



University Courses & Curricula Committee 2017-2018

October 25, 2017
 Talley Student Union 4140
 12:45pm-2:45pm

Call to Order 12:45pm

- Welcome from Chair Helmut Hergeth
- Remarks and Updates from OUCCAS/DASA
- Approval of UCCC October 11th 2017 Minutes
- Course and Curricular Business

New Business

Consent Agenda		
Action	Type	Notes
ARC 241 History of Introduction to World Architecture	Minor Revision	Revising title
DF 101 Design Fundamentals Studio I	Drop	Course being dropped
EC 351 Econometrics I	Minor Revision	Revising Title
EC 413 Industrial Organizations	Minor Revision	Revising Title and Description
EC 451 Econometrics II	Minor Revision	Revising Title
Mathematics Education (BS): Statistics (13MTHEDBS-13MTHEDST)	Minor Revision	Revising location of 2 courses in semester display. No new courses added

College of Sciences			
Presenter	Reviewers	Action	Type
Robinson	Bruce, Krause, Rieder	BSC 305 Professional Development for Life Science Students	New Course
Klesath	Ferguson, Fath, Podurgal	Evolutionary Biology (17EVOM)	New Minor
Klesath	Seracino, Griffin Hillis, Trivedi	Forensic Science (17FSCM)	Revising: updating course lists

College of Design			
Presenter	Reviewers	Action	Type
Rieder	Beller, Klesath, Hessling	ARC 141 Introduction to Architectural History	New Course

University College			
Presenter	Reviewers	Action	Type
Beller	Ophanides, Nadvi, Despain	Sports Science Minor	Revising Course list

College of Agriculture and Life Sciences			
Presenter	Reviewers	Action	Type
Trivedi	Robinson, Lindsay, Kotek	NTR 495 Special Topics in Nutrition	Revisions: Abbreviated Title, Grading to GRD, Hours

Discussion:

Notes:

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

SLO = Student Learning Outcomes

University Courses and Curricula CommitteeOctober 11, 2017
Talley Student Union 4140
Call to Order: 12:46 pm

Members Present: Chair Helmut Hergeth, Amanda Beller, Elizabeth Fath, Andreas Orphanides, Kathleen Rieder (came late), Richard Podurgal, Edwin Lindsay, Megan Cherry, Shweta Trivedi, Richard Kotek, Berkley Griffin Hillis, Peter Hessling, Scott Despain, Wendy Krause, Erin Peterson, Rudi Seracino, Zeenat Nadvi

Members Absent: Jackie Bruce, Marta Klesath, Scott Ferguson, Walter Robinson

Guest: Tom Koch, Daniel Monek, Gary Beckman

Ex-Officio Members Present: Lexi Hergeth, Li Marcus, Rebecca Swanson, Kyle Pysher, John Harrington, Jordan Luzander, Bret Smith

WELCOME AND INTRODUCTIONS

- **Remarks from Chair Helmut Hergeth-** Welcomed the committee members and introduced the guests and the new Senior Associate Dean Dr. Bret Smith.
- **Remarks and Updates from OUCCAS/DASA-** Dr. Smith looks forward to learning about all the department and everyone on the committee
- **Approval of the Minutes from September 22nd 2017 – Approved Unanimously**
 - Discussion: Member Scott Despain moved to approve. Minutes from the previous meeting were presented and approved without further discussion.

NEW BUSINESS

- **Consent Agenda -Approved Unanimously**
(BME 315, DAN 272, MUS 390, PS 205, 14CSCBS)
Discussion: Member Scott Despain moved to approve.
- **ENG 420 Major American Author –Approved Unanimously**
Discussion: Member Megan Cherry presented the course. Presenter indicated the grading requirement indicated 10% in CIM but is clarified in the syllabus.
- **HI 346 The Civil War Era in Popular Culture –Approved Unanimously**
Discussion: Member Megan Cherry presented the course.
- **HI 434/(534) Theory and Practice of Digital History –Approved with Friendly Suggestion**
Discussion: Member Megan Cherry presented the course. Member brought attention to page 3 of the syllabus, the absence policy states each unexcused absence will result in a 0 participation point grade which leave room a bit of a disparity because there are only 20 points available. The math should be resolved or clarified, members suggested to get rid of the parentheses, (strike minus 1% on grade). Li Marcus said that attendance may not be the only contribution to the participation grade. Member indicated the participation grade would need clarification for how these add to the total participation grade. Member indicated the links within the syllabus are not set up so students can read the electronic readings and said he will contact the professor directly to assist with this. All Friendly Suggestions.
- **REL/HI 320 Religion in American History –Approved Unanimously**
Discussion: Member Scott Despain presented the course.
- **REL 323 Religious Cults, Sects, and Minority Faiths in America –Approved Unanimously**
Discussion: Member Scott Despain presented the course.
- **MUS 193 Applied Music Lessons I –Approved with Friendly Suggestion**
Discussion: Member Amanda Beller presented the course. Member noticed the final project students have a dress code for students during the presentation and indicated the LGBT center would encourage language that de-genders clarifications in the syllabus. Member made the friendly suggestion to “dress for the jury should include a collared shirt

or blouse and pants or a skirt" to

- **MUS 293 Applied Music Lessons II** –Approved with friendly suggestion
Discussion: Member Amanda Beller presented the course. Member suggested the same language be used at MUS 193.
- **MUS 393 Recital** –Approved Pending with Friendly Suggestion
Discussion: Member Amanda Beller presented the course. Member made the friendly suggestion to adjust the catalog description to remove the prerequisite as it will be coded into CIM. Member indicated the syllabus will need a grading scale, which is a requirement. Member Scott Despain moved to approved pending the inclusion of the grading scale, members voted to change the motion and Approved Pending the inclusion of the grading scale.
- **USC 223 NSP Student Leader Development** –Approved Pending
Discussion: Member Beth Fath presented the course. Member indicated the assignments are in the same case of assignments but different within the offerings in the comments section under enrollment section. Typo, in justification "training" should be "train". In the syllabus, the offerings are using 2 different assignments which is alright because they are using the same type of assignments, the measures, and the student learning outcomes are the same for both section offerings. Member was wondering how participation level will be evaluated, members asked to provide a rubric for participation that students will be able to know exactly what to do to earn the full points for participation. Members discussed that at the beginning of the term they set precedence that the percentage of participation is irrelevant; a clear indication of how to earn full participation points is needed. Member Berkley Griffin-Hillis motioned to change the motion vote approved, Scott Despain voted against because he believes the participation is up to standard. Members discussed what needs to be changed to make the participation grade up to standard. "Each student is expected to participate in class and the activities to earn 100 points" was a suggested sentence. Member pointed out that some of the points for oral presentation look like points will be earned in participation and in the oral presentation portion of the grading. Members discussed if this would be interpreted as participating in the presentation and behaving in a non-disruptive manner during other's presentations would be graded in the participation section while the content of the presentation would be graded in the separate grading section.
- **24GPCTU Global Perspectives Certificate** -Approved Unanimously
Discussion: Member Beth Fath presented both curricular actions together.
- **Certificate in Interdisciplinary Entrepreneurial Thinking** -Approved with Friendly Suggestions
Discussion: Member Beth Fath presented the course. Dr. Beckman spoke about the certificate program and how it will allow students to choose a unique path that's not currently offered. Member asked what a certificate looks like on a transcript and how it's different than a minor. Charles Clift from registration and records explained how certificates are displayed on transcripts and explained the differences in minors and certificates. Member brought attention to the consultations on p. 66 and 69 and expressed concerns that there isn't an introduction and capstone course and the response Member was not clear if the 2nd or 3rd requirement were addressed or not. Li Marcus discussed consultations and explained that the purposes of consultations are beyond the realm of what is needed in a consultation. While it is in the consulting party's preview to make additional comments the initiator of the program will not need to address additional concerns outside of a directly affecting a college or department. Member asked if the faculty advisory council will be made of certain faculty or volunteering or how. Requirement 3 is essay questions- who is looking at the essays? What standards are set? Jordan from Assessment indicated the set-up of the certificate does make it alright to not have a capstone course. Members discussed that while there isn't a rubric for how the faculty advisory council will evaluate and decided they would trust the FAC. Friendly suggestion was made to include clarification on how students will be evaluated.
- **ECE/MSE/PY 489/(589) Solid State Solar and Thermal Energy Harvesting** -Approved with Friendly Suggestions
Discussion: Member Scott Despain presented the course. Member asked about the course policies wording in the class participation portion of the syllabus that indicates "grade is subjective, it will not be random or arbitrary" and doesn't include a portion of the grade but can only help with grading. Members discussed the "Recording of the class" section, member suggested a statement from the university saying that students can record but not distribute the information. There is a History professor under investigation by the White House and a student recorded her making comments about the shooting and turned it over to a political party, as well as copy write materials and student's privacy. Members discussed if a student takes pictures during a class, is this recording without permission? Members decided if this is for personal use that is okay, the issue would be if the student distributed. Friendly suggestion to clarify the borderline grade.

Discussion: Electronic Vote Debrief. Li Marcus thanked the committee for their willingness to participate in the electronic vote and explained the process behind making a meeting an electronic meeting. Is this useful? Would the committee like to set a precedence for when to have an electronic vote? Member indicated it's helpful for immediacy, especially moving dual level courses forward and said "it worked". Li Marcus asked for feedback about the process and stated that if any members would like to share outside of a group setting to email us. Member asked if it was alright that the first member to vote would be the presenter for every action. Is there a threshold that the committee would like to set for electronic voting? Member indicated anything from the consent agenda, curricular actions only if on the consent agenda, otherwise only course actions should be considered for an Electronic Vote. Member asked about the block in CIM "is this course a part of a curricula", Li Marcus explained this is currently used to see if other departments need to be consulted and that the purpose of this field is created by the vendor for CIM for curricula (CIM for programs) which will be implemented at NCSU at a later time.

Meeting adjourned at 1:56 pm

Respectfully submitted by Lexi Hergeth

**Program for Mathematics Education-- Statistics Specialization,
STEM Education Department
College of Education
North Carolina State University**

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

Endorsed By:

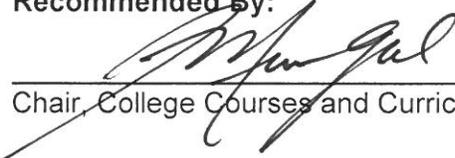


Head, Department/Director of Undergraduate Program

9/25/17

Date

Recommended By:

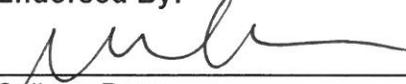


Chair, College Courses and Curriculum Committee

10/10/17

Date

Endorsed By:



College Dean

10/10/17

Date

Recommended By:

Vice Provost, DELTA (if DE degree)

Date

Approved By:

UCCC

Date

Recommended By:

Dean's Council

Date

Approved By:

Provost

Date

Approved By:

Chancellor
(revised August 2010)

Date



TO: College of Education Courses and Curriculum Committee

FROM: Karen Hollebrands, Mathematics Education

RE: Change to Mathematics Education –Statistics Specialization Eight Semester Display

DATE: September 25, 2017

We recently learned that MA 403 will no longer be offered in spring semesters (see e-mail message from Molly Fenn). All of our eight semester displays for our undergraduate programs in Mathematics Education show MA 403 offered in Fall except for the Mathematics Education –Statistics specialization degree program.

We would like to change the 8-semester display to suggest that students take MA 403 fall of their junior year and a Science elective course during the spring of their sophomore year. These two courses are highlighted in the 8-semester display.

Courses, Curricula, and Academic Standards (<https://oucc.dasa.ncsu.edu/>)

☰ MAIN MENU

ams ▾

dergraduate-

Mathematics Education (BS): Statistics (13MTHEDBS-13MTHEDST)

neral-

Freshman Year

nt ▾

rseleaf-2/1

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
MA 141 Calculus I ^{A,5}	4	MA 241 Calculus II ^{A,5}	4
Science ^{2,B,4}	4	Science ^{2,B,4}	4
ENG 101 Academic Writing & Research ^H	4	COM 112 Interpersonal Comm. ^D	3
E 115 Intro Computing Environments ¹	1	ST 311 Introduction to Statistics ⁵	3
ED 100 Intro to Education ⁶	2	HES_***Health & Exercise Course ^E	1
	15		15

Sophomore Year

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
MA 242 Calculus III ⁵	4	MA 403 Intro. to Modern Algebra ⁵	3
MA 225 Found.of Advanced Math ⁵	3	MA 405 Linear Algebra and Matrices ⁵	3
EMS 204 Intro to Mathematics Education ⁶	2	GEP Humanities Req. ^{C,I,J}	3
ED 204 Intro to 21 st Century Teaching ⁶	2	EDP 304 Educational Psychology ^{D,6}	3
Introduction to Programming ^{3,5}	3	ST 312 Introduction to Statistics II ⁵	3
GEP Interdisc. Persp. ^{G,I,J}	2-3	ST 307 Introduction to Statistical Programming ⁵	1
	16-17		16

Junior Year

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
ST 421 Intro. to Mathematical Statistics I ⁵	3	ST 422 Intro to Mathematical Statistics II ⁵	3
MA 351 Intro to Discrete Mathematical Models ^{5,7}	3	MA 408 Found. of Euclidean Geometry ⁵	3
ELP 344 School and Society ⁶	3	EMS 480 Teaching Math with Technology ⁶	3
GEP Humanities Req. ^{C,I,J}	3	ED 311 Classroom Assessment Principles & Practices ⁶	2

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
HES_***Health & Exercise Course ^E	1	ED 312 Classroom Assess. Principles & Practices: Prof. Learning Lab ⁶	1
Science ^{2,B,4}	3	GEP Interdiscip. Persp. ^{G,I,J}	3
		Free Elective	2
	16		17

Senior Year

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
EMS 472 Teaching Math Topics in High School ⁶	3	EMS 471 Student Teaching ⁸	12
EMS 490 School Math from an Adv. Perspective ⁶	3		
EMS 470 Methods & Materials for Teaching Math ⁸	3		
GEP Add. Breadth Req.: Hum/SS/VPA ^{F,I,J}	3		
ECI 416 Teaching Exceptional Students ⁶	3		
	15		12

Minimum Credit Hours Required for Graduation^{I,J,K}: **122**

Major/Program Footnotes

- COS 100 may substitute for E 115
- To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the GEP list of approved science courses.
- Introduction to programming course must be selected from MA 116, CSC 112, CSC 114, or CSC 116.
- At most one grade below a **C-** is permitted in the courses satisfying the science requirement.
- At most one grade below a **C** is permitted in the mathematics, statistics, and computer science courses.
- A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.
- MA 341 may be taken in place of MA 351.
- A grade of C or better is required in EMS 470 to continue in school placement full-time.

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

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

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

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

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

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: BIO 181 and BIO 183 or CH 101/102 and CH 201/202, or PY 201 and PY 202 or PY 205 and PY 208, or PY 211 and PY 212

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

Choose from the University approved GEP Humanities course list.

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

Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: ED 304, COM 112

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

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

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

Humanities/Social Sciences/Visual and Performing Arts

G. Interdisciplinary Perspectives (5-6 credit hours)

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

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

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

I. U.S. Diversity (USD)

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

J. Global Knowledge (GK)

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

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

PRINTER FRIENDLY VERSION (<https://oucc.dasa.ncsu.edu/wp-content/uploads/sites/16/2016/12/Mathematics-Education-Statistics-13MTHEDST.pdf>)

Courses, Curricula, and Academic Standards

300 Park Shops
101 Current Drive
Campus Box 7105
Raleigh, NC 27695-7105

courses-curricula@ncsu.edu (<mailto:courses-curricula@ncsu.edu>)

919.515.9769



<mailto:courses-curricula@ncsu.edu> About OUCC (<https://oucc.dasa.ncsu.edu/>)

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Karen Hollebrands <kfholleb@ncsu.edu>

Minor Curricula Change

7 messages

Karen Hollebrands <kfholleb@ncsu.edu>

Mon, Sep 25, 2017 at 2:58 PM

To: Kathy Trundle <kctrundl@ncsu.edu>

Hi Kathy,

MA 403 will no longer be offered in Spring. We would like to change our 8 semester display to show MA 403 in Fall. I wrote a memo and highlighted our 8-semester display with changes we would like to make. I will need department approval before submitting the request to the College Committee.

Emails from Molly Fenn in the math department and from Registration and Records regarding the process are pasted below.

Thanks,

Karen

Email from Molly Fenn:

Hi everyone,

Over the past couple years enrollment numbers in MA 403 have dropped significantly. In the math department we normally cancel classes with fewer than 10 students but we've let MA 403 run a few times now with enrollment less than 10 because I know how tightly math ed degrees are scheduled to get all the requirements in.

We'll definitely offer it again this coming spring, spring 2018, but after that I plan on only offering MA 403 in the fall unless enrollment numbers start to increase again. It looks like almost all the semester-by-semester degree plans that require it have it listed during the fall of junior year. One, the stats concentration, has it listed during the spring of the sophomore year, however.

Karen and Cynthia, I wanted to give you a heads up about this as we move into advising season so you can make sure your students plan accordingly. I've cc'd Brenda Burns also who often teaches the class. Let me know if you have any concerns or questions.

Molly

Molly Fenn

Teaching Associate Professor

Assistant Department Head

Department of Mathematics

North Carolina State University

Email from Lexi

Hello,

This change, moving a required course to a different semester, would be a change to the semester display and would go through UCCC. This would be an action requiring a semester display with changes highlighted and a memo with the department and college approval. No format B would be required as the required courses are not changing as far as I can tell.

Please let us know if you have any questions by emailing courses-curricula@ncsu.edu.

Have a great weekend!

Lexi Hergeth

AECHH

 Karen Hollebrands, Ph.D., Mathematics Education
 Professor and Alumni Distinguished Undergraduate Professor
 University Faculty Scholar
 502F Poe Hall
 Campus Box 7801
 NCSU
 Raleigh, NC 27695
 919-513-0505

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2 attachments

-  **MA403MathEdStatSpecializationMemo.pdf**
74K
-  **170926142745_0001.pdf**
181K

Karen Hollebrands <kfholleb@ncsu.edu>
 To: Kathy Trundle <kctrundl@ncsu.edu>

Mon, Sep 25, 2017 at 3:07 PM

Here is the signature page that we need for the curricula action.

 Karen Hollebrands, Ph.D., Mathematics Education
 Professor and Alumni Distinguished Undergraduate Professor
 University Faculty Scholar
 502F Poe Hall
 Campus Box 7801
 NCSU
 Raleigh, NC 27695
 919-513-0505

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[Quoted text hidden]

-  **Signature-Page generic.STEM.doc**
26K

Kathy Trundle <kctrundl@ncsu.edu>
 To: Karen Hollebrands <kfholleb@ncsu.edu>

Mon, Sep 25, 2017 at 3:16 PM

Thanks for getting this detail taken care of Karen.

I certainly support this necessary change. What do you need in terms of an official approval? A memo?

K

Kathy Cabe Trundle, PhD
 Department Head and Professor
 STEM Education

9/26/2017

North Carolina State University Mail - Minor Curricula Change

326 Poe Hall
Campus Box 7801
Raleigh, NC 27695-7801

919-515-6900 (office)
919-515-1063 (fax)

On Mon, Sep 25, 2017 at 2:58 PM, Karen Hollebrands <kfholleb@ncsu.edu> wrote:
[Quoted text hidden]

Karen Hollebrands <kfholleb@ncsu.edu>
To: Kathy Trundle <kctrundl@ncsu.edu>

Mon, Sep 25, 2017 at 3:18 PM

A memo and the signature page.

Karen Hollebrands, Ph.D., Mathematics Education
Professor and Alumni Distinguished Undergraduate Professor
University Faculty Scholar
502F Poe Hall
Campus Box 7801
NCSU
Raleigh, NC 27695
919-513-0505

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[Quoted text hidden]

Kathy Trundle <kctrundl@ncsu.edu>
To: Karen Hollebrands <kfholleb@ncsu.edu>
Cc: Diana Lotito <dilotito@ncsu.edu>

Mon, Sep 25, 2017 at 3:21 PM

The signed form is with Diana.

Thanks,

Kathy

Kathy Cabe Trundle, PhD
Department Head and Professor
STEM Education

326 Poe Hall
Campus Box 7801
Raleigh, NC 27695-7801

919-515-6900 (office)
919-515-1063 (fax)

On Mon, Sep 25, 2017 at 2:58 PM, Karen Hollebrands <kfholleb@ncsu.edu> wrote:
[Quoted text hidden]

Kathy Trundle <kctrundl@ncsu.edu>
To: Karen Hollebrands <kfholleb@ncsu.edu>

Mon, Sep 25, 2017 at 3:25 PM

It's with Diana.

Thanks!

9/26/2017

North Carolina State University Mail - Minor Curricula Change

Kathy Cabe Trundle, PhD
Department Head and Professor
STEM Education

326 Poe Hall
Campus Box 7801
Raleigh, NC 27695-7801

919-515-6900 (office)
919-515-1063 (fax)

[Quoted text hidden]

Karen Hollebrands <kfholleb@ncsu.edu>
To: Diana Lotito <dllotito@ncsu.edu>

Mon, Sep 25, 2017 at 3:25 PM

Diana,

Can you scan the signed form and email it to me?

Thanks
Karen

Karen Hollebrands, Ph.D., Mathematics Education
Professor and Alumni Distinguished Undergraduate Professor
University Faculty Scholar
502F Poe Hall
Campus Box 7801
NCSU
Raleigh, NC 27695
919-513-0505

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[Quoted text hidden]

Minor in Evolutionary Biology (Department of Biological Sciences)

1. Justification

Evolution is the cornerstone and foundation for all biological sciences. It forms the context for all biological hypotheses, from understanding relationships of living organisms, to organismal responses to various drugs and chemicals to environmental change. Evolutionary processes occur at all scales, from gene changes that allow us to elucidate both relationships and evolutionary histories, to selection acting upon interspecific relationships at the level of ecosystems. Students majoring in the life sciences and related areas would be well-served by a strong focus on evolutionary biology as provided by this minor.

2. Program Objectives

Students completing a minor in Evolutionary Biology will be able to:

- Apply evolutionary concepts (e.g., natural selection, mutation, isolation) to explain current diversity
- Describe the concept of deep time
- Conduct a character (trait)-based comparison of various taxa to predict nearest common ancestors
- Generate and explain a phylogenetic tree.
- Differentiate between basal and derived characters and state their significance
- Discuss the concept of evolutionary novelties and their significance in phylogeny
- Demonstrate professional skills such as reviewing papers and explaining complex subjects in simple terms
- Delineate the origin of various clades in a temporal context based upon evidence from the fossil record, extant animals including humans, and molecular data

3. List of courses -- see page 3

4. Catalog Description -- see page 3

5. Administration of the Minor – see page 4

6a. Requirements for Admission – see top of page 4

6b. Requirements for Completion of the Minor – see page 3

7. Other Departments Likely Affected

All required courses are taught within our department. On September 5th, we contacted colleges offering courses on the proposed Elective Course list as well as colleges whose students might be interested in this minor. CALS responded positively and suggested adding PB 400 to the Elective Courses list (which we have done):

“Jane,

We are fine with the proposed minor and the inclusion of PB 445/545 on the electives list, but we would like to recommend that PB 400 - Plant Diversity and Evolution also be added to that list.

Our new faculty member in plant evolutionary ecology, who will arrive within the next few months, may also teach courses that are appropriate for this minor.

Thank you – Chad”

Proposed:

Evolutionary Biology Minor (17EVOM)

Description

The Minor in Evolutionary Biology provides undergraduate students with an understanding of agents of evolutionary change, how evolutionary processes are monitored across various time scales, and how these processes are quantified in extant and extinct populations. Offered by the Department of Biological Sciences, the Evolutionary Biology Minor is available to all baccalaureate degree students at North Carolina State University except for those in the B.S. in Biological Sciences with a concentration in Ecology, Evolution, and Conservation Biology. This minor is especially appropriate for (but not limited to) students majoring in the life sciences, agricultural sciences, physical sciences, natural resources, or science education. At least 9 credit hours of the minor must be completed at NC State.

Requirements (18 credit hours total)

The Evolutionary Biology Minor consists of a minimum of 18 credit hours.

- A grade of C- or better is required for all minor courses with a 2.0 GPA required in the minor for graduation.
- No course used in the minor can be taken for credit only (S/U).
- Courses taken for the minor can also be used toward major requirements, GEP Electives, or Free Electives.
- At least 9 credit hours of the minor must be completed at NC State.

Required Courses (8 credit hours)

- GN 311 Principles of Genetics (4 cr)
- GN 312 Elementary Genetics Laboratory (1 cr)
- BIO 330 Evolutionary Biology (3 cr)

Elective Courses (10 credit hours)

- ANT 371 Human Variation (3 cr)
- BIO 230 The Science of Studying Dinosaurs (3 cr)
- BIO 325 Paleontological Field Methods (4 cr)
- BIO 440 The Human Animal: An Evolutionary Perspective (3 cr)
- BIO 444 The Biology of Love and Sex (3 cr)
- GN 423 Population, Quantitative, and Evolutionary Genetics (3 cr)
- *GN 453 Personal Genomics (3 cr) – pending approval*
- MB 451 Microbial Diversity (3 cr)
- PB 400 Plant Diversity and Evolution (4 cr)
- PB 445/545 Paleobotany (4 cr)
- ZO 317 Primate Ecology and Evolution (3 cr)
- Evolution Research or Teaching Experience (maximum 3 cr)
Options include BSC 493, BSC 494, and BSC 498 – the focus of the research or teaching experience must be in evolutionary biology and the experience must be approved by the Minor Coordinator (usually through a signed contract specific to the course) prior to beginning the work.

Other relevant courses, including some capstone and special topics course offerings, can be approved by the Minor Coordinator on a case-by-case basis.

Admissions

Students who plan to minor in Evolutionary Biology should contact the contact person listed below for information on how to do so. Students are strongly encouraged to declare the minor early in their studies so they receive information on relevant courses, events, and other opportunities from the Department of Biological Sciences.

Certification

All requirements for the minor must be completed no later than the semester in which the student expects to graduate from his or her major degree program. Students apply to graduate in the minor through MyPack at the same time that they apply to graduate in their major program.

Contact Person

Kim Orłowski
Bostian Hall 2727
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BioSciHelp@ncsu.edu

Coordinator

Dr. Brian Langerhans
David Clark Labs 246
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langershans@ncsu.edu

Minor in Forensic Science (Department of Biological Sciences)

1. Justification

The field of forensics is a broad, interdisciplinary field – our proposed changes to the Forensic Science Minor serve to emphasize more of the scientific aspects of forensics, while maintaining a requirement for an ethics course (essential to anyone who works in the field of forensic science). We therefore propose (1) changing the required introductory course to one that takes a broader approach to the science of forensics (PCC 274 Introduction to Forensic Science) and (2) requiring three foundational courses (one each in the natural sciences, statistics, and ethics). Finally, the proposed new Elective Courses list now emphasizes upper division science courses relevant to forensic science and includes the possibility of using direct experience in the field of forensic science for as many as 3 credit hours toward the minor.

2. Program Objectives

Students completing a minor in Forensic Science will be able to:

- Describe approaches and limitations to various scientific analyses of physical evidence
- Describe basic methods and limitations of key forensic disciplines
- Discuss basic ethical issues relevant to forensic science
- Illustrate how two or more disciplines can be essential in the processing of crime scenes or the analysis of physical evidence
- Apply foundational concepts in the natural sciences, statistics, and ethics to issues in the field of forensic science

3. List of courses -- see pages 4-5

4. Catalog Description -- see page 4

5. Administration of the Minor – see page 5

6a. Requirements for Admission – see page 5

6b. Requirements for Completion of the Minor – see pages 4-5 for requirements and page 5 for Certification

7. Other Departments Likely Affected

The following request for consultation was distributed in April of 2017 to all colleges through the Associate Deans for Academic Affairs:

“The Department of Biological Sciences requests your feedback on the attached proposal to revise the Forensic Science Minor. We are proposing changes that will emphasize the scientific aspects of forensics. We plan to develop 1-2 more courses to include on the electives list (eventually), and look forward to including courses developed in other departments as well. So while we are asking for your input now, we are also asking that you let us know (in the future)

when you develop courses that you would like to see added to the minor. Please send your comments to Jane_Lubischer@ncsu.edu."

Responses included:

- a request from CNR to drop ET 470 from the Elective Courses list due to it no longer being offered
- a note from CNR that ET 310 can be listed but that seats may be limited because it is a required course for Environmental Technology students
- the following note in support of our proposed changes from CALS:
 "The minor is significantly more robust now. The number of credits required to get the minor have increased and the number of elective options have increased. There are more science based courses and this is a significant change that is in line with the goals and aspirations of COS. Michael Reiskind in our department teaches one of the courses. He informed me this morning that his enrollment for next semester is full. This is a good sign because enrollment had dropped some last time it was offered."

As a result, we have removed ET 470 from the Elective Courses list. We have retained ET 310 -- even if this course is available only to ET students, keeping it on the Elective Courses list will make it easier for ET students to pursue the Forensic Science Minor.

**Proposed (edits shown starting page 6):
Forensic Science Minor (17FSCM)**

Description

The Department of Biological Sciences in the College of Sciences offers an undergraduate Minor in Forensic Science, an interdisciplinary field of study that involves the application of scientific principles and methodology from numerous scientific disciplines to criminal investigations. The Forensic Science Minor is available to undergraduates majoring in any field, but might be most appropriate for students majoring or planning to pursue advanced studies in the sciences or in science education. Students in the Minor in Forensic Science take one required introduction to forensic science (3 credit hours), three required foundational courses (9 credit hours), and then they have the opportunity to further explore a variety of scientific disciplines as they relate to the legal system (minimum 6 credit hours). At least 9 credit hours of the minor must be completed at NC State.

Requirements (18 credit hours total)

The Forensic Science minor consists of a minimum of 18 credit hours.

- A grade of C- or better is required for all minor courses with a 2.0 GPA required in the minor for graduation.
- No course used in the minor can be taken for credit only (S/U).
- Courses taken for the minor can also be used toward major requirements, GEP Electives, or Free Electives.
- At least 9 credit hours of the minor must be completed at NC State.

Required Course (3 credit hours)

- PCC 274 Introduction to Forensic Science (3 cr)

Foundational Requirements (9 credit hours)

- Natural Sciences (choose one course, minimum 3 cr):
 - ANT 371 Human Variation
 - BIO 240 Principles of Human Anatomy & Physiology A
 - BIO 405 Functional Histology
 - BIO/PB 414 Cell Biology
 - ET 310 Environmental Monitoring and Analysis
 - GN 301 Genetics in Human Affairs
 - GN 311 Principles of Genetics
 - MB 351 General Microbiology
 - SSC 442 Soil and Environmental Biogeochemistry
 - TMS 211 Introduction to Fiber Science
 - TOX 401 Principles of Toxicology
- Statistics (choose one course, 3 cr):
 - ST 101 Statistics by Example
 - ST 305 Statistical Methods
 - ST 311 Introduction to Statistics
 - ST 370 Probability and Statistics for Engineers
 - ST 371 Introduction to Probability and Distribution Theory
- Ethics (choose one course, 3 cr):
 - PHI 221 Contemporary Moral Issues

- PHI (STS) 325 Bio-Medical Ethics
- PHI 375 Ethics

Elective Courses (6 credit hours)

- ANT 370 Introduction to Forensic Anthropology (3 cr)
- ANT 421/521 Human Osteology (3 cr)
- *ANT 422 Forensic Anthropology Crime Scene Investigative Field Methods (3 cr) – pending approval*
- ANT 529 Advanced Methods in Forensic Anthropology (4 cr)
- CH 441 Forensic Chemistry (3 cr)
- ENT 305 Introduction to Forensic Entomology (3 cr)
- *GN 453 Personal Genomics (3 cr) – pending approval*
- MSE 480 Materials Forensics and Degradation (3 cr)
- PCC 474 Forensic Chemistry Laboratory (3 cr)
- *PSY 315 Forensic Psychology (3 cr) – pending approval*
- Forensic Science Research or Professional Experience (maximum 3 cr)
Options include BSC 492, BSC 493, and BSC 498 – the focus of the research or professional experience must be in forensic science and the experience must be approved by the Minor Coordinator (usually through a signed contract specific to the course) prior to beginning the work.

Other relevant courses, including some capstone and special topics course offerings, can be approved by the Minor Coordinator on a case-by-case basis.

Admissions

The minor in Forensic Science is administered within the Department of Biological Sciences in the College of Sciences. Students who plan to minor in Forensic Science should contact the contact person listed below for information on how to do so. Students are strongly encouraged to declare the minor early in their studies so they receive information on relevant courses, events, and other opportunities from the Department of Biological Sciences.

Certification

All requirements for the minor must be completed no later than the semester in which the student expects to graduate from his or her major degree program. Students apply to graduate in the minor through MyPack at the same time that they apply to graduate in their major program.

Contact Person

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Coordinator

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Forensic Science (17FSCM) *edited*

Description

The Department of Biological Sciences in the College of Sciences offers an undergraduate Minor in Forensic Science, an interdisciplinary field of study that involves the application of scientific principles and methodology from numerous scientific disciplines to criminal investigations. The Forensic Science Minor is available to undergraduates majoring in any field, but might be most appropriate for students majoring or planning to pursue advanced studies in the sciences or in science education. Students in the Minor in Forensic Science take one required introduction to forensic science (3 credit hours), three required foundational courses (9 credit hours), and then they have the opportunity to further explore a variety of scientific disciplines as they relate to the legal system (minimum 6 credit hours). At least 9 credit hours of the minor must be completed at NC State. ~~is the interest of how science is applied to the service of the law. The Forensic Science minor is an interdisciplinary minor that will introduce students to the multifaceted nature of criminal investigations. Students will gain knowledge in several disciplines that contribute to the forensic sciences.~~

Requirements

The Forensic Science minor consists of a minimum of ~~15~~18 credit hours.

- ~~• A maximum of TWO (2) courses may be used (double counted) towards both departmental major requirements and minor requirements~~
- A grade of C- or better is required for all minor courses with a 2.0 GPA required in the minor for graduation.
- No course used in ~~for~~ the minor can be taken for credit only (S/U).
- Courses taken for the minor can also be used toward major requirements, GEP Electives, or Free Electives.
- At least 9 credit hours of the minor must be completed at NC State.
- ~~• Students who plan to minor in Forensic Science should contact any faculty involved in the minor for consultation and approval.~~

Required Course (3 credit hours)

- ~~• ANT 370 Introduction to Forensic Anthropology (3 cr.)*, Preq: ANT 251*~~
- PCC 274 Introduction to Forensic Science (3 cr)

Foundational Requirements (9 credit hours)

- Natural Sciences (choose one course, minimum 3 cr):
 - ANT 371 Human Variation
 - BIO 240 Principles of Human Anatomy & Physiology A
 - BIO 405 Functional Histology
 - BIO/PB 414 Cell Biology
 - ET 310 Environmental Monitoring and Analysis
 - GN 301 Genetics in Human Affairs

- GN 311 Principles of Genetics
- MB 351 General Microbiology
- SSC 442 Soil and Environmental Biogeochemistry
- TMS 211 Introduction to Fiber Science
- TOX 401 Principles of Toxicology
- Statistics (choose one course, 3 cr):
 - ST 101 Statistics by Example
 - ST 305 Statistical Methods
 - ST 311 Introduction to Statistics
 - ST 370 Probability and Statistics for Engineers
 - ST 371 Introduction to Probability and Distribution Theory
- Ethics (choose one course, 3 cr):
 - PHI 221 Contemporary Moral Issues
 - PHI (STS) 325 Bio-Medical Ethics
 - PHI 375 Ethics

Elective Courses (612 credit hours)

- ANT 370 Introduction to Forensic Anthropology (3 cr)
- ANT 421/521 Human Osteology
- *ANT 422 Forensic Anthropology Crime Scene Investigative Field Methods (3 cr) – pending approval*
- ANT 424 Bioarchaeology (3 cr)
- ANT 529 Advanced Methods in Forensic Anthropology (4 cr)
- CH 441 Forensic Chemistry (3 cr)
- ENT 305 Introduction to Forensic Entomology (3 cr)*
- ~~ET 470 Environmental Forensics (3 cr), Preq: ET 252, ET 301, ET 310~~
- ~~MEA 433 Forensic Geology (4 cr.), Preq: MEA 101~~
- *GN 453 Personal Genomics (3 cr) – pending approval*
- MSE 480 Materials Forensics and Degradation (3 cr)
- PCC 474 Forensic Chemistry Laboratory (3 cr)
- *PSY 315 Forensic Psychology (3 cr) – pending approval*
- ~~TOX 201 Poisons, People and the Environment (3 cr.)*~~
- ~~ANT 429 Advanced Methods in Forensic Anthropology (4 cr.), Preq: ANT 251, ANT 370*, ANT 421~~
- ~~PCC 274 Introduction to Forensic Science (3 cr.)~~
- ~~PHI (STS) 325 Biomedical Ethics (3 cr.)~~
- ~~PHI 422 Philosophical Issues in Environmental Ethics (3 cr.)~~
- ~~PHI 475 Ethical Theory (3 cr.)~~
- ~~PS 205 Law and Justice (3 cr.)*~~
- ~~PS 307 Introduction to Criminal Law in the United States (3 cr.)~~
- ~~PS 313 Criminal Justice Policy (3 cr.)~~
- ~~SOC 306 Criminology (3 cr.), Preq: 200-level SOC* These courses are on the University approved GEP list~~

Admissions and Certification of Minor

The ~~minor~~ minor in Forensic Science is ~~will~~ be administered within the Department of Biological Sciences in the College of Sciences. Students who plan to minor in Forensic Science should contact the contact person listed below for information on how to do so. Students are strongly encouraged to declare the minor early in their studies so they receive information on relevant courses, events, and other opportunities from the Department of Biological Sciences.

Certification

~~The~~ All requirements for the minor must be completed no later than the semester in which the student expects to graduate from his or her major degree program. ~~Paperwork for certification should be completed no later than during the registration period for the student's final semester at NC State. Application for the minor can be found online at the Registration and Records site.~~ Students apply to graduate in the minor through MyPack at the same time that they apply to graduate in their major program.

Contact Person

Kim Orlowski

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Coordinator

Dr. Ann Ross

David Clark Labs 140

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SIS Code: 17FSCM

MEMORANDUM

Date: September 5, 2017

To: Dr. Michael Mullen, Vice Chancellor & Dean
Division Academic & Student Affairs

From: The Department of Health and Exercise Studies

Subject: Change in prerequisite for the Sports Science minor program

Undergraduate Curriculum Action Form Attachments:

1. Statement of Justification
 - a. The Biology Department decided to replace BIO 212 and BIO 421 with a more recognizable 2 semester sequence of BIO 240 and BIO 245, with labs incorporated into both courses.
 - b. This change was instituted because it was challenging to explain to graduate programs that BIO 212 and BIO 421/426 were the equivalent of Human Anatomy and Physiology, Parts 1 & 2.
2. Statement of Academic Minor Program Objectives
 - a. The Department of Health and Exercise Studies offers a 16 Credit hour Sports Science Minor designed for students who desire a greater understanding of the physiological and biomechanical principles of exercise and fitness. The minor provides coursework in anatomy, physiology, nutrition, biomechanical principles, prevention and treatment of athletic injuries, exercise leadership, and health behavior.
3. List of Courses Constituting the Proposed Minor
 - a. Required Courses
 - i. ~~BIO 212 Basic Human Anatomy~~ **BIO 240 Principles of Human Anatomy & Physiology (A): Nervous, Skeletal, Muscular, and Digestive Systems**
 - ii. HESM 286 Nutrition, Exercise, and Weight Control
 1. Alternate: NTR 301 Intro to Human Nutrition
 - iii. HESM 303 Sports Science Practicum
 - iv. HESM 478 Exercise Physiology and Sports Science
 - v. HESM 480 Principles of Exercise Programming
 - b. Elective Courses
 - i. HESM 211 Coaching Strength Training and Conditioning
 - ii. HESM 285 Personal Health
 - iii. HESM 381 Introduction to Athletic Training
 - iv. ~~BIO 421/426 Advanced Human Anatomy and Physiology/Lab~~ **BIO 245 Principles of Human Anatomy and Physiology (B): Endocrine, Cardiovascular, Respiratory and Renal Systems**
 - v. NTR 500 Principles of Human Nutrition
 - vi. NTR 555 Exercise Nutrition
 - vii. PRT Leisure Behavior, Health and Wellness

4. Catalog Description of Proposed Minor
 - a. The Department of Health and Exercise Studies offers a 16 Credit hour Sports Science Minor designed for students who desire a greater understanding of the physiological and biomechanical principles of exercise and fitness. The minor provides coursework in anatomy, physiology, nutrition, biomechanical principles, prevention and treatment of athletic injuries, exercise leadership, and health behavior.
5. Administration of the Minor
 - a. Darrin W. DeReu, MS, ATC, Senior Lecturer, 2016-A Carmichael Gym, 919-515-1057, dwdereu@ncsu.edu
6. Requirements for Admission and Completion of the Minor
 - a. Read over all information regarding the minor program.
 - b. Contact the minor program coordinator.
 - c. Complete and submit the Declare a Minor form to Registration and Records
 - d. Begin taking the required and/or elective courses in the minor program
 - e. Meet with minor coordinator prior to enrolling in the minor practicum
7. This change originated from the Biology Department and affects the Sports Science Minor class listings. The course content has not been altered. Only the class Prefix and numbering has changed to clarify course sequence.
8. Optional: Projected Resources and Enrollment