

UCCC AGENDA for January 28, 2015

*Meeting 12:30-2:30 p.m. in **Talley Student Center 3285***

Call to Order

Quorum 12

Welcome and Introductions- Chair, Dr. David Auerbach

Remarks and updates from Dr. Barbara Kirby, Associate Vice Provost, Academic Programs and Services

Minutes

Approval of UCCC December 10, 2014 Minutes

Recorder : Gina Neugebauer

Major Actions

<u>Presenter:</u>	<u>Reviewers:</u>	<u>Action:</u>	<u>Type:</u>
College of Sciences			
Warren	Kraus, Rieder, Koch	GPH 425 <i>Global Health and Physiology</i>	New Course
College of Natural Resources			
Brothers	Berube, Despain, Currie	FW 445 <i>Human Dimensions of Conservation Biology in the Bahamas</i>	New Course
College of Design			
Rieder	Nowel, Ozturk, Beller	Environmental Design in Architecture (12EDAB)	Rev: Various Changes
College of Agriculture and Life Sciences			
Hardin	Parish, Brothers, Warren	Animal Science-Veterinary Bioscience (11ANSCB-11ANSCVET)	Rev: Course Requirement

Presentation

Andrew Behnke, Mohan Ramaswamy

Service Learning Task Force

Catherine Freeman

Update on CourseLeaf Implementation

Announcements

UCCC Minutes 12.10.2014
 Room-Witherspoon Center 126
 Call to Order: 12:33pm

ATTENDANCE

Members Present (Quorum Present: 18) Chair Auerbach, Alton Banks, Amanda Beller, Betty Black, David Berube, Gene Brothers, Debbie Currie, Scott Despain, Michael Helms, Peter Hessling, Tom Koch, Andy Nowel, Hatice Ozturk, David Parish, Martha Reiskind, Farzad Rezaei, Kathleen Rieder, Rebecca Swanson

Ex-Officio Members Present: Charles Clift, Catherine Freeman, Barbara Kirby

Recurring Guests Present: John Harrington, Li Marcus

Members Absent: Charles Hardin (E), Helmut Hergeth (E), Brittany Mastrangelo (E), Robert Warren (E)

Guests Present: Kasey Harris (DASA), Jane Lubischer (Biological Sciences), Page Midyette (DASA, Graduate Intern)

WELCOME and INTRODUCTIONS

Remarks from Chair, David Auerbach:

Chair Auerbach welcomed the committee to the last UCCC meeting of the academic semester.

Remarks from Associate Vice Provost Academic Programs, Barbara Kirby:

Dr. Kirby updated the committee on the university task force assigned to looking at service learning. A subcommittee will be appointed for UCCC to work with the task force on the criteria for service learning designated courses. She explained that the task force will attend a UCCC meeting early next semester to share highlights of the task force and their recommendations. In conjunction with other representatives, UCCC will look at the implementation and criteria of service learning courses. To see a list of service learning courses recently compiled for the [Carnegie Report](#), Dr. Kirby asked members to go to the [Office of Faculty Development website](#). She asked members to consider volunteering for the subcommittee.

CONSENT AGENDA

➤ Approval of the Minutes from November 19, 2014

A motion was made and seconded to approve the Minutes as presented. Without discussion, the motion was **APPROVED** unanimously.

- A motion was made and seconded to approve the consent agenda. One member requested that **ECE 495 Individual Study in ECE** be pulled out for further review. Another member requested that **LSC 295 Special Topics in the Life Sciences** also be pulled. Without further discussion, the remaining actions in the motion were **APPROVED** unanimously.

Action	Type
PS 445-Comparative Systems of Law and Justice	Rev: Removal of pre-req
NE 202-Radiation Sources, Interaction and Detection	Rev: Pre-req; update 14NEBS
CE 464-Legal Aspects of Contracting	Rev: Co-req
BME 443/543 - Cardiovascular Biomechanics	Drop Course
PHI 422-Philosophical Issues in Environmental Issues	Drop Course - no faculty to offer
BA Leadership in the Public Sector (16LPSBA)	Rev: Replace PS 471 with LPS 320
Associate of Applied Science (AAS) in Ornamentals & Landscape Technology (11OLTAAS)	Rev: Title Change to Horticultural Science and Management (11HSMAAS)
Biological Sciences: Ecology, Evolution, & Conservation Biology (17BIOSCBS-17BIOSCEEC)	Rev: Various Changes
Biological Sciences: Human Biology (17BIOSCBS-17BIOSCHB)	Rev: Various Changes
Biological Sciences: Integrative Physiology and Neurobiology (17BIOSCBS-17BIOSCIPN)	Rev: Various Changes

Biological Sciences: Molecular, Cellular, & Developmental Biology (17BIOSCBS-17BIOSCMCD)	Rev: Various Changes
Genetics (17GNBS)	Rev: Various Changes
Zoology (17ZOOPS)	Rev: Various Changes

- ECE 495 Individual Study in ECE-APPROVED unanimously.
Discussion: One member noted that the pre-requisites would be problematic to enforce. Another member noted that the department would sign students up for the course, so it would be up to the department to determine if students had the qualifications to be signed up for the course. The presenter explained that students would be signed up only for sections that were appropriate to their previous coursework. Students would have a background in the subject matter. He noted that the course itself does not count towards the degree, but allows for more research opportunities for students in the major. He noted that they will not enforce the pre-requisite. Without any additional discussion, the action was **APPROVED** unanimously.
- LSC 295 Special Topics in the Life Sciences-APPROVED unanimously.
Discussion: One member asked if the two repeats listed are for a total of six hours. Dr. Jane Lubischer, from Biological Sciences, explained that since the course is a special topics, theoretically students would have matriculated out of the LSFY program. At most, the max would be six credits. Additionally, there is not a lot of room for students to add to their schedule. Charles Clift asked if the restrictive statement should be enforced. Dr. Lubischer confirmed yes. Exceptions will be made by the department. Without any additional discussion, the action was **APPROVED** unanimously.

NEW BUSINESS

- BIO 481 Senior Capstone Project-APPROVED unanimously.
Discussion: Betty Black moved; David Parish seconded. One member noted that ‘relevant experiences’ listed in Student Learning Outcome #1¹ outside of the classroom should be clarified. Dr. Jane Lubischer, from Biological Sciences, explained that the department looks at this as an opening for students to incorporate their outside experiences in their reflection. She offered to take it out if it appeared too vague. The member asked what constitutes outside. He noted that it is too vague and could be subject to misuse. Dr. Kirby noted that in most capstones, it is a compilation of a student’s work and experiences over four years. She believed it would be hard to cut out a student’s experience. Dr. Kirby outlined an example of a student shadowing a physician; this would impact how a student would see their field of study in medicine. These are not usually isolated experiences. Dr. Lubischer noted that perhaps the key word is ‘relevant’. She felt that critical thinking will help students see and articulate what is relevant. Another member noted that he doesn’t see a problem with the wording. He felt that it could be a nice prompt to include experiences for students. The quality and rigor would be enforced by the instructor. A member felt that it was a semantics issue, one where outside experiences should be clarified to reduce misunderstanding. Dr. Lubischer emphasized that she would like to encourage students to incorporate their experiences into their academics. One member noted he had some questions with the outcomes for the whole Biology BA program. He asked if the research papers would be used as a measure for students to determine if they are meeting the program outcomes. He asked how many students would be enrolled in the course. Would it be manageable for the instructor to teach and assess if students meet the program objectives? Would the in-class assignments be part of this assessment? The member asked if the presentations counted as the in class assignments. Dr. Lubischer explained that her understanding of program assessment is that a random sample can be taken to assess student learning and program outcomes. For the in class assignments, this is used to ensure that students are able to keep up with what is going on in class. This could be a quiz or a short writing assignment. The member noted that for Week 8 and Week 9 there are presentations. He asked for more information on what students are presenting. Dr. Lubischer explained that the intention is to have students talk about their research and work, and how it is progressing. Each student may have different disciplines they are pulling from, so each presentation will be different. Charles Clift, from Registration and Records, noted that the capstone component has not been utilized in SIS yet. He asked if the course would fit into a seminar or practicum in the meantime. Catherine Freeman said her office would follow up on this, but for now the course could be approved as a seminar. Charles Clift asked if the restrictive statement should be enforced. Dr. Lubischer confirmed that it should be enforced. One member asked if the course would be taught every year; if so it needed to be marked on the *Course Action Form*. Without any further discussion, the action was **APPROVED** unanimously.

¹ UCCC Agenda 12.10.2014, pg. 44, <http://www.provost.ncsu.edu/governance/standing-committees/courses-curricula/2014-2015/agendas/documents/12.10.2014UCCCagendaandActionsv3.pdf>

➤ Biological Sciences BA-Appendix C with Curriculum-APPROVED unanimously.

Discussion: Betty Black motioned; David Parish seconded. One member noted that she could not find consultations in the action. She asked if consultations with other colleges were sought. The member explained that the proposed Biology BA degree has made it possible for a second discipline to be included for 21 credits. Dr. Lubischer explained that a request was sent to the Associate Deans for consultation. She explained that she had worked most extensively with CHASS. Dr. Lubischer emphasized that the goal is to have a theme with the second discipline, and not a selection of random courses. In preparing for this degree, Biological Sciences has looked at the demographic of students most likely to participate in the Biology BA degree. She expects double majors of Psychology and Biological Sciences after looking at students who are enrolled in a Psychology degree with Biological Sciences minor. Dr. Lubischer explained that some students may already be taking the courses that would constitute the Biology BA degree. Dr. Lubischer also noted that she had received a consult from Engineering. The member explained that she has had students in her college, Design, who might be interested in pursuing a second degree in Biological Sciences. She did not anticipate students being able to fit 21 credit hours from Design Studies or Art& Design in the Biological Sciences BA curriculum. She couldn't see a student doing all of the credits. Dr. Lubischer noted that there have been Design students with minors in Biological Sciences. The member asked if a student receives a degree in Psychology if it is a BA degree? Dr. Lubischer explained that there is no definition on how NCSU defines a BA and BS with clear rules or regulations. The member explained that the College of Design only has one BA degree, in Design Studies. Another member asked if there are other universities that have both a BS and BA in Biology? Dr. Lubischer confirmed that there are other universities who have both a BA and BS. One member asked for clarification on the experiential degree requirement. Dr. Lubischer explained that she has catalogued the Biology courses that include this component. She explained currently it is in the department's hands, with advisors and a program coordinator employing a contract with students. The member asked if the Biology BS degree already contains experiential components. Dr. Lubischer stated yes, and that other programs in the College of Sciences use experiential requirements. Additionally, the College of Agriculture and Life Sciences employs this. The member asked if the criteria are determined by the advisor. Dr. Lubischer clarified that it is the advisor and the coordinator of the program. The member noted that the experiential experience and capstone seem very critical for the program. Another member asked if Biology has an internship course as well. Dr. Lubischer stated that they do not have one. The presenter explained that nine or ten hours a week could be considered professional and experiential. A member noted that during his time at another institution, data was collected on internships. It was determined that they are suspicious. Dr. Kirby noted that this is an issue that goes beyond the proposed Biology BA action. She noted that the UCCC subcommittee has been considering the numbering for courses for internal and learning experiences. Every college and program shapes their own internal and external experiences. Dr. Kirby explained that colleagues in Registration and Records try to illustrate the correct contact and credit hour ratios for these experiences. She noted that the ultimate goal is to bring some consistency across the system; right now it is all experiential, but everyone calls it something different. A member mentioned that this is a bigger issue. Students who participate in experiential learning tend to be a part of higher socio-economic groups and often have connections. He asked when putting together a degree program, how will student fulfill this requirement? He noted that those without means struggle. Dr. Lubischer felt that it would actually make it better for students, because it is built into the curriculum and is credit bearing. Students will not be expected to fulfill this requirement in addition to a full semester of coursework. Additionally, Dr. Kirby explained that there may be some financial incentives if it is credit bearing. Once an experiential supervisor finds out that the experience is credit bearing, they tend to take it more seriously. They understand that it is a real experience for the student. Charles Clift asked if BIO 492 could be used as a placeholder in the audit since it is a three credit hour course. This would be used until there is a course that addresses this. Dr. Lubischer noted that she could provide a starting list to be put into the audit until the course is created. One member asked if when writing student learning objectives, if principles of creative thinking were included. The member noted that she was looking for creative writing. Dr. Lubischer explained that she is familiar with theories on creative thinking, but she would need some help with assessing this. She explained that the students would be in the Biology degree, but is unsure what the second program might be; this would be challenging in program assessment. Another member mentioned that she found the capstone course previously approved helpful with assessing this; she found the curriculum satisfactory. Without any additional discussion, the action was **APPROVED** unanimously.

After the action as approved, Dr. Kirby explained to the committee the next steps for this action. She noted that the university tries to balance the deadlines of submissions and meeting agendas for agencies like the Board of Trustees and Dean's Council. She noted that Appendix A is currently with UNC-GA being reviewed. After their review, they will request the action that was just approved, Appendix C. However, they may ask for more information or additional revisions. This would mean that Appendix C may need to come back to UCCC for review depending on the revision. This proposed curriculum will be the first one in advancing in the recent past. Usually NCSU is granted three spots, and the graduate programs come forward first. However, this year NCSU was granted five spots. Dr. Kirby thanked the

committee for their understanding on this matter.

- ECE 404 Introduction to Solid State Devices- **APPROVED** unanimously.
Discussion: Hatice Ozturk motioned; David Parish seconded. Catherine Freeman noted that the abbreviated title would need to be revised. The presenter agreed to let Li Marcus, from Registration and Records, handle the revision to the abbreviated title. Charles Clift noted that there was a change to the pre-requisite and restrictive statement, but the boxes had not been checked for the revision. Without any further discussion, the action was **APPROVED** unanimously.
- ECE 402 Communications Engineering-**APPROVED** unanimously.
Discussion: Hatice Ozturk motioned; David Parish seconded. Charles Clift asked if the restrictive statement should be enforced. The presenter confirmed that it should be enforced. Without any additional discussion, the action was **APPROVED** unanimously.
- CSC 111 Introduction to Computing-Python-**APPROVED** unanimously.
Discussion: David Parish motioned; Scott Despain seconded. The presenter noted that the restrictive statement should be enforced. Charles Clift noted from previous email exchange, CSC 111 is not replacing CSC 112 for Spring 2015. The presenter stated that currently students are signed up for CSC 112. Once CSC 111 is approved, students would be flipped into CSC 111. One member noted that in the catalog description, there is nothing indicating that it is limited to students in specific majors. Another member pointed out that the *Academic Integrity Policy* is thorough and exhaustive. She noted that in the First Year College, academic integrity is handled through conferences, with appropriate action discussed. This could mean no credit on an assignment, partial credit, or no credit for the course depending upon the severity. She asked if there is an issue with stating cheating would automatically have a specific consequence. The presenter explained that the department is adamant about adhering to academic integrity. He noted that there is a grey area for cheating, so it is easy for students to think they are not cheating. However, Computer Science has programs that can show what constitutes cheating. He noted that a lot also has to do with intent. The Office of Student Conduct bases their decisions on actions not intent. This department wants their students to know up front what constitutes cheating. A member made a friendly suggestion to include citing oneself for proper citations. Without any further discussion, the action was **APPROVED** unanimously.
- TE/ISE 110 Computer-Based Modeling for Engineers-**APPROVED** unanimously.
Discussion: David Parish motioned; Scott Despain seconded. One member noticed that the College of Textiles signatures are missing from the action. The presenter stated that they had been signed by Textiles. Catherine Freeman noted that her office will follow up to get the signatures. Without any additional discussion, the action was **APPROVED** unanimously.
- Construction Engineering and Management-Mechanical Construction (14CEMBS-14CEMMEC)- **APPROVED** unanimously.
Discussion: David Parish motioned; Alton Banks seconded. **APPROVED** unanimously without discussion.
- BUS 443 Business Analytics- **APPROVED** unanimously.
Discussion: Andy Nowel motioned; David Parish seconded. **APPROVED** unanimously without discussion.
- HS 242 Introduction to Small Scale Landscape Design-**APPROVED** unanimously.
Discussion: Martha Reiskind motioned; Betty Black seconded. One member expressed his enjoyment of the inspirational thought. The presenter noted that was present in the old syllabus, but it is not in the new one. Without any further discussion, the action was **APPROVED** unanimously.
- Horticultural Science-Technology, Landscape Design (11HORTBS-11HORTTHL)-**APPROVED** unanimously.
Discussion: Martha Reiskind motioned; David Parish seconded. One member expressed his confusion, with the blanks on the *Format B Form*. Catherine Freeman noted that her office will work with the college to make sure this is amended. Without any additional discussion, the action was **APPROVED** unanimously.

DRAFT

DRAFT

Catherine Freeman announced to the committee that training for the new course approval system, CIM (*Course Inventory Management*) would be held on January 22nd and 23rd. She explained that the company, LeepFrog will be sending a trainer to help with this process. Catherine Freeman noted that her office would send more information as it becomes available.

Meeting adjourned at 2:00pm

Respectfully submitted by Gina Neugebauer

**N.C. STATE UNIVERSITY
UNDERGRADUATE COURSE ACTION FORM
Effective September 2008**

NOTE: Click shaded fields to type data and click on boxes to check.

DEPARTMENT/PROGRAM	GLOBAL PUBLIC HEALTH	
COURSE PREFIX/NUMBER	GPH 425	
PREVIOUS PREFIX/NUMBER		
COURSE TITLE	GLOBAL HEALTH AND PHYSIOLOGY	
ABBREVIATED TITLE	GLOBAL HEALTH AND PHYSIOLOGY	
SCHEDULING	Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer <input checked="" type="checkbox"/> Every Year <input checked="" type="checkbox"/> Alt. Year Odd <input type="checkbox"/> Alt. Year Even <input type="checkbox"/> Other <input type="checkbox"/>	
COURSE DELIVERY CHECK ALL THAT APPLY	ON CAMPUS <input checked="" type="checkbox"/> DISTANCE EDUCATION <input type="checkbox"/> ONLINE <input type="checkbox"/> REMOTE LOCATION <input checked="" type="checkbox"/>	
COURSE CREDIT/GRADING	CREDIT HOURS <u>6</u>	GRADING ABCDF <input checked="" type="checkbox"/> S/U <input type="checkbox"/>
CONTACT HOURS <i>See contact/credit hour guidelines for detail.</i>	LECTURE 3 SEMINAR <input type="checkbox"/> LABORATORY <input type="checkbox"/> PROBLEM <input type="checkbox"/> STUDIO <input type="checkbox"/> INDEPENDENT STUDY <input type="checkbox"/> RESEARCH <input type="checkbox"/> INTERNSHIP <input type="checkbox"/> PRACTICUM <input type="checkbox"/> FIELD WORK 10	
IS COURSE REPEATABLE FOR CREDIT?	N	# REPEATS ALLOWED
INSTRUCTOR(S) (NAME/RANK)	DR. BETH OVERMAN DUAL APPOINTMENT? <input type="checkbox"/>	

ANTICIPATED ENROLLMENT	Per semester <u>24</u> Per section <u>24</u> Will multiple sections be offered? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
PREREQUISITE(S)	C- OR BETTER IN BIO 212 OR BIO 250	
COURSE(S) TO BE COMPLETED PRIOR TO ENROLLING	ENFORCE PRE-REQUISITE CHECKING? Y	
CO-REQUISITE(S)		
COURSE(S) TO BE TAKEN CONCURRENTLY WITH THIS COURSE	ENFORCE CO-REQUISITE CHECKING?	
PRE/CO-REQUISITE FOR...		
RESTRICTIVE STATEMENT (EX: MA AND AMA MAJORS ONLY)	APPLICATION TO AND ACCEPTANCE INTO THIS STUDY ABROAD COURSE AND PAYMENT FOR TRAVEL IS REQUIRED FOR COURSE PARTICIPATION.	
COURSE IS REQUIRED FOR:		
COURSE IS AN ELECTIVE FOR:	17GNBS RESTRICTED ELECTIVES	
PROPOSED EFFECTIVE DATE JANUARY 2015	APPROVED EFFECTIVE DATE	COURSE REVIEW DUE

CATALOG DESCRIPTION: (INCLUDE ANY RESTRICTIVE, TRANSPORTATION, OR FEE STATEMENTS) (100 WORD LIMIT)

This Study Abroad course is designed to immerse students in current physiology and disease research, tropical medicine, and global health issues while providing students with an opportunity to gain hands-on experience in the field of global health. Students spend three weeks on campus exploring scientific, policy, cultural, and governmental influences on global health before traveling to a developing country to participate in medical service outreach for 2 weeks. Application to and acceptance into this Study Abroad course and payment for travel is required for course participation.

TYPE OF PROPOSAL	
NEW COURSE	<input checked="" type="checkbox"/>
DROP COURSE	<input type="checkbox"/>
REVISE COURSE	<input type="checkbox"/>
REVISION IN:	
CONTENT	<input type="checkbox"/>
PREFIX/NUMBER	<input type="checkbox"/>
TITLE	<input type="checkbox"/>
ABBREVIATED TITLE	<input type="checkbox"/>
CREDIT HOURS	<input type="checkbox"/>
CONTACT HOURS	<input type="checkbox"/>
GRADING METHOD	<input type="checkbox"/>
SCHEDULING	<input type="checkbox"/>
PRE/CO-REQUISITES	<input type="checkbox"/>
RESTRICTIVE STATEMENT	<input type="checkbox"/>
CATALOG DESCRIPTION	<input type="checkbox"/>
LEARNING OUTCOMES	<input type="checkbox"/>
GEP LEARNING OUTCOMES ONLY	
DUAL-LEVEL COURSE	<input type="checkbox"/>
GEP COURSE	
CHECK APPLICABLE CATEGORY BELOW:	
HUMANITIES	<input type="checkbox"/>
SOCIAL SCIENCES	<input type="checkbox"/>
MATHEMATICAL SCIENCES	<input type="checkbox"/>
NATURAL SCIENCES	<input type="checkbox"/>
INTERDISCIPLINARY PERSPECTIVES	<input type="checkbox"/>
VISUAL & PERFORMING ARTS	<input type="checkbox"/>
PE/HEALTHY LIVING	<input type="checkbox"/>
GLOBAL KNOWLEDGE CO-REQ	<input type="checkbox"/>
U.S. DIVERSITY CO-REQ	<input type="checkbox"/>
DOCUMENTATION AS REQUIRED	
(CHECK ALL THAT APPLY)	
COURSE JUSTIFICATION	<input checked="" type="checkbox"/>
PROPOSED REVISION(S) WITH REASONS	<input type="checkbox"/>
ENROLLMENT LAST 5 YEARS	<input checked="" type="checkbox"/>
NEW RESOURCES STATEMENT	<input checked="" type="checkbox"/>
CONSULTATION WITH DEPARTMENT(S) PROVIDED	<input checked="" type="checkbox"/>
SYLLABUS (OLD AND NEW)	<input checked="" type="checkbox"/>
GEP CATEGORY OBJECTIVES	<input type="checkbox"/>
GEP STUDENT LEARNING OUTCOMES	<input type="checkbox"/>
MEANS OF ASSESSING GEP OUTCOMES	<input type="checkbox"/>

**SIGNATURE PAGE
ATTACHED**

FOR COURSE ACTION FORM INSTRUCTIONS SEE
[HTTP://WWW.NCSU.EDU/UAP/ACADEMIC-
STANDARDS/COURSES/CRSINST.HTML](http://www.ncsu.edu/uap/academic-standards/courses/crsinst.html)

SIGNATURE PAGE

COURSE ACTION FOR GPH 425

RECOMMENDED BY:

E. Rosina 12-9-14
HEAD, DEPARTMENT/PROGRAM DATE

ENDORSED BY:

J. Walker 12/12/14
CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE DATE

J. A. Cohen 12/12/2014
COLLEGE DEAN DATE

APPROVED BY:

CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE DATE

CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION DATE

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

APPROVED EFFECTIVE DATE _____

Course Justification

Millennial students are being encouraged to ‘think globally’ concerning medicine, health, and wellness, while many have limited opportunity to see beyond the scope of their county, state, or country. Such global awareness better equips individuals to propose solutions to global public health problems. This course is designed to challenge students to think beyond their own environment, propose solutions to global health problems, and participate in medical service projects in developing countries.

Students will be immersed in current physiology and disease research, tropical medicine, and global health issues while providing them an opportunity to gain hands-on experience in the field of global health. Students will analyze primary literature, explore current global health initiatives, interview professionals in the field, write formal proposals hypothesizing solutions to global health challenges, and present their proposals in a mock conference. After spending three weeks on campus exploring the science, research, policy, cultural, and government influences on global health, students will travel to a developing country to participate in medical service outreach. While there, students will work with local physicians to conduct free general health clinics for rural populations lacking routine access to medical care. Students will assist in patient interviews, triage, and pharmacy work during the clinics, and conduct public health education days with local primary schools. Upon their return, students will compile their observations, reflections, project proposal, and article analyses into an online portfolio documenting their learning.

This course would also serve students in a minor in Global Public Health that is currently under development as courses are being created.

Enrollment for Last Five Years (taught as BIO 495)

Summer, 2013 – 5

Summer, 2014 – 18

Consultation with Other Departments

A letter from Dr. Marian McCord is attached (next page). Please note that her subject line incorrectly notes the course number as 410, but we have decided to use 425.

Resource Statement

No additional resources are required; instructor will continue to be paid by Study Abroad.

Syllabus

starts on page 5

NC STATE UNIVERSITY

Campus Box 8301
Raleigh, NC 27695-8301

919.515.6571
919.515.6532 (fax)

August 25, 2014

Re: GPH 410 Global Health and Physiology

To whom it may concern:

I am writing to express my support for approval for GPH 425/525 Global Health and Physiology. I have met with Dr. Overman several times over the past year. Together, we have aligned the goals of this class with the goals of the GPH minor program. This course will satisfy the requirements for the proposed Global Health capstone course.

Best Regards,



Marian G. McCord, Ph.D.
NCSU Director of Global Health Initiatives
Associate Dean for Research
College of Natural Resources
NC State University

GPH 425 Course Syllabus

Global Health and Physiology

SUMMER 2015

6 Credit Hours

M T W TH: 5:30-8:00 pm -- required

Course Description

This Study Abroad course is designed to immerse students in current physiology and disease research, tropical medicine, and global health issues while providing students with an opportunity to gain hands-on experience in the field of global health. Students spend three weeks on campus exploring scientific, policy, cultural, and governmental influences on global health before traveling to a developing country to participate in medical service outreach for 2 weeks. Application to and acceptance into this Study Abroad course and payment for travel is required for course participation.

Instructor

Dr. Beth Overman

Email: beth_overman@ncsu.edu

Phone: 515-2293

Office Location: Research Building III, room 224

Office Hours: By appointment

Learning Outcomes

By the end of this course, students will be able to:

1. Apply basic physiologic principles to human medicine in case studies related to the challenges of disease treatment in developing countries.
2. Describe examples of medical challenges through historical/medical research.
3. Hypothesize causes of disease by integrating physiologic knowledge and construct suitable solutions.
4. Propose interdisciplinary, context-sensitive solutions to global health issues using evidence-based resources and tools.
5. Critique current research in applications of physiology to medicine in developing countries.
6. Describe global medicine issues from reproductive, nutritional, metabolic, and immunologic perspectives.
7. Debate common misconceptions relating to health in both developed and developing countries.
8. Summarize and present their service experience including relevant application of human physiology and global medicine with examples.
9. Critique treatments applied in the field based on their knowledge of global medicine.

Course Structure

The course is a learner-centered lecture course for 3 weeks, followed immediately by a 10-day study abroad medical service trip. In-class lecture time will be highly engaged, with active learning strategies and discussions based on case studies. Readings will be assigned for outside of class work. Students will be assessed based on article analysis, reflective writing, weekly quizzes, and final projects.

Pre-requisites

C- or better in BIO 212 or BIO 250

Policy on use of laptops in class

Computers will be frequently used for class activities, and students are encouraged to bring their laptops to class, only to be used for course activities. Laptops are not required, however.

Course Materials and Expenses

Cost for this course and materials will vary, but will include a 10-day medical service trip to Belize, involving travel expenses to and from Belize City and extra spending money for the trip. To be eligible for this course, you must apply and be accepted for the Global Physiology Study Abroad Program. The program is run through North Carolina State University and a third party provider, International Service Learning (ISL).

Transportation

Students are required to provide their own transportation to and from Belize. Arranging transportation to and from the airport, as well as organizing/booking flights to Belize is up to each individual student. All transportation within Belize is coordinated by International Service Learning.

Safety & Risk Assumptions

There is inherent risk in traveling, in the continental US and abroad. Although there can be no guarantee of safety when traveling anywhere, including within the U.S., risks can be managed and minimized. We will manage these risks by:

- Discussing strategies for safe international travel.
- Having a 1 to 12 faculty to student ratio while in the host country.
- Traveling with ISL team members.
- Registering our travel with the US and Belizean Embassies.
- Using the 'buddy system' while in Belize.
- Having internationally-capable phones with faculty members, allowing for constant communication with NC State Campus Safety and the Study Abroad Office.

Grading

Grade Components

Component	Weight (pts)	
In-Class Assignments/ Presentation	50	Successful completion and turning in of in-class activities and giving the one-time presentation.
Article Analysis	50	Details and rubrics will be provided on the class Moodle site.
Proposal	50	
Portfolio/Blog	250	
Final Reflection	100	
Total points possible	500	

Letter Grades

This course uses the following letter grading scale (pts):

486	≤	A+	≤	500
471	≤	A	<	486
456	≤	A-	<	471
441	≤	B+	<	456
426	≤	B	<	441
411	≤	B-	<	426
396	≤	C+	<	411
381	≤	C	<	396
366	≤	C-	<	381
351	≤	D+	<	366
336	≤	D	<	351
321	≤	D-	<	336
306	≤	F	<	321

Policies on Incomplete Grades

A grade of incomplete (IN) may be assigned by the instructor. This will be considered only under exceptional circumstances that seriously interrupt your work and are not caused by your own negligence. An IN grade is appropriate only if your record in this course is such that successful completion of missed assignments or exams would enable you to pass. If an IN is granted, it is the student's responsibility to understand and comply with the terms under which the instructor will change the grade upon completion of required work.

If an extended deadline is not authorized by the instructor or department, an unfinished incomplete grade will automatically change to an F after either (a) the end of the next regular semester in which the student is enrolled (not including summer sessions), or (b) the end of 12 months if the student is not enrolled, whichever is shorter. Incompletes that change to F will count as an attempted course on transcripts. The burden of fulfilling an incomplete grade is the responsibility of the student. The university policy on incomplete grades is located at <http://policies.ncsu.edu/regulation/reg-02-50-03>.

Requirements for Credit-Only (S/U) Grading and for Auditors

This course cannot be taken S/U nor can it be audited.

Attendance Policy

Attendance

As classwork is a portion of your grade, and in-class assignments cannot be made up without documentation of excused absence, attendance is essential to high performance in the course. Attendance in class is expected. An absence may be excused if appropriate documentation is provided. Excused lecture absences carry no penalty. Missing more than 3 class meetings (unexcused) will result in a failing grade. Arriving late to class can be considered an unexcused absence. You may read about University attendance regulations, including university-defined excused absences, at <http://policies.ncsu.edu/regulation/reg-02-20-03>

Makeup Work

With appropriate documentation (see University attendance policy), make-up assignments are accepted. See course instructor.

Academic Integrity

Academic Integrity

Students are required to comply with university policies on academic integrity and student conduct found in the Code of Student Conduct found at <http://policies.ncsu.edu/policy/pol-11-35-01>

All course work submitted for a grade must be your own. University standards of academic integrity forbid either giving or receiving unauthorized help on graded work. Violations of University standards will be prosecuted. You will need to sign the academic integrity statement on each written assignment. Your signature binds you to the honor Code of Student Conduct.

Academic integrity also means behaving in a manner that is considerate of others and respectful to all. Any behavior in class that interferes with the opportunity for other students to participate and succeed will result in the offending student being asked to leave and counted as absent.

The final project for this course is an online portfolio representing your learning over the next 5 weeks. This portfolio will be your words and your words alone, and any outside information will be subject to copyright laws.

Honor Pledge

Your signature on any test or assignment indicates "I have neither given nor received unauthorized aid on this test or assignment."

Electronically-Hosted Course Components

This course relies upon North Carolina State University's Moodle site for communication, discussion boards, document posting, and organizational calendars. Students are expected to maintain an online presence at the

course Moodle site, staying up-to-date on all postings and assignments there. All students are expected to respect the privacy of each other by not sharing or using identification information outside of the course.

Many of this course's assignments will be uploaded via Moodle or using Moodle's discussion forum. Students are responsible for staying up-to-date on all Moodle postings and assignments.

Accommodations for Disabilities

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, student must register with the Disability Services Office (<http://www.ncsu.edu/dso>), 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation at <http://policies.ncsu.edu/regulation/reg-02-20-01>.

Non-Discrimination Policy

NC State University provides equality of opportunity in education and employment for all students and employees (http://www.ncsu.edu/equal_op/). Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at <http://policies.ncsu.edu/policy/pol-04-25-05>. Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Institutional Equity & Diversity at 919-515-3148.

Course Schedule

This schedule is subject to change.

Date	Topic	Assessment/Assignment
5/19	Introduction	Guided Reflection
5/20	Review: Basic Anatomy and Physiology	
5/21	Poverty's Remains	Guided Reflection
5/22	Research: Cardiovascular (<i>Public Health Piece</i>)	
5/26	'Medicalizing' the Developing World	Guided Reflection
5/27	Research: Respiratory	
5/28	Guest Speaker, Dr. Kristin Schroeder	
5/29	Curious George's Pharmacy	Guided Reflection
6/2	Research: Infectious Disease(<i>Public Health Piece</i>)	Begin Research Proposal, Guest
6/3	Research: Maternal Health Care	
6/4	Research: Excretory (<i>Public Health Piece</i>)	Guided Reflection
6/5	Research: Chronic illness and Cancer	Research Proposal Draft Due
6/7		Guided Reflection
6/8		Guided Reflection
6/9		Guided Reflection
6/10		Guided Reflection
6/11		Guided Reflection
6/12		Guided Reflection
6/13		Guided Reflection
6/14		Guided Reflection
6/15		Guided Reflection
6/16		Guided Reflection
6/17	Travel Back to NC State	Guided Reflection
6/18	Critiquing Short Term Medical Service Programs	Portfolio Development
6/19	Proposal Revisions and Peer Review	Portfolio development
6/20	Oral Presentations	Final Reflection and Portfolio

Sign up for one discussion day and one article analysis day:

Student-Led Discussion Day		Article Analysis Day	
Poverty's Remains		Research: Respiratory	
		Research: Cardiovascular	
Medicalizing the Developing World		Research: Infectious Disease	
		Research: Excretory	
Curious George's Pharmacy		Research: Infectious Disease	
		Research: Maternal Health Care	

**N.C. STATE UNIVERSITY
UNDERGRADUATE COURSE ACTION FORM**
Effective September 2008

NOTE: Click shaded fields to type data and click on boxes to check.

DEPARTMENT/PROGRAM	FORESTRY & ENVIRONMENTAL RESOURCES/FISHERIES, WILDLIFE, & CONSERVATION BIOLOGY	
COURSE PREFIX/NUMBER	FW 445	
PREVIOUS PREFIX/NUMBER		
COURSE TITLE	Human Dimensions of Conservation Biology in The Bahamas	
ABBREVIATED TITLE	BAHAMIAN CONSERVATION BIOLOGY	
SCHEDULING	Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer <input checked="" type="checkbox"/> Every Year <input checked="" type="checkbox"/> Alt. Year Odd <input type="checkbox"/> Alt. Year Even <input type="checkbox"/> Other <input type="checkbox"/>	
COURSE DELIVERY CHECK ALL THAT APPLY	ON CAMPUS <input checked="" type="checkbox"/> DISTANCE EDUCATION <input type="checkbox"/> ONLINE <input type="checkbox"/> REMOTE LOCATION <input checked="" type="checkbox"/>	
COURSE CREDIT/GRADING	CREDIT HOURS 3	GRADING ABCDF <input checked="" type="checkbox"/> S/U <input type="checkbox"/>
CONTACT HOURS <i>See contact/credit hour guidelines for detail.</i>	LECTURE 22 SEMINAR _____ LABORATORY _____ PROBLEM _____ STUDIO _____ INDEPENDENT STUDY _____ RESEARCH 66 _____ INTERNSHIP _____ PRACTICUM _____ FIELD WORK _____	
IS COURSE REPEATABLE FOR CREDIT?	N	# REPEATS ALLOWED _____
INSTRUCTOR(S) (NAME/RANK)	BRIAN LANGERHANS ASSISTANT PROFESSOR AND M. NILS PETERSON ASSOCIATE PROFESSOR DUAL APPOINTMENT? <input type="checkbox"/>	

TYPE OF PROPOSAL	
NEW COURSE	<input checked="" type="checkbox"/>
DROP COURSE	<input type="checkbox"/>
REVISE COURSE	<input type="checkbox"/>
REVISION IN:	
CONTENT	<input type="checkbox"/>
PREFIX/NUMBER	<input type="checkbox"/>
TITLE	<input type="checkbox"/>
ABBREVIATED TITLE	<input type="checkbox"/>
CREDIT HOURS	<input type="checkbox"/>
CONTACT HOURS	<input type="checkbox"/>
GRADING METHOD	<input type="checkbox"/>
SCHEDULING	<input type="checkbox"/>
PRE/CO-REQUISITES	<input type="checkbox"/>
RESTRICTIVE STATEMENT	<input type="checkbox"/>
CATALOG DESCRIPTION	<input type="checkbox"/>
LEARNING OUTCOMES	<input type="checkbox"/>
GEP LEARNING OUTCOMES ONLY	<input type="checkbox"/>
DUAL-LEVEL COURSE	<input type="checkbox"/>
GEP COURSE	<input type="checkbox"/>
CHECK APPLICABLE CATEGORY BELOW:	
HUMANITIES	<input type="checkbox"/>
SOCIAL SCIENCES	<input type="checkbox"/>
MATHEMATICAL SCIENCES	<input type="checkbox"/>
NATURAL SCIENCES	<input type="checkbox"/>
INTERDISCIPLINARY PERSPECTIVES	<input type="checkbox"/>
VISUAL & PERFORMING ARTS	<input type="checkbox"/>
PE/HEALTHY LIVING	<input type="checkbox"/>
GLOBAL KNOWLEDGE CO-REQ	<input type="checkbox"/>
U.S. DIVERSITY CO-REQ	<input type="checkbox"/>
THEMATIC TRACK	<input type="checkbox"/>

ANTICIPATED ENROLLMENT	Per semester 15 Per section _____ Will multiple sections be offered? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
PREREQUISITE(S)	One 200-level or higher course in BIO, ES, ET, FOR, FW, NR, PB, PRT, or ZO	
COURSE(S) TO BE COMPLETED PRIOR TO ENROLLING	ENFORCE PRE-REQUISITE CHECKING? No	
CO-REQUISITE(S)		
COURSE(S) TO BE TAKEN CONCURRENTLY WITH THIS COURSE	ENFORCE CO-REQUISITE CHECKING? YES	
PRE/CO-REQUISITE FOR...	Bio 445	
RESTRICTIVE STATEMENT (EX: MA AND AMA MAJORS ONLY)	SO, JR, OR SR STANDING	
COURSE IS REQUIRED FOR:	LIST DEGREE KEY FOR ALL CURRICULA OR IDENTIFY MINOR IN WHICH COURSE IS OR WILL BE REQUIRED	
COURSE IS AN ELECTIVE FOR:	15WSCIM	
PROPOSED EFFECTIVE DATE	APPROVED EFFECTIVE DATE	COURSE REVIEW DUE
1/1/2015		

DOCUMENTATION AS REQUIRED	
(CHECK ALL THAT APPLY)	
COURSE JUSTIFICATION	<input checked="" type="checkbox"/>
PROPOSED REVISION(S) WITH REASONS	<input type="checkbox"/>
ENROLLMENT LAST 5 YEARS	<input checked="" type="checkbox"/>
NEW RESOURCES STATEMENT	<input checked="" type="checkbox"/>
CONSULTATION WITH DEPARTMENT(S) PROVIDED	<input checked="" type="checkbox"/>
SYLLABUS (OLD AND NEW)	<input checked="" type="checkbox"/>
GEP CATEGORY OBJECTIVES	<input type="checkbox"/>
GEP STUDENT LEARNING OUTCOMES	<input type="checkbox"/>
MEANS OF ASSESSING GEP OUTCOMES	<input type="checkbox"/>

**SIGNATURE PAGE
ATTACHED**

CATALOG DESCRIPTION: (INCLUDE ANY RESTRICTIVE, TRANSPORTATION, OR FEE STATEMENTS) (100 WORD LIMIT)


This course examines the fundamental concepts, problems, and methods regarding human dimensions of conservation biology in The Bahamas. Combining lecture, lab, and fieldwork, students directly experience the process of science, with students conducting semester-long, group research projects tackling important unanswered questions involving conservation biology in The Bahamas. Gaining first-hand experience at the interface of basic and applied sciences, students will spend eight weeks on campus and two weeks on the largely undeveloped Andros Island in The Bahamas, home to the third longest coral reef in the world and over 1.5 million acres of national parks.

FOR COURSE ACTION FORM INSTRUCTIONS SEE
[HTTP://WWW.NCSU.EDU/UAP/ACADEMIC-
STANDARDS/COURSES/CRSINST.HTML](http://www.ncsu.edu/uap/academic-standards/courses/crsinst.html)


SIGNATURE PAGE

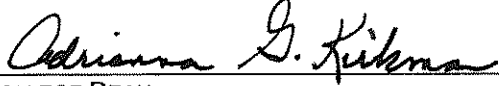
COURSE ACTION FOR FW 445

RECOMMENDED BY:

	5 January 2015
HEAD, DEPARTMENT/PROGRAM	DATE

ENDORSED BY:

	1-5-2015
CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE	DATE

	1/5/15
COLLEGE DEAN	DATE

APPROVED BY:

	DATE
CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE	

	DATE
CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION	

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

APPROVED EFFECTIVE DATE _____

FW 445 Human Dimensions of Conservation Biology in The Bahamas

Justification

The FWCB program at NCSU is the only one of its kind in North Carolina, and the Conservation Biology concentration was added in 2012. This concentration has one required conservation biology course (FW 333), and addresses other conservation biology needs through electives. BIO/FW 445 will obviously provide students novel experiences associated with time spent on Andros. In addition to providing students access to a unique socio-ecological context for coursework, the proposed course will fill two important voids in the conservation biology offerings at NCSU: (1) a course with content addressing the relationships between evolution and conservation, and (2) a research based course that leads to conservation biology publications for students. Study abroad courses offered by FWCB faculty (e.g., Namibia [FW 465], Nicaragua [FW 405]) include some overlapping content (e.g., basic principles of conservation biology, natural history [though in different contexts], and immersion in novel socio-cultural contexts) but are not designed with a primary focus on research methods and scientific publications for students. FW 445 focuses primarily on research, and students from the first two course offerings have already published their results in top tier journals while students from the third course are rapidly preparing two manuscripts for submission. FW 445 also includes a strong focus on how social and ecological processes interact with evolution (a fundamental principle in conservation biology). This focal area is not addressed in any course in the UNC system.

Resources Statement

The course is not expected to require additional resources. It will be taught by Nils Peterson who have been teaching it as a 495 course for the last three years. It will not interfere with scheduling for any other courses in the FWCB or BIO majors. Rather it will be an essential co-requisite with Bio 445.

Enrollment

The course was offered as FW 495 in Summer 2011, 2013, and 2014. Enrollments were 15, 13, and 10 respectively.

Proposed Syllabus

See attached.

Consultation correspondence

Email sent to Dr. Vicki Gallagher, Associate Dean, College of Humanities and Social Sciences on November 5, 2014. We have not received any response.

FW 445 – Human Dimensions of Conservation Biology in The Bahamas

10-week Summer Course

3 Credit Hours

Times variable (on campus and off campus)

Department of Forestry and Environmental Resources

Course Description

This course uses a hands-on approach to examine the fundamental concepts, problems, and methods regarding human dimensions and policy aspects of conservation biology in The Bahamas. Combining lecture, lab, and fieldwork, students directly experience the process of science, with students conducting semester-long, group research projects tackling important unanswered questions involving conservation biology in The Bahamas. Gaining first-hand experience at the interface of basic and applied sciences, students will spend eight weeks on campus and two weeks on the largely undeveloped Andros Island in The Bahamas, home to the third longest coral reef in the world and over 1.5 million acres of national parks.

Learning Outcomes

After completing this course, students will be able to:

- Demonstrate and apply core concepts regarding human dimensions of conservation and management within the three primary aquatic ecosystems in The Bahamas.
- Evaluate the importance, procedures, and scientific foundations for conservation and management initiatives in The Bahamas.
- Evaluate the major threats—and possible methods for solutions—facing the future of biodiversity and sustainable management of natural resources in The Bahamas.
- Demonstrate and apply a range of field-based research methods and techniques.
- Effectively conduct primary literature searches to identify relevant scientific articles for particular topics.
- Work independently and as a team toward a difficult research goal, overcoming inevitable challenges of fieldwork.
- Develop specific hypotheses, and test them by collecting, organizing, analyzing, and interpreting their own data.
- Communicate their work in a professional manner with oral presentations and interactive discussions with diverse groups (e.g., classmates, K-12 Bahamian students, professional Bahamian partners).
- Write a scientific research proposal and research paper, with the goal of publishing their work in a peer-reviewed scientific journal.
- Gain a broader global knowledge and appreciation of other cultures and the impact of U.S. culture on other parts of the world.

Course Structure

The course comprises a total of eight weeks on campus and a 15-day trip to Andros Island, The Bahamas. The course website provides details regarding course structure each year, and we provide a summary schedule at the end of this document. On-campus meetings involve lectures and group activities, while off-campus time largely involves first-hand experience and interactive activities, with students conducting field research projects.

Instructors

Dr. Nils Peterson – *Co-Instructor*

Email: nils_peterson@ncsu.edu

Phone: 229-9519

Office Location: Turner House

Office Hours: By appointment. To schedule, please email Dr. Peterson with "FW445" in the subject line.

Dr. Brian Langerhans – *Co-Instructor*

Email: langerhans@ncsu.edu

Phone: 515-3514

Office Location: 246 David Clark Labs (DCL)

Office Hours: By appointment. To schedule, please email Dr. Langerhans with "BIO445" in the subject line.

Course Meetings

During the on-campus time, the class meets twice per week for 2hr classes (these meetings will be made available to off campus students via virtual classroom technology). Topics for lectures and facilitated discussions are described in the schedule below. The time abroad is rigorous, with research activities (e.g., conducting interviews, participant observation) during most daylight hours. The times for on-campus meetings are separately arranged each year to best accommodate student schedules, and Skype / video conferencing methods are employed as needed to support participation from off campus students.

Course Materials

There is no assigned textbook, although recommendations are provided regarding several field guides (optional). A number of field guides and assigned readings of primary literature are provided. Further, a wide range of study and project materials are provided (field methods and research projects require a variety of equipment and materials). A list of recommended materials for the field trip is also provided. Cost of this course varies, with current details provided on the Study Abroad website.

Requisites and Restrictions

Prerequisites

One 200-level or higher course in BIO, ES, ET, FOR, FW, NR, PB, PRT, or ZO.

Restrictions

SO, JR or SR standing

General Education Program (GEP) Information

This course does not fulfill any General Education Program requirement.

Transportation and Safety & Risk Assumptions

Students are required to provide some of their own transportation (may vary among years), with current detailed information provided on the Study Abroad and course websites.

There is inherent risk in traveling, in the continental US and abroad. Although there can be no guarantee of safety when traveling anywhere, including within the U.S., risks can be managed and minimized. Detailed advice and forms are provided on the Study Abroad and course websites.

Grading

Component	Value
Research Proposal	20%
Participation (based on professor grading field journal)	20%
Fieldwork and Project Participation, Responsibility, Teamwork (peer evaluation)	20%
Data Organization and Submission, Research Paper Rough Draft	20%
Final Research Paper	20%
Total	100%

This Course uses Standard NCSU Letter Grading:

97 ≤ **A+** ≤ 100 %
 93 ≤ **A** < 97
 90 ≤ **A-** < 93
 87 ≤ **B+** < 90
 83 ≤ **B** < 87
 80 ≤ **B-** < 83
 77 ≤ **C+** < 80
 73 ≤ **C** < 77
 70 ≤ **C-** < 73
 67 ≤ **D+** < 70
 63 ≤ **D** < 67
 60 ≤ **D-** < 63
 0 ≤ **F** < 60

Requirements for Credit-Only (S/U) Grading

This course cannot be taken for credit only.

Requirements for Auditors (AU)

This course cannot be audited.

Policies on Incomplete Grades

A grade of Incomplete (IN) may be assigned at the discretion of your instructor. This will be considered only under exceptional circumstances that seriously interrupt your work and that are not caused by your own negligence. An IN grade is appropriate only if your record in this course is such that the successful completion of missed assignments or exams would enable you to pass the course. If an IN is granted, it is the student's responsibility to understand and comply with the terms under which the instructor will change the grade upon completion of required work.

If an extended deadline is not authorized by the instructor or department, an unfinished incomplete grade will automatically change to an F after either (a) the end of the next regular semester in which the student is enrolled (not including summer sessions) or (b) the end of 12 months if the student is not enrolled, whichever is shorter. Incompletes that change to F will count as an attempted course on transcripts. The burden of fulfilling an incomplete grade is the responsibility of the student. The university policy on incomplete grades is located at http://www.ncsu.edu/policies/academic_affairs/grades_undergrad/REG02.50.3.php.

Late Assignments

Assignments will NOT be accepted after they are due, unless you provide documentation of a university-sanctioned excuse within two days of missing the assignment. Information on university-sanctioned excuses can be found here:

http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.3.php

If you feel an error has been made in grading one of your assignments, return the assignment to the instructor with a written explanation of the error; the entire assignment may be re-graded. You must submit your request for a re-grade within one week after the assignment is returned to you.

Attendance Policy

Attendance and Late Arrivals

Attendance is required for on-campus class sessions, with only a total of one unexcused absence accepted without penalty. Each unexcused absence will result in a drop of one letter grade. Our sessions involve considerable discussion and interactive activities, and thus require attendance for effective implementation. Attendance during the field trip is absolutely mandatory, with no unexcused absences for any field activities allowed (drop of 1 letter grade for any unexcused absence during an activity).

Absences

An absence may be excused if appropriate documentation is provided. The university attendance regulation, including the university definition of excused absences, can be found here:

http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.3.php

Makeup Work

Allowed only if you provide documentation of a university sanctioned excuse. No exceptions.

Academic Integrity

Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at

http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php

Academic Honesty

See http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php for a detailed explanation of academic honesty.

Honor Pledge

It is the instructor's understanding and expectation that the submission of any exam or assignment means that the student neither gave nor receive unauthorized aid on that exam or assignment. Giving or receiving unauthorized aid may result in an F for this course as well as more severe disciplinary penalties.

Electronically-Hosted Course Components

Students may be required to disclose personally identifiable information to other students in the course, via electronic tools like email or web-postings, where relevant to the course. Examples include online discussions of class topics, and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.

Accommodations for Disabilities

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, student must register with the Disability Services Office (<http://www.ncsu.edu/dso>) located at 1900 Student Health Center, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation at http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.1.php.

Non-Discrimination Policy

NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at http://www.ncsu.edu/policies/campus_environ or http://www.ncsu.edu/equal_op. Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.

Supporting Fellow Students in Distress

As members of the NC State Wolfpack community, we each share a personal responsibility to express concern for one another and to ensure that this classroom and the campus as a whole remains a safe environment for learning. Occasionally, you may come across a fellow classmate whose personal behavior concerns or worries you. When this is the case, I would encourage you to report this behavior to the NC State Students of Concern website: <http://studentsofconcern.ncsu.edu/>. Although you can report anonymously, it is preferred that you share your contact information so they can follow-up with you personally. (from Paul Tongsri, Student Behavioral Case Manager, 919-515-2944).

Sample Schedule- BIO/FW 445

Date	Activities (all lectures besides those offered on site in the Bahamas will be available to off campus participants via virtual classroom technology [e.g., Elluminate])
Week 1	Introduction to policy and sociology as it relates to conservation biology; 5 assigned readings for each potential research project (3-4 projects) <ul style="list-style-type: none"> • Bahamian Conservation Policy Lecture: 1 hour lecture • Social Impacts on Conservation in the Bahamas Lecture: 1 hour lecture
Week 2	Discussion of first assigned readings <ul style="list-style-type: none"> • Facilitated discussions of assigned papers: 2 hours lecture
Week 3	Selection of project team members and additional readings discussed <ul style="list-style-type: none"> • Facilitated discussions of assigned papers: 1 hour lecture
Week 4	Group proposal preparation and rough draft due <ul style="list-style-type: none"> • How to write a research proposal lecture: 1 hour lecture
Week 5	On Andros Island in the Bahamas (group presentations; final proposal due) <ul style="list-style-type: none"> • Visit Red Bays Community, introduction to study participants and begin data collection (e.g., interviews focus groups): 12 hours research <ul style="list-style-type: none"> ○ Lecture connecting field experience with course content: 1 hour lecture • Visit Conch Sound Community, introduction to study participants and begin data collection (e.g., interviews focus groups): 12 hours research <ul style="list-style-type: none"> ○ Lecture connecting field experience with course content: 1 hour lecture • Visit Fresh Creek Community, introduction to study participants and begin data collection (e.g., interviews focus groups): 12 hours research <ul style="list-style-type: none"> ○ Lecture connecting field experience with course content: 1 hour lecture
Week 6	On Andros Island in the Bahamas; complete fieldwork for research projects <ul style="list-style-type: none"> • Visit Red Bays Community, complete data collection (e.g., interviews focus groups): 10 hours research <ul style="list-style-type: none"> ○ Lecture connecting field experience with your research questions: 2 hours lecture • Visit Conch Sound Community, complete data collection (e.g., interviews focus groups): 10 hours research <ul style="list-style-type: none"> ○ Lecture connecting field experience with your research questions: 2 hours lecture • Visit Fresh Creek Community, complete data collection (e.g., interviews focus groups): 10 hours research <ul style="list-style-type: none"> ○ Lecture connecting field experience with your research questions: 2 hours lecture • Two lectures on social science data analysis (qualitative, quantitative, or mixed methods depending on project): 3 hours lecture
Week 7	Research project data organization and analysis; scientific writing

Week 8	<ul style="list-style-type: none">• Scientific writing lecture: 2 hours lecture Rough draft due: Methods, tables, figures, and outline of Introduction, Results, and Discussion <ul style="list-style-type: none">• Tables and figures in science lecture: 1 hour lecture• Peer review in theory lecture: 1 hour lecture
Week 9	Rough draft of research paper due; practice peer review
Week 10	Final paper due; final presentations

*Contact hour calculations for this 3 hour course are based on (<http://oucc.ncsu.edu/credit-contact-hour-guidelines>)

Lecture: One contact hour per week for 15 weeks equals one credit hour (15:1). $22/15 = 1.466$

Research: 42 Contact Hours= 1 Credit Hour (42:1). $66/42 = 1.571$

Total: 3.04

MEMO

11.18.2014

To: Catherine Freeman, Office of Undergraduate Courses and Curricula
From: Sara Queen: Chair, Architecture Curriculum Committee
Re: Changes to ~~LEDA~~ 8-Semester Display
Cc: College of Design Curriculum Committee
Chair: Kermit Bailey

Please find attached the updated 8 semester display which reflects changes in the ~~LEDA~~ curriculum as highlighted items. These changes have been reviewed and approved by the College Curriculum Committee.

Changes include:

- D 100, D101, D 104, D 105, ARC 301, and ARC 302 were updated to reflect the recently approved CAF forms for these courses.

- ARC 414 has moved to spring of the junior year to encourage students to take ARC 414 earlier in their course sequence. This change does not affect the course content, when the course is offered (spring of every year), or required pre/co-requisites therefore no CAF form is required for this change.

-PY 211 was added as a required course in the freshman year as the GEP Natural Science with Lab (which was previously listed in the spring of the Junior Year). PY 211 fulfills the GEP Natural Science with Lab requirement. Clarification added to Footnote B. PY 211 will provide fundamental knowledge of physics for students to build upon in ARC 232 Structures and Materials (spring of sophomore year) and ARC 311 Arch. Structures 1 (fall of junior year).

-Footnote added to GEP Mathematical Sciences so that students have required pre-requisites and/or qualifying test scores to enroll in PY 211.

-"Free Elective (300 level or above)" in spring of senior year is updated to read as "Restricted Elective (300 level or above)" to align with language used in the degree audit.

-GEP course placement across the 8 semester display was shifted to allow for balanced semester loads.

-Footnote 2 was revised to reflect current LAR studio course numbers (LAR no longer offers undergraduate studio options).

-Footnotes 3 and 4 were added to clarify ARC 401 and ARC 402 studio options.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Sara Queen
Chair, Architecture Curriculum Committee
Assistant Professor
828-400-6178, sara_queen@ncsu.edu

SIGNATURE PAGE

COURSE ACTION FOR : BEDA 8 SEMESTER DISPLAY REVISIONS

RECOMMENDED BY:

Tommy Gaudreau
HEAD, DEPARTMENT/PROGRAM DATE 12.12.14

ENDORSED BY:

Kenneth Bailey 12/15/14
CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE DATE

M. T. Alacha 12.16.14
COLLEGE DEAN DATE

APPROVED BY:

CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE DATE

CHAIR, COUNCIL ON UNDERGRADUATE EDUCATION DATE

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

APPROVED EFFECTIVE DATE _____

Environmental Design in Architecture

Proposed 12EDAB 8 Semester Display

<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Freshman Year - Fall Semester</th> <th style="text-align: right; border-bottom: 1px solid black;">Credit</th> </tr> </thead> <tbody> <tr> <td>D 100 Design Thinking I</td> <td style="text-align: right;">3</td> </tr> <tr> <td>D 104 First Year Studio I</td> <td style="text-align: right;">6</td> </tr> <tr> <td>ENG 101 Academic Writing & Research ^(H)</td> <td style="text-align: right;">4</td> </tr> <tr> <td>MA 107,111, 121,131,108, or 141 ^(A)</td> <td style="text-align: right;">3</td> </tr> </tbody> </table>	Freshman Year - Fall Semester	Credit	D 100 Design Thinking I	3	D 104 First Year Studio I	6	ENG 101 Academic Writing & Research ^(H)	4	MA 107,111, 121,131,108, or 141 ^(A)	3	<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Freshman Year - Spring Semester</th> <th style="text-align: right; border-bottom: 1px solid black;">Credit</th> </tr> </thead> <tbody> <tr> <td>D 101 Design Thinking II</td> <td style="text-align: right;">3</td> </tr> <tr> <td>D 105 First Year Studio II</td> <td style="text-align: right;">6</td> </tr> <tr> <td>ARC 162 Introduction to Architecture</td> <td style="text-align: right;">3</td> </tr> <tr> <td>PY 211 College Physics I ^(N)</td> <td style="text-align: right;">4</td> </tr> </tbody> </table>	Freshman Year - Spring Semester	Credit	D 101 Design Thinking II	3	D 105 First Year Studio II	6	ARC 162 Introduction to Architecture	3	PY 211 College Physics I ^(N)	4				
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Minimum Credit Hours Required for Graduation*^{I,J,K}

126

Major/Program Footnotes:

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, GD 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 **ARC503.**

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 or above) may be fulfilled by any 300 level or above course offered in the College of Design.**

***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.

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 Sciences course list. PY 211 fulfills 4 hours of this requirement.

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

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

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

J. Global Knowledge (GK)

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

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

NC STATE UNIVERSITY

Academic Programs
Campus Box 7621/ 342 Riddick Hall
Raleigh, NC 27695-7621

919.515.3028
919.515.6884 (fax)

Memorandum

To: Dr. Michael D. Mullen, Vice Chancellor and Dean of the Division of Academic and Student Affairs
From: Melissa Merrill, Department of Animal Science *Melissa Merrill*
Date: December 1, 2014
Subject: Minor action to B.S. in Animal Science degree, Veterinary Bioscience concentration

Proposed effective date: January 1, 2015

Change and Justification:

The Department of Animal Science would like to change one of the requirements for the Veterinary Bioscience concentration in the Spring Semester of the senior year. In the current version of the degree audit, students have a choice of taking either an ANS Management course or an ANS Discipline course. We would like to change the requirement to only allowing students to take an ANS Discipline course. Our current ANS Management offerings are in high demand and are filling with many Veterinary Bioscience students but are needed by students in our other two concentrations (Science and Industry/Business). Therefore, by removing the option from the Veterinary Bioscience students we will be able to better manage the ANS Management demand and still graduate students on time.

Required Signatures:

<i>an Todd L</i>	<i>12/3/14</i>
Department Head	Date
<i>Jim Flowers</i>	<i>12/5/14</i>
Chair, College Courses and Curricula Committee	Date
<i>Sam R Parker</i>	<i>12/8/14</i>
College Dean	Date
Chair, University Courses and Curricula Committee	Date
Dean, Division of Academic and Student Affairs	Date

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

Current: Proposed: X Proposed Effective Semester: **1/2015**

DEGREE TITLE: B.S. Animal Science

CONCENTRATION TITLE: Animal Science: Veterinary Bioscience Concentration

PROPOSED DEGREE KEY: VET concentration of 11ANSCBS, (11ANSCVET) effective January 2015

FRESHMAN YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Introductory Topics in Ag/Life Sci	1	Animal Science Course ³	3
ANS 150 Introduction to Animal Science ²	3	BIO 183 Intro Bio: Cell & Molec Biol & Lab	4
ANS 151 Intro to Animal Science Lab	1	CH 101 Chem – A Molecular Science ²	3
BIO 181 Intro Bio: Ecol, Evol, Biodiv & Lab	4	CH 102 General Chemistry Lab	1
ENG 101 Acad Writing & Research ²	4	MA 121 Elements of Calculus <u>or</u>	
MA 107 Precalculus I ²	3	MA 131 Calc for Life & Mgt Sci A	3
		(MA 141 Calculus I is also accepted)	
	<i>Total: 16</i>		<i>Total: 14</i>
SOPHOMORE YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 205 Physiol Domestic Animals	3	ANS 220 Reproductive Physiology	3
ANS 206 Anatomy Domestic Animals	1	ANS 221 Reproductive Physiology Lab	1
Interdisciplinary Perspectives GEP Course ^{6,G}	2	CH 223 Organic Chem II	3
ARE 201, EC 201, or EC 205 ^D	3	CH 224 Organic Chem II Lab	1
CH 221 Organic Chemistry I	3	ST 311 Intro to Statistics	3
CH 222 Organic Chem I Lab	1	Humanities GEP course ^{6,C}	3
COM 110, COM 112, or COM 211 ⁶	3	Physical Education/Healthy Living ^E	1
	<i>Total: 16</i>		<i>Total: 15</i>
JUNIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 230 Animal Nutrition	3	GN 311 Principles of Genetics	4
ANS 231 Animal Nutrition Lab	1	PY 212 College Physics II & Lab	4
Animal Science Course ³	2	Physical Education/Healthy Living ^E	1
MB 351 General Microbiology	3	Humanities GEP course ^{6,C}	3
MB 352 or MB 354 Microbiology Lab	1	ANS Animal Management Elective ⁴	3
PY 211 College Physics I & Lab	4		
	<i>Total: 14</i>		<i>Total: 15</i>
SENIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS Discipline Course Elective ⁵	3	ANS Discipline Course Elective ⁵	3
Social Science GEP Course ^D	3	Interdisciplinary Perspectives GEP Course ^{6,G}	3
CH 201 Chemistry – A Quant Sci	3	BCH 351 or BCH 451, Biochemistry	4
CH 202 Quantitative Chem Lab	1	Free Elective ⁹	5
Additional Breadth GEP Course ^{6,F}	3		
Free Elective ⁹	3		
	<i>Total: 16</i>		<i>Total: 15</i>
Minimum Credit Hours Required for Graduation : 121			

Major/Program Footnotes:

- Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in laboratory procedures involving animals and animal specimens. All activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.
- ANS 150, MA 107, ENG 101, and CH 101 must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.
- VMP 420 or any Animal Science (ANS) course (except ANS 225, ANS 301, ANS 480, ANS 492, ANS 493) that is not fulfilling another requirement can fulfill this Animal Science Elective category. Most pre-vet students take ANS 215 (Agricultural Genetics) to prepare for GN 311.
- Students must select at least one animal management course from the following list: ANS 400, Companion Animal Management; ANS 402 plus ANS 462, Beef Cattle Mgt plus lab; ANS 403, Swine Management; ANS 404 plus ANS 464, Dairy Cattle Management plus lab; ANS 408, Small Ruminant Management; ANS 410, Equine Breeding Farm Management; or ANS 411, Management of Growing and Performance Horses.
- Students must select at least two Animal Science Discipline course from the following list: ANS(NTR, PO) 415, Comparative Nutrition; ANS(NTR) 419, Human Nutrition in Health and Disease; ANS 440, Animal Genetic Improvement; ANS 452, Comparative Reproductive Physiology and Biotechnology; ANS 453,

Physiology and Genetics of Growth & Development; ANS 454, Lactation, Milk, and Nutrition; VMP 420, Diseases of Farm Animals; or any 500-level ANS course.

6. Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free Electives.

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

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

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

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix): **Major requirements fulfill this requirement**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab): **Major requirements fulfill this requirement**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part of this requirement: **COM 211**
- 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 of this requirement: **Economics (ARE 201 or EC 201 or EC 205) taken as part of the major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement. Students must select the other course (3 credits) from a discipline other than economics from the approved GEP Social Sciences list.**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
☑Humanities/Social Sciences/Visual and Performing Arts
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)
- The following Co-Requisites must be satisfied to complete the General Education Program requirements:**
- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

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

Current: X Proposed: Proposed Effective Semester: **6/2013**

DEGREE TITLE: B.S. Animal Science

CONCENTRATION TITLE: Animal Science: Veterinary Bioscience Concentration

PROPOSED DEGREE KEY: VET concentration of 11ANSCBS, (11ANSCVET) effective summer 2013

FRESHMAN YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Introductory Topics in Ag/Life Sci	1	Animal Science Course ³	3
ANS 150 Introduction to Animal Science ²	3	BIO 183 Intro Bio: Cell & Molec Biol & Lab	4
ANS 151 Intro to Animal Science Lab	1	CH 101 Chem – A Molecular Science ²	3
BIO 181 Intro Bio: Ecol, Evol, Biodiv & Lab	4	CH 102 General Chemistry Lab	1
ENG 101 Acad Writing & Research ²	4	MA 121 Elements of Calculus <u>or</u>	
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	<i>Total: 16</i>		<i>Total: 14</i>
SOPHOMORE YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 205 Physiol Domestic Animals	3	ANS 220 Reproductive Physiology	3
ANS 206 Anatomy Domestic Animals	1	ANS 221 Reproductive Physiology Lab	1
Interdisciplinary Perspectives GEP Course ^{6,G}	2	CH 223 Organic Chem II	3
ARE 201, EC 201, or EC 205 ^D	3	CH 224 Organic Chem II Lab	1
CH 221 Organic Chemistry I	3	ST 311 Intro to Statistics	3
CH 222 Organic Chem I Lab	1	Humanities GEP course ^{6,C}	3
COM 110, COM 112, or COM 211 ⁶	3	Physical Education/Healthy Living ^E	1
	<i>Total: 16</i>		<i>Total: 15</i>
JUNIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS 230 Animal Nutrition	3	GN 311 Principles of Genetics	4
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MB 352 or MB 354 Microbiology Lab	1	ANS Animal Management Elective ⁴	3
PY 211 College Physics I & Lab	4		
	<i>Total: 14</i>		<i>Total: 15</i>
SENIOR YEAR ¹			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANS Discipline Course Elective ⁵	3	ANS Management or Discipline Course Elective ^{4,5}	3
Social Science GEP Course ^D	3	Interdisciplinary Perspectives GEP Course ^{6,G}	3
CH 201 Chemistry – A Quant Sci	3	BCH 351 or BCH 451, Biochemistry	4
CH 202 Quantitative Chem Lab	1	Free Elective ⁹	5
Additional Breadth GEP Course ^{6,F}	3		
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	<i>Total: 16</i>		<i>Total: 15</i>
Minimum Credit Hours Required for Graduation* : 121			

Major/Program Footnotes:

1. Use of animals and animal specimens is critical to our educational program. To obtain full credit for Animal Science courses, students are required to participate in laboratory procedures involving animals and animal specimens. All activities with live animals are IACUC (Institutional Animal Care and Use Committee) approved. Many lectures also incorporate animals or animal specimens into the course.
2. ANS 150, MA 107, ENG 101, and CH 101 must be completed with a grade of C-minus or higher, and the student should repeat the course in the semester following the initial attempt if less than a C-minus is earned.
3. VMP 420 or any Animal Science (ANS) course (except ANS 225, ANS 301, ANS 480, ANS 492, ANS 493) that is not fulfilling another requirement can fulfill this Animal Science Elective category. Most pre-vet students take ANS 215 (Agricultural Genetics) to prepare for GN 311.
4. Students must select at least one animal management course from the following list: ANS 400, Companion Animal Management; ANS 402 plus ANS 462, Beef Cattle Mgt plus lab; ANS 403, Swine Management; ANS 404 plus ANS 464, Dairy Cattle Management plus lab; ANS 408, Small Ruminant Management; ANS 410, Equine Breeding Farm Management; or ANS 411, Management of Growing and Performance Horses.
5. Students must select at least one Animal Science Discipline course from the following list: ANS(NTR, PO) 415, Comparative Nutrition; ANS(NTR) 419, Human Nutrition in Health and Disease; ANS 440, Animal Genetic Improvement; ANS 452, Comparative Reproductive Physiology and Biotechnology; ANS 453,

Physiology and Genetics of Growth & Development; ANS 454, Lactation, Milk, and Nutrition; VMP 420, Diseases of Farm Animals; or any 500-level ANS course.

6. Students are encouraged to take an Ethics course as part of their Humanities, Additional Breadth, Interdisciplinary Perspectives, or Free Electives.

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

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

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

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix): **Major requirements fulfill this requirement**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab): **Major requirements fulfill this requirement**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part of this requirement: COM 211
- 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 of this requirement: Economics (ARE 201 or EC 201 or EC 205) taken as part of the major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement. Students must select the other course (3 credits) from a discipline other than economics from the approved GEP Social Sciences list.
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 ☑ Humanities/Social Sciences/Visual and Performing Arts
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)
- The following Co-Requisites must be satisfied to complete the General Education Program requirements:**
- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.