 105 First Year Studio II $^{\text {b }}$ <br> ARC 162 Introduction to Architecture <br> PY 211 College Physics I ${ }^{(B)}$ | $\begin{aligned} & 3 \\ & 6 \\ & 3 \\ & 4 \\ & 16 \end{aligned}$ |

## SOPHOMORE YEAR

| Fall Semester | Credit | $\square$ | Spring Semester |
| :--- | :--- | :--- | :--- |

## JUNIOR YEAR

| Fall Semester | Credit | Spring Semester | Credit |
| :---: | :---: | :---: | :---: |
| ARC 301 Arch. Design: Tectonics ${ }^{8}$ <br> ARC 331 Arch. Structures I ${ }^{8}$ <br> ARC 432 Arch. Construction Systems <br> ARC 441 History of Contemporary Arch ${ }^{8}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{(\mathrm{E})}$ | $\begin{aligned} & \hline 6 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \\ & 16 \end{aligned}$ | ARC 302 Arch. Design: Technology ${ }^{8}$ ARC 332 Arch. Structures $\mathrm{II}^{8}$ ARC 414 Environmental Controls ${ }^{8}$ GEP Social Sciences ${ }^{(D)}$ | $\begin{aligned} & 6 \\ & 3 \\ & 3 \\ & 3 \\ & 15 \end{aligned}$ |

SENIOR YEAR - International Experience ${ }^{3}$

| Fall Semester | Credit | Spring Semester | Credit |
| :---: | :---: | :---: | :---: |
| ARC 490/ARC 401 Arch. Design: Urban ${ }^{4.6 .8}$ <br> Free Elective ${ }^{5}$ <br> Free Elective ${ }^{5}$ <br> GEP Additional Breadth ${ }^{(\mathrm{F})}:$ HUM/SS VPA | $\begin{aligned} & 6 \\ & 2 \\ & 3 \\ & 3 \\ & 14 \end{aligned}$ | ARC 402 Arch. Design: Advanced ${ }^{2,3,4,6.8}$ Restricted Elective $(300 \text {-level or above) })^{5.7}$ GEP Social Sciences GEP Humanities ${ }^{(\mathrm{C})}$ | $\begin{aligned} & 6 \\ & 3 \\ & 3 \\ & 3 \\ & 15 \end{aligned}$ |



## 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 requirements.

1. No more than one studio may be taken in any semester.
2. ARC 402 Architectural Design: Advanced may be substituted with one 6 credit-hour design studio from the following list: ADN $400,460,470,480, ~ G D ~ 201,202$, ID 201, LAR 500 and 501 (with consent of the LAR Department Head).
3. ARC 402 Architectural Design: Advanced may be substituted with one 6 credit-hour Design/Build Studio offered in the summer between Junior and Senior years.
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 courses in any order which support their educational objectives.
6. The Fall or Spring Semester of the Senior 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 design studio will also fulfill the International Experience requirement. Please contact your advisor for more detail.
7. Restricted Elective ( 300 Level of above) may be fulfilled by any 300 level or above course offered in the College of Design.
8. A minimum grade of C - is required for all professional degree pre-requisite and required courses to be credited toward a Bachelor of Architecture degree

## *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 firm the University approved GEP Mathematical Sciencex course list.
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 SAT
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)

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

[^0]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 Know ledge (GK) co-requisite.
K. Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.

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: |
| New Degree Audit required? (Y or N) | Proposed: Effective Semester: Fall 2016 |
| Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific <br> major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the <br> course. |  |


| MAJOR FIELD OF STUDY REQUIREMENTS: |  |  |
| :---: | :---: | :---: |
| Required Courses/Groups/Electives: | Credit Hours | GEP category, if applicable |
| Indicate if course or course groupings have a <br> C-wall or MGPA requirement and which are considered Critical <br> Path courses - indicate with (CP) next to applic. course. |  | List GEP category and hours satisfied by a Major requirement |
| The faculty has decided to require C-wall on these Critical Path course: |  |  |
| 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 |  |  |
| Concentration Courses/Groups/Electives: |  |  |
| Free Electives: |  |  |
| Total credit hours under Major Field of Study: Minimum 27 hours required in program area. | hours |  |
| COLLEGE REQUIREMENTS: |  |  |


| Orientation Course(s): |  |  |
| :--- | :--- | :--- |
| Other: |  |  |
| 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 may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.

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

| 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 <br> (At least 1 course with MA or ST prefix) <br> 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 <br> (At least 1 lab course or course with a lab) <br> 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) 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) |
| Social Sciences <br> (Courses from two different disciplines) <br> 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 <br> (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an $A B$ 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 <br> 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 <br> (Including one Fitness and Wellness course) | 2 | Choose course(s) from the University Approved GEP course list for this category. |
| Total credit hours needed to complete GEP that are not 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. |


| The following requirements must be satisfied within the <br> College/Program: |  | Place an $\mathbf{X}$ in the credit hour box to indicate below that the <br> 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: <br> Total must be within 120-128 credit hours. | Total hours | As applicable, indicate here the overall GPA <br> requirement for degree completion including course <br> completion. |

## North Carolina State University

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


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:



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


Approved By:
Chair, University Courses \& Curricula Committee Date
Chair, Council on Undergraduate Education Date

| FRESHMAN YEAR |  |  |  |
| :---: | :---: | :---: | :---: |
| Fall Semester | Credit | Spring Semester | Credit |
| M 100 Professionalism, Diversity and Success in Mgmt ${ }^{1}$ <br> ENG $101^{2}$ or Natural Science (with Lab) ${ }^{3}$ <br> MA 121/131 Calculus ${ }^{4}$ <br> FL_ $201^{5}$ <br> MIE 201 Intro to Bus Processes <br> HES_*** Health \& Exercise Studies Course (HES 100 level) ${ }^{6}$ | $\begin{aligned} & 1 \\ & 4 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \end{aligned}$ | MA 114 Finite Math ${ }^{7}$ Communication ${ }^{8}$ or Humanities ${ }^{9}$ ENG $101^{2}$ or Natural Science (with Lab) ${ }^{3}$ EC 201 Principles of Microeconomics ${ }^{10}$ ACC 210 Concepts of Financial Reporting ${ }^{11}$ | $\begin{aligned} & 3 \\ & 3 \\ & 4 \\ & 3 \\ & 3 \\ & 3 \\ & 16 \end{aligned}$ |
| SOPHOMORE YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ACC 200 Intro Mang Acct ${ }^{11}$ Communication ${ }^{8}$ or Humanities ${ }^{9}$ BUS/ST 350 Econ Bus Statistics ${ }^{12}$ Natural Science ${ }^{3}$ <br> EC 202 Prin. of Macroeconomics ST 307 Intro Stat Programming-SAS | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \end{aligned}$ | ACC 310 Intermed. Financial Accounting I ${ }^{11}$ BUS 340 Information Systems Management BUS 320, 360, 370, MIE 305, 330 PSY 200 Intro. to Psychology Additional Breadth ${ }^{13}$ | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 15 \end{aligned}$ |
| JUNIOR YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ACC 311Intermed. Financial Accounting II $^{11}$ ACC 340 Accounting Info. Systems ${ }^{11}$ BUS 320, 360, 370, MIE 305, 330 Advanced Writing Elective ${ }^{14}$ HES_*** Health \& Exercise Studies Course ${ }^{15}$ |  | ACC 330 Intro. To Income Tax ${ }^{11}$ BUS 320, 360, 370, MIE 305, 330 Concentration or Free Elective ${ }^{16}$ Free Elective ${ }^{17}$ | $\begin{aligned} & 3 \\ & 9 \\ & 3 \\ & 3 \\ & \\ & \\ & \\ & 15 \end{aligned}$ |
| SENIOR YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ACC 450 Auditing \& Assurance Services ${ }^{11}$ Concentration or Free Elective ${ }^{16}$ <br> Interdisciplinary Perspectives ${ }^{18}$ <br> Free Elective ${ }^{17}$ <br> Humanities ${ }^{9}$ | $\begin{aligned} & 3 \\ & 3 \\ & 2-3 \\ & 3-4 \\ & 3 \end{aligned}$ | Concentration or Free Elective ${ }^{16}$ MIE 480 Business \& Policy Strategy Free Electives ${ }^{17}$ | $\begin{aligned} & 3 \\ & 3 \\ & 6 \\ & \\ & 12 \end{aligned}$ |
| Minimum Credit Hours Required for Graduation*: |  |  | 120 |

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)

| FRESHMAN YEAR |  |  |  |
| :---: | :---: | :---: | :---: |
| Fall Semester | Credit | Spring Semester | Credit |
| M 100 Intro to $\mathrm{COM}^{16}$ <br> ENG 101 Academic Writing \& Research ${ }^{2}$ <br> MA 121 Elements of Calculus ${ }^{3}$ <br> Natural Science ${ }^{5}$ <br> FL_ $201{ }^{15}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{1}$ | $\begin{aligned} & 1 \\ & 4 \\ & 3 \\ & 4 \\ & 3 \\ & 1 \\ & \\ & \mathbf{1 6} \end{aligned}$ | MA 114 Finite Math ${ }^{20}$ <br> MA 132 Comp Math for Life \& Mgmt Sci ${ }^{19}$ <br> Communications ${ }^{4}$ <br> MIE 201 Intro Bus Processes <br> Natural Science ${ }^{5}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{21}$ | $\begin{aligned} & 3 \\ & 1 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \\ & \\ & \mathbf{1 4} \end{aligned}$ |
| SOPHOMORE YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| ACC 200 Intro Mang Acct ${ }^{8}$ <br> ACC 200P Intro to Mang Acct Lab <br> EC 201 Principles of Microeconomics ${ }^{9}$ <br> Humanities ${ }^{23}$ <br> ST/BUS 350 Econ Bus Statistics ${ }^{10}$ <br> Additional Breadth ${ }^{18}$ | $\begin{aligned} & 3 \\ & 0 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & \\ & \mathbf{1 5} \end{aligned}$ | ACC 210 Concepts of Financial Reporting ${ }^{8}$ <br> (ACC 210P Prob. Session) <br> EC 202 Prin. of Macroeconomics <br> PSY 200 Intro. to Psychology <br> Free Elective ${ }^{7}$ <br> Free Elective ${ }^{7}$ | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & \mathbf{1 5} \end{aligned}$ |

## 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 |
| ${\text { Ethics Elective }{ }^{6}}^{\text {BUS 370 Operations Mgmt. }}$ | 3 |  |  |
|  | 3 |  |  |

## SENIOR YEAR

| Fall Semester | Credit |  | Spring Semester |
| :--- | :--- | :--- | :--- |

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 | $\quad$ Plan SIS Code: |
| :--- | :--- |
| Concentration/Subplan Title: ACC-Undeclared, Financial Analysis, Information Systems, Internal Auditing, Managerial, <br> Governmental/Nonprofit <br> Subplan SIS Code: |  |
| Indicate requirements status: |  |
| Newrent: $\quad$ Proposed: x | Proposed Effective Semester: Spring 2017 |
| Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses which represent specific <br> major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the <br> 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 <br> MA 121 or 131 or 141; MA 114 (MA 114 or 242) <br> Major (non- ACC/BUS/MIE) <br> Advanced Writing (ENG 331, 332, 333) <br> EC 201 (EC 201 or ARE 201) <br> EC 202 <br> PSY 200 <br> FL 201 <br> Communication/Speech (COM 110, 112, 211) <br> ST 307 <br> Major (ACC/BUS/MIE) <br> BUS/ST 350 (BUS/ST 350, ST 302, 361, 370, 372) <br> MIE 201 <br> MIE 305 <br> BUS 320 <br> MIE 330 <br> BUS 340 <br> BUS 360 <br> BUS 370 <br> MIE 480 <br> ACC 210 (C+ or better) <br> ACC 200 (C- or better) <br> ACC 310 (C- or better) <br> ACC 311 (C- or better) <br> ACC 330 (C- or better) <br> ACC 340 (C- or better) <br> ACC 450 | $\begin{aligned} & 6 \\ & \\ & \hline \end{aligned}$ | Mathematics (6 hours) <br> Advanced Communication (3 hours) <br> Social Sciences (3 hours) <br> Social Sciences (3 hours) <br> Technology Fluency (3 hours) Interdisciplinary Perspectives (3 hours) <br> Technology Fluency (3 hours) |
| Concentration Courses/Groups/Electives: <br> Undeclared: 9 hours of free electives <br> Financial Analysis: ACC 411 and two from BUS 420, 422, 425, 426, 428 , EC 404 or 474 <br> Information Systems: ACC 440 and two from BUS 440, 441, 442, 444. 449. 458, 459 <br> Internal Auditing: ACC 440 and 451 and two from BUS 440, 441, | 9 |  |


| 470, 472, EC 404 or 474 <br> Managerial: ACC 420 and two from MIE 435, BUS 470, 472, 473, 474, 475, 479 <br> Governmental/Nonprofit: ACC 460 (formerly ACC 410) and 420 and one from PS 202, 203, 312, HI 380, COM 466 |  |  |
| :---: | :---: | :---: |
| Free Electives: <br> 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: <br> Minimum 27 hours required in program area. | 95 hours |  |
| COLLEGE REQUIREMENTS: |  |  |
| $\begin{aligned} & \hline \text { Orientation Course(s): } \\ & \text { M } 100 \end{aligned}$ | 1 | U.S. Diversity Corequisite |
| Other: <br> Ethics Corequisite One from the following: MIE 306, PHI 214, 221, 312, 375 | 0 |  |
| Total credit hours under College Requirements: | 96 Hours |  |

## NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS

Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.

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

General Education Program Requirements:

## Minimum 39-40 hrs

## Mathematical Sciences

## (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.

## Natural Sciences

(At least 1 lab course or course with a lab)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

| English 101 (C- or better required) | (4 credits) | 4 |
| :--- | :--- | :--- |
| Humanities <br> (Courses from two different disciplines) | (6 credits) | 6 |

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.

## Social Sciences

(Courses from two different disciplines)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

## Additional Breadth

(3 credits)
(Choose approach that is different from the approach of the Major)
Major/College requirements cannot satisfy this requirement and an $A B$ course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.

Interdisciplinary Perspectives (5 credits)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

At least one of the following must be listed:
1 Choose course(s) from the University Approved GEP course list for this category.
2 Minimum requirements are satisfied by Major/College course requirements.
3 Major/College course requirement satisfies $\mathbf{X}$ credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
4 Co-requisite is satisfied by a Major/College course requirement.
5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/Visual \& Performing Arts.
6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
How will the GEP requirement be met?
(Choose applicable statement from 1-6 listed above)
7 Minimum requirements are satisfied by Major/College course requirements.

Choose course(s) from the University Approved GEP course list for this category.

ENG 101

Choose course(s) from the University Approved GEP course list for this category.

10
Minimum requirements are satisfied by Major/College course requirements.
X
(Choose statement 5 or 6)
11 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual \& Performing Arts. 2

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.


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

FRESHMAN YEAR

| Fall Semester | Credit | Spring Semester | Credit |
| :---: | :---: | :---: | :---: |
| M 100 Professionalism, Diversity and Success in Mgmt ${ }^{11}$ <br> ENG $101^{2}$ or Natural Science (with Lab) <br> MA 121/131 Calculus ${ }^{2,3}$ <br> FL_ $201^{5}$ <br> MIE 201 Intro to Bus Processes <br> HES_*** Health \& Exercise Studies Course (HES 100 level) ${ }^{6}$ | $\begin{aligned} & 1 \\ & 4 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \\ & 15 \end{aligned}$ | 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 ${ }^{2}$ | $\begin{aligned} & 3 \\ & 3 \\ & 4 \\ & 3 \\ & 3 \\ & 3 \end{aligned}$ |


| 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 ${ }^{2,12}$ <br> Natural Science ${ }^{4}$ <br> EC 202 Principles of Macroeconomics <br> ST 307 Intro Stat Programming- SAS | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \\ & 16 \end{aligned}$ | BUS 320, 340, 360, 370, MIE 305, 310, $330^{14}$ PSY 200 Intro to Psychology <br> Additional Breadth ${ }^{13}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{9}$ | $\begin{aligned} & 9 \\ & 3 \\ & 3 \\ & 1 \\ & \\ & \\ & 16 \end{aligned}$ |

## JUNIOR YEAR



| Concentration courses $^{1}$ | 6 |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Interdisciplinary Perspectives $^{8}$ | $2-3$ |  |  |  |
| Humanities $^{20}$ | 3 | MIE 480 Business Policy \& Strategy |  | 3 |
| Free Elective $^{16}$ | 15 |  |  |  |
| Concentration course $^{1}$ |  |  |  |  |
| Free Electives $^{16}$ |  |  |  |  |
|  |  |  | 12 |  |
|  |  |  |  | 12 |

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 BUS and MIE courses attempted at NC State must be 2.0 or higher.

1. Concentration courses: Students may concentrate in Entrepreneurship, Human Resources Management, Information Technology, Operations Management, Marketing or Finance. See each curriculum for specific concentration courses.
2. Must be completed with "C-" or better.
3. MA 141 may substitute (the fourth hour will count as a free elective credit).
4. 7 credit hours-include one laboratory course or course with a lab from the GEP Natural Sciences list.
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. Take one from the GEP Interdisciplinary Perspectives list.
9. 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.)
10. ARE 201 may substitute. The requirement must be met with C- or better.
11. Students should take M 100 their first semester in the program.
12. ST 302, 361, 370 or 372 may substitute. The requirement must be met with C- or better.
13. Take one from the GEP Additional Breadth- Humanities/Social Sciences/Visual Performing Arts list.
14. BUS 320 has prerequisites of ACC 210 and EC 201. BUS 360 and MIE 330 have prerequisite of MIE 201.
15. COM 110, 112, or 211.
16. 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. (12 hours of free electives may be taken for credit only.)
17. ENG 331, 332, 333.
18. Choose two courses from the GEP Humanities list from two different subject areas.

* 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 BUS and MIE courses attempted at NC State must be 2.0 or higher.


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

Semester Display Effective Date: 6.2013

| FRESHMAN YEAR |  |  |  |
| :---: | :---: | :---: | :---: |
| Fall Semester | Credit | Spring Semester | Credit |
| M 100 Intro to $\mathrm{COM}^{12}$ <br> ENG 101 Academic Writing \& Research ${ }^{2}$ <br> MA 121 Elements of Calculus ${ }^{2,3}$ <br> Natural Science ${ }^{4}$ <br> FL_ $201^{5}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{6}$ | $\begin{aligned} & 1 \\ & 4 \\ & 3 \\ & 4 \\ & 3 \\ & 1 \\ & 16 \end{aligned}$ | MA 114 Finite Math ${ }^{7}$ <br> MA 132 Comp Math for Life \& Mgmt Sci ${ }^{8}$ <br> Communications ${ }^{17}$ <br> MIE 201 Intro to Bus Processes <br> Natural Science ${ }^{4}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{10}$ | $\begin{aligned} & 3 \\ & 1 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \\ & 1 \\ & \mathbf{1 4} \end{aligned}$ |

## 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 ${ }^{14}$ | $\begin{aligned} & 3 \\ & 0 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & \\ & \mathbf{1 5} \end{aligned}$ | ACC 210 Concept of Financial Reporting ${ }^{2}$ <br> (ACC 210P Prob. Session) <br> EC 202 Principles of Macroeconomics BUS 340, 360, 370, MIE $3300^{15}$ <br> Free Elective ${ }^{18}$ <br> PSY 200 Intro to Psychology | 3 <br> 3 <br> 3 <br> 3 3 <br> 15 |

## JUNIOR YEAR

| Fall Semester | Credit | Spring Semester | Credit |
| :---: | :---: | :---: | :---: |
| BUS 320 Financial Management <br> BUS 340, 360, 370, MIE $330{ }^{15}$ <br> BUS 340, 360, 370, MIE $330{ }^{15}$ <br> Advanced Writing ${ }^{19}$ <br> Concentration course or Free elective ${ }^{1,18}$ | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & \mathbf{1 5} \end{aligned}$ | BUS 340, 360, 370, MIE $330{ }^{15}$ <br> BUS 305 Legal \& Reg Environment <br> Concentration course <br> Free Elective ${ }^{18}$ <br> Concentration course or Free Elective ${ }^{1,18}$ | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & \mathbf{1 5} \end{aligned}$ |

## SENIOR YEAR

| 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 |
| :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1 5}$ |  | $\mathbf{1 5}$ |  |

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 BUS and MIE courses attempted at NC State must be 2.0 or higher.

1. Concentration courses: Students may concentrate in Entrepreneurship, Human Resources Management, Information Technology, Operations Management, Marketing or Finance. See each curriculum for specific concentration courses.
2. Must be completed with "C-" or better.
3. MA 131 or MA 141 may substitute.
4. 7 credit hours-include one laboratory course or course with a lab from the GEP Natural Sciences list.
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. 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.) The requirement must be met with C - or better.
9. Take one from the GEP Interdisciplinary Perspectives list.
10. 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.)
11. ARE 201 may substitute. The requirement must be met with $C$ - or better.
12. Students should take M 100 their first semester in the program.
13. ST $302,361,370$ or 372 may substitute. The requirement must be met with $C$ - or better.
14. Take one from the GEP Additional Breadth- Humanities/Social Sciences/Visual Performing Arts list.
15. BUS 320 has prerequisites of ACC 210 and EC 201 and BUS 370 has a prerequisite of BUS/ST 350. Consult the course catalog for other prerequisites of core courses.
16. PHI $214,221,309,313,375$
17. COM 110, 112, or 211.
18. 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.)
19. ENG $331,332,333$.
20. Choose one from the Humanities GEP 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.A. Economics | Plan SIS Code: |
| :--- | :--- |
| Concentration/Subplan Title: <br> Subplan SIS Code: |  |
| Indicate requirements status: Current: $\quad$ 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 considered critical path courses which represent specific <br> major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the <br> course. |  |



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

## NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS

Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.

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

At least one of the following must be listed:
1 Choose course(s) from the University Approved GEP course list for this category.
2 Minimum requirements are satisfied by Major/College course requirements.
3 Major/College course requirement satisfies $\underline{\mathbf{X}}$ credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
4 Co-requisite is satisfied by a Major/College course requirement.
5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/Visual \& Performing Arts.
6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: Minimum 39-40 hrs

## Mathematical Sciences

(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.

## Natural Sciences

(At least 1 lab course or course with a lab)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.
English 101 (C- or better required) (4 credits)

Humanities
(Courses from two different disciplines)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

## 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.

Additional Breadth
(Choose approach that is different from the approach of the Major)
Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.

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 |
| :--- | :---: |
| Health and Exercise Studies <br> (Including one Fitness and Wellness course) | (2 credits) |
| Total credit hours needed to complete GEP that are not <br> satisfied as part of the Major/College requirements. | 2 |

How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
 Minimum requirements are satisfied by Major/College course requirements.

| GEP Co-Requisites: |  | Courses taken in the Major, GEP, or Minor may double-count to <br> fulfill the co-requisites. Courses that satisfy the U.s. Diversity or <br> Global Knowledge co-requisite are marked on course lists with a |
| :--- | :---: | :--- | :--- |
| "USD" or "GK" indicator. |  |  |

## Economics (BA) (20ECONBA)

| 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) ${ }^{4}$ <br> MA 121 or 131 Calculus $^{2}$ <br> FL_ $201^{3}$ <br> MIE 201 Intro to Bus Processes <br> HES_*** Health \& Exercise Studies Course(HES 100 level) ${ }^{19}$ | $\begin{aligned} & 1 \\ & 4 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \\ & 15 \end{aligned}$ | 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 | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \end{aligned}$ |
| SOPHOMORE YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| EC 301 Intermed Microeconomics BUS/ST 350 Econ Bus Statistics ${ }^{8}$ Communication ${ }^{10}$ or Humanities ${ }^{11}$ <br> Natural Science ${ }^{4}$ <br> Interdisciplinary Perspectives ${ }^{5}$ <br> ST 307 Intro Stat Programming- SAS | $\begin{array}{\|l} 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 2-3 \\ 1 \\ 15-16 \end{array}$ | EC 302 Intermed Macroeconomics <br> Humanities ${ }^{11}$ <br> Additional Breadth ${ }^{9}$ <br> Free Electives ${ }^{17}$ | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 6-7 \\ & 15-16 \end{aligned}$ |
| JUNIOR YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |
| EC 480, Intro Econ Research, or <br> EC 351, Data Analysis for Economists <br> Economics Elective ${ }^{12}$ <br> Advanced Writing ${ }^{13}$ <br> Free Electives ${ }^{17}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{18}$ | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 6 \\ & 1 \\ & 16 \end{aligned}$ | Economics Elective ${ }^{12}$ <br> Social Science ${ }^{15}$ <br> Advised Electives ${ }^{16}$ <br> Free Electives ${ }^{17}$ | $\begin{aligned} & 3 \\ & 3 \\ & 6 \\ & 3 \\ & 3 \end{aligned}$ |
| SENIOR YEAR |  |  |  |
| Fall Semester | Credit | Spring Semester | Credit |



## Economics (BA) (20ECONBA)

| FRESHMAN YEAR |  |  |  |
| :---: | :---: | :---: | :---: |
| Fall Semester | Credit | Spring Semester | Credit |
| M 100 Intro to $\mathrm{COM}^{14}$ <br> ENG 101 Academic Writing \& Research ${ }^{1}$ <br> MA 121 Elements of Calculus ${ }^{2}$ <br> Natural Science ${ }^{4}$ <br> FL_ $201^{3}$ <br> HES_-*** Health \& Exercise Studies Course ${ }^{21}$ | $\begin{aligned} & 1 \\ & 4 \\ & 3 \\ & 4 \\ & 3 \\ & 1 \\ & \mathbf{1 6} \end{aligned}$ | MA 114 Finite Math ${ }^{6}$ <br> MA 132 Comp Math for Life \& Mgmt Sci ${ }^{18}$ <br> Communications ${ }^{10}$ <br> MIE 201 Intro Bus Processes <br> Natural Science ${ }^{4}$ <br> HES_*** Health \& Exercise Studies Course ${ }^{19}$ | $\begin{aligned} & 3 \\ & 1 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \\ & \mathbf{1 4} \end{aligned}$ |

## SOPHOMORE YEAR

| Fall Semester | Credit | Spring Semester | Credit |
| :---: | :---: | :---: | :---: |
| ACC 200 Intro Mang Acct EC 201 Principles of Microeconomics ${ }^{7}$ Humanities ${ }^{11}$ ST/BUS 350 Econ Bus Statistics ${ }^{8}$ Additional Breadth ${ }^{9}$ | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 3 \\ & \mathbf{1 5} \end{aligned}$ | EC 301 Intermed Microeconomics Humanities ${ }^{11}$ <br> Interdisciplinary Perspectives ${ }^{5}$ <br> Free Electives ${ }^{17}$ | $\begin{aligned} & 3 \\ & 3 \\ & 2-3 \\ & 6-7 \\ & \\ & 15 \end{aligned}$ |

## 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 ${ }^{17}$ | $\begin{aligned} & 3 \\ & 3 \\ & 3 \\ & 3 \\ & 2-3 \\ & \\ & \mathbf{1 5} \end{aligned}$ | Economics Elective ${ }^{12}$ Social Science ${ }^{15}$ Advised Electives ${ }^{16}$ Free Electives ${ }^{17}$ | $\begin{aligned} & 3 \\ & 3 \\ & 6 \\ & 3 \\ & \\ & 15 \end{aligned}$ |

## SENIOR YEAR

| Fall Semester | Credit | Spring Semester | Credit |
| :--- | :--- | :--- | :--- |
| Economics Electives $^{12}$ | 6 |  | EC 490 Research Seminar in Economics ${ }^{20}$ <br> Advised Electives $^{16}$ <br> Free Elective $^{17}$ |
| Economics Elective $^{12}$ | 3 |  |  |
| Advised Elective $^{16}$ |  |  |  |
| Free Electives $^{17}$ | 3 |  |  |

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 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 $101,101,103,105$ (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 490 H 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 | Plan SIS Code: |
| :--- | :--- |
| Concentration/Subplan Title: <br> Subplan SIS Code: |  |
| Indicate requirements status: Current: $\quad$ 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 considered critical path courses which represent specific <br> major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the <br> course. |  |



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

## NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS

Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.

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

At least one of the following must be listed:
1 Choose course(s) from the University Approved GEP course list for this category.
2 Minimum requirements are satisfied by Major/College course requirements.
3 Major/College course requirement satisfies $\underline{\mathbf{X}}$ credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
4 Co-requisite is satisfied by a Major/College course requirement.
5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/Visual \& Performing Arts.
6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: Minimum 39-40 hrs

## Mathematical Sciences

(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.

## Natural Sciences

(At least 1 lab course or course with a lab)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.
English 101 (C- or better required) (4 credits)

Humanities
(Courses from two different disciplines)
Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.

## 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.

Additional Breadth
(Choose approach that is different from the approach of the Major)
Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.

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 |
| :--- | :---: |
| Health and Exercise Studies <br> (Including one Fitness and Wellness course) | (2 credits) |
| Total credit hours needed to complete GEP that are not <br> satisfied as part of the Major/College requirements. | 2 |

How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
 Minimum requirements are satisfied by Major/College course requirements.

| GEP Co-Requisites: |  | Courses taken in the Major, GEP, or Minor may double-count to <br> fulfill the co-requisites. Courses that satisfy the U.s. Diversity or <br> Global Knowledge co-requisite are marked on course lists with a |
| :--- | :---: | :--- | :--- |
| "USD" or "GK" indicator. |  |  |

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

## Tamah Morant [tcmorant@ncsu.edu](mailto: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 [tcmorant@ncsu.edu](mailto:tcmorant@ncsu.edu) 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](mailto: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

## Consultation with College of Humanities and Social Sciences regarding new concentration in ACC degree:

From: Deanna Dannels [dpdannel@ncsu.edu](mailto:dpdannel@ncsu.edu)
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@ncsu.edu>
Cc: Richard Clerkin [rmclerki@ncsu.edu](mailto:rmclerki@ncsu.edu), David Zonderman <david zonderman@ncsu.edu>, Traciel Reid [tvreid@ncsu.edu](mailto:tvreid@ncsu.edu), William Kimler [kimler@ncsu.edu](mailto:kimler@ncsu.edu), Andy Nowel [nowel@ncsu.edu](mailto:nowel@ncsu.edu), Tamah Morant [tcmorant@ncsu.edu](mailto:tcmorant@ncsu.edu)

## Happy New Year!

I'm going to ask $m y$ colleagues to weigh in (you've $c c^{\prime} d$ 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 <Roby Sawyers@ncsu.edu> 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, 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
9195154443
---------- 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 [dpdannel@ncsu.edu](mailto:dpdannel@ncsu.edu), Richard Clerkin [rmclerki@ncsu.edu](mailto:rmclerki@ncsu.edu), Traciel Reid [tvreid@ncsu.edu](mailto:tvreid@ncsu.edu), William Kimler [kimler@ncsu.edu](mailto:kimler@ncsu.edu), Andy Nowel [nowel@ncsu.edu](mailto:nowel@ncsu.edu), Tamah Morant [tcmorant@ncsu.edu](mailto:tcmorant@ncsu.edu)

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 $\qquad$
From: Traciel Reid [tvreid@ncsu.edu](mailto:tvreid@ncsu.edu)
Date: Tue, Jan 19, 2016 at 10:45 AM
Subject: Re: consultation regarding proposal for new governmental/nonprofit concentration in accounting
To: Roby Sawyers <Roby Sawyers@ncsu.edu>
Cc: Deanna Dannels [dpdannel@ncsu.edu](mailto:dpdannel@ncsu.edu)

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 <Roby Sawyers@ncsu.edu>

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 <Roby Sawyers@ncsu, edu> 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 <Richard Clerkin@ncsu.edu> 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


[^0]:    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 Scjences/Visual and Performing Arts
    G. Interdisciplinary Perspectives (5-6 credit hours)

    Satisfied by courses taken as part of the maior 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)

