

University Courses & Curricula Committee 2015-2016

October 7, 2015
Talley Student Union 4140
12:30pm-2:30pm

Call to Order

- Welcome and Instructions, Chair Scott Despain
- Remarks from Associate Vice Provost, Dr. Barbara Kirby
- Approval of UCCC September 23, 2015 Minutes
- Review of the Consent Agenda

Presenter	Action	Type	Notes
Hessling	ED 311 <i>Classroom Assessment Principles and Practices</i>	Rev: Pre-req	n/a
Ozturk	BME 451 <i>Biomedical Engineering Senior Design I</i>	Rev: Pre-req, Co-req	n/a

New Business

- Course and Curricular Business

College of Engineering			
Presenter	Reviewers	Action	Type
Ozturk	Auerbach, Hergeth, Trivedi	MAE 200 <i>Introduction to Mechanical Engineering Design</i>	New Course
Ferguson	Beller, Driscoll, Lindsay	Chemical Engineering-Biomolecular (14CHEBS-14CHEBIO)	Rev: Various changes
College of Sciences			
Presenter	Reviewers	Action	Type
Black	Black, Domingue, Ferguson	MB 470 <i>Emerging and Re-Emerging Issues Infectious Diseases</i>	New Course
Black	Hergeth, Hessling, Ozturk	ST 305 <i>Statistical Methods</i>	Rev: Course/Contact Hours, Pre-req, Co-req
Banks	Banks, Nowel, Tarpay	ST 430 <i>Introduction to Regression Analysis</i>	Rev: Scheduling, Pre-reqs
Division of Academic & Student Affairs			
Presenter	Reviewers	Action	Type
Beller	Banks, Nowel, Tarpay	HESM 330 <i>Introduction to Laban Analysis and Bartenieff Fundamentals</i>	New Course
Poole College of Management			
Presenter	Reviewers	Action	Type
Nowel	Driscoll, Hessling, Rieder	BUS 458 <i>Analytics: From Data to Decisions</i>	New Course
Nowel	Black, Domingue, Trivedi	BUS 459 <i>Data Analytics Practicum</i>	New Course
Nowel	Currie, Lindsay, Ozturk	Data Analytics Honors Program	New Honors Program

Discussion

- Chair-Elect for 2016-2017
- Service Learning Subcommittee Discussion



University Courses & Curricula Committee 2015-2016

UCCC Minutes for Sept. 23, 2015
 Talley Student Union 4140
 Call to Order: 12:32pm

Members Present: Chair Scott Despain, David Auerbach, Alton Banks, Amanda Beller, Betty Black, Debbie Currie, Peggy Domingue, Catherine Driscoll, Scott Ferguson, Helmut Hergeth, Peter Hessling, Edwin Lindsay, Andy Nowel, Rebecca Swanson, David Tarpy, Shweta Trivedi

Ex-Officio Members Present: Charles Clift, Barbara Kirby, Gina Neugebauer

Members Absent: Brittany Mastrangelo, Hatice Ozturk (E), Kathleen Rieder (E)

Recurring Guests Present: John Harrington, Lindsey Mihalov

WELCOME AND INTRODUCTIONS

- *Remarks from Chair, Chair Scott Despain*
 Chair Despain welcomed the committee in attendance to Talley Student Union 4140.
- *Remarks from Associate Vice Provost, Dr. Barbara Kirby*
 Dr. Kirby welcomed members to the UCCC meeting.

CONSENT AGENDA

- Approval of the Minutes from August 26, 2015-**Approved unanimously pending the** inclusion of a member's name to the attendance roster.
- A motion was made and seconded to approve the consent agenda. Without any discussion, the consent agenda was **approved unanimously**.

Action	Type	Notes
BIO 120 <i>The Dinosaurian World</i>	Rev: Prefix	Instructor moved to the BIO dept.
PO 100 <i>Principles of Livestock and Poultry Production</i>	Course Drop	Course has not been taught in 10+ years
Agricultural Business Management Certificate (32ABMCTU)	Rev: Adding ARE 323 as elective	Non-PBS students
Agricultural Business Management Certificate (32ABCTU)	Rev: Adding ARE 323 as elective	PBS students only
MIE 310 <i>Introduction to Entrepreneurship</i>	Rev: pre-req	Remove MIE 201 as pre-req

NEW BUSINESS

- BAE 371 Fundamentals of Hydrology for Engineers- **APPROVED** unanimously without discussion.
- PO 412 Emerging Topics in Poultry Science- **APPROVED** unanimously without discussion.
- Chemistry BA (17CHEMBA) - **APPROVED** unanimously without discussion.
- Statistics Minor (17STM) - **APPROVED** unanimously without discussion.
- FLA 440 Modern Arabic Short Story- **APPROVED** unanimously without discussion.
- HI 499 Special Topics in History- **APPROVED** unanimously without discussion.
- BUS 428 Financial Analysis- **APPROVED** unanimously without discussion.
- A motion was made and seconded to approve the following as a package. The package was **APPROVED** unanimously without discussion.

Accounting BS-Financial Analysis (20ACCBS-20ACCFA)	Revision: Add BUS 428 as elective
Business Administration BS- Finance (20BUSBS-20BUSFIN)	Revision: Add BUS 428 as elective

ANNOUNCEMENTS AND DISCUSSION

Service Learning Subcommittee Update

Chair Despain explained the progress made by Service Learning Subcommittee, and asked committee members for their opinions, concerns, and questions regarding the draft Google form. At the next UCCC meeting, members will provide feedback regarding the draft Google form for Service Learning.

Meeting adjourned at 1:06 pm.

Respectfully submitted by Gina Neugebauer.

To: College of Education Courses and Curriculum Committee
From: Michael J. Maher, Ph.D. Assistant Dean for Professional Education

RE: Minor Curriculum Action to the Prereqs for ED 311
Date: September 8, 2015

ED 311: Classroom Assessment Principles and Practices


Current: Prerequisite: Admission to Teacher Education Candidacy (gpa. 2.75) and ED 204; Co-requisite: ED 312

Proposed Revision Change: Prerequisite Additional Courses: AEE 206 or ELM 250 or ED 204

- College of Education STEM and TELS department students are enrolled in ED 204 *Introduction to 21st Century Teaching*
- ELM ED and Ag ED have their own introductory teaching courses equivalent to ED 204.
- This minor curriculum change to the prerequisite needs to be reflected so that course catalog will reflect the eligible students to participate in ED 311 assessment classes. This pre-requisite is used at the section level to differentiate the course sections for a restriction in undergraduate student's enrollment.

**College of Education
Minor Curriculum Change to
the Pre-requisites for ED 311: Classroom Assessment Principles and Practices
in the College of Education,
North Carolina State University**

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

Endorsed By:  _____ 9.11.15
Head, Department/Director of Undergraduate Program Date

Recommended By:  _____ 9/11/15
Chair, College Courses & Curriculum Committee Date

Endorsed By:  _____ 9.11.15
College Dean Date

Recommended By: _____
Chair, University Courses & Curriculum Committee Date

Approved By: _____
Dean of the Division of Academic and Student Affairs Date



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



Lianne A. Cartee, PhD
Teaching Associate Professor, Biomedical Engineering Dept.
Director of Undergraduate Studies
911 Oval Drive, Campus Box 7115
Raleigh, NC 27695-7625

Phone: 919.515.6726
FAX: 919.513.3814
<http://www.bme.ncsu.edu>
e-mail: lacartee@ncsu.edu

DATE: Aug. 31, 2015
TO: Office of the Dean of Academic and Student Affairs
FROM: Lianne Cartee, Co-chair, BME Undergraduate Affairs Committee
SUBJECT: Minor Item – change in BME pre-requisite

Minor Action:

ENG 331 Communication for Engineering and Technology or ENG 333 Communication for Science and Research is currently a pre-requisite for BME 451 Biomedical Engineering Senior Design I. We propose changing the pre-requisite to a co-requisite.

Current prerequisites: BME 302, BME 352, and either ENG 331 or ENG 333, and completion of two of the suggested BME electives for their area of emphasis ; BME majors

New pre-requisites: BME 302, BME 352, ~~and either ENG 331 or ENG 333,~~ and completion of two of the suggested BME electives for their area of emphasis; **co-requisite ENG 331 or ENG 333**; BME majors

Justification: Not all students are able to enroll in ENG 331 or ENG 333 before their senior year.

Should you need any additional information, please feel free to contact me at 919-515-6726 or lacartee@ncsu.edu.

Sincerely,

Lianne A. Cartee, Ph.D.

MINOR ACTION SIGNATURE PAGE

RECOMMENDED BY: Nancy Albullo 9/4/15
HEAD, DEPARTMENT/PROGRAM DATE ADDITIONAL SIGNATURES (IF NEEDED)

ENDORSED BY: [Signature] 14 Sept 15
CHAIR, COLLEGE COURSES & CURRICULA COMMITTEE DATE ADDITIONAL SIGNATURES (IF NEEDED)

Jerome P. Fawelle 9/15/15
COLLEGE DEAN DATE ADDITIONAL SIGNATURES (IF NEEDED)

APPROVED BY:

CHAIR, UNIVERSITY COURSES & CURRICULA COMMITTEE DATE

DEAN OF UNDERGRADUATE ACADEMIC PROGRAMS DATE

MAE 200: Introduction to Mechanical Engineering Design

Course Inventory Change Request

In Workflow

1. 14MAE UG Director of Curriculum (lmsilver@ncsu.edu)
2. 14MAE UnderGrad Head (gould@ncsu.edu)
3. COE CC Coordinator UG (dwparish@ncsu.edu)
4. COE CC Meeting UG (dwparish@ncsu.edu)
5. COE CC Chair UG (dwparish@ncsu.edu)
6. COE Final Review UG (dwparish@ncsu.edu)
7. COE Dean UG (jerome_lavelle@ncsu.edu)
8. OUCC Review (gmneugeb@ncsu.edu)
9. UCCC Coordinator (gmneugeb@ncsu.edu)
10. UCCC Meeting (gmneugeb@ncsu.edu)
11. UCCC Chair (despain@ncsu.edu)
12. OUCC Final Signature (barbara_kirby@ncsu.edu)
13. OUCC Final Review (gmneugeb@ncsu.edu)
14. PeopleSoft (lamarcus@ncsu.edu; blpearso@ncsu.edu; Charles_Cliff@ncsu.edu; ldmihalo@ncsu.edu; jmharr19@ncsu.edu; Tracey_Ennis@ncsu.edu)

Approval Path

1. Thu, 30 Apr 2015 18:30:33 GMT
Lawrence Silverberg (lmsilver): Approved for 14MAE UG Director of Curriculum
2. Thu, 30 Apr 2015 18:38:36 GMT
Richard Gould (gould): Approved for 14MAE UnderGrad Head
3. Wed, 06 May 2015 19:52:27 GMT
Catherine Freeman (cmfreem2): Approved for COE CC Coordinator UG
4. Thu, 07 May 2015 12:53:18 GMT
David Parish (dwparish): Approved for COE CC Meeting UG
5. Thu, 07 May 2015 16:52:05 GMT
Catherine Freeman (cmfreem2): Approved for COE CC Chair UG
6. Thu, 17 Sep 2015 20:39:35 GMT
David Parish (dwparish): Approved for COE Final Review UG
7. Thu, 17 Sep 2015 20:55:58 GMT
Jerome Lavelle (jplavell): Approved for COE Dean UG

New Course Proposal

Date Submitted: Thu, 30 Apr 2015 15:55:47 GMT

Viewing: MAE 200 : Introduction to Mechanical Engineering Design

Changes proposed by: eischen

Course Prefix

MAE (Mechanical & Aerospace Engr)

Course Number

200

Cross-listed Course

No

Title

Introduction to Mechanical Engineering Design

Abbreviated Title

Intro ME Design

College

College of Engineering

Academic Org Code

Mechanical & Aerospace Engr (14MAE)

CIP Discipline Specialty Number

14.1901

CIP Discipline Specialty Title

Mechanical Engineering.

Term Offering

Fall and Spring

Year Offering

Offered Every Year

Effective Date

Fall 2016

Previously taught as Special Topics?

Yes

Number of Offerings within the past 5 years

1

Course Prefix/Number

MAE495

MAE495

Semester/Term Offered

Fall 2014

Fall 2015

Enrollment

5

10

Course Delivery

Face-to-Face (On Campus)

Grading Method

Letter Grade Only

Credit Hours

1

Course Length

5

weeks

Contact Hours

(Per Week)**Component Type**

Lecture

Contact Hours

3

Course Attribute(s)**Course Is Repeatable for Credit**

No

Instructor Name

Jeffrey W Eischen

Instructor Title

Associate Professor

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

Enrollment Component	Per Semester	Per Section	Multiple Sections?	Comments
Lecture	140	20	Yes	Fall semester
Lecture	60	20	Yes	Spring semester

Course Prerequisites, Corequisites, and Restrictive Statement

Sophomore standing in mechanical engineering

Is the course required or an elective for a Curriculum?

Yes

Which Curricula are Affected?**SIS Program Code**

14MEBS

Program Title

Mechanical engineering

Required or Elective?

Required

Catalog Description

Introduction to mechanical engineering and its application in professional practice. Includes mechanical engineering vocabulary, measurement concepts, safety training, demonstration of basic machine components and systems, dissection of mechanical engineering devices, simple drawing and sketching, 3d printing, technical communication, design, creation of Online Portfolio. (5-week course)

Justification for new course:

Mechanical engineering students entering are program as sophomores are very interested in learning the hands-on and practical aspects of the field. It is imperative that opportunities for this early in curriculum to take advantage of generating excitement and interest for our program and build a foundation for all subsequent classes. This new course is aimed at newly matriculated students in mechanical engineering.

The class will be taught in a student shop space and will allow students to interact with tools and machinery. The class will be based heavily on demonstrations and hands-on experiments.

Does this course have a fee?

No

Is this a GEP Course?

No

Consultation**Instructional Resources Statement**

No new resources required

Course Objectives/Goals

The objective of this course is to introduce entering students to mechanical engineering including the terminology measurement concepts, safety training, demonstration of basic machine components and systems, dissection of mechanical engineering devices, 3d printing, technical communication, design, creation of Online Portfolio (1 hr. lecture with projects)

Student Learning Outcomes

The student, upon successful completion of this course, will be able to

- 1.
2. Identify basic machine components and systems
- 3.
4. Safely and properly use measuring tools
- 5.
6. Safely and properly operate simple machine tools
- 7.
8. Make simple drawing and sketches of machine components
- 9.
10. Dissect and reassemble simple systems using hand tools
- 11.
12. Understand concept of design ideation and prototyping
- 13.
14. Document work in Online Portfolio
- 15.

Student Evaluation Methods

Evaluation Method	Weighting/Points for Each	Details
Project	75	Analysis of reporting on projects conducted during class meeting time
Project	25	Team based design competition project

Topical Outline/Course Schedule

Topic	Time Devoted to Each Topic	Activity
What is Engineering? Mechanical Engineering? Machines ME's Know Well. Design. Sample Design Calculations . Introduction to Online Portfolios	2 75min lectures	Introduction to Engineering, Mechanical Engineering, and Design. Automobile top speed calculation. Tire inflation experiment.
Engineering Design Calculations. ME machines. Basic Machine Component Identification and Uses. Simple Tool Identification and Uses. Measuring Physical Dimensions. Dissection.	2 75min lecture	Tire and airtank pressure drop theory. Air compressor dissection. Water pump demonstration and dissection. Examples of ME machine components- such as bolts, springs, bearings, belts, chain.
Dissection, Documentation, and Reassembly. Operation of Shop Tools. Engineering Materials and Joining Processes.	2 75 min lecture	Tool box- hand tool identification. Measurement tools- machinist rule, dial calipers, gage blocks, telescoping hole gages. Machine component dissection and documentation Measure selected dissected component. Reassemble dissected machine. Training on shop machine tools Cut and drill exercise. Demonstration of engineering materials- carbon steel, stainless steel, nonferrous metals, plastics, composites, wood. Welding demonstration. Bolting torque wrench demo. Riveting demonstration.

Engineering Drawings- Geometric Dimensioning and Tolerancing Concepts. Waterjet Cutting and 3D printing demonstration 2 75 min lecture

Geometric dimensioning and tolerancing. Demonstrate close fitting rod in bored hole. Create 2D drawing of dissected machine component using CAD software

Human Aspects of Design Process. Design competition 2 75 min lecture

Waterjet cut and 3D print demonstration. Myers Briggs, Right/Left Brain and Learning Styles. Creativity and Inventiveness. Introduce design competition system- theory, objectives, and constraints.

Design competition and wrapup

Syllabus

MAE_200Syllabus.pdf

Additional Documentation

Additional Comments

Course Reviewer Comments

cmfreem2 (Mon, 30 Mar 2015 13:54:11 GMT): Rollback: Rollback to edit further for resubmission.

cmfreem2 (Wed, 06 May 2015 19:38:23 GMT): Removed the reference to 1 hr with projects from catalog description and included course offering as a 5 week course.

dwwparish (Thu, 07 May 2015 12:56:23 GMT): passed

Key: 7168

Preview Bridge (<http://catalog.ncsu.edu/>)

MAE 200 Course Syllabus

MAE 200 – Introduction to Mechanical Engineering Design

Section 001

FALL 2016

1 Credit Hour

Course Description

Introduction to mechanical engineering and its application in professional practice. Includes mechanical engineering vocabulary, measurement concepts, safety training, demonstration of basic machine components and systems, dissection of mechanical engineering devices, simple drawing and sketching, 3d printing, technical communication, design, creation of Online Portfolio (1 hr. lecture with projects)

Learning Outcomes

The student, upon successful completion of this course, will be able to

1. Identify basic machine components and systems
2. Safely and properly use measuring tools
3. Safely and properly operate simple machine tools
4. Make simple drawing and sketches of machine components
5. Dissect and reassemble simple systems using hand tools
6. Understand concept of design ideation and prototyping

Course Structure

The course will meet 2 days per week for 1hr 15min for the first 5 weeks of the semester in the student shop 1205 EBIII. Demonstrations and projects will be conducted during these meeting periods.

Homework assignments will be due each week and a design project prototype and report will be due the last week of class

Instructors

Dr. Jeffrey W Eischen (eischen) - *Instructor*

Email: eischen@ncsu.edu

Web Page: <http://www.mae.ncsu.edu/eischen>

Phone: 919-515-5263

Fax: 919-515-7968

Office Location: Engineering Building III (EB3)

Office Hours: TuTh 3-4pm

Course Meetings

Lecture

Days: TH

Time: 9:35am - 10:50am

Campus: Centennial

Location: 1205 Engineering Building 3

This meeting is required.

Course Materials

Textbooks

None.

Expenses

None.

Materials

Lab Notebook - \$8

This material is required.

Requisites and Restrictions

Prerequisites

Sophomore standing in mechanical engineering

Co-requisites

None.

Restrictions

None.

General Education Program (GEP) Information

GEP Category

This course does not fulfill a General Education Program category.

GEP Co-requisites

This course does not fulfill a General Education Program co-requisite.

Transportation

This course will not require students to provide their own transportation. Non-scheduled class time for field trips or out-of-class activities is NOT required for this class.

Safety & Risk Assumptions

None.

Grading

Grade Components

Component	Weight	Details
Weekly homework assignments/ project reports	75	Participation required
Team based design competitions	25	Participation required, participation on a team required

Letter Grades

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

In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to <http://policies.ncsu.edu/regulation/reg-02-20-15>.

Requirements for Auditors (AU)

Information about and requirements for auditing a course can be found at <http://policies.ncsu.edu/regulation/reg-02-20-04>.

Audits are not permitted

Policies on Incomplete Grades

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-02-50-3>.

Late Assignments

Late assignments will not be accepted without an excuse. Project based assignments must be made up

Attendance Policy

For complete attendance and excused absence policies, please see <http://policies.ncsu.edu/regulation/reg-02-20-03>

Attendance Policy

Attendance is required for all classes.

Absences Policy

Refer to university attendance regulation REG 02.20.03

Makeup Work Policy

All homework assignments and project work must be made up after an excused absence and handed in by the due date.

Additional Excuses Policy

None.

Academic Integrity

Academic Integrity

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

None.

Academic Honesty

See <http://policies.ncsu.edu/policy/pol-11-35-01> for a detailed explanation of academic honesty.

None.

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

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.

Electronically-hosted Components: Moodle forum

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/req-02-20-01>.

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://policies.ncsu.edu/policy/pol-04-25-05> 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.

Course Schedule

NOTE: The course schedule is subject to change.

Lecture TH 9:35am - 10:50am — Week 1 — 8/10/2014 - 08/14/2014

What is Engineering? Mechanical Engineering? Machines ME's Know Well. Design. Sample Design Calculations . Introduction to Online Portfolios

Lecture TH 9:35am - 10:50am — Week 2 — 8/17/2014 - 8/21/2014

Engineering Design Calculations. ME machines. Basic Machine Component Identification and Uses. Simple Tool Identification and Uses. Measuring Physical Dimensions. Dissection.

Lecture TH 9:35am - 10:50am — Week 3 — 8/24/2014 - 8/28/2014

Dissection, Documentation, and Reassembly. Operation of Shop Tools. Engineering Materials and Joining Processes.

Lecture TH 9:35am - 10:50am — Week 4 — 8/31/2014 - 9/4/2014

Engineering Drawings- Geometric Dimensioning and Tolerancing Concepts. Waterjet Cutting and 3D printing demonstration

Lecture TH 9:35am - 10:50am — Week 5 — 9/7/2014 - 9/11/2014

Human Aspects of Design Process. Design competition

March 20, 2015

To: Dr. Mike Mullen
Vice Chancellor and Dean of DASA (Division of Academic and Student Affairs)

From: Peter S. Fedkiw, Head, Chemical and Biomolecular Engineering

Subject: Memo to Add and Remove Courses to the Biomolecular Concentration Elective List

By means of this memorandum and the attached documents, the Department of Chemical and Biomolecular Engineering proposes to modify the undergraduate curricula as follows:

Action:

Add the following BIT courses to the list of *BIT Lab Module – Group 1* as well as the list of *Technical Electives* in the Biomolecular Concentration:

BIT 495/595	Genome Engineering: CRISPR Technology
BIT 495/595	Virus Biotechnology: Pathogens to Therapeutics
BIT 495/595	Yeast Metabolic Engineering
BIT 495/595	Metagenomics
BIT 572/CH 572	Proteomics
BIT 495/595	Immunology Methods
BIT 464/CHE 464	Protein Purification
BIT 467/567	PCR and DNA Fingerprinting
BIT 474/574	Plant Genetic Engineering
BIT 595	Confocal Microscopy

NC STATE UNIVERSITY

Add the following BIT courses to the lists of *BIT Lab Module – Group 2* in the Biomolecular Concentration:

BIT 495/595	Gene Manipulation in Zebrafish
BIT 495/595	Mapping the Brain
BIT 471/571	RNA Interference and Model Organisms
BIT 466/566	Animal Cell Culture Techniques

Remove the following inactive BIT courses to the lists of *BIT Lab Module – Group 2* in the Biomolecular Concentration:

BIT 462/562	Gene Expression Analysis: Microarrays
BIT 473	Experimental Analysis of Protein-Protein Interactions
BIT 465/565	Real-Time PCR Techniques
BIT 468	Genome Mapping
BIT 481/PB 481	Plant Cell Culture and Transformation
BIT 569	RNA Purification and Analysis
BIT 495/595	Cellular Signaling Techniques

Justification: BIT has new several courses to its curriculum that are appropriate as BIT Lab Modules and/or Technical Electives for our students in the Biomolecular Concentration. Some of the courses currently in the degree audit are inactive and need to be removed.

Consultation/Impact: Dr. Robert Kelly, Director of the Biotechnology Program, has been consulted and approved the addition of these electives (attached).

Copies of communications from both departments are attached to confirm the support for these minor changes.

ENDORSED BY:

Gunter Keckhant

3/27/15

Department Head, Chemical and Biomolecular Engineering Date

Chair, COE Courses & Curricula Committee Date

College of Engineering Dean Date

Chair, University Courses & Curricula Committee Date

Chair, Dean of Undergraduate Academic Programs Date

APPROVED:

Provost's Office Date

Lisa Bullard

From: Robert Kelly <rmkelly@ncsu.edu>
Sent: Friday, March 06, 2015 2:25 PM
To: Lisa Bullard
Cc: Jason Haugh; Balaji Rao; Chase Beisel; Greg Reeves
Subject: BIT Modules - ABET
Attachments: BIT Modules ABET 3-15.docx

Lisa:

See attached. The designation of ABET 1 or ABET 2 came from a discussion with Chase, Bala, and Jason (Greg was away).

Please update degree audit/advising information to reflect these designations.

Bob

BIOTECHNOLOGY (BIT) COURSES – ABET CLASSIFICATION (3-6-15)

Course No.	Title	Credits	ABET Group	Comments
BIT 462/562	Gene Expression Analysis: Microarrays	2.0	1	Inactive after Spring, 2014
BIT 464/CHE 464	Protein Purification	2.0	1	
BIT 465/565	Real-Time PCR Techniques	2.0	1	Inactive after Fall, 2015
BIT 466/566	Animal Cell Culture Techniques	2.0	2	
BIT 467/567	PCR and DNA Fingerprinting	2.0	1	
BIT 468	Genome Mapping	2.0	2	Inactive
BIT 471/571	RNA Interference and Model Organisms	2.0	2	
BIT 473	Experimental Analysis of Protein-Protein Interactions	2.0	1	Inactive
BIT 474/574	Plant Genetic Engineering	2.0	1	
BIT 481/PB 481	Plant Cell Culture and Transformation	2.0	2	Inactive
BIT 569	RNA Purification and Analysis	2.0	2	Inactive
BIT 572/CH 572	Proteomics	3.0	1	Transitioning to Metabolomics
BIT 495/595	Genome Engineering: CRISPR Technology	2.0	1	New
BIT 495/595	Gene Manipulation in Zebrafish	2.0	2	New
BIT 495/595	Mapping the Brain	2.0	2	New
BIT 495/595	Virus Biotechnology: Pathogens to Therapeutics	2.0	1	New
BIT 495/595	Yeast Metabolic Engineering	2.0	1	New
BIT 495/595	Metagenomics	2.0	1	New
BIT 495/595	Cellular Signaling Techniques	2.0	2	Inactive
BIT 495/595	Immunology Methods	2.0	1	Uses cell cytometry
BIT 595	Confocal Microscopy	2.0	1	
BIT 595/815	Deep Sequencing	2.0	1	PhD level – ugrad version planned
BIT 815	Deep Sequencing Analysis	2.0	1	PhD level – ugrad version planned

MB 470: Emerging and Re-emerging Infectious Diseases

Course Inventory Change Request

In Workflow

1. 11MB UnderGrad Head (11MB UnderGrad Head@ncsu.edu)
2. 17MB UG Director of Curriculum (James_brown@ncsu.edu)
3. 17MB UnderGrad Head (efrissma@ncsu.edu)
4. COS CC Coordinator UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
5. COS CC Meeting UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
6. COS CC Chair UG ()
7. COS Final Review UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
8. COS Dean UG (cohen@math.ncsu.edu)
9. OUCC Review (gmneugeb@ncsu.edu)
10. UCCC Coordinator (gmneugeb@ncsu.edu)
11. UCCC Meeting (gmneugeb@ncsu.edu)
12. UCCC Chair (despain@ncsu.edu)
13. OUCC Final Signature (barbara_kirby@ncsu.edu)
14. OUCC Final Review (gmneugeb@ncsu.edu)
15. PeopleSoft (lamarcus@ncsu.edu; blpearso@ncsu.edu; Charles_Cliff@ncsu.edu; Idmihalo@ncsu.edu; jmharr19@ncsu.edu; Tracey_Ennis@ncsu.edu)

Approval Path

1. Mon, 14 Sep 2015 13:24:59 GMT
Gina Neugebauer (gmneugeb): Approved for 11MB UnderGrad Head
2. Mon, 14 Sep 2015 15:23:15 GMT
James Brown (brownjw): Approved for 17MB UG Director of Curriculum
3. Mon, 14 Sep 2015 15:24:12 GMT
James Brown (brownjw): Approved for 17MB UnderGrad Head
4. Mon, 14 Sep 2015 15:25:45 GMT
James Brown (brownjw): Approved for COS CC Coordinator UG
5. Mon, 14 Sep 2015 15:26:29 GMT
James Brown (brownjw): Approved for COS CC Meeting UG
6. Wed, 16 Sep 2015 16:03:26 GMT
James Brown (brownjw): Approved for COS CC Chair UG
7. Wed, 16 Sep 2015 17:27:07 GMT
Cheryll Bowman-Medhin (clbowma2): Approved for COS Final Review UG
8. Wed, 16 Sep 2015 20:40:52 GMT
Jo-Ann Cohen (cohen): Approved for COS Dean UG

New Course Proposal

Date Submitted: Tue, 23 Jun 2015 18:09:21 GMT

Viewing: MB 470 : Emerging and Re-emerging Infectious Diseases

Changes proposed by: fscholl

Course Prefix

MB (Microbiology)

Course Number

470

Dual-Level Course

No

Cross-listed Course

No

Title

Emerging and Re-emerging Infectious Diseases

Abbreviated Title

Emerging Infections

College

College of Sciences

Academic Org Code

Microbiology (11MB)

CIP Discipline Specialty Number

51.2210

CIP Discipline Specialty Title

International Public Health/International Health.

Term Offering

Spring Only

Year Offering

Offered Every Year

Effective Date

Spring 2016

Previously taught as Special Topics?

No

Course Delivery

Face-to-Face (On Campus)

Grading Method

Letter Grade Only

Credit Hours

3

Course Length

15

weeks

**Contact Hours
(Per Week)**

Component Type

Lecture

Contact Hours

3

Course Attribute(s)**Course Is Repeatable for Credit**

No

Instructor Name

Frank Scholle/ Jonathan Olson

Instructor Title

Associate Professor/Associate Professor

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

Enrollment Component	Per Semester	Per Section	Multiple Sections?	Comments
Lecture	40	40	No	There will be only one section of the course

Course Prerequisites, Corequisites, and Restrictive Statement

MB351

Is the course required or an elective for a Curriculum?

Yes

Which Curricula are Affected?

SIS Program Code	Program Title	Required or Elective?
17MBIOBS	Microbiology major	Elective
17MBIOHS	Microbial Health Sciences concentration	Elective
17BIOSCHB	BIO, HB elective	Elective
17ZOOBS	Zoology elective	Elective
17BIOSCEEC	Bio-EEC elective	Elective

Catalog Description

Human behavior plays a big part in the emergence and reemergence of infectious diseases. Humanity encroaches consistently into previously uninhabited parts of the planet increasing the risk of exposure to novel pathogens that have the potential to jump into the human host or livestock. In addition to exposure to new diseases the complexities of politics and global relations often create opportunities for the re-emergence of infections that were once thought to be under control. This course aims to provide students interested in the health sciences with a foundation to understand the principles governing emergence of diseases.

Justification for new course:

Students interested in pre-health education are increasing in proportion among the undergraduate population in Biological Sciences, Microbiology, Biochemistry and Zoology. Emerging infectious diseases are of growing global health and economic importance, and currently, an undergraduate course that covers a wide array of topics from general concepts of emerging infections, the specific biology and ecology of bacterial and viral emerging infection to a look at how these diseases impact the socioeconomic framework of our and other societies does currently not exist. The combination of infectious disease biology and their socioeconomic impact taught in this course will enable students to critically evaluate disease outbreak coverage by the media.

This is intended to be an upper (Junior, Senior) level course for students interested in Microbiology, Infectious disease, Zoonosis and Human Health. The development of this course is supported by Dr. Emilie Rissmann, Department Head of Biological Sciences and Dr. James Brown, Associate Department Head, Biological Sciences and Undergraduate Program Director, Microbiology.

Does this course have a fee?

No

Is this a GEP Course?

No

Consultation**Instructional Resources Statement**

The teaching load for teaching this new course is reflected both in Dr. Olson's and Dr. Scholle's newly revised SMEs.

Course Objectives/Goals

By the end of the course, students should be able to:

1. Define emergence in regard to infectious disease, using historical examples and current outbreaks, and be able to relay this information to their peers and lay audiences
2. Critically evaluate both scientific and popular accounts of newly emergent diseases
3. Give examples of activities from both the agent and host that promote the emergence of new pathogens.
4. Discuss the economic and geo-political effects of emerging pathogens.
5. Apply what they know about the nature of pathogen emergence to predict activities that may promote new diseases in the future.

Student Learning Outcomes

- 1) Students will be able to effectively explain information related to emerging diseases to non-scientific audiences
- 2) Students will critically evaluate scientific articles by both written summary and in active classroom discussion.
- 3) Students will be able to identify recent bacterial and viral disease outbreaks and to discuss the factors involved in their emergence
- 4) Asked to explore a novel emerging threat, students will find suitable scientific sources, extract and apply information, to produce an effective presentation to their peers.

Student Evaluation Methods

Evaluation Method	Weighting/Points for Each	Details
Test	60%	In class exams
Homework	10%	Answering material posted online prior to class
Project	20%	Students will be divided into groups of 4-6 and given projects pertaining to the curriculum. Deliverables are flexible and will be chosen according to appropriateness for the specific project.
Participation	10%	Measured participation/discussion in class.

Topical Outline/Course Schedule

Topic	Time Devoted to Each Topic	Activity
Introductory concepts	6 classes	4 lectures 1 discussion session 1 exam
Bacterial Emerging Infections	7 classes	5 lectures 1 discussion session 1 exam
Viral Emerging Infections	7 classes	5 lectures 1 discussion session 1 exam

Implications on Human Health and the Economy 7 classes

5 lectures

1 discussion session

1 exam

Group Presentations 2 classes

Student groups present their assigned topics

Syllabus

MB 470 syllabus.doc

Additional Documentation

Additional Comments

Course Reviewer Comments

brownjw (Fri, 11 Sep 2015 15:58:15 GMT): I've asked Gina Neugebauer to fix this workflow, but we may need to start it over. The BioSci department committee has approved it pending some minor corrections to the CIM data and syllabus, which I will make once I have access to these.

gmneugeb (Mon, 14 Sep 2015 13:24:52 GMT): 11MB UnderGrad Head role does not exist but course is already in workflow. OUCG has altered the workflow to address this. GMN 9.14.2015

brownjw (Wed, 16 Sep 2015 15:10:40 GMT): approved pending cane of discussion

Key: 7371

Preview Bridge (<http://catalog.ncsu.edu/>)

MB 470 Course Syllabus

MB 470 – Emerging and Re-emerging Infectious Diseases

Section 001

SPRING 2016

3 Credit Hours

Course Description

Human behavior plays a big part in the emergence and reemergence of infectious diseases. Humanity encroaches consistently into previously uninhabited parts of the planet increasing the risk of exposure to novel pathogens that have the potential to jump into the human host or livestock. In addition to exposure to new diseases the complexities of politics and global relations often create opportunities for the re-emergence of infections that were once thought to be under control. This course aims to provide students interested in the health sciences with a foundation to understand the principles governing emergence of diseases.

Learning Outcomes

- 1) Students will be able to effectively explain information related to emerging diseases to non-scientific audiences
- 2) Students will critically evaluate scientific articles by both written summary and in active classroom discussion.
- 3) Students will be able identify recent bacterial and viral diseases outbreaks and to discuss the factors involved in their emergence
- 4) Asked to explore a novel emerging threat, students will find suitable scientific sources, extract and apply information, to produce an effective presentation to their peers.

Course Structure

This course will be taught in several modules:

- 1) Fundamentals of epidemiology
- 2) Overview of general concepts in viral and bacterial pathogenesis
- 3) The interplay of infectious diseases and human behavior, including climate change
- 4) Case studies and current events
- 5) Economic and public health challenges of infectious diseases in the developing and developed world

Instructors

Frank Scholle (fscholl) - *Instructor*

Email: fscholl@ncsu.edu

Phone: 513-7574

Office Location: 4512A

Office Hours: 9-10 TTh

Jonathan Olson (jwolson) - *Instructor*

Email: jwolson@ncsu.edu

Phone: 515-7860

Office Location: 4544B

Office Hours: 9-10 TTH

Course Meetings

Lecture

Days: TH

Time: 1:30pm - 2:45pm

Campus: Main

Location: TBA

This meeting is required.

Course Materials

Textbooks

None.

Expenses

None.

Materials

None.

Requisites and Restrictions

Prerequisites

MB 351

Co-requisites

None.

Restrictions

None.

General Education Program (GEP) Information

GEP Category

This course does not fulfill a General Education Program category.

GEP Co-requisites

This course does not fulfill a General Education Program co-requisite.

Transportation

This course will not require students to provide their own transportation. Non-scheduled class time for field trips or out-of-class activities is NOT required for this class.

Safety & Risk Assumptions

None.

Grading

Grade Components

Component	Weight	Details
Test Scores	60	In class exams
Homework	10	Online pre-quizes
Participation		Discussion and participation in class
Group Projects	20	Students will be divided in to groups of 4-6, and given projects pertaining to curriculum

Letter Grades

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

In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to <http://policies.ncsu.edu/regulation/reg-02-20-15>.

Requirements for Auditors (AU)

Information about and requirements for auditing a course can be found at <http://policies.ncsu.edu/regulation/reg-02-20-04>.

Policies on Incomplete Grades

The grade of Incomplete ("IN") may be given at the discretion of the instructor for work not completed because of a serious interruption in the student's work not caused by their own negligence. University policy on incomplete grades is located at <http://policies.ncsu.edu/regulation/reg-02-50-3>.

Late Assignments

Late assignments will be permitted, but each day or part of a day late will result in deduction of 10% (one letter grade).

Attendance Policy

For complete attendance and excused absence policies, please see <http://policies.ncsu.edu/regulation/reg-02-20-03>

Attendance Policy

Refer to the university attendance regulation at <http://policies.ncsu.edu/regulation/reg-02-20-03>

Absences Policy

Excused absences are limited to the following:

- Illness of the student that requires professional medical attention
- Trips for University classes
- Trips for participation in intercollegiate athletic events
- Off site interviews for Medical or Graduate school
- A documented death in the family

Makeup Work Policy

Makeup work will be allowed without penalty for an Excused absence. No makeup work is permitted with an unexcused absence.

Additional Excuses Policy

None.

Academic Integrity

Academic Integrity

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

Academic Honesty

See <http://policies.ncsu.edu/policy/pol-11-35-01> for a detailed explanation of academic honesty.

Honor Pledge

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

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.

Electronically-hosted Components: Moodle-hosted group projects and discussion

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. 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> 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.

Course Schedule

NOTE: The course schedule is subject to change.

Lecture TH 1:30pm - 2:45pm – Course Outline – 01/07/2016 - 04/21/2016

Class	Date	Topic
1		Overview of course, Basic concepts
2		Biologic concepts: herd immunity, attack rates etc, incubation and generation time: one lecture
3		Modes of transmission/ general characteristics of infectious diseases viral and bacterial
4		Modes of transmission/ general characteristics of infectious diseases bacterial
5		Ecology of infectious diseases (Rob Dunn guest

		lecture)
		Test 1/student assignment
		student assignments
7		Module 2 Bacterial Emerging infections- History
8		Habitat encroachment
9		Bacterial 2
		Paper discussion
10		Horizontal gene transfer and bacterial “evolution”
11		The rise of antibiotic resistance
		Test 2 - Bacterial
12		Module 3: Viral Emerging and Reemerging Infections
13		Lecture – virus 2
14		Lecture – virus 3
		SPRING BREAK
		Paper Discussion
15		Lecture – virus 4
16		Lecture – virus 5
		Test 3 – Viral
17		Module 4: Implication on Human health and Economy
18		SARS, Ebola and global travel bans
19		Discussion
20		Economic impacts: Flu
21		Global warming: tropical diseases
22		Future emergence: Where, When, how deadly
		Test 4 - Implications
		Group presentations
		Group presentation

ST 305: Statistical Methods

Course Inventory Change Request

In Workflow

1. 17ST UG Director of Curriculum (muse@stat.ncsu.edu)
2. 17ST UnderGrad Head (fuentes@ncsu.edu)
3. COS CC Coordinator UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
4. COS CC Meeting UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
5. COS CC Chair UG ()
6. COS Final Review UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
7. COS Dean UG (cohen@math.ncsu.edu)
8. OUCC Review (gmneugeb@ncsu.edu)
9. UCCC Coordinator (gmneugeb@ncsu.edu)
10. UCCC Meeting (gmneugeb@ncsu.edu)
11. UCCC Chair (despain@ncsu.edu)
12. OUCC Final Signature (barbara_kirby@ncsu.edu)
13. OUCC Final Review (gmneugeb@ncsu.edu)
14. PeopleSoft (lamarcus@ncsu.edu; blpearso@ncsu.edu; Charles_Cliff@ncsu.edu; Idmihalo@ncsu.edu; jmharr19@ncsu.edu; Tracey_Ennis@ncsu.edu)

Approval Path

1. Fri, 28 Aug 2015 16:15:37 GMT
Spencer Muse (muse): Approved for 17ST UG Director of Curriculum
2. Fri, 28 Aug 2015 19:35:20 GMT
Montserrat Fuentes (fuentes): Approved for 17ST UnderGrad Head
3. Fri, 28 Aug 2015 20:54:20 GMT
Cheryll Bowman-Medhin (clbowma2): Approved for COS CC Coordinator UG
4. Fri, 28 Aug 2015 21:06:04 GMT
Cheryll Bowman-Medhin (clbowma2): Approved for COS CC Meeting UG
5. Wed, 16 Sep 2015 14:30:45 GMT
James Brown (brownjw): Approved for COS CC Chair UG
6. Wed, 16 Sep 2015 14:56:42 GMT
Cheryll Bowman-Medhin (clbowma2): Approved for COS Final Review UG
7. Wed, 16 Sep 2015 20:41:43 GMT
Jo-Ann Cohen (cohen): Approved for COS Dean UG

Date Submitted: Fri, 28 Aug 2015 16:14:14 GMT

Viewing: ST 305 : Statistical Methods

Changes proposed by: muse

Course Prefix

ST (Statistics)

Course Number

305

Course ID

031138

Cross-listed Course

No

Title

Statistical Methods

Abbreviated Title

Statistical Methd

College

College of Sciences

Academic Org Code

Statistics (17ST)

CIP Discipline Specialty Number

27.0501

CIP Discipline Specialty Title

Statistics, General.

Term Offering

Fall and Spring

Year Offering

Offered Every Year

Effective Date

Spring 2015

Previously taught as Special Topics?

No

Course Delivery

Face-to-Face (On Campus)

Grading Method

Graded with S/U option

Credit Hours

4

Course Length

16

weeks

**Contact Hours
(Per Week)**

Component Type

Lecture

Contact Hours

4.0

Course Attribute(s)

Course Is Repeatable for Credit

No

Instructor Name

Spencer Muse

Instructor Title

Professor

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

Enrollment Component	Per Semester	Per Section	Multiple Sections?	Comments
Lecture	50	50	No	Based on recent enrollment history.

Course Prerequisites, Corequisites, and Restrictive Statement

Prerequisite: MA 141 and either COS 100 or E 115.

Corequisite: ST 307

Is the course required or an elective for a Curriculum?

Yes

Which Curricula are Affected?

SIS Program Code	Program Title	Required or Elective?
17STBS	Statistics (BS)	Required
17STM	Statistics (minor)	Elective
13MTHEDST	Mathematics Education (BS): Statistics	Required

Catalog Description

Basic concepts of data collection, sampling, and experimental design. Descriptive analysis and graphical displays of data. Probability concepts, and expectations. Normal and binomial distributions. Sampling distributions and the Central Limit Theorem. Confidence intervals and hypothesis testing. Tests for means/proportions of two independent groups. One factor analysis of variance. Understanding relationships among variables; correlation and simple linear regression. Computer use is emphasized.

Justification for each revision:

ST 305 is being restructured slightly. The course previously had a 50-minute, 0-credit problem session/computer lab. This is being deleted. A new corequisite of a SAS computing course (either the 1-credit ST 307 or the 3-credit ST 306) is being added. ST majors will take 306, minors and others will typically take 307.

ST 306 and 307 are new courses. 307 is being taught as a 495 section in Fall 2015, and will be changed to ST 307 during the semester as it has been approved by UCCC. ST 306 course action is forthcoming, and is intended to be taught for the first time in Fall 2016.

Does this course have a fee?

No

Is this a GEP Course?

No

Consultation

College(s)

College of Education

Contact Name

Kathy Cabe Trundle

Statement Summary

The proposed changes to ST 305 will add one more credit to undergrad programs requiring ST 305 (for the new 1-credit ST 307 corequisite). Contact hours will remain unchanged, since the 50-minute problem session/computer lab is being eliminated.

Instructional Resources Statement

Taught as part of standard course load for Muse (Fall) and Tzeng (Spring).

Course Objectives/Goals

Students will learn the basic tools of statistical practice: descriptive and graphical displays of data; design of samples and experiments; elementary probability and sampling theory; core statistical inference procedures.

Student Learning Outcomes

Describing Data

-
- Display quantitative and categorical data effectively with graphs
-
- Describe quantitative and categorical data effectively with numerical measures
-
- Describe the key aspects of distributions of variables
-

Producing Data

-
- Design basic experiments and sample using randomization
-
- Recognize variations from simple random samples
-
- Distinguish statistics from parameters, populations from samples
-

Probability

-
- Perform calculations based on elementary rules of probability: the addition rule for disjoint events, multiplication rule for independent events, complement rule.
-
- Use density curves to compute probabilities
-
- Manipulate normal random variables to compute probabilities
-
- Compute means and variances of random variables, and of linear functions of random variables
-

Sampling Distributions

-
- Describe key properties of the sampling distribution of a sample mean
-
- Use the sampling distribution of a sample mean to compute probabilities about means and sums of random variables
-
- Clearly describe and use the Central Limit Theorem
-

Statistical Inference

-
- Correctly apply one- and two-sample confidence interval and significance test procedures for population means
-
- Clearly define confidence level, significance level, and power, and describe the impact of sample size and population variability on these quantities.
-
- For the simple linear regression setting, correctly apply confidence interval and significance test procedures for the slope and intercept.
-
- Apply and interpret prediction intervals and confidence intervals for mean response
-
- Carry out ANOVA-based analyses of simple linear regression
-
- Describe the differences between ANOVA-based analysis of simple linear regression and multiple regression
-
- Carry out 1- and 2-way ANOVA analyses including analyses of main effects and interaction.
-
-
- Demonstrate the ability to carry out all course analyses using SAS
-

Student Evaluation Methods

Evaluation Method	Weighting/Points for Each	Details
Test	65	2 highest exams 25 each; 1 lowest exam 15 points
Homework	15	Approximately 10 assignments per semester.
Final Exam	20	Cumulative final exam.

Topical Outline/Course Schedule

Topic	Time Devoted to Each Topic	Activity
Displaying and Describing Distributions	2 weeks	
Design of Samples and Experiments	1 week	
Intro to Probability Theory	2 weeks	
Intro to Sampling Theory	2 weeks	
Inference for Means and Proportions	3 weeks	
Simple Linear Regression	2 weeks	
Multiple Regression	1 week	
1-way ANOVA	1 week	
2-way ANOVA	1 week	

Syllabus

ST305-Syllabus.pdf

Additional Documentation

Additional Comments

Course Reviewer Comments

Key: 6234

Preview Bridge (<http://catalog.ncsu.edu/>)

ST 305n/a Course Syllabus

ST 305n/a - Statistical Methods

Section 001

FALL 2015

4 Credit Hours

Course Description

Basic concepts of data collection, sampling, and experimental design. Descriptive analysis and graphical displays of data. Probability concepts, and expectations. Normal and binomial distributions. Sampling distributions and the Central Limit Theorem. Confidence intervals and hypothesis testing. Tests for means/proportions of two independent groups. One factor analysis of variance. Understanding relationships among variables; correlation and simple linear regression. Computer use is emphasized.

Learning Outcomes

ST 305 Learning Outcomes

Describing Data

- Display quantitative and categorical data effectively with graphs
- Describe quantitative and categorical data effectively with numerical measures
- Describe the key aspects of distributions of variables

Producing Data

- Design basic experiments and sample using randomization
- Recognize variations from simple random samples
- Distinguish statistics from parameters, populations from samples

Probability

- Perform calculations based on elementary rules of probability: the addition rule for disjoint events, multiplication rule for independent events, complement rule.
- Use density curves to compute probabilities
- Manipulate normal random variables to compute probabilities
- Compute means and variances of random variables, and of linear functions of random variables

Sampling Distributions

- Describe key properties of the sampling distribution of a sample mean
- Use the sampling distribution of a sample mean to compute probabilities about means and sums of random variables
- Clearly describe and use the Central Limit Theorem

Statistical Inference

- Correctly apply one- and two-sample confidence interval and significance test procedures for population means
 - Clearly define confidence level, significance level, and power, and describe the impact of sample size and population variability on these quantities.
 - For the simple linear regression setting, correctly apply confidence interval and significance test procedures for the slope and intercept.
 - Apply and interpret prediction intervals and confidence intervals for mean response
 - Carry out ANOVA-based analyses of simple linear regression
 - Describe the differences between ANOVA-based analysis of simple linear regression and multiple regression
 - Carry out 1- and 2-way ANOVA analyses including analyses of main effects and interaction.
- Demonstrate the ability to carry out all course analyses using SAS

Course Structure

100-minute lectures on T and H.

Course Policies

Homework: Homework counts for 15% of your final grade.

Homework will be assigned and due as indicated on the course web page. Check for updates regularly. Make sure to read and understand the policy regarding Late Days below. Each HW problem will be worth between 1 and 5 points, depending on its complexity/length. If you receive a total of P points out of T total possible points during the semester, your overall HW grade will be $100 \times (P/T)$.

Late Days: Homework is due at the end of the class period of the due date. However, each student will have 2 Late Days

to use on homework during the semester. One Late Day is used for every class period that an assignment is turned in late: an assignment turned in one hour after class costs 1 Late Day, just the same as an assignment turned in 23 hours late. Late Days are counted in terms of class meetings, so, for example, if an assignment due on Thursday is turned in on the following Tuesday in class, it costs only one Late Day. Late Days may be used all at once, or on multiple assignments. You do not need to tell me ahead of time that you plan to use late days.

Illness, emergencies, etc. are NOT exempted from the late day count. In other words, don't use up your late days because you have a busy schedule and then later ask for a HW extension because you were ill. Use your late days carefully.

If you need to turn in an assignment outside of class, please slide it under the door of 5276 SAS Hall, and email me and your TA to let us know that it is waiting to be picked up. Please note that SAS Hall is locked in the evenings.

Exams: Three 50-minute exams will be worth a total of 65% of your grade. Each of your two highest exam scores will be worth 25%, your lowest score will count 15%. The cumulative final exam is worth 20%.

The exams will be closed book and closed notes; the schedule and coverage will be posted on the course web page. A page of formulas will be handed out with each exam. Bring calculators to all exams.

Cell phones, PDAs, MP3 players, and other electronic devices are forbidden in quizzes and exams, and **may NOT be used for calculators**. If any electronic device other than a calculator is seen during an exam, the student will automatically receive a zero for that exam. If you have a situation (eg: you are an on-call volunteer firefighter), you may leave your phone on my desk during the exam in case of an emergency call.

Exam schedule: Exam dates will be posted on the course web site well in advance of the exam date.

Attendance policy: Attendance in regular class sections is recommended, but not required.

Auditing: Auditors are expected to attend class regularly and submit homework on the same schedule as the other students. The final grade for auditors (AU or NR) will be based on their final homework average.

Classroom etiquette: Please be respectful of your classmates and instructors by not having conversations once class has begun. Make sure cell phone and other alarms are turned off before you enter class. Do not come to class and blatantly

ignore the lecture: **behavior such as reading a newspaper, text messaging, or doing crossword puzzles will result in you being asked to leave.**

Cell phone/text messaging/laptop policy: The use during class of cell phones and other devices for text messages, internet browsing, email, etc. is (i) very distracting to both the instructor and nearby students and (ii) incredibly rude. It will not be tolerated in class. A warning will be issued the first time you are found texting, messaging, etc. in class. Each subsequent time you will lose one point from your final course average.

Policy on Academic Integrity: The University policy on academic integrity is spelled out in Appendix L of the NCSU Code of Student Conduct. For a more thorough elaboration see the NCSU Office of Student Conduct website. For this course group work on homework is encouraged. However copying someone else's work and calling it your own is plagiarism, so the work you turn in should be your own. Violations of the Code of Student Conduct will be reported and severe penalties will be enforced.

Instructors

Spencer Muse (muse) - *Instructor*

Email: muse@ncsu.edu

Web Page: <http://www4.ncsu.edu/~muse/ST305.html>

Phone: 919-515-1948

Office Location: 5276 SAS

Office Hours: By appointment

Yiwen Luo (yluo4) - *Instructor*

Email: yluo4@ncsu.edu

Web Page: *n/a*

Phone: *n/a*

Office Location: SAS 100

Office Hours: TBA

Course Meetings

Lecture

Days: TH

Time: 9:10am - 10:50am

Campus: Main

Location: Tompkins 123

This meeting is optional.

Course Materials

Textbooks

Introduction to the Practice of Statistics - *David S. Moore, George P. McCabe, and Bruce A. Craig*

Edition: 7th

Web Link: <http://bcs.whfreeman.com/ips7e>

Cost: \$95+, depending on the format selected (any will do)

This textbook is required.

Expenses

None.

Materials

None.

Requisites and Restrictions

Prerequisites

Pre-calculus. COS 100, E115, or equivalent knowledge of the campus computing system.

Co-requisites

MA 141 or equivalent. ST 307 (currently listed as ST 495. This will change to ST 307 in your schedule/degree audit sometime this semester.)

Restrictions

None.

General Education Program (GEP) Information

GEP Category

This course does not fulfill a General Education Program category.

GEP Co-requisites

This course does not fulfill a General Education Program co-requisite.

Transportation

This course will not require students to provide their own transportation. Non-scheduled class time for field trips or out-of-class activities is NOT required for this class.

Safety & Risk Assumptions

None.

Grading

Grade Components

Component	Weight	Details
Homework	15%	<p>Homework: Homework counts for 15% of your final grade.</p> <p>Homework will be assigned and due as indicated on the course web page. Check for updates regularly. Make sure to read and understand the policy regarding Late Days below. Each HW problem will be worth between 1 and 5 points, depending on its complexity/length. If you receive a total of P points out of T total possible points during the semester, your overall HW grade will be $100 \times (P/T)$.</p>
Midterm Exams (3)	65%	<p>Exams: Three 50-minute exams will be worth a total of 65% of your grade. Each of your two highest exam scores will be worth 25%, your lowest score will count 15%.</p>

		<p>The exams will be closed book and closed notes; the schedule and coverage will be posted on the course web page. A page of formulas will be handed out with each exam. Bring calculators to all exams.</p> <p>Cell phones, PDAs, MP3 players, and other electronic devices are forbidden in quizzes and exams, and may NOT be used for calculators. If any electronic device other than a calculator is seen during an exam, the student will automatically receive a zero for that exam. If you have a situation (eg: you are an on-call volunteer firefighter), you may leave your phone on my desk during the exam in case of an emergency call.</p>
Final Exam	20%	Final exam is cumulative, but will emphasize material covered after the third midterm exam.

Letter Grades

This Course uses Standard NCSU Letter Grading Scale

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

In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to <http://policies.ncsu.edu/regulation/reg-02-20-15>.

Requirements for Auditors (AU)

Information about and requirements for auditing a course can be found at <http://policies.ncsu.edu/regulation/reg-02-20-04>.

Policies on Incomplete Grades

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-02-50-3>.

Late Assignments

Late Days: Homework is due at the end of the class period of the due date. However, each student will have 2 Late Days to use on homework during the semester. One Late Day is used for every class period that an assignment is turned in late: an assignment turned in one hour after class costs 1 Late Day, just the same as an assignment turned in 23 hours late. Late Days are counted in terms of class meetings, so, for example, if an assignment due on Thursday is turned in on the following Tuesday in class, it costs only one Late Day. Late Days may be used all at once, or on multiple assignments. You do not need to tell me ahead of time that you plan to use late days.

Illness, emergencies, etc. are NOT exempted from the late day count. In other words, don't use up your late days because you have a busy schedule and then later ask for a HW extension because you were ill. Use your late days carefully.

If you need to turn in an assignment outside of class, please slide it under the door of 5276 SAS Hall, and email me and your TA to let us know that it is waiting to be picked up. Please note that SAS Hall is locked in the evenings.

Attendance Policy

For complete attendance and excused absence policies, please see <http://policies.ncsu.edu/regulation/reg-02-20-03>

Attendance Policy

Tuesday and Thursday lectures are optional, but we will sometimes cover material in lecture that is not found in the text.

Absences Policy

None.

Makeup Work Policy

HW is governed by the Late Day policy above. Makeup exams will be given for emergencies only, handled on a case by case basis.

Additional Excuses Policy

See Late Day policy above.

Academic Integrity

Academic Integrity

Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at <http://policies.ncsu.edu/policy/pol-11-35-01>
None.

Academic Honesty

See <http://policies.ncsu.edu/policy/pol-11-35-01> for a detailed explanation of academic honesty.
None.

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

There are no electronically-hosted components for this 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>), 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. 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> 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.

Course Schedule

NOTE: The course schedule is subject to change.

Lecture TH 9:10am - 10:50am — Basic Course Schedule — 08/20/2015 - 12/03/2015

We will cover most material in Chapters 1-13. We will postpone Chapter 2 until immediately before Chapter 10. Exam dates are posted well in advance on the course website, along with material coverage for each exam.

ST 430: Introduction to Regression Analysis

Course Inventory Change Request

In Workflow

1. 17ST UG Director of Curriculum (muse@stat.ncsu.edu)
2. 17ST UnderGrad Head (fuentes@ncsu.edu)
3. COS CC Coordinator UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
4. COS CC Meeting UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
5. COS CC Chair UG ()
6. COS Final Review UG (clbowma2@ncsu.edu; James_brown@ncsu.edu)
7. COS Dean UG (cohen@math.ncsu.edu)
8. OUCC Review (gmneugeb@ncsu.edu)
9. UCCC Coordinator (gmneugeb@ncsu.edu)
10. UCCC Meeting (gmneugeb@ncsu.edu)
11. UCCC Chair (despain@ncsu.edu)
12. OUCC Final Signature (barbara_kirby@ncsu.edu)
13. OUCC Final Review (gmneugeb@ncsu.edu)
14. PeopleSoft (lamarcus@ncsu.edu; blpearso@ncsu.edu; Charles_Cliff@ncsu.edu; Idmihalo@ncsu.edu; jmharr19@ncsu.edu; Tracey_Ennis@ncsu.edu)

Approval Path

1. Fri, 28 Aug 2015 16:18:08 GMT
Spencer Muse (muse): Approved for 17ST UG Director of Curriculum
2. Fri, 28 Aug 2015 19:35:24 GMT
Montserrat Fuentes (fuentes): Approved for 17ST UnderGrad Head
3. Fri, 28 Aug 2015 20:54:43 GMT
Cheryll Bowman-Medhin (clbowma2): Approved for COS CC Coordinator UG
4. Fri, 28 Aug 2015 21:07:30 GMT
Cheryll Bowman-Medhin (clbowma2): Approved for COS CC Meeting UG
5. Wed, 16 Sep 2015 14:41:01 GMT
James Brown (brownjw): Approved for COS CC Chair UG
6. Wed, 16 Sep 2015 15:00:53 GMT
Cheryll Bowman-Medhin (clbowma2): Approved for COS Final Review UG
7. Wed, 16 Sep 2015 20:43:04 GMT
Jo-Ann Cohen (cohen): Approved for COS Dean UG

Date Submitted: Wed, 19 Aug 2015 20:17:43 GMT

Viewing: ST 430 : Introduction to Regression Analysis

Changes proposed by: hmmcgowa

Course Prefix

ST (Statistics)

Course Number

430

Course ID

020225

Dual-Level Course

No

Cross-listed Course

No

Title

Introduction to Regression Analysis

Abbreviated Title

Intro Regress Anly

College

College of Sciences

Academic Org Code

Statistics (17ST)

CIP Discipline Specialty Number

27.0501

CIP Discipline Specialty Title

Statistics, General.

Term Offering

Fall and Summer

Year Offering

Offered Every Year

Effective Date

Fall 2014

Previously taught as Special Topics?

No

Course Delivery

Face-to-Face (On Campus)

Grading Method

Graded with S/U option

Credit Hours

3

Course Length

16

weeks

**Contact Hours
(Per Week)**

Component Type

Lecture

Contact Hours

3.0

Course Attribute(s)**Course Is Repeatable for Credit**

No

Instructor Name

Herle McGowan

Instructor Title

Teaching Associate Professor

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

Enrollment Component	Per Semester	Per Section	Multiple Sections?	Comments
Lecture	65	65	No	Expected enrollment in the summer term will likely be less.

Course Prerequisites, Corequisites, and Restrictive Statement

Prerequisite: (ST 305 or 312 or 372) and ST 307 and (MA 305 or MA 405)

Is the course required or an elective for a Curriculum?

Yes

Which Curricula are Affected?

SIS Program Code	Program Title	Required or Elective?
17STBS	Statistics	Required

Catalog Description

Regression analysis as a flexible statistical problem solving methodology. Matrix review; variable selection; prediction; multicollinearity; model diagnostics; dummy variables; logistic and non-linear regression. Emphasizes use of computer.

Justification for each revision:

The pre-requisites have been revised to reflect changes in the Statistics major and minor curricula. Dropping ST 302 as a prerequisite (which is no longer taught), adding ST 312 and ST 372 (in addition to ST 305) as alternative prerequisites. ST 307 (new course) is being added as a prerequisite.

Does this course have a fee?

No

Is this a GEP Course?

No

Consultation**Instructional Resources Statement**

No new resources are needed for this course. Course will be taught as part of faculty's regular teaching load, with the help of a 20-hour/week Teaching Assistant.

Course Objectives/Goals**Student Learning Outcomes**

Students will learn to:

-
- Apply the technique of least squares regression to fit models, both linear and non-linear, to continuous outcome variables
-
- Apply the technique of logistic regression to fit models to binary outcome variables
-
- Assess how well a particular model fits a set of data
-

Student Evaluation Methods

Evaluation Method	Weighting/Points for Each	Details
Written Assignment	100	Weekly homework assignments will be posted to the course website and will be due at the beginning of class on the date listed in the syllabus.
Exam	200	There will be one midterm exam and one cumulative final exam for this course.

Topical Outline/Course Schedule

Syllabus

ST_430_Syllabus_2015.pdf

Additional Documentation

Additional Comments

Course Reviewer Comments

Key: 5087

Preview Bridge (<http://catalog.ncsu.edu/>)

ST 430 Course Syllabus

Introduction to Regression Analysis

Section 001

SUMMER 2015

3 Credit Hours

Course Description

Regression analysis as a flexible statistical problem solving methodology. Matrix review; variable selection; prediction; multicollinearity; model diagnostics; dummy variables; logistic and non-linear regression. Emphasizes use of computer.

Course Structure

- This course is taught in a student-centered manner and includes periods of lecture, discussion, and group activities.
- This course also includes periods of self-study – college students are expected to spend 2-3 hours outside of class (reviewing course content, working on homework, etc.) for each hour spent in the classroom. Please keep this in mind when planning your summer schedule.

Course Policies

- Students are expected to check their unity email and the course website regularly for announcements and materials.
- When e-mailing the instructor or teaching assistant, please use proper etiquette.
- Courtesy and Respect in the classroom is expected (both ways).
- Please come on time and do not start packing up before class is over.
- Please turn off or silence all cell phones before class begins.
- Please bring a calculator (that is not your cell phone) to class.
- Laptop computers or tablets may only be used to take notes or analyze data as part of a class activity. If you are seen using a computer for anything else, you will be restricted from using it for the rest of the semester.
- I reserve the right to change any policy given, or add new policies as I feel appropriate.

Instructors

Herle M McGowan (hmmcgowa) - Instructor

- Email: hmmcgowa@ncsu.edu
- Phone: 919-515-0634
- Office Location: 5262 SAS Hall
- Office Hours: by appointment

Course Meetings

M, T, W, T, F 1:40-3:10pm, 1108 SAS Hall

Course Materials

Textbooks

A Second Course in Statistics: Regression Analysis - Mendenhall and Sincich

Edition: 7

ISBN: 9780321691699.

Cost: About \$170 new but used copies are available. A copy is on reserve in the library.

This textbook is required.

Materials

- Basic Calculator – Cost May Vary
- SAS Software – No cost to NCSU Students. Download available at sas.ncsu.edu.
- Note Outlines – Cost of printing
- Basic notebook / paper – Cost May Vary (but is minimal)

Requisites and Restrictions

Prerequisites

[ST 302 or ST 305] and [MA 305 or MA 405]

Co-requisites

None.

Restrictions

None.

General Education Program (GEP) Information

GEP Category

This course does not fulfill a General Education Program category.

GEP Co-requisites

This course does not fulfill a General Education Program co-requisite.

Transportation

This course will not require students to provide their own transportation. Non-scheduled class time for field trips or out-of-class activities is NOT required for this class.

Safety & Risk Assumptions

None.

Grading

Grade Components

Homework (including a take-home pretest) — 115 points

Midterm Exam — 100 points

Final Exam — 100 points

Total Possible — 315 points

Letter Grades

This Course uses Standard NCSU Letter Grading. Percentage cutoffs are firm and no rounding occurs.

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

In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to <http://policies.ncsu.edu/regulation/reg-02-20-15>.

Requirements for Auditors (AU)

Information about and requirements for auditing a course can be found at <http://policies.ncsu.edu/regulation/reg-02-20-04>.

Homework Policy

- There will be seven homework assignments, each worth 15 points.
- There will be a take-home "pretest," worth 10 points, that assesses knowledge of the prerequisite statistical material (e.g. probability, statistical inference).
- All assignments will be posted to the course website and will be due at the beginning of class on the date listed in the Homework and Exam Schedule (below).
- The homework grade will reflect completeness and timeliness, as much as correctness; you are encouraged to work together to master these exercises.

Exam Policy

- All exams are closed book. For the midterm exam students may use one 8 ½ X 11 page of notes (front and back). For the final exam, students may use two 8 ½ X 11 pages of notes (front and back).
- Basic calculators (such as TI-83) may be used on all exams. Cell phones, tablets, or other electronic devices may not be used as calculators on the exams.
- Requests for re-grading of exams must be made in writing. These requests should contain a complete description of the reason for a grade adjustment and the student's name. The request should be attached to the exam and submitted to instructor within 2 days of the exams being returned in class.
- Tests are of course graded for correctness, and must be your own individual work.

Policies on Incomplete Grades, Late Assignments, and Make-up Work

- An incomplete grade will be given only in accordance with NCSU grading policy (see Regulation 02-50-03).
- Late work will be handled on an individual basis. When possible, seek prior approval from the instructor to turn in a homework assignment late. There is no make up for homework assignments or the pretest.
- Students who are unable to attend an exam for a legitimate unavoidable reason may take a make-up exam only if they provide suitable documentation (such as a physician's note or letter from the university) of the absence. Students who have a personal emergency (extreme family illness or death, etc.) should contact Student Ombuds Services through the Division of Academic & Student Affairs (515-2963; ombuds.dasa.ncsu.edu/) to obtain documentation. According to university policy, a student must notify the instructor in advance if s/he will miss an exam. If it is not possible to notify the instructor in advance, the instructor must be given notice as soon as possible after the exam.

Attendance Policy

For complete attendance and excused absence policies, please see <http://policies.ncsu.edu/regulation/reg-02-20-03>

Attendance Policy

Students are expected to attend each class period and participate in all class activities.

Academic Integrity and Honesty

- Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at <http://policies.ncsu.edu/policy/pol-11-35-01>
- See <http://policies.ncsu.edu/policy/pol-11-35-01> for a detailed explanation of academic honesty.
- Copying someone else's work and presenting it as your own is plagiarism. Plagiarism, cheating, and other forms of academic dishonesty will not be tolerated. To create a fair and equitable environment, the instructor aggressively enforces the universities policies on academic misconduct. Although working together on written assignments to overcome obstacles is encouraged, each student must compose and write their own analysis and reports. All cases of academic misconduct will be handled as set out in university policies.

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

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>), 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. 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> 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.

Course Schedule

Content Coverage

NOTE: The course schedule is subject to change.

- Overview and Introduction – Week 1 (June 25-26)
- Simple linear regression – Week 2 (June 29-July 2)
- Multiple regression – Week 3 (July 6-10)
- Model building, variable screening, and residual analysis – Week 4 (July 13-17)
- Logistic and non-linear regression – Week 5 (July 20-24)
- Wrap up and final exam – Week 6 (July 27-29)

Homework and Exam Schedule

NOTE: The schedule is subject to change.

- Take-home pretest – due June 29, 2015
- Homework 1 – due July 2, 2015
- Homework 2 – due July 7, 2015
- Homework 3 – due July 10, 2015
- Homework 4 – due July 14, 2015
- Midterm Exam – in-class July 14, 2015
- Homework 5 – due July 17, 2015
- Homework 6 – due July 21, 2015
- Homework 7 – due July 24, 2015
- Final Exam – in-class July 28 or 29, 2015

HESM 330: Introduction to Laban Movement Analysis and Bartenieff Fundamentals

Course Inventory Change Request

In Workflow

1. 24HES UnderGrad Head (tommy_holden@ncsu.edu)
2. DASA CC Coordinator UG (kkharris@ncsu.edu)
3. DASA CC Meeting UG (kkharris@ncsu.edu)
4. ekwrigh2 (ekwrigh2@ncsu.edu)
5. kkharris (kkharris@ncsu.edu)
6. DASA CC Chair UG (sean_cassidy@ncsu.edu)
7. DASA Final Review UG (kkharris@ncsu.edu)
8. DASA Dean UG (mike.mullen@ncsu.edu)
9. OUCC Review (gmneugeb@ncsu.edu)
10. UCCC Coordinator (gmneugeb@ncsu.edu)
11. UCCC Meeting (gmneugeb@ncsu.edu)
12. UCCC Chair (despain@ncsu.edu)
13. OUCC Final Signature (barbara_kirby@ncsu.edu)
14. OUCC Final Review (gmneugeb@ncsu.edu)
15. PeopleSoft (lamarcus@ncsu.edu; blpearso@ncsu.edu; Charles_Cliff@ncsu.edu; Idmihalo@ncsu.edu; jmharr19@ncsu.edu; Tracey_Ennis@ncsu.edu)

Approval Path

1. Tue, 28 Apr 2015 16:37:49 GMT
George Holden (gtholden): Approved for 24HES UnderGrad Head
2. Mon, 14 Sep 2015 16:13:02 GMT
Kasey Harris (kkharris): Approved for DASA CC Coordinator UG
3. Tue, 15 Sep 2015 16:50:28 GMT
Kasey Harris (kkharris): Approved for DASA CC Meeting UG
4. Wed, 16 Sep 2015 16:14:35 GMT
Elizabeth Fath (ekwrigh2): Approved for ekwrigh2
5. Thu, 17 Sep 2015 19:39:46 GMT
Kasey Harris (kkharris): Approved for kkharris
6. Mon, 21 Sep 2015 12:25:09 GMT
Sean Cassidy (smcassid): Approved for DASA CC Chair UG
7. Mon, 21 Sep 2015 19:40:58 GMT
Kasey Harris (kkharris): Approved for DASA Final Review UG
8. Thu, 24 Sep 2015 11:35:09 GMT
Michael Mullen (mdmullen): Approved for DASA Dean UG

New Course Proposal

Date Submitted: Tue, 28 Apr 2015 15:40:46 GMT

Viewing: HESM 330 : Introduction to Laban Movement Analysis and Bartenieff Fundamentals

Changes proposed by: ekwrigh2

Course Prefix

HESM (Health and Exercise Studies Minor)

Course Number

330

Cross-listed Course

No

Title

Introduction to Laban Movement Analysis and Bartenieff Fundamentals

Abbreviated Title

Introduction to LMA/BF

College

Division of Academic and Student Affairs

Academic Org Code

Health and Exercise Studies (24HES)

CIP Discipline Specialty Number

31.0501

CIP Discipline Specialty Title

Health and Physical Education/Fitness, General.

Term Offering

Spring Only

Year Offering

Offered Alternate Odd Years

Effective Date

Spring 2016

Previously taught as Special Topics?

No

Course Delivery

Face-to-Face (On Campus)

Grading Method

Graded with S/U option

Credit Hours

2

Course Length

16

weeks

**Contact Hours
(Per Week)**

Component Type

Lecture and Lab

Contact Hours

3

Course Attribute(s)**Course Is Repeatable for Credit**

No

Instructor Name

Beth Wright Fath

Instructor Title

Teaching Assistant Professor

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

Enrollment Component	Per Semester	Per Section	Multiple Sections?	Comments
Lecture and Lab	12	12	No	none

Course Prerequisites, Corequisites, and Restrictive Statement

none

Is the course required or an elective for a Curriculum?

Yes

Which Curricula are Affected?

SIS Program Code	Program Title	Required or Elective?
24DANM	Dance Minor	Elective

Catalog Description

An introduction to Laban Movement Analysis (LMA) and Bartenieff Fundamentals (BF) through movement integration, observation, notation, analysis, and application. LMA is a method and language for describing, visualizing, interpreting, and documenting all varieties of human movement. It consists of the study of four major components: Body, Effort, Shape and Space, the relationships between them, and ways of notating them. BF consists of a set of concepts, principles and exercises developed by Irmgard Bartenieff in applying Laban's movement theory to the physical/kinesiological functioning of the human body. LMA/BF is used by dancers, actors, musicians, and dance therapists, among others.

Justification for new course:

This course provides an introduction to Laban Movement Analysis (LMA) and Bartenieff Fundamentals (BF) and their applications to movement description, observation, and execution. Originally developed by Rudolf Laban, LMA is a method and language for describing, visualizing, interpreting, and documenting all varieties of human movement. It consists of the study of four major components: Body, Effort, Shape and Space, the relationships between them, and ways of notating them. BF consists of a set of concepts, principles and exercises developed by Irmgard Bartenieff in applying Laban's movement theory to the physical/kinesiological functioning of the human body.

Students in all artistic and movement disciplines will develop physical approaches to their training that address core support, postural concerns, injury prevention and rehabilitation. Through the cultivation of a vital, conscious relationship with one's body, dancers, actors, musicians, and others will become aware of personal movement patterns that help and/or hinder expressive and functional potential.

Does this course have a fee?

No

Is this a GEP Course?

No

Consultation**Instructional Resources Statement**

No additional resources will be needed at this time. The reallocation of existing resources, including classroom facilities and instructor assignments, permits the offering of this course.

Course Objectives/Goals

Student Learning Outcomes

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

- 1) Physically demonstrate all Laban movement qualities singly and in combination.
- 2) Observe and identify Laban movement qualities used by others.
- 3) Speak specifically about movement using the Laban/Bartenieff terminology.
- 4) Identify the structural, functional and expressive aspects of movement.
- 5) Demonstrate the ability to observe and identify recurring movement patterns personal movement preferences and identify areas and methods for the facilitation of new movement possibilities for development.
- 6) Be able to practically apply the principles of Laban Movement Analysis and Bartenieff Fundamentals.

Student Evaluation Methods

Evaluation Method	Weighting/Points for Each	Details
presentation	15 total (5 each)	3 movement tests covering concepts covered in class.
Written Assignment	15	Observe and evaluate movement in 10 videos.
Discussion	15	Discuss video evaluations in class.
Other	15	Weekly journal entries illustrating growing integration of and questions about material covered in class.
Project	40	Each student will complete a final project, in which s/he demonstrates application of the material within a context of his/her own choosing, subject to the instructor's approval. This could take the form of a teaching project, expressive project, personal project, etc.

Topical Outline/Course Schedule

Topic	Time Devoted to Each Topic	Activity
Introduction & Body	1 week	Orientation; overview of LMA & BF, LMA grid BESS, reading discussion; Anatomical landmarks; Bartenieff Fundamentals
Body	1 week	Body part phrasing; Patterns of total body connectivity; Fundamentals, reading discussion
Breath	1 week	Types of breathing- Function - Process; Movement and breath initiations; BF Body Organization; Discussion of reading; Fundamentals
Breath and Shape	1 week	Discuss videos 1-2 & evaluations due; Overview of Shape, shape flow and shaping; Discussion of reading; directional movement; modes of shape change
Motif and Shape	1 week	Guest speaker Jackie Hand, CMA, Intro to Motif; Reading; Discuss videos 3-4 & evaluations due; Discuss body connectivity, finish shape discussions
Space	1 week	Points in space; dimensions & planes; Kinesphere; level; direction; pathways; discuss readings

Space	1 week	Geometric forms and scales; Movement test – Bartenieff Fundamentals; Geometric forms and scales
Effort	1 week	Discuss handouts; Effort exploration; Seeing effort, sensing effort; Discuss videos 5-6 & evaluations due
Effort	1 week	Time; mid-semester journals due; Weight
Effort	1 week	Space; Flow, Discuss videos 7-8 & evaluations due
Effort, Effort and Integration	1 week	Flow, States and Drives, Reading; application project proposals due
Effort and Integration	1 week	States and Drives, Movement test – Effort Factors, application project proposals discussion
Effort and Integration	1 week	Discuss videos 9-10 & evaluations due; Basic Actions and Effort Cube; Movement test – States and drives; draft presentation of application projects & feedback
Integration	1 week	Individual meetings for feedback on application project; BESS review; movement study integration
Application Project	1 week	Present projects in class

Syllabus

HESM 330 Syllabus.pdf

Additional Documentation

Additional Comments

Course Reviewer Comments

kkharris (Tue, 15 Sep 2015 16:50:10 GMT): Notes from University College CCC on September 14, 2015: Approved with Friendly Suggestions: A member noted the syllabus should include the University's attendance regulation. The committee also suggested changing the effective date to Spring 2016. Action has been sent to instructor for revisions.

Key: 7211

Preview Bridge (<http://catalog.ncsu.edu/>)

HESM 330 Introduction to Laban Movement Analysis and Bartenieff Fundamentals
Health and Exercise Studies
Spring 2017

Instructor: Beth Wright Fath
Office: 2020 Carmichael Gym
Email: beth_fath@ncsu.edu
Office hours: MW 12:15-1:15pm, T TH 11:15-12:15pm, Fri. by appointment
Course Meeting: WF 10am-12pm
Prerequisites: None
Credit Hours: Two (2)

Text: Hackney, P. (2002). *Making connections total body integration through Bartenieff fundamentals*. New York: Routledge. \$55.23. Additional handouts provided by instructor.

Health Information Statement: *Physical activities in this class are considered moderate to vigorous and are considered limited contact. The NC State Department of Health and Exercise Studies supports the development and improvement of physical health, while doing so safely. If you have a known medical condition that could be adversely affected by participating in the typical activities of this class, please contact your usual physician for recommendations about how to participate safely or whether it is more appropriate to choose a different Health and Exercise Studies course. If your physician has provided you with recommendations to modify participation in this class, please share those recommendations with the instructor within the first week of class, if possible. If you are not certain whether you have a medical condition that puts you at risk for participation in this class or have a medical condition and cannot access your usual physician in a timely manner for recommendations for safe participation, consider making an appointment at Student Health to discuss your concerns (appointment number is 919.515.7107 or book on-line at healthweb.ncsu.edu).*

Course Description: An introduction to Laban Movement Analysis (LMA) and Bartenieff Fundamentals (BF) through movement integration, observation, notation, analysis, and application. LMA is a method and language for describing, visualizing, interpreting, and documenting all varieties of human movement. It consists of the study of four major components: Body, Effort, Shape and Space, the relationships between them, and ways of notating them. BF consists of a set of concepts, principles and exercises developed by Irmgard Bartenieff in applying Laban's movement theory to the physical/kinesiological functioning of the human body. LMA/BF is used by dancers, actors, musicians, and dance therapists among others.

Course and Student Learning Outcomes:

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

- 1) Physically demonstrate all Laban movement qualities singly and in combination.
- 2) Observe and identify Laban movement qualities used by others.
- 3) Speak specifically about movement using the Laban/Bartenieff terminology.
- 4) Identify the structural, functional and expressive aspects of movement.
- 5) Demonstrate the ability to observe and identify recurring movement patterns personal movement preferences and identify areas and methods for the facilitation of new movement possibilities for development.
- 6) Be able to practically apply the principles of Laban Movement Analysis and Bartenieff Fundamentals.

Grading:

Movement tests – 15%

Students will perform movement in 3 different tests covering concepts covered in class: Bartenieff Basic 6, Laban Effort Factors, and Laban States and Drives. They will be evaluated using a rubric covering those concepts. Each test is worth 5 points:

Areas of evaluation	Points (1 = not present, 2 = rarely present, 3= occasionally present, 4=mostly present, 5 = always present)				
Clarity of execution	1	2	3	4	5
Full body integration	1	2	3	4	5

Video observation, evaluation, and discussion – 30%

1. Students will observe 10 videos of movement and submit written evaluation of them using concepts covered in class (15%).

2. In class discussion will follow the video observations where the student will demonstrate an understanding of the concepts covered and will be evaluated by a rubric covering those concepts (15%):

- Rubric:
- 0 = no participation or absent
 - 1 = contributing one opinion/concept to the discussion
 - 3 = contributing at least two opinions/concepts to the discussion
 - 5 = contributing at least three opinions/concepts to the discussion

Journal - 15%

Students will make weekly entries into journal throughout the semester (minimum 1-page written per week). Each entry (15 total) is worth 1% of the final grade. Journals will be turned in for review once mid-semester and once at the end of the semester. It will provide a record of students' growing relationship to the material. The journal may include writing, drawing, and video. It should include information about their growing integration of and questions about the material covered thus far in class.

Final application project – 40%

Each student will complete a final project, in which s/he demonstrates application of the material within a context of his/her own choosing, subject to the instructor's approval. This could take the form of a teaching project, expressive project, personal project, etc, but will include a 5-7 page written summary of the project. The project and paper are in place of the final exam for the course.

****Moodle will be used for this class at <http://wolfware.ncsu.edu>. It is important that you log in for quizzes and assignments throughout the semester. Each quiz will be opened during the days posted on your syllabus. Once you log into the exam you will have a set amount of time to take the exam before the time shuts off. If you have any technical issues with your exam or with Moodle you must contact the Help desk for Moodle, *not your instructor*. You will find the contact phone number and email on your Moodle homepage. You will have ample time to take the exam so do not wait until the last minute.

Late Assignments: Written assignments are due *in class or on Moodle as described in the assignments*. Late assignments will be accepted for a maximum of ½ credit within one week of the due date. Assignments will not be accepted one week past the due date.

Grading Scale:

Each student has the option of taking the class for a letter grade (+/-), credit only, or audit.

97 - 100 = A+	93 - 96.99 = A	90 - 92.99 = A-
87 - 89.99 = B+	83 - 86.99 = B	80 - 82.99 = B-
77 - 79.99 = C+	73 - 76.99 = C	70 - 72.99 = C-
67 - 69.99 = D+	63 - 66.99 = D	60 - 62.99 = D-
0 - 59.99 = F		

Attendance:

Students are expected to attend all classes and to arrive and leave at the scheduled times. The instructor will adhere to the university attendance policy. In the case of an excused absence, the student will provide official documentation and then be allowed to make up any *written work* missed within one week of returning to class. Students are responsible for submitting such work and for scheduling make-up exams with the instructor. See http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.3.php.

Participation on movement days: If you cannot participate in class for any reason, you will be considered absent.

Make ups for missed movement tests are at the discretion of the instructor. Make ups will be considered with a verifiable, documented issue, provided that the instructor is contacted prior to the next class meeting.

Requirements for Credit Only: In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- (70%) or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to:

http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.15.php

Note: The student is responsible for requesting credit only grading on MyPack Portal by the University dead line. ** 3/4 is the last day to drop a class or change to credit only.

Requirements for Audit: Students must attend all classes and will be allowed three absences before NR will be recorded as a final grade. http://www.ncsu.edu/policies/academic_affairs/pols_regs/REG205.00.5.php

Incomplete Grades: http://www.ncsu.edu/policies/academic_affairs/grades_undergrad/REG02.50.3.php

Incomplete grades will be assigned only if unavoidable and unforeseen events occur, such as a medical emergency, preventing the student from completing a course requirement before the final grades are submitted. Incompletes must be made up before the end of the next regular semester in which the student is

enrolled and in no case may be made up more than 12 months after the end of the semester in which the IN is awarded, unless the teacher or department offering the course is not able to provide the student with an opportunity to make up incomplete work, in which case the period can be extended. Make up work is to be limited to accomplishing the work not completed.

Electronic 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.

Emailing the Instructor: In order to receive a response from your instructor, your email should be structured as follows:

- Properly address your instructor
- Identify who you are, the class (including section or day/class time) you are in, and the purpose of your email.
- Please be specific and use complete sentences.

Online class evaluations will be available for students to complete during the last 2 weeks of semester. Students will receive an email message directing them to a website where they can login using their Unity ID and complete evaluations. All evaluations are confidential; instructors will not know how any one student responded to any question, and students will not know the ratings for any instructors.

Evaluation website: <https://classeval.ncsu.edu/>

Student help desk: classeval@ncsu.edu

More information about ClassEval: <http://www.ncsu.edu/UPA/classeval/>

General Information:

1. **Academic Integrity:** For all written assignments, students will be expected to adhere to the **University Honor Code**: “I have neither given nor received unauthorized aid on this test or assignment.” It is the understanding and expectation of the instructor that the student’s signature on any test or assignment means that the student neither gave nor received unauthorized aid. Consult the university website: http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php
2. **Students with 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, 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.
3. **Anti-Discrimination Statement:** 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, sex, creed, 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 color, religion, sex, creed, national origin, age, disability, veteran status or sexual orientation is also 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 515-3148.

4. Due to the nature of the activities in this class, it may be necessary for the instructor and students to have some amount of physical contact to assist in acquiring the proper form/technique. The student should inform the instructor if they do not want any physical contact to assist in acquiring the proper form/technique.
5. Every fitness activity has certain inherent risks, and regardless of precautions taken it is impossible to ensure total safety. Adhere to all safety guidelines to reduce your risk of injury.
6. The use of illegal drugs, tobacco products, or alcoholic beverages are prohibited.
7. It may be appropriate to inform the instructor within the first week of class if you have any medical issues that would affect your participation throughout the semester in this course.
8. Pets and visitors are not allowed during class periods. Firearms, weapons, and/or fireworks are prohibited from class.
9. Please turn off cell phones during class time.

Course Outline for HESM 330
Introduction to Laban Movement
Analysis and Bartenieff Fundamentals
Spring 2017

Dates	Topic	Activity/ Reading
1/7	Introduction	Orientation, Theoretical overview of LMA and BF, LMA grid BESS, reading (Appendix A)
1/9	Body	Anatomical Landmarks, Bartentieff Fundamentals, Discussion of reading (Ch. 1-2)
1/14	Body	Body Part Phrasing, Patterns of Total Body Connectivity
1/16	Body	Discussion of reading (Ch. 3-5), Fundamentals
1/21	Breath	Discussion of reading (Ch. 6), Fundamentals
1/23	Breath	Types of breathing- Function - Process Movement and breath initiations, BF Body Organization
1/28	Breath and Shape	Discuss videos 1-2 & evaluations due, Overview of Shape, shape flow and shaping
1/30	Shape	Discussion of reading (Ch. 7-8), directional movement, modes of shape change
2/4	Motif	Guest speaker Jackie Hand, CMA Intro to Motif, Reading (Motif handout)
2/6	Shape	Discuss videos 3-4 & evaluations due, Discuss body connectivity, finish shape discussions
2/11	Space	Points in space, dimensions & planes
2/13	Space	Kinesphere, level, direction, pathways, discuss readings (Ch.9-11 & Bartenieff handout)
2/18	Space	Geometric forms and scales, Movement test – Bartenieff Fundamentals

2/20	Space	Geometric forms and scales
2/25	Effort	Discuss handouts, Effort exploration
2/27	Effort	Seeing effort, sensing effort, Discuss videos 5-6 & evaluations due
3/4	Effort	Time, mid-semester journals due
3/6	Effort	Weight
3/11 & 3/13	Spring Break – no class	
3/18	Effort	Space
3/20	Effort	Space and Flow, Discuss videos 7-8 & evaluations due
3/25	Effort	Flow, States and Drives, Reading (Ch. 12)
3/27	Effort and Integration	States and Drives, application project proposals due
4/1	Effort and Integration	States and Drives, Movement test – Effort Factors, application project proposals discussion
4/3	No Class – Spring holiday	
4/8	Effort and Integration	Discuss videos 9-10 & evaluations due, Basic Actions and Effort Cube
4/10	Effort and Integration	Basic Actions and Effort Cube, Movement test – States and drives, draft presentation of application projects & feedback
4/15	Integration	Individual meetings for feedback on application project
4/17	Integration	BESS review, movement study integration
4/22	Application Project	Present projects in class & paper due
4/24	Application Project	Present projects in class & paper due

**** 3/4 is the last day to drop a class or change to credit only.**

BUS 458: Analytics: From Data to Decisions

Course Inventory Change Request

In Workflow

1. 20BUS UnderGrad Head (richard_warr@ncsu.edu)
2. MGMT CC Coordinator UG (andy_nowel@ncsu.edu)
3. MGMT CC Chair UG (andy_nowel@ncsu.edu)
4. MGMT Dean UG (richard_warr@ncsu.edu)
5. OUCC Review (gmneugeb@ncsu.edu)
6. UCCC Coordinator (gmneugeb@ncsu.edu)
7. UCCC Meeting (gmneugeb@ncsu.edu)
8. UCCC Chair (despain@ncsu.edu)
9. OUCC Final Signature (barbara_kirby@ncsu.edu)
10. OUCC Final Review (gmneugeb@ncsu.edu)
11. PeopleSoft (lamarcus@ncsu.edu; blpearso@ncsu.edu; Charles_Clift@ncsu.edu; Idmihalo@ncsu.edu; jmharr19@ncsu.edu; Tracey_Ennis@ncsu.edu)

Approval Path

1. Wed, 30 Sep 2015 16:03:21 GMT
Richard Warr (rswarr): Approved for 20BUS UnderGrad Head
2. Wed, 30 Sep 2015 16:05:53 GMT
Andrew Nowel (nowel): Approved for MGMT CC Coordinator UG
3. Wed, 30 Sep 2015 16:06:56 GMT
Andrew Nowel (nowel): Approved for MGMT CC Chair UG
4. Wed, 30 Sep 2015 16:10:58 GMT
Richard Warr (rswarr): Approved for MGMT Dean UG

New Course Proposal

Date Submitted: Wed, 30 Sep 2015 15:53:05 GMT

Viewing: BUS 458 : Analytics: From Data to Decisions

Changes proposed by: nowel

Course Prefix

BUS (Business Management)

Course Number

458

Dual-Level Course

No

Cross-listed Course

No

Title

Analytics: From Data to Decisions

Abbreviated Title

Analytics: Data to Decisions

College

Poole College of Management

Academic Org Code

Business Management (20BUS)

CIP Discipline Specialty Number**CIP Discipline Specialty Title****Term Offering**

Spring Only

Year Offering

Offered Every Year

Effective Date

Spring 2016

Previously taught as Special Topics?

No

Course Delivery

Face-to-Face (On Campus)

Grading Method

Graded with S/U option

Credit Hours

3

Course Length

16

weeks**Contact Hours****(Per Week)****Component Type**

Lecture

Contact Hours

3

Course Attribute(s)**Course Is Repeatable for Credit**

No

Instructor Name

Tonya Balan

Instructor Title

Teaching Professor

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

Enrollment Component	Per Semester	Per Section	Multiple Sections?	Comments
Lecture	30	30	No	n/a

Course Prerequisites, Corequisites, and Restrictive Statement

BUS 443

Is the course required or an elective for a Curriculum?

No

Catalog Description

This course will enable students to develop and apply their data analytics skills by analyzing a series of case studies built around real business problems and real data. The case studies are designed around the full analytics lifecycle which encompasses the business problem, the data, the analysis, and the decision. Students will learn to identify and explain business problems that can be addressed with analytics. They will also learn to determine which analytic methods are best suited to solve particular problems and will evaluate the impact of applying analytic methods. Finally, they will learn to explain the results of an

Justification for new course:

In the past year, 4.4 million jobs were created around big data and data analytics. Our corporate partners are coming to the college and expressing intense and immediate need for employees with decision-driven analytical skills. This message is echoed throughout business press today. This advanced elective course will be enable students to apply and sharpen the technical skills learned in BUS 350 and BUS 443 by analyzing a series of case studies built around real business problems and real data. The case studies are designed around the full analytics lifecycle which encompasses the business problem, the data, the analysis, and the decision. Students will learn to identify and clearly explain business problems that can be addressed with data analytics.

Does this course have a fee?

No

Is this a GEP Course?

No

Consultation

Instructional Resources Statement

Current resources allow offering this course.

Course Objectives/Goals

Student Learning Outcomes

At completion of this course, students will be able to:

- 1.
2. Examine data and identify patterns and trends;
- 3.
4. Interpret statistical results;
- 5.
6. Communicate results using visual analytic techniques;
- 7.
8. Develop business segmentation strategies using data analytics skills.
- 9.

Student Evaluation Methods

Evaluation Method	Weighting/Points for Each	Details
Written Assignment	Course Grading: Homework Assignments 1-5 10% (each 2%) Case Reports 90% (each 18%)	see weighting

Topical Outline/Course Schedule

Topic	Time Devoted to Each Topic	Activity
BUS 458 Class Meeting Schedule Class Meeting Topic Readings Assignment Due Meetings 1 - 6 Case 1: Data Visualization-Discussion of business problem-Choosing the best visualization-Identifying patterns and trends-Creating data-driven recommendations for the business Clear Storytelling Boosts the Value of Analytics Meeting 3: Homework 1 Meeting 6: Case Report 1 Meetings 7 - 12 Case 2: Linear Regression - Discussion of business problem- Dealing with messy data-Iterative model building- Interpreting the results Finding the Gold in Your Data: An Overview of Data Mining Meeting 9: Homework 2 Meeting 12: Case Report 2 Meetings 13 - 18 Case 3: Binary Response Model-Discussion of business problem-Choosing the best model-Classifying new observations-Developing business segmentation strategies A Data Driven Approach to Predict the Success of Bank Telemarketing Meeting 15: Homework 3 Meeting 18: Case Report 3 Meetings 19 - 24 Case 4: Analytic Decision Management-Explore the 4 facets of the analytic life cycle-Prepare and explore data-Identify appropriate statistical method-Create business recommendation-Generate plan for deploying model into operations Competing on Analytics Meeting 21: Homework 4 Meeting 24: Case Report 4 Meetings 25 - 30 Case 5: Developing an Analytics RFP-Write a clear statement of a business problem-Identify data that could be used to solve it-Specify statistical methods that should be used-Create a template for presentation of results- Develop a plan for implementation Model Deployment: The Moment of Truth Meeting 27 Homework 5 Meeting 30: Case Report 5		

Syllabus

BUS458 Syllabus.docx

Additional Documentation

Additional Comments

Course Reviewer Comments

Key: 8048

Preview Bridge (<http://catalog.ncsu.edu/>)

Poole College of Management
BUS 458
Analytics: From Data to Decisions

Instructor: Tonya Etchison Balan, Ph.D.

E-mail: tonya_balan@ncsu.edu

Class Hours: TH: 11:45am- 1:00pm

Office: 2307 Nelson Hall

Office Hours: by appointment

Prerequisites:

BUS 443

Course Description:

This course will enable students to develop and apply their data analytics skills by analyzing a series of case studies built around real business problems and real data. The case studies are designed around the full analytics lifecycle which encompasses the business problem, the data, the analysis, and the decision. Students will learn to identify and explain business problems that can be addressed with analytics. They will also learn to determine which analytic methods are best suited to solve particular problems and will evaluate the impact of applying analytic methods. Finally, they will learn to explain the results of an analytic model and how those results impact the business "bottom line."

Course Learning Outcomes:

At completion of this course, students will be able to:

1. Examine data and identify patterns and trends;
2. Interpret statistical results;
3. Communicate results using visual analytic techniques;
4. Develop business segmentation strategies using data analytics skills.

Required Readings:

In lieu of a formal textbook, we will reference a series of readings from various online publications including:

- "Competing on Analytics," Tom Davenport, **Harvard Business Review** (<https://hbr.org/2006/01/competing-on-analytics>)
- "Finding the Gold in Your Data: An Overview of Data Mining," David Dickey, **SAS Global Forum Proceedings** (<http://support.sas.com/resources/papers/proceedings13/501-2013.pdf>)
- "Model Deployment: The Moment of Truth," **Corios Consulting White Paper** (<http://coriosgroup.com/download/redpaper-deploy/>)
- "A Data Driven Approach to Predict the Success of Bank Telemarketing," (<http://repositorium.sdum.uminho.pt/bitstream/1822/30994/1/dss-v3.pdf>)
- "Clear Storytelling Boosts the Value of Analytics," Tom Davenport, **Wall Street Journal** (<http://blogs.wsj.com/cio/2015/06/17/better-analytical-storytelling-by-people-and-machines/>)

Software Requirements:

You will need to have access to SAS Enterprise Miner which can be downloaded from the NCSU software depot or which can be accessed via the NCSU Virtual Computing Lab. You will also need to have access to Excel 2013 or higher with the Data Analysis ToolPak installed. Finally, you will need to create an account on the Teradata University Network in order to access SAS Visual Analytics.

Grading Scale:

Grading of the project milestones described below will be based on the following scale:

A+= $\geq 98\%$	C+ = 78 – 79.999%	D+ = 68 - 69.999%
A = 92 – 97.999%	C = 72 – 77.999%	D = 62 – 67.999%
A- = 90 – 91.999%	C- = 70 – 71.999%	D- = 60 - 61.999%
B+= 88 – 89.999%		F = <60%
B = 82 – 87.999%		
B- = 80 – 81.999%		

Course Requirements:

This course is based on a series of 5 case studies. Each case study will have at least one homework assignment that will focus on the mechanics of the statistical application. Each case will culminate with a written report that will include an analysis of the business problem, an appropriate discussion of the statistical analysis, and a summary of the business implications resulting from the analysis.

Homework assignments will collectively count for 10% of your grade. The remaining 90% of your grade will be based on the case reports, with each report being weighted equally (18%).

Policy for Make up Work

Students will be allowed an extension on an assignment only in the instance of an excused absence cleared by the instructor. The University’s policy on excused absences is located at:

<http://policies.ncsu.edu/regulation/reg-02-20-03>

Course Grading:

Homework Assignments 1-5	10% (each 2%)
Case Reports	90% (each 18%)

The requirement of students electing to enroll for credit only S/U:

In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.15.php.

The requirement of students electing to enroll for audit AU:

Students auditing this course are required to take all exams and quizzes, and complete all assignments. For more details refer to : http://www.ncsu.edu/policies/academic_affairs/pols_regs/REG205.00.5.php

Policy on Incomplete Grades:

At the discretion of the instructor, students may be given an incomplete grade for work not completed because of a serious interruption in their work not caused by their own negligence (i.e., documented illness or family emergency occurring after a student has completed the majority of the course). An incomplete grade cannot be given, however, as a substitute for an F when the student's performance in the course is deserving of failing. An incomplete is only appropriate when the student's record in the course is such that the successful completion of particular assignments, projects, or tests missed as a result of a documented serious event would enable that student to pass the course. The University policy on incomplete grades is located at: http://www.ncsu.edu/policies/academic_affairs/grades_undergrad/REG02.50.3.php

Policy on Academic Integrity:

The NC State University Honor Pledge: I have neither given nor received unauthorized aid on this test or assignment.

It is the understanding and expectation of the instructor that the student's signature on any test or assignment means that the student has upheld the University's Honor Pledge.

It is the responsibility of each student to understand the University's policy on academic integrity as defined in the Code of Student Conduct Policy located at:

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

Statement for Students with Disabilities:

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653. For more information on NC State's policy on working with students with disabilities, please see:

http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.1.php

Anti-Discrimination Statement:

"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 515-3148."

Statement about 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."

BUS 458 Class Meeting Schedule

Class Meeting	Topic	Readings	Assignment Due
Meetings 1 - 6	Case 1: Data Visualization -Discussion of business problem -Choosing the best visualization -Identifying patterns and trends -Creating data-driven recommendations for the business	<i>Clear Storytelling Boosts the Value of Analytics</i>	Meeting 3: Homework 1 Meeting 6: Case Report 1
Meetings 7 - 12	Case 2: Linear Regression - Discussion of business problem - Dealing with messy data - Iterative model building - Interpreting the results	<i>Finding the Gold in Your Data: An Overview of Data Mining</i>	Meeting 9: Homework 2 Meeting 12: Case Report 2
Meetings 13 - 18	Case 3: Binary Response Model -Discussion of business problem -Choosing the best model -Classifying new observations -Developing business segmentation strategies	<i>A Data Driven Approach to Predict the Success of Bank Telemarketing</i>	Meeting 15: Homework 3 Meeting 18: Case Report 3
Meetings 19 - 24	Case 4: Analytic Decision Management -Explore the 4 facets of the analytic life cycle -Prepare and explore data -Identify appropriate statistical method -Create business recommendation -Generate plan for deploying model into operations	<i>Competing on Analytics</i>	Meeting 21: Homework 4 Meeting 24: Case Report 4

Meetings 25 - 30	<p>Case 5: Developing an Analytics RFP</p> <ul style="list-style-type: none"> -Write a clear statement of a business problem -Identify data that could be used to solve it -Specify statistical methods that should be used -Create a template for presentation of results - Develop a plan for implementation 	<p><i>Model Deployment: The Moment of Truth</i></p>	<p>Meeting 27 Homework 5 Meeting 30: Case Report 5</p>
------------------	--	---	--

BUS 459: Data Analytics Practicum

Course Inventory Change Request

In Workflow

1. 20BUS UnderGrad Head (richard_warr@ncsu.edu)
2. MGMT CC Coordinator UG (andy_nowel@ncsu.edu)
3. MGMT CC Chair UG (andy_nowel@ncsu.edu)
4. MGMT Dean UG (richard_warr@ncsu.edu)
5. OUCC Review (gmneugeb@ncsu.edu)
6. UCCC Coordinator (gmneugeb@ncsu.edu)
7. UCCC Meeting (gmneugeb@ncsu.edu)
8. UCCC Chair (despain@ncsu.edu)
9. OUCC Final Signature (barbara_kirby@ncsu.edu)
10. OUCC Final Review (gmneugeb@ncsu.edu)
11. PeopleSoft (lamarcus@ncsu.edu; blpearso@ncsu.edu; Charles_Clift@ncsu.edu; Idmihalo@ncsu.edu; jmharr19@ncsu.edu; Tracey_Ennis@ncsu.edu)

Approval Path

1. Wed, 30 Sep 2015 16:03:27 GMT
Richard Warr (rswarr): Approved for 20BUS UnderGrad Head
2. Wed, 30 Sep 2015 16:05:57 GMT
Andrew Nowel (nowel): Approved for MGMT CC Coordinator UG
3. Wed, 30 Sep 2015 16:06:59 GMT
Andrew Nowel (nowel): Approved for MGMT CC Chair UG
4. Wed, 30 Sep 2015 16:11:03 GMT
Richard Warr (rswarr): Approved for MGMT Dean UG

New Course Proposal

Date Submitted: Wed, 30 Sep 2015 15:58:38 GMT

Viewing: BUS 459 : Data Analytics Practicum

Changes proposed by: nowel

Course Prefix

BUS (Business Management)

Course Number

459

Dual-Level Course

No

Cross-listed Course

No

Title

Data Analytics Practicum

Abbreviated Title

Data Analytics Practicum

College

Poole College of Management

Academic Org Code

Business Management (20BUS)

CIP Discipline Specialty Number**CIP Discipline Specialty Title****Term Offering**

Spring Only

Year Offering

Offered Every Year

Effective Date

Spring 2016

Previously taught as Special Topics?

No

Course Delivery

Face-to-Face (On Campus)

Grading Method

Graded with S/U option

Credit Hours

3

Course Length

16

weeks**Contact Hours****(Per Week)****Component Type**

Practicum

Contact Hours

10

Course Attribute(s)**Course Is Repeatable for Credit**

No

Instructor Name

D Scott Showalter

Instructor Title

Teaching Professor

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

Enrollment Component	Per Semester	Per Section	Multiple Sections?	Comments
Practicum	30	30	No	n/a

Course Prerequisites, Corequisites, and Restrictive Statement

Prerequisite: BUS 443
 Corequisite: BUS 458

Is the course required or an elective for a Curriculum?

No

Catalog Description

Advanced application of data analytics skills, tools and methodologies to solve business issues and problems. Small teams of students will undertake projects to identify business issues, confirm the information needed to address the issues, and apply the required data analytics tools and methodologies. The projects will include interaction with business personnel, refinement of business issues, gathering information, development of data analytics models, and presentation of results through data visualization. Each project will culminate with the student team presenting their findings and recommendations to the organization.

Justification for new course:

In the past year, 4.4 million jobs were created around big data and data analytics. Our corporate partners are coming to the college and expressing intense and immediate need for employees with decision-driven analytical skills. This message is echoed throughout business press today. This advanced elective course will build upon the previous data analytics courses and will involve applied learning to find solutions to current business issues using data-analytics skills, tools and methodologies. A team of 4-6 students will be paired with a business leader and academic to work together to identify the business issue, confirm the information needed to address the issue and to apply the required data analytics tools and methodologies. Each practicum will culminate in the student team presenting their findings and recommendation to the management of the business.

Does this course have a fee?

No

Is this a GEP Course?

No

Consultation

Instructional Resources Statement

Current resources allow offering this course.

Course Objectives/Goals

Student Learning Outcomes

Specifically, at completion of the practicum, students will be able to:

- 1.
2. Apply technical data analytics skills;
- 3.
4. Demonstrate various data project and quality techniques;
- 5.
6. Demonstrate how to apply data visualization skills to the results of data analytics; and
- 7.
8. Demonstrate team-based, deadline driven skills necessary to complete data-driven projects in a real company setting.
- 9.

Student Evaluation Methods

Evaluation Method

Written Assignment

Weighting/Points for Each

see details

Details

Course Grading:

Project Scope Document 5%

Initial Project Work Plan/Timeline 5%

Mid-term Presentation 15%

Topic Area Research & Analysis 10%

Final Presentation 15%

Final Deliverables 10%

Team Peer Reviews 5%

Written Report with Executive Summary 35%

Topical Outline/Course Schedule

Topic**Time Devoted to Each Topic****Activity**

Weeks Assignments * Readings/Overview of Assignments 1 Company / Industry Research Report Reading: Analytics at Work: Smarter Decisions, Better Results Introduction to the course and review of requirements. 2-3 Project Scope Document Reading: Big Data, Analytics and the Path From Insights to Value The purpose of this assignment is to develop a comprehensive project scope document for your assigned project. The scope document should define the current client situation that is driving the need for the project, identify the overall objectives for the project; determine the discrete, actionable deliverables that will result from completion of the project; establish the major milestones the team will work toward and be evaluated on for quality of work and appropriate progress; and finally, document the roles and responsibilities of each team member. See Moodle for assignment and examples. 4-5 Initial Project Work Plan / Timeline Reading: The Analytics of Things; The Ossified Organization Won't 'Get' Analytics The purpose of this assignment is to develop a complete plan of work for your specific project. This plan will serve as the project scheduling and progress reporting tool, as well as a roadmap for the project. It should contain sufficient detail—enough to convince someone that the resulting schedules are realistic, that known project tasks are included and identify individual ownership of each task. See Moodle for assignment and examples. 6 Mid-term Presentation Specific presentation criteria will be provided. The use of specific presentation templates, fonts, logos and document formats will be provided on Moodle. We have also a presentation rubric that will be used to evaluate student presentations. The presentation rubric will be available on the Moodle website to help you prepare for any faculty or client-facing presentations. 7-10 Topic Area Research & Analysis The purpose of this assignment is to encourage students to quickly increase their individual and collective technical knowledge of specific project areas and issues so they are able to effectively support the project, i.e. project scoping through execution. In general, technical areas should be thought of as topic or issue-oriented, non-company specific and perhaps industry specific. One suggestion would be for each team to develop an initial outline of topic areas and get feedback from your faculty advisor. See Moodle website for assignment and examples. 11-12 Final Presentation Specific presentation criteria will be provided. The use of specific presentation templates, fonts, logos and document formats will be provided on Moodle. We have also a presentation rubric that will be used to evaluate student presentations. The presentation rubric will be available on the Moodle website to help you prepare for any faculty or client-facing presentations. 13-14 Final Deliverable Package At the conclusion of the project, each team will be required to provide a final deliverable package in an electronic

Syllabus

BUS459 Syllabus.docx

Additional Documentation**Additional Comments****Course Reviewer Comments**

Key: 8049

Preview Bridge (<http://catalog.ncsu.edu/>)

Poole College of Management

BUS 459

Data Analytics Practicum

Instructor: D. Scott Showalter, CPA

E-mail: scott_showalter@ncsu.edu

Class Hours: TBA

Office: 3170 Nelson Hall

Office Hours: by appointment

Prerequisite:

BUS 443

Co-requisite:

BUS 458

Course Description:

Advanced application of data analytics skills, tools and methodologies to solve business issues and problems. Small teams of students will undertake projects to identify business issues, confirm the information needed to address the issues, and apply the required data analytics tools and methodologies. The projects will include interaction with business personnel, refinement of business issues, gathering information, development of data analytics models, and presentation of results through data visualization. Each project will culminate with the student team presenting their findings and recommendations to the organization.

Course Learning Outcomes:

Specifically, at completion of the practicum, students will be able to:

1. Apply technical data analytics skills;
2. Demonstrate various data project and quality techniques;
3. Demonstrate how to apply data visualization skills to the results of data analytics; and
4. Demonstrate team-based, deadline driven skills necessary to complete data-driven projects in a real company setting.

Required Readings:

In lieu of a formal textbook, we will reference a series of readings from various online publications and texts including, but not limited to:

- “The Analytics of Things,” Tom Davenport, Babson College, (<https://www.linkedin.com/pulse/analytics-things-tom-davenport>).
- “Big Data, Analytics and the Path From Insights to Value ,” MIT Sloan Management Review, (<http://sloanreview.mit.edu/article/big-data-analytics-and-the-path-from-insights-to-value/>).
- “Analytics at Work: Smarter Decisions, Better Results”, Thomas H. Davenport, Jeanne G. Harris, and Robert Morison, Harvard Business Review Press.
- “The Ossified Organization Won't 'Get' Analytics,” Brian Sommer, (<http://www.zdnet.com/article/the-ossified-organization-wont-get-analytics-part-1-of-3/#!>).

In addition, articles may be assigned based on the specific topics of the assigned practicum.

Software Requirements:

You will need to have access to SAS Enterprise Miner which can be downloaded from the NCSU software depot or which can be accessed via the NCSU Virtual Computing Lab. You will also need to have access to Excel 2013 or higher with the Data Analysis ToolPak installed. Finally, you will need to create an account on the Teradata University Network in order to access SAS Visual Analytics. Other software may be required based on the requirements of the practicum.

Grading Scale:

Grading of the project milestones described below will be based on the following scale:

A+= ≥98%	C+ = 78 – 79.999%	D+ = 68 - 69.999%
A = 92 – 97.999%	C = 72 – 77.999%	D = 62 – 67.999%
A- = 90 – 91.999%	C- = 70 – 71.999%	D- = 60 - 61.999%
B+= 88 – 89.999%		F = <60%
B = 82 – 87.999%		
B- = 80 – 81.999%		

The instructor will provide feedback throughout the semester, via the weekly status meetings. Feel free to ask at any point how you are doing and ask for help if needed. It is critical that team issues or client problems come to light SOONER, rather than later. Do not be afraid to discuss problems and work to correct issues before they become real problems. Throughout the semester peer evaluations will be collected and tallied at the end of the semester.

Policy for Make up Work

Students will be allowed an extension on an assignment only in the instance of an excused absence cleared by the instructor. The University's policy on excused absences is located at:

<http://policies.ncsu.edu/regulation/reg-02-20-03>

Course Requirements:

Students will be assigned in teams to work with a specific business to solve a business issue using data analytics. The projects will vary based on the business issues put forth by each business.

The general scope area of the project will be defined during the first week of the semester. Students, company team leads, and the instructor will work together to document the project scope more completely early in the semester. Ultimately, the student team will be responsible for project management. A project charter (scope), project work plan, key deliverables and milestones, along with deadlines will be established by the client and the student teams. The projects usually consist of some intensive data gathering, building a framework for analyzing the project issues, development of reasonable recommendations for action in both the long and short term, and various reports and presentations to project stakeholders: company participants and management and the instructor.

Total team performance is divided into **sub-categories**. These sub-categories clearly identify performance expectations, as well as help students maintain proper perspective during the semester. The sub-categories are defined as: **Project Management, Key Deliverables, and Project Satisfaction**. Additionally, there are important characteristics, or **attributes**, underlying each of the sub-categories and those are defined as: **Technical, Planning and Scheduling, and Executive**. Descriptors of each attribute are included later in the

Syllabus. A key take away from this course will be to instill the importance of “client focus” and to reinforce that “what you do is equally as important as how you do it.” There are clear expectations that students will act with integrity and professionalism over the course of the semester - with clients, team members, faculty and staff.

Weeks	Assignments *	Readings/Overview of Assignments
1	Company / Industry Research Report	<p><i>Reading: Analytics at Work: Smarter Decisions, Better Results</i></p> <p>Introduction to the course and review of requirements.</p>
2-3	Project Scope Document	<p><i>Reading: Big Data, Analytics and the Path From Insights to Value</i></p> <p>The purpose of this assignment is to develop a comprehensive project scope document for your assigned project. The scope document should define the current client situation that is driving the need for the project; identify the overall objectives for the project; determine the discrete, actionable deliverables that will result from completion of the project; establish the major milestones the team will work toward and be evaluated on for quality of work and appropriate progress; and finally, document the roles and responsibilities of each team member. See Moodle for assignment and examples.</p>
4-5	Initial Project Work Plan / Timeline	<p><i>Reading: The Analytics of Things; The Ossified Organization Won't 'Get' Analytics</i></p> <p>The purpose of this assignment is to develop a complete plan of work for your specific project. This plan will serve as the project scheduling and progress reporting tool, as well as a roadmap for the project. It should contain sufficient detail—enough to convince someone that the resulting schedules are realistic, that known project tasks are included and identify individual ownership of each task. See Moodle for assignment and examples.</p>
6	Mid-term Presentation	<p>Specific presentation criteria will be provided. The use of specific presentation templates, fonts, logos and document formats will be provided on Moodle. We have also a presentation rubric that will be used to evaluate student presentations. The presentation rubric will be available on the Moodle website to help you prepare for any faculty or client-facing presentations.</p>

7-10	Topic Area Research & Analysis	The purpose of this assignment is to encourage students to quickly increase their individual and collective technical knowledge of specific project areas and issues so they are able to effectively support the project, i.e. project scoping through execution. In general, technical areas should be thought of as topic or issue-oriented, non-company specific and perhaps industry specific. One suggestion would be for each team to develop an initial outline of topic areas and get feedback from your faculty advisor. See Moodle website for assignment and examples.
11-12	Final Presentation	Specific presentation criteria will be provided. The use of specific presentation templates, fonts, logos and document formats will be provided on Moodle. We have also a presentation rubric that will be used to evaluate student presentations. The presentation rubric will be available on the Moodle website to help you prepare for any faculty or client-facing presentations.
13-14	Final Deliverable Package	At the conclusion of the project, each team will be required to provide a final deliverable package in an electronic format. The final deliverable package should contain the following: (a) Company / Industry Research Report (b) Completed Project Scope Document (MS Word) (c) Completed Project Work Plan Document (MS Excel or MS Project) (d) Completed primary and secondary topic area research conducted by the team for the project (e) Formal client presentations, mid-term and final client presentations including any other gate or stakeholder reviews. Minimum requirements are: mid-term and final client presentations (f) "Major work files" created by the team during the project, i.e. Excel spreadsheets, project work plans and timelines, databases, models or simulations, metrics, scorecards, etc.
15	Written Report with Executive Summary	The final report is to be a written culmination of the project. The report should contain the appropriate level of detail so others within the client company can understand the project, the activities, and the recommendations which would enable them to quickly come up to speed and move the project forward. Additionally, the report should contain an

	Team / Peer Reviews	<p>executive summary. The executive summary must summarize the report and be written so if a corporate executive only reads the summary, they will understand the project and the recommendations. The executive summary should be no longer than 1-2 pages and be placed at the beginning of the report, the body of the report should be 5-7 pages and additional materials may be included in an appendix.</p> <p>Each team will be required to submit team peer review evaluations at the end of the semester which will be factored into each student's final grade. Providing constructive feedback, both positive and constructive, is a key management skill and you will be expected to complete the peer evaluation with due consideration and thought. Across the board top ratings and no suggested improvements will be rejected and will reflect negatively on the student's grade. Components of the peer evaluation will include, but not be limited to, how effectively the team works together to actually solve the problem(s) identified in the Project Scope Document; demonstrates effective planning and time management practices, effectively schedules and balances the workload among team members; contributes to the development of creative solutions / alternatives; communicates effectively both internally and externally; and adapts to change over the course of the semester by being flexible. In this course, failing the client is not an option; you are expected to adapt, improvise and overcome all obstacles to meet the client's expectations.</p>
--	---------------------	--

* In addition to weekly status meetings with the instructor.

Course Grading:

Project Scope Document	5%
Initial Project Work Plan/Timeline	5%
Mid-term Presentation	15%
Topic Area Research & Analysis	10%
Final Presentation	15%

Final Deliverables	10%
Team Peer Reviews	5%
Written Report with Executive Summary	35%

Key Attributes:

Technical Attributes:

- Clarity of issues – **clear and concise (less is more)**
- Insightfulness – ability to understand and discern information
- **Organization**
- Appropriate research and technical data analysis – **mastery of data analysis tools**
- Recommendations that are thorough, as simplified as possible and focused on key issues
- **Solutions that are viable, have short-term and long-term aspects, are actionable and clearly stated**

Planning and Scheduling Attributes:

- **Schedule adherence** – do what you said you were going to do when you said you were going to do it
- Follow through – no loose ends
- Quality of planning and scheduling in structure and completeness – **attention to detail**
- Appropriate level of detail (this element is “client driven” and project specific).
- Flexibility and adaptability (key in today’s fast-paced global environment) – **Resilience**
- **Communication** of the team’s planning and scheduling activities – effective, accurate and timely

Executive Attributes:

- Communication skills with all stakeholders – clear and concise
- **Critical thinking**, materials, analysis, reports, etc. – **ability to effectively articulate information**
- Authority and control over the project (ownership of the project) – **leadership and accountability**
- Quality of the relationship with company participants – **business acumen**
- Team and task management – assess risk and take appropriate, prudent action
- Reporting and presentation skills – **a high level of professionalism at all times**

The requirement of students electing to enroll for credit only S/U:

In order to receive a grade of S, students are required to take all exams and quizzes, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.15.php.

The requirement of students electing to enroll for audit AU:

Students auditing this course are required to take all exams and quizzes, and complete all assignments. For more details refer to : http://www.ncsu.edu/policies/academic_affairs/pols_regs/REG205.00.5.php

Policy on Incomplete Grades:

At the discretion of the instructor, students may be given an incomplete grade for work not completed because of a serious interruption in their work not caused by their own negligence (i.e., documented illness or family emergency occurring after a student has completed the majority of the course). An incomplete grade cannot be given, however, as a substitute for an F when the student's performance in the course is deserving of failing. An incomplete is only appropriate when the student's record in the course is such that the successful completion of particular assignments, projects, or tests missed as a result of a documented serious event would enable that student to pass the course. The University policy on incomplete grades is located at: http://www.ncsu.edu/policies/academic_affairs/grades_undergrad/REG02.50.3.php

Policy on Academic Integrity:

The NC State University Honor Pledge: I have neither given nor received unauthorized aid on this test or assignment.

It is the understanding and expectation of the instructor that the student's signature on any test or assignment means that the student has upheld the University's Honor Pledge.

It is the responsibility of each student to understand the University's policy on academic integrity as defined in the Code of Student Conduct Policy located at:

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

Statement for Students with Disabilities:

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653. For more information on NC State's policy on working with students with disabilities, please see:

http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.1.php

Anti-Discrimination Statement:

"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 515-3148."

Statement about 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."

NORTH CAROLINA STATE UNIVERSITY

HONORS PROGRAM ACTION FORM

DEPARTMENT/COLLEGE: Poole College of Management

TITLE OF PROGRAM: Data Analytics Honors Program

TYPE OF PROPOSAL:

New Program _____
Review _____
Revision in:
 Admission Requirements _____
 Graduation Requirements _____
 Description _____
Discontinuation of Program _____

DATE OF LAST ACTION: _____

PROPOSED EFFECTIVE DATE: Fall 2015

ATTACH DOCUMENTS AS APPROPRIATE:

Current Admissions Requirements
 Current Graduation Requirements
 Current Catalog Description
 Proposed Revision (s) with Reasons
 Number of Participants for last five years

CATALOG DESCRIPTION (limit to 150 words):

The Data Analytics Honors Program is designed for Poole College of Management students seeking to extend their accounting, business administration, or economics degree into the area of data analysis and analytics.

Courses in this honors program are designed to build an expertise in understanding data, data structures and data analysis as used by businesses. The program has a focus on real world applications through practicum and project-based courses.

Poole College of Management students who have completed BUS 340H and BUS 350H and have a 3.25 GPA or better may apply to participate in the Data Analytics Honors Program. Acceptance into the program is competitive and based on prior academic achievements.

To be certified as a graduate of the Data Analytics Honors Program, students must have: a) completed all honors program courses with a B or better; b) a 3.25 or better GPA in their major; and c) a 3.25 or better overall GPA.


Questions about the Data Analytics Honors Program should be directed to Data_Analytics_Honors@ncsu.edu.

NAME OF PROGRAM DIRECTOR:

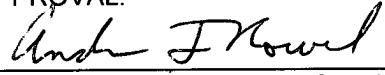
D. Scott Showalter, Teaching Professor, Campus Box 8113, scott_showalter@ncsu.edu
(Rank, Address, Phone)


RECOMMENDED BY:

Department Head (if Departmental Program) Date

 or _____
College Honors Program Director (if College Program) Date 9/30/15

APPROVAL:

 9/30/15
Chair, College Courses & Curricula Committee Date
Or College Honors Program Committee

 9/30/15
College Dean Date

Chair, University Courses & Curricula Committee Date

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

APPROVED EFFECTIVE DATE: _____

Data Analytics Honors Program

Admission:

Admission to the Data Analytics Honors Program is competitive and based on prior academic achievements. Poole College of Management students must have completed BUS 340H and BUS 350H, and have a 3.25 or better overall GPA in order to apply.

Program Requirements:

BUS 443H *Business Analytics*
BUS 458H *Analytics: From Data to Decisions*
BUS 459H* *Business Analytics Practicum*

*Students may substitute other honors-level practicum courses containing data analytics content with program-level approval.

Certification:

Completion of the Data Analytics Honors Program will be certified on a student's transcript after all degree requirements have been met in addition to the following:

- B or better grade in all required program-level courses
- 3.25 or better overall major GPA (ACC or BUS or EC/ECG courses)
- 3.25 or better overall GPA

Contact:

Poole College of Management students with questions or interest in applying to the Data Analytics Honors Program should contact Data_Analytics_Honors@ncsu.edu.