



MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Formerly University of Missouri-Rolla

Minutes

Campus Curricula Committee Meeting

January 15, 2013

10 am, Room 106B Parker Hall

Attendees: Lahne Black, Barry Flachsbart, Irina Ivliyeva, Keith Nisbett, Steve Raper, Tom Schuman, Daniel Tauritz, and Jennifer Thorpe.

The following curriculum forms were discussed and approved:

Degree Change Forms:

DC #0434	DC #0438
DC #0435	DC #0439
DC #0436	DC #0441
DC #0437	

Course Change Forms:

CC #8311	CC #8429
CC #8312	CC #8430
CC #8313	CC #8431
CC #8414	CC #8432
CC #8415	CC #8433
CC #8416	CC #8434
CC #8417	CC #8435
CC #8418	CC #8436
CC # 8419	CC #8437
CC #8420	CC #8438
CC #8421	CC #8439
CC #8422	CC #8440
CC #8423	CC #8441
CC #8424	CC #8442
CC #8428	

Experimental Course Forms:

EC #2445	EC #2450
EC #2446	EC #2451
EC #2447	EC #2452
EC #2448	

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MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Formerly University of Missouri-Rolla

The committee voted to table the items below for further action/clarification to be provided by the academic department responsible for each:

DC #0440, Mining Engineering, Master of Engineering in Mining Engineering.

CC #8307, Explosives Engineering 411, Research Methods.

CC #8425, Mining Engineering 476, Sustainability In Mining.

CC #8426, Mining Engineering 424, Underground Mine Design.

CC #8427, Mining Engineering 426, Surface Mine Design.

The following form was withdrawn by the academic department responsible:

DC #0430, History, Bachelor of Arts/History Teacher Education Program.

The meeting adjourned at 11:55 am.

A handwritten signature in cursive script, appearing to read "Daniel Tauritz", written over a horizontal line.

Daniel Tauritz, Chair
Missouri S&T Campus Curricula Committee

Effective Year: 2013

DC # 0434-2012-ExpEng-000-00

Effective Term: Summer ☐ Fall ☒ Spring ☐

(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor:

Doctor of Philosophy in Explosives Engineering

Department: Mining and Nuclear Engineering

Briefly describe action requested (Attach documentation as appropriate):

Request to approve addition of Doctor of Philosophy in Explosives Engineering.

Attachments: Proposal

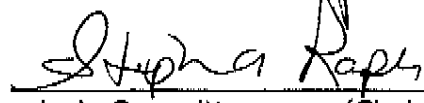
~~(All CBHE forms are generated from the proposal by UM System Academic Affairs.)~~

Recommended by Department:


(Chair signature)

Date: 10/29/12

Recommended by:


(Chair signature)

Discipline Specific Curricula Committee

Date: 11/15/12

Approved by Curricula Committee:


(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

NEW DEGREE PROGRAM PROPOSAL

Sponsoring Campus: Missouri University of Science and Technology
College or School: N/A
Department: Mining and Nuclear Engineering
Program Title: Explosives Engineering
Degree: Doctor of Philosophy (Ph.D.) in Explosives Engineering
Options (emphasis areas): No options (N/A)

Delivery Site(s): Missouri University of Science and Technology

CIP Classification:

Implementation Date: Fall 2013

Expected Date of First Graduation: Dec 2013

Author of Proposal: Paul Worsey

Name and Phone Number of Person to Contact for More Information:

Paul Worsey (573) 341-4317

Individual(s) Responsible for Success of Program:

Paul Worsey, Director of Explosives Education

Samuel Frimpong, Department Chairman

Executive Summary

The proposed PhD. degree in Explosives Engineering fulfills campus, state, federal and industry needs, as well as the wishes of prospective students. The proposed degree will attract new graduate students, as well as retain students who have completed M.S. degrees at Missouri S&T. The graduate program will help the campus attract and retain quality faculty with active research programs.

With the retirement of Korea and Vietnam era technical experts in the defense base, there is a critical shortage of explosives engineers. In addition, there are over 5,000 engineers that will retire in the next decade from the mining industry (the major user of explosives), and the average age of technical personnel in explosives companies is over 50. The degree is designed to ensure that graduates will have the competencies employers are looking for, especially in their search for people with advanced skills who can move quickly into managerial positions. Academic institutions seek explosives engineers with Ph.D. degrees to teach in their undergraduate programs and national labs also require Ph.D. engineers to perform research and engineering vital for the nation's security.

The degree is a logical outgrowth of Missouri S&T's focus as a technological research university and recent expansion in explosives engineering, and is the logical step forward from the current success of the M.S. in explosives engineering. The degree is unique to the nation, if not the world. The number of explosives-related courses that are currently offered by the department of Mining and Nuclear Engineering at Missouri S&T has steadily increased to fourteen (42 credit hours) with a further course in development. The addition of a second explosives faculty member in January 2008 and the use of adjunct instructors have allowed further expansion and frequency of offerings, making a Ph.D. in Explosives Engineering sustainable. It is anticipated that graduates will have successful job placement comparable to related engineering fields.¹

This 72-hour program includes a dissertation, explosives engineering core courses and electives, and a module of courses outside the department, if appropriate. Conservative projections show that the degree will produce revenue that will exceed expenditures after one year.

¹ Supporting job placement statistics are given in Appendix A.

Appendix D - Graduate Catalog Description

Explosives Engineering

The Explosives Engineering program in the department of Mining and Nuclear Engineering offers the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in Explosives Engineering for students with bachelor's degrees in engineering, science or technology. Due to the age profile of the explosives industry and attrition of personnel, as well as the rapid change in technology within this field, there is an immediate and growing need for highly trained explosives professionals in both the civilian explosive, mining and civil excavating fields and government and the defense industry. Employers are looking for engineers and scientists with sophisticated skills in the integration of explosives technology into complex systems in a wide range of applications. Employers are also seeking M.S. and Ph.D. graduates because they can move quickly into managerial positions.

Faculty involved in a variety of explosives related research programs teach and direct the program in conjunction with instruction by industry specialists in a wide range of applications. Students will have opportunities to assist the faculty, both in research and teaching, as well as working alongside faculty and graduate students in other engineering and science fields such as Civil, Architectural, Mechanical, Chemical, Aerospace, Electrical, Geological and Materials Engineering and Geology, Geophysics, Chemistry and Physics.)¹⁷ The explosives engineering faculty and students will be active in the leading professional societies such as the International Society for Explosives Engineers and those in a wide range of associated areas. A security background check is required for all students in the program.

M.S. Degree Requirements

The M.S. program requires a minimum of 30 hours of graduate credit. A core of four courses is required of all students, and a module of allied courses in departments outside of explosives engineering is encouraged.

M.S. with Thesis: The M.S. degree with thesis requires the completion of 24 hours of graduate course work and six hours of research (Exp Eng 490), and the successful completion and defense of a research thesis. Four of the following core courses are required of all M.S. students in Explosives Engineering:

Exp Eng 307/Min Eng 307	Principles of Explosives Engineering
Exp Eng 350/Min Eng 350	Blasting Design and Technology
Exp Eng 351 ²⁵	Demolition of Buildings and Structures
Min Eng 383	Tunneling and Underground Construction Techniques
Exp Eng 402 ²⁵	Environmental Controls for Blasting
Exp Eng 406 ²⁵	Scientific Instrumentation for Explosives and Blasting

¹⁷ Based on past experience with explosives related contracts and other research.

Students select 12 hours of Exp Eng and other appropriate elective courses. M.S. in Explosives Engineering candidates are advised to group out-of-department courses into a module that fits their special interest.

M.S. without Thesis (by coursework): The M.S. degree without thesis requires the completion of 30 hours of graduate coursework with the same stipulations as above. The six hours of research is replaced by an explosives related cooperative work experience (Exp Eng 497) or industry project (Exp Eng 498) with an established company or government agency commonly using explosives and an additional explosives course. In addition the candidate is required to present a formal presentation (oral or poster) with abstract to an established scientific or industry society and present a formal oral and/or electronically recorded presentation with abstract to the Mining/Nuclear/Explosives engineering seminar.

Ph.D. Degree Requirements

The Ph.D. degree requires a minimum of 3 years of full-time study beyond the bachelor's degree, including research work for the dissertation. Minimum requirements for Ph.D. candidates include completing 72 credit hours of graduate credit with at least 24 credit hours of dissertation research (Exp Eng 490) and a minimum of 24 credit hours of coursework, with at least 15 credit hours of course work completed at Missouri S&T. Students are encouraged to enroll in at least 15 credit hours of 400-level lecture courses and are required to pass the qualifying, comprehensive and final oral examinations for the Ph.D. research.

Faculty

Faculty involved in the program include existing faculty from the Department of Mining and Nuclear Engineering at Missouri S&T and instructors from industry augmented by faculty from the Department of Civil Engineering at Missouri S&T and faculty from UMC and New Mexico Institute of Technology.

Professor

Paul Worsey, Ph.D., University of Newcastle upon Tyne	(Missouri S&T)
Richard Bullock, D. Eng., Missouri School of Mines	Emeritus (Missouri S&T)
Sam Kiger, Ph.D., University of Illinois at Urbana	(University of Missouri Columbia)
Bruce Freeman, Ph.D., University of California Davis	(Ktech, formerly at Texas A & M) ¹⁸

Associate Professor

Jason Baird, Ph.D., University of Missouri Rolla	(Missouri S&T)
Braden Lusk, Ph.D., University of Missouri-Rolla	(University of Kentucky) ³

¹⁸These have acknowledged interest in working with the program on an adjunct basis offering distance courses (from their current location), subject to S&T hiring policies & procedures.

John Myers, Ph.D., Texas-Austin
Brandon Weeks, Ph.D., University of Cambridge

(Missouri S&T)
(Texas Tech) ³

Assistant Professor

Soekbin Lim, Ph.D., University of Missouri-Rolla
Gillian Worsey, Ph.D., University of Missouri-Rolla

(New Mexico Institute of Technology)
Adjunct (Missouri S&T)

Adjunct Industry Instructors Currently Teaching Courses at Missouri S&T

Greg Shapiro, B.S., University of Missouri Columbia
Matt Suttcliffe
Stephen Hall, B.S., University of Missouri-Rolla

Steel Blasting
Premier Pyrotechnics
Hercules (Retired)

Catalog Description of Explosives Engineering Courses

Exp Eng 301 (3) Special Topics

This course is designed to give the department an opportunity to test a new course.

Exp Eng 305 (3) Explosives Handling and Safety

Basic handling and safety for explosives, explosive devices and ordnance related to laboratory handling, testing, manufacturing and storage, for both civil and defense applications.

Exp Eng 307/Min Eng 307 (3) Principles of Explosives Engineering

Theory and application of explosives in the mining industry; explosives initiating systems, characteristics of explosive reactions and rock breakage, fundamentals of blast design, drilling and blasting, regulatory and safety considerations. Prerequisites: Min Eng 151; accompanied or preceded by Civ Eng 215 or Geology 220 or Geology 125; Successful background check.

Exp Eng 309 (3) Commercial Pyrotechnics Operations

Provide participants with training preparing for Missouri Licensed Display Operator (Outdoor) License and advanced lead pyrotechnic operator training. Class work will be complemented by practical training in laboratory sessions, culminating in a full pyrotechnic show, from start to finish. Prerequisites: Both Chem 1 & Chem 2 or their equivalent, US Citizen or permanent resident, Successful background check, resident enrollment at Missouri S&T.

Exp Eng 313 (3) Stage Pyrotechnics and Special Effects

Use of energetic materials in close proximity to audiences. Provide participants with training preparing for Missouri Pyrotechnics Display Operators License. Covers: close proximity, indoor and outdoor pyrotechnics and special effects. Working with stage crews and talent, safety and permitting. Prerequisites: Both Chem 1 and Chem 2 or their equivalent; US Citizen or permanent resident, successful background check, resident enrollment at Missouri S&T.

Exp Eng 350/Min Eng 350 (3) Blasting Design and Technology

Advanced theory and application of explosives in excavation; detailed underground blast design; specialized blasting including blast casting, construction and pre-splitting. Introduction to blasting research. Examination of field applications. Prerequisite: Exp Eng 307/Mi Eng 307. Student must be at least 21 years of age. Successful background check.

Exp Eng 351 (3) Demolition of Buildings and Structures

Provide participants with basics and solid grounding in the equipment, techniques and processes required for the demolition and remediation of mine plant and processing equipment sites and non-mining structures such as buildings, factories, bridges etc. Field trip required. Prerequisites: Proceeded or accompanied by IDE 50 or IDE 140; US citizen or permanent resident; successful background check.

Min Eng 383 (3) Tunneling & Underground Construction Techniques

Cover both mechanical excavation and conventional excavation techniques for underground tunneling and construction. The emphasis will be on equipment selection and prediction of performance expected of the equipment. Ground control systems will be covered as technology emerges. Excavation methods and support of large caverns, often found in civil structures, will also be discussed. A limited focus will be on underground construction specifications and underground advance rate and cost estimation techniques. Prerequisites: Min Eng 331, Min Eng 324 or Civ Eng 215, Civ Eng 216 or Geo Eng 371.

Exp Eng 400 (variable) Special Problems

Problems or readings on specific subjects or projects in the department. Consent of instructor required.

Exp Eng 401 (3) Special Topics

This course is designed to give the department an opportunity to test a new course.

Exp Eng 402/Min Eng 402 (3) Environmental Controls for Blasting

Advance blast mechanics; overbreak control including comprehensive coverage of perimeter and smoothwall specialist blasting techniques and geotechnical factors affecting blast vibration, including limits, analysis, monitoring and control; air blast control including limits, monitoring and atmospheric and topographic effects. Prerequisites: Exp Eng 307/Min Eng 307, successful background check.

Exp Eng 406 (3) Scientific Instrumentation for Explosives Testing and Blasting

Application of scientific principles, equipment description and operation for instrumentation of explosive events including blasting. Topics: Blast chamber design, set up, high-speed photography, motion detection and measurement, explosives sensitivity testing, explosives properties testing, vibration measurement and analysis, destruction and demilitarization. Prerequisite: Exp Eng/Min Eng 307 and successful background check.

ExpEng 407/MinEng 407 (3) Theory of High explosives

Study of the application of chemical thermodynamics and the hydrodynamic theory to determine the properties of high explosives; application of detonation theory to steady-

state detonations in real explosives; application of the above to the blasting action of explosives. Prerequisite: Successful background check and graduate standing.

Exp Eng 408 (3) Regulatory Issues in the Explosives Industry

Comprehensive coverage of the federal regulations governing the explosives industry, including those governing storage of explosives (ATF), transportation of explosives (DOT and TSA), the environment (EPA) and use of explosives (OSM, MSHA & OSHA). Prerequisite: Graduate standing.

Exp Eng 490 (1-6) Research

Investigations of an advanced nature leading to the preparation of a thesis or dissertation. Consent of instructor required.

Exp Eng 497 (3) Graduate Cooperative Experience

Students on an approved internship will complete a project designed by the advisor and employer. The project selected must require that the student apply critical thinking skills and discipline specific knowledge in the work setting. A major report and a formal presentation are required. Prerequisite: 12 hours Exp Eng coursework.

Exp Eng 498 (3) Industry Project

Students who are currently employed may complete a project in their work setting designed by the advisor and employer. The project selected must require that the student apply critical thinking skills and discipline specific knowledge. A major report and a formal presentation are required. Prerequisite: 12 hours Exp Eng coursework.

DC# 0435-2012-Hist-000-00

Effective Year: 2013 Effective Term: Summer ☐ Fall ☒ Spring ☐
(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor:

History ~~major~~, Bachelor of Arts

Department: History & Political Science

Briefly describe action requested (Attach documentation as appropriate):

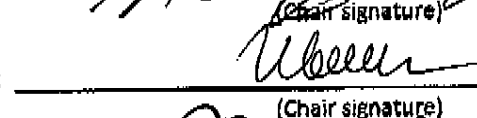
We are adding the Hist 310 Seminar as an option for the senior capstone course. Currently, the capstone course is Hist 397: Senior Thesis. Students taking Hist 310 would be required to produce a research paper the same length and quality as that currently required by the senior thesis, but the seminar would offer a more structured, classroom environment that we believe would be beneficial to many history majors.

Recommended by Department:


(Chair signature)

Date: 11-5-12

Recommended by DSCC:


(Chair signature)

Date: 11-8-12

Approved by Curricula Committee:


(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

Revised October 2012

Current History Requirements for History Education Major:

Hist 10	Intro to Hist.	1 credit hours
Hist 175, 176	American History surveys	6
Hist 299	Historiography	3
	American History electives	6
	European History electives	6
	Open History electives	6
Hist 397	Senior Thesis	3
Total		31 credit hours ¹

Proposed History Major:

Hist 10	Intro to Hist.	1 credit hours
Hist 175, 176	American History surveys	6
Hist 299	Historiography	3
	American History electives	6
	European History electives	6
	Open History electives	6
Hist 310 or 397	Seminar or Senior Thesis	3
Total		31 credit hours ¹

¹ History majors are also required to complete Hist 111 and 112 (the Western Civilization sequence) as part of the general education requirements for the B.A. In addition, 9 hours of the 31 major hours must be taken at the 300 level (no change in requirements).

DC # 0436-2012-Chem-00000

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐
(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor:
Chemistry Biochemistry Emphasis Area

Department: **Chemistry**

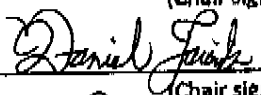
Briefly describe action requested (Attach documentation as appropriate):

Change in Electives notes to remove obsolete courses Physics 341, Ceramic Engineering 391 and 392 and Geology 381 courses and add new Biology options (Biology, 200 and 300 level, especially 315, 335, 374, 383, & 370). (See attached for present curriculum and proposed curriculum.)

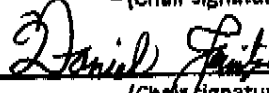
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Recommended by Department: 
(Chair signature)

Date: 11-8-2012

Recommended by DSCC: 
(Chair signature)

Date: 12/12/2012

Approved by Curricula Committee: 
(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate: _____
(Chair signature)

Date: _____

Revised October 2012

Present

Chemistry Biochemistry Emphasis Area

FRESHMAN YEAR

First Semester	Credit
Chem 1-General Chemistry	4
Chem 2-General Chemistry Lab	1
Chem 4-Intro to Lab Safety Hazardous Materials	1
Chem 11-Intro to Chemistry	1
Math 8-Calculus with Analytic Geometry I.....	5
English 20-Exposition & Argumentation	3
History 112,175,176 or Pol Sc 90	3
	<u>18</u>

Second Semester

Chem 3-General Chemistry	3
Chem 8-Qualitative Analysis	2
Math 21-Calculus with Analytic Geometry II.....	5
Bio Sc 211-Cell Biology	3
Bio Sc 212-Cell Biology Lab.....	1
Humanities Elective.....	<u>3</u>
	<u>17</u>

SOPHOMORE YEAR

First Semester	Credit
Chem 221-Organic Chemistry I	4
Chem 226-Organic Chemistry I Lab	1
Math 22-Calculus with Analytic Geometry III.....	4
Physics 21-General Physics I.....	4
Physics 22-General Physics Lab	1
Literature Elective.....	<u>3</u>
	<u>17</u>

Second Semester

Chem 223-Organic Chemistry II	4
Chem 228-Organic Chemistry II Lab	1
Physics 25-General Physics II.....	4
Physics 26-General Physics II Lab.....	1
Cmp Sc 53 or Cmp Sc 74 & 78-Intro to Prog	3
Stat 213-Applied Eng Stat	<u>3</u>
	<u>16</u>

JUNIOR YEAR

First Semester	Credit
Chem 343-Intro to Quantum Chemistry.....	3
Chem 361-Biochemistry	3
Chem 362-Biochemistry Lab	2
English 60-Writing & Research	3
Social Sciences Elective	3
Electives.....	<u>3</u>
	<u>17</u>

Second Semester

	Credit
Chem 151-Analytical Chemistry I.....	4
Chem 241-Physical Chemistry	3
Chem 242-Physical Chem Lab	1
Chem 363-Metabolism.....	3
Humanities Elective.....	3
Electives.....	<u>2</u>
	<u>16</u>

SENIOR YEAR

First Semester	Credit
Chem 243-Physical Chemistry	3
Chem 244-Physical Chem Lab	1
Chem 251-Analytical Chemistry II.....	4
Chem 310-Undergraduate Seminar or	
Chem 390-Undergraduate Research	1
Bio Sc 331-Molecular Genetics.....	3
Elective	<u>3</u>
	<u>15</u>

Second Semester

Chem 237-Inorganic Chemistry	3
Chem 238-Inorganic Chem Lab	1
Chem 300-Special Problems.....	1
Chem 310-Undergraduate Undergraduate Seminar or	
Chem 390-Undergraduate Research	1
Chem 328-Organic Syn & Spec Analy	3
Social Sciences Elective	3
Elective	<u>3</u>
	<u>15</u>

Notes:

Grade Requirements: Students must complete a minimum of 131 credit hours for the Bachelor of Science in Chemistry degree. A minimum grade of "C" is required for each Chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore years, but is not countable towards a degree.

Electives: There are eleven (11) hours of electives. Students planning to attend graduate school are encouraged to incorporate additional higher level chemistry electives, math, and foreign language, including a scientific literature course. Recommended courses include but are not limited to the following.

- Biology, 200 and 300 level
- Math 200 and 300 level, especially 204, 208 and 325
- Physics 200 and 300 level, especially 208, 221, 323 & 341
- Statistics, 200 & 300 level, especially 343, 346 & 353
- Ceramic Engineering 391 and 392, or Geology 381
- A foreign language series, French, German or Russian are recommended.

Proposed

Chemistry Biochemistry Emphasis Area

FRESHMAN YEAR

First Semester	Credit
Chem 1-General Chemistry	4
Chem 2-General Chemistry Lab	1
Chem 4-Intro to Lab Safety Hazardous Materials	1
Chem 11-Intro to Chemistry	1
Math 8-Calculus with Analytic Geometry I	5
English 20-Exposition & Argumentation	3
History 112,175,176 or Pol Sc 90	3
	18

Second Semester

Chem 3-General Chemistry	3
Chem 8-Qualitative Analysis	2
Math 21-Calculus with Analytic Geometry II	5
Bio Sc 211-Cell Biology	3
Bio Sc 212-Cell Biology Lab	1
Humanities Elective	3
	17

SOPHOMORE YEAR

First Semester	Credit
Chem 221-Organic Chemistry I	4
Chem 226-Organic Chemistry I Lab	1
Math 22-Calculus with Analytic Geometry III	4
Physics 21-General Physics I	4
Physics 22-General Physics Lab	1
Literature Elective	3
	17

Second Semester

Chem 223-Organic Chemistry II	4
Chem 228-Organic Chemistry II Lab	1
Physics 25-General Physics II	4
Physics 26-General Physics II Lab	1
Cmp Sc 53 or Cmp Sc 74 & 78-Intro to Prog	3
Stat 213-Applied Eng Stat	3
	16

JUNIOR YEAR

First Semester	Credit
Chem 343-Intro to Quantum Chemistry	3
Chem 361-Biochemistry	3
Chem 362-Biochemistry Lab	2
English 60-Writing & Research	3
Social Sciences Elective	3
Electives	3
	17

Second Semester

	Credit
Chem 151-Analytical Chemistry I	4
Chem 241-Physical Chemistry	3
Chem 242-Physical Chem Lab	1
Chem 363-Metabolism	3
Humanities Elective	3
Electives	2
	16

SENIOR YEAR

First Semester	Credit
Chem 243-Physical Chemistry	3
Chem 244-Physical Chem Lab	1
Chem 251-Analytical Chemistry II	4
Chem 310-Undergraduate Seminar or	
Chem 390-Undergraduate Research	1
Bio Sc 331-Molecular Genetics	3
Elective	3
	15

Second Semester

Chem 237-Inorganic Chemistry	3
Chem 238-Inorganic Chem Lab	1
Chem 300-Special Problems	1
Chem 310-Undergraduate Undergraduate Seminar or	
Chem 390-Undergraduate Research	1
Chem 328-Organic Syn & Spec Analy	3
Social Sciences Elective	3
Elective	3
	15

Notes:

Grade Requirements: Students must complete a minimum of 131 credit hours for the Bachelor of Science in Chemistry degree. A minimum grade of "C" is required for each Chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore years, but is not countable towards a degree.

Electives: There are eleven (11) hours of electives. Students planning to attend graduate school are encouraged to incorporate additional higher level chemistry electives, math, and foreign language, including a scientific literature course. Recommended courses include but are not limited to the following.

- Biology, 200 and 300 level, especially 315, 335, 375, 383, 387, 370
- Math 200 and 300 level, especially 204, 208 and 325
- Physics 200 and 300 level, especially 208, 221, & 323
- Statistics, 200 & 300 level, especially 343, 346 & 353
- A foreign language series, French, German or Russian are recommended.

DC # 0437-2012-Hist-000-00

Effective Year: 2013 Effective Term: Summer ☐ Fall ☒ Spring ☐
(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor:

~~History/Teacher Education~~ BA- History, Secondary Education

Department: History & Political Science

Briefly describe action requested (Attach documentation as appropriate):

We are adding the Hist 310 Seminar as an option for the senior capstone course. Currently, the capstone course is Hist 397: Senior Thesis. Students taking Hist 310 would be required to produce a research paper the same length and quality as that currently required by the senior thesis, but the seminar would offer a more structured, classroom environment that we believe would be beneficial to many history majors.

Recommended by Department: [Signature]
(Chair signature)

Date: 11-8-12

Recommended by DSCC: [Signature]
(Chair signature)

Date: 11-13-12

Approved by Curricula Committee: [Signature]
(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate: _____
(Chair signature)

Date: _____

Revised October 2012

Current History Requirements for History/Teacher Education Major:

Hist 10	Intro to Hist.	1 credit hours
Hist 111, 112	Western Civ. surveys	6
Hist 175, 176	American History surveys	6
Hist 299	Historiography	3
	American History electives	6
	European History electives	6
	Open History electives	6
Hist 397	Senior Thesis	3
Total		37 credit hours

Proposed Requirements for History/Teacher Education Major:

Hist 10	Intro to Hist.	1 credit hours
Hist 111, 112	Western Civ. surveys	6
Hist 175, 176	American History surveys	6
Hist 299	Historiography	3
	American History electives	6
	European History electives	6
	Open History electives	6
Hist 310 or 397	Seminar or Senior Thesis	3
Total		37 credit hours

DC # 0438-2012-BUS-000-00

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐
(Creating or modifying a degree program must be effective for a Fall term.)

Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor:

Minor in Entrepreneurship

Department: **Business and Information Technology**

Briefly describe action requested (attach documentation as appropriate):

Create a minor in Entrepreneurship with the following catalog description:

The Minor in Entrepreneurship requires the following 15 hours of coursework:

- **BUS 110: Introduction to Management and Entrepreneurship**
- **BUS 396: Business Models for Entrepreneurship and Innovation**
- **MKT 331: Digital Marketing and Promotions**

Any two of:

- ~~BUS 340: Introduction to Business Innovation for Sustainability~~
- **BUS 350: Customer Focus and Satisfaction**
- **BUS 380: Strategic Management**
- **IST 241: E-Commerce**
- **IST 286: Web and Digital Media Development**
- **IST 335: Fundamentals of Mobile Technology for Business**
- ~~IST 351: Leadership in Technology-Based Organizations~~
- ~~IST 354: Multi-Media Development And Design~~
- **IST 386: Human-Computer Interaction Prototyping**
- **Eng Mgt 320: Technical Entrepreneurship**
- **Eng Mgt 374: Engineering Design Optimization**


Technological Innovation management and leadership development

Recommended by Department:


(Chair signature)


Date: 11/29/12

Recommended by DSCC:


(Chair signature)

Date: 11/30/12

Approved by Curricula Committee:


(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

**Undergraduate Minor in Entrepreneurship
Offered by the Business and Information Technology Department**

Page 1

Purpose:

Change and growth in Missouri and America require the training, nourishing, and flourishing of entrepreneurs. Many individuals are unaware of their capacity and ability to develop the mindset and skills required to successfully engage in entrepreneurship. Recent entrepreneurship research, however, indicates that many skills and much of the knowledge of successful entrepreneurs can be developed and taught in a classroom setting.

The Department of Business and Information Technology (BIT) thus proposes an undergraduate minor in Entrepreneurship. This program is designed to create successful technological entrepreneurs by developing skills and a mindset that will provide opportunities for succeeding in today's fast paced world.

To that end, the program focuses on the following competencies:

- Recognizing opportunity
- Assessing opportunity
- Planning under uncertainty
- Fostering innovation
- Mastering creativity
- Building and managing networks
- Leveraging resources
- Mitigating and managing risk
- Focus and adaptability
- Design thinking
- Implementing new ideas

Admission:

The Minor in Entrepreneurship is open to all students at Missouri S&T enrolled in an undergraduate degree. A special focus will be placed on recruiting undergraduates from outside the BIT department and across the Missouri S&T campus.

Contributing Faculty:

Cassandra Elrod (Business and Information Technology)
Ralph Hanke (Business and Information Technology)
Nick Lockwood (Business and Information Technology)
Fiona Nah (Business and Information Technology)
Hong Sheng (Business and Information Technology)
Keng Siau (Business and Information Technology)
Sarah Stanley (Business and Information Technology)

**Undergraduate Minor in Entrepreneurship
Offered by the Business and Information Technology Department**

Page 2

Course Descriptions:

Core Courses:

BUS 110: Introduction to Management and Entrepreneurship

The course provides an introduction to the basic concepts of management and organization to give all majors an awareness of what functions and challenges are faced by managers and entrepreneurs in today's global environment; their applications to the organization, operations, and resources are discussed.

BUS 396: Business Models for Entrepreneurship and Innovation

This course uses problem based learning to expand student insight into the nature, development, and application of business models. It increases the practical skills and knowledge required to generate original models of value creation for both entrepreneurial start-ups and corporate innovation. Prerequisite: Senior or Graduate standing.

MKT 331: Digital Marketing and Promotions

This course will touch on the concepts of integrated marketing communication (IMC) and creativity, with a focus on digital media and new marketing concepts. Specifically, we will look at innovative marketing techniques such as viral marketing, brand communities, experiential marketing and guerilla tactics. Students will be asked to work in small groups as they learn to solve marketing problems by thinking outside the box. Prerequisite: Psych 50.

Elective Courses:

~~BUS 340: Introduction to Business Innovation for Sustainability
Applies an entrepreneurial mindset to the environmental and social opportunities and challenges facing the global community. Topics are examined from multiple perspectives: nonprofit, hybrid, and for-profit organizations. Credit cannot be earned for both Bus 340 and Bus 440. Prerequisite: Bus 330 or equivalent.~~

BUS 350: Customer Focus and Satisfaction

Major emphasis is given to the concept of customer focus, with coverage of techniques for obtaining customer needs, measuring customer satisfaction, developing products and services to satisfy customers, and maximizing the benefits of customer feedback. A semester long HoQ project will be done. Prerequisite: MKT 311 or MKT 307 or Eng Mgt 251. (Co-listed with MKT 350)

BUS 380: Strategic Management

Study of the formulation and implementation of corporative, business and functional strategies designed to achieve organizational objectives. Case studies and research reports may be used extensively. Prerequisites: MKT 311 or Eng Mgt 251; Finance 250 or Eng Mgt 252; Senior standing.

IST 241: E-Commerce

**Undergraduate Minor in Entrepreneurship
Offered by the Business and Information Technology Department**

Page 3

Introduction to fundamental concepts of management and application to Information Technologies. This course examines the use of IT in business processes and the management issues of integrating IT into organization processes to gain a competitive advantage. Topics include: management; organizations and information systems; development life cycle; project management and systems engineering; process reengineering; and organization learning. Prerequisites: IST 50, IST 286.

IST 286: Web and Digital Media Development

This course covers techniques and tools for design and development of web-based media, including text, graphics, animation, audio, and video. Prerequisite: IST 50.

IST 335: Fundamentals of Mobile Technology for Business

A broad overview of mobile technology use in business environments. Topics include the mobile industry; mobile network and wireless standards; mobile devices; mobile web design and app development; social and user experience issues; mobile marketing and commerce. Cannot take both IST 335 and IST 435. Prerequisites: IST 223 and IST 233.

IST 351: ~~Leadership in Technology Based Organizations~~ *Technological Innovation Management and Leadership*
The course focuses on the knowledge and skills necessary for the development and implementation of effective strategies for the management of technology-based organizations. This involves: developing a general management perspective on technology and innovation, examining the problems of new product development, identifying distinctive technological competencies, licensing and marketing technologies, assessing the organizational and industrial context of technology. Prerequisite: Senior or Graduate Standing.

IST 354: ~~Multi-Media Development and Design~~ *Advanced Web and Digital Media Development*
Students will learn current practices for development and design of interactive multimedia. The course covers tools for development of 2-D and 3-D graphics, video, audio, animation, and integrated multimedia environments. Prerequisites: IST 51 or Comp Sci 53 or Comp Sci 73 or Comp Sci 74.

IST 386: Human-Computer Interaction Prototyping

This course covers designs, methods and tools for creating low and high fidelity prototypes of information technology systems, which is part of the iterative design cycle commonly used for the creation of usable information technologies. Prerequisites: IST 286 or web design experience; preceded or accompanied by IST 385.

Eng Mgt 320: Technical Entrepreneurship

Student teams develop a complete business plan for a company to develop, manufacture and distribute real technical/product service. Lectures & business fundamentals, patents, market/technical forecasting, legal and tax aspects, venture capital, etc., by instructor and successful technical entrepreneurs. Prerequisite: Senior or graduate standing.

Eng Mgt 374: Engineering Design Optimization

This course is an introduction to the theory and practice of optimal design as an element of the engineering design process. The use of optimization as a tool in the various stages of product

Undergraduate Minor in Entrepreneurship
Offered by the Business and Information Technology Department

Page 4

realization and management of engineering and manufacturing activities is stressed. The course stresses the application of nonlinear programming methods. Prerequisite: Math 204 or 229.

Effective Year: 2013

DC # 0439-2012-Pet Eng 000-00

Effective Term: Summer ☐ Fall ☒ Spring ☒

(Creating or modifying a degree program must be effective for a Fall term)

Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor:

Petroleum Engineering BS

Department: Geological Sciences and Engineering

Briefly describe action requested (Attach documentation as appropriate):

1. List PE 357 (Petroleum Economics and Asset Valuation) in second semester Junior year.
2. List Mech Eng 227 (Thermal Analysis) in first semester of senior year.

These two courses are being swapped to allow Petroleum Economics to be taught in the Spring term.

3 Modified English 65 in second semester of senior year to reflect current course title "Introduction to Technical Communications" and added footnote 6:

6) students may also select Engl 60, or Engl 160

Any of these three courses are acceptable and currently being substituted.

4. Modified IDE 50 and IDE 110 to CE 50 and ^ECE 110 as Civil Engineering is now teaching these courses and has changed the name.

Recommended by Department:

Ralph Nov
(Chair signature)

Date:

11-27-12

Recommended by:

Shirley Raper
(Chair signature)

Date:

12-14-12

Approved by Curricula Committee:

David Smith
(Chair signature)

Date:

1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date:

Petroleum Engineering Curriculum (Feb 2011)				
FRESHMAN YEAR				
First Semester		Hrs	Second Semester	Hrs
Fr Eng 10 - Study and Careers in Engineering		1	Math 15 - Calculus for Engineers II	4
Chem 1 - General Chemistry		4	Physics 23 - Engineering Physics	4
Chem 2 - General Chemistry Laboratory ¹		1	IDE 20 - Eng Design with Computer Applications	3
Math 14 - Calculus for Engineers I		4	Ge Eng 50 or Geo 51 - Geology for Engineers/Physical Geology	3
History 112, Hist 175, Hist 176 or Poly Sci 90		3	Pet Eng 121 - Intro to Petroleum Engineering	1
English 20 - Exposition and Argumentation		3		
		16		15
SOPHMORE YEAR				
First Semester		Hrs	Second Semester	Hrs
Math 22 - Calc w/Analytic Geom III		4	Math 204 - Elem Diff Equations	3
Physics 24 - Eng. Physics II		4	Pet Eng 241 - Petroleum Reservoir Engineering	3
Geo 220 - Structural Geology		4	Pet Eng 242 - Petroleum Reservoir Lab	1
Pet Eng 240 - Properties of Petroleum Fluids		3	IDE 150 - Dynamics	2
CE 50 - Statics		3	CE 110 - Mechanics of Materials	3
		18	Geo 223 - Stratigraphy and Sedimentation	3
				15
JUNIOR YEAR				
First Semester		Hrs	Second Semester	Hrs
Geo 340 - Petroleum Geology		3	Pet Eng 232 - Well Logging	3
Geop 377 - Seismic Interpretation (3D Seismic)		3	Pet Eng 316 - Well Performance and Production Systems	3
Pet Eng 313 - Drilling and Well Design		3	Pet Eng 357 - Petroleum Economics and Asset Valuation	3
Cv Eng 230 - Fluid Mechanics		3	Humanities/ Social Sci Elective ²	3
Econ 121 or 122 - Prin of Economics		3	Pet Eng 338 - Finite Element Analysis with Applications in Petroleum Engineering	4
Pet Eng Reservoir Engineering Elective ⁴		3		
		18		16
SENIOR YEAR				
First Semester		Hrs	Second Semester	Hrs
Pet Eng 310 - Seminar ³		1	Pet Eng 347 - Petroleum Engineering Design	3
Mech Eng 227 - Thermal Analysis		3	Ge Eng 315 - Geostatistical Methods in Eng and Geology	3
Pet Eng 341 - Well Testing		3	Pet Eng Elective ⁵	3
Pet Eng Elective ⁵		3	Humanities/Social Science Elective ²	3
Humanities/Soc Science Elective ²		3	Engl 65 - Intro to Technical Communications ⁶	3
Pet Eng 366 - Mechanical Earth Modeling		3		
		16		15

1) All freshmen Petroleum Engineering students must enroll for Chem 4.	
2) Humanities/Social Science electives are to be selected from a list of approved courses to be taken in accordance with the University policy. Petroleum Engineering students are especially encouraged to study foreign languages.	
3) All Petroleum Engineering students must take the Fundamentals of Engineering Examination prior to graduation. A passing grade on this examination is not required to earn a B.S. degree, however, it is the first step to becoming a registered professional engineer. This requirement is part of the Mo S&T assessment process as described in the Assessment Requirements found elsewhere in this catalogue. Students must sign a release form giving the University access to their Fundamentals of Engineering Examination score.	
4) This is a reservoir engineering elective. Students should choose from Pet Engr 329, 360, 335, 308 or 320.	
5) Select Petroleum Engineering electives in accordance with interest area. Students interested in reservoir engineering select from topics in advanced reservoir engineering, simulation, natural gas engineering, and formation characterization. Students interested in drilling/completions and production select Petroleum electives such as advanced drilling, well completions, stimulation. Other general interest Petroleum electives may be selected as available.	
The total number of credit hours required for a degree in Petroleum Engineering is 129.	
Petroleum Engineering students must earn the grade of "C" or better in all Petroleum Engineering courses to receive credit toward graduation.	
6) Students may also select Engr 50, or Engr 160	

DC # 0441-2012-BUS-000-00

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐
(Creating or modifying a degree program must be effective for a Fall term.)

Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor:

Minor in Electronic and Social Commerce

Department: **Business and Information Technology**

Briefly describe action requested (attach documentation as appropriate): *Create a minor in Electronic and Social Commerce with the following catalog description:*
The Minor in Electronic and Social Commerce requires the following 15 hours of coursework:

- **IST 241: Electronic and Mobile Commerce**

Any four of:

- **IST 335: Fundamentals of Mobile Technology for Business**
- **IST 351: Technological Innovation Management and Leadership**
- **IST 352: Advanced Web Development**
- **IST 368: Law and Ethics in E-Commerce**
- **IST 385: Human-Computer Interaction**
- **IST 386: Human-Computer Interaction Prototyping**
- **MKT 331: Digital Marketing and Promotions**
- **MKT 380: Marketing Strategy**

Recommended by Department: _____

(Chair signature)

Date: 12/12/12

Recommended by DSCC: _____

(Chair signature)

Date: 12/14/12

Approved by Curricula Committee: _____

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate: _____

(Chair signature)

Date: _____

**Minor in Electronic and Social Commerce
Offered by the Business and Information Technology Department**

Page 1

Purpose:

The Department of Business and Information Technology (BIT) proposes the Minor in Electronic and Social Commerce. This program is designed to create successful students by developing skills in technological business practices that will provide opportunities for succeeding in today's fast paced world.

To that end, the program focuses on the following competencies:

- Management concepts applied to IT
- Management concepts applied to support of electronic commerce
- Use of business processes in IT integration
- Competitive advantage through IT
- Electronic commerce through collaborative shopping

Admission:

The Minor in Electronic and Social Commerce is open to all students at Missouri S&T enrolled in an undergraduate degree.

Contributing Faculty:

Barry Flachsbart (Business and Information Technology)
Nobuyuki Fukawa (Business and Information Technology)
Richard Hall (Business and Information Technology)
Nick Lockwood (Business and Information Technology)
Fiona Nah (Business and Information Technology)
Hong Sheng (Business and Information Technology)
Sarah Stanley (Business and Information Technology)
Vincent Yu (Business and Information Technology)

Course Descriptions:

Core Course:

IST 241: Electronic and Mobile Commerce

Introduction to fundamental concepts of management and application to IT and support of commerce. Examines the use of IT in business processes and the management issues of integrating IT into organization processes to gain a competitive advantage.

Elective Courses:

IST 335: Fundamentals of Mobile Technology for Business

A broad overview of mobile technology use in business environments. Topics include the mobile industry; mobile network and wireless standards; mobile devices; mobile web design and

Minor in Electronic and Social Commerce
Offered by the Business and Information Technology Department

Page 2

app development; social and user experience issues; mobile marketing and commerce. Cannot take both IST 335 and IST 435. Prerequisites: IST 223 and IST 233.

IST 351: Technological Innovation Management and Leadership

The course focuses on the knowledge and skills necessary for the development and implementation of effective strategies for the management of technology-based organizations. This involves: developing a general management perspective on technology and innovation, examining the problems of new product development, identifying distinctive technological competencies, licensing and marketing technologies, assessing the organizational and industrial context of technology. Prerequisite: Senior or Graduate Standing.

IST 352: Advanced Web Development

Advanced Web development techniques to provide dynamic interaction; methods for extracting and delivering dynamic information to/from Web servers - a hands-on approach. Emphasis on interaction with servers; mobile software development; processing of graphics & web video. Project work is required.

IST 368: Law and Ethics in E-Commerce

Provides the ethical framework to analyze the ethical, legal, and social issues that arise for citizens and computer professionals regarding the computerization of society. Topics include: free speech, privacy, intellectual property, product liability, and professional responsibility. (Co-listed with Philos 368).

IST 385: Human Computer Interaction

Introduction to the field of Human-Computer Interaction (HCI). Students examine issues and challenges related to the interaction between people and technology. The class explores the social and cognitive characteristics of people who use information systems. Students learn techniques for understanding user needs, interface prototyping, and interface evaluation. Prerequisite: Psych 50.

IST 386: Human-Computer Interaction Prototyping

This course covers designs, methods and tools for creating low and high fidelity prototypes of information technology systems, which is part of the iterative design cycle commonly used for the creation of usable information technologies. Prerequisites: IST 286 or web design experience; preceded or accompanied by IST 385.

MKT 331: Digital Marketing and Promotions

This course will touch on the concepts of integrated marketing communication (IMC) and creativity, with a focus on digital media and new marketing concepts. Specifically, we will look at innovative marketing techniques such as viral marketing, brand communities, experiential marketing and guerilla tactics. Students will be asked to work in small groups as they learn to solve marketing problems by thinking outside the box.

MKT 380: Marketing Strategy

Minor in Electronic and Social Commerce
Offered by the Business and Information Technology Department

Page 3

Identification and analysis of strategic managerial marketing issues. Integration of marketing concepts through theoretical overview and practical analysis, including extensive use of simulation. Prerequisite: MKT 311 or MKT 407 or Eng Mgt 251.

CC File # 8311-2012-Hist-326-10

Effective Year: 2013 Effective Term: Summer ☐ Fall ☒ Spring ☐

Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)

1. Department: **History & Political Science**

2. Discipline and Course Number: Present: Proposed: **Hist 326**

3. Course Title: Present:

Proposed: **The Reformation**

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): ^{The} **Reformation**

4. Catalog Description (360 character spaces or less.)

Present:

Proposed: **An examination of the backgrounds, events, ideas, and impact of the Reformation in Europe. Emphasis on the competing ideas of the reformers as well as on the Reformation's long-term social, cultural, and political impact.**

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture Lab Total

Proposed: Lecture **3** Lab **0** Total **3**

7. Prerequisites:

Present:

Proposed: **Hist 111 or 112**

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: **No other course currently offered covers this important period of religious and cultural change.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401): ²⁰sp2009, ¹³sp2011

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department:

(Chair signature)

Date: **11-5-12**

Recommended by DSCC:

(Chair signature)

Date: **11-8-12**

Approved by Curricula Committee:

(Chair signature)

Date: **1/16/2013**

Approved by Faculty Senate:

(Chair signature)

Date:

(Revised October 2012)

CC File # 8312-2012-CERENG-364-32

Effective Year: 2013 Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☒Course Title ☐Catalog Description ☐Course Number ☐Co-listing ☐**Course Information** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)

1. Department: MSE

2. Discipline and Course Number: Present: CER 364 Proposed:

3. Course Title: Present: REFRACTORIES

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present:

Proposed:

NO CHANGE

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 3 Lab 0 Total 3

Proposed: Lecture Lab Total

7. Prerequisites:

Present: NONE

Proposed: CER 259

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification: STUDENTS DO NOT HAVE SUFFICIENT THERMODYNAMICS BACKGROUND FOR THE HIGH TEMPERATURE CHEMISTRY REQUIREMENTS IN THE COURSE

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1)

3)

5)

2)

4)

6)

Recommended by Department

(Chair signature)

Date: 1/12/12

Recommended by DSCC

(Chair signature)

Date: 1-28-12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date:

CC File # *8313 - 2012 - Exp Eng - 305-32*Effective Year: **2014** Effective Term: Summer ☐ Fall ☐ Spring ☒**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Mining and Nuclear engineering**2. Discipline and Course Number: Present: **Exp E 305** Proposed:3. Course Title: Present: **Explosives Handling And Safety**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present: **Basic handling & safety for explosives, explosive devices and ordnance related to laboratory handling, testing, manufacturing & storage, for both civil and defense applications. Prerequisites: Min Eng 151, Exp Eng 307, successful background check.**Proposed: **Basic handling & safety for explosives, explosive devices and ordnance related to laboratory handling, testing, manufacturing & storage, for both civil and defense applications.**5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**
 Proposed: Lecture Lab Total

7. Prerequisites:

Present: *Min Eng 151, Exp Eng 307, successful background check*Proposed: *none*8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **See the attached page.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) *min Eng 305* 3)

5)

2)

4)

6)

Recommended by Department

(Chair signature)

Date: *11/13/12*

Recommended by DSCC

(Chair signature)

Date: *11-28-12*

Approved by Curricula Committee:

(Chair signature)

Date: *1/16/2013*

Approved by Faculty Senate:

(Chair signature)

Date: _____

Continuation page for Exp 305 course change form

Item 9. Justification: The course no longer requires Mining 151, Exp 307, or a background check because Exp 305 has no lab component and the students are not in contact with energetic materials. The current prerequisite requirements are barring out-of-department students and students in their sophomore year from advantages they may gain by taking the course.

CC File # 8414-2012-BUS-110-33

Effective Year: **2013** Effective Term: **Summer** ☐ **Fall** ☒ **Spring** ☐**Course Change Form (CC)****This form is for creating or modifying permanent courses.****Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐
 Course Title ☒ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 110** Proposed:3. Course Title: Present: **Management and Organizational Behavior**Proposed: **Introduction to Management and Entrepreneurship**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Mgt and Entrepreneurship**

4. Catalog Description (360 character spaces or less.)

Present: **The course provides an introduction to the basic concepts of management and organization to give all majors an awareness of what functions and challenges are faced by managers in today's global environment; their applications to the organization, operations, and resources are discussed.**Proposed: **The course provides an introduction to the basic concepts of management and entrepreneurship to provide an awareness of what functions and challenges are faced by managers and entrepreneurs in today's global environment. Applications of the concepts to the organization, operations, and resources are discussed. Appropriate for all majors.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present:

Proposed:

8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **This course is also a required course for the proposed Entrepreneurship Minor.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department

(Chair signature)

Date: 11/28/12

Recommended by DSCC

(Chair signature)

Date: 11/30/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

Effective Year: 2013

CC File # 8415-2012-BUS-396-10

Term: Summer ☐ Fall ☒ Spring ☐

Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☐Catalog Description ☐Course Number ☐Co-listing ☐

Course Information (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)

1. Department: Business & Information Technol

2. Discipline and Course Number: Present :

Proposed: BUS 396

3. Course Title: Present: Business Models for Entrepreneurship and Innovation

Proposed:

Abbreviated Course Title: Business Models

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. Catalog Description (300 Character Spaces or Less.)

Present:

Proposed: This course uses problem based learning to expand student insight into the nature, development, and application of business models. It increases the practical skills and knowledge required to generate original models of value creation for both entrepreneurial start-ups and corporate innovation.

5. If course requires field trip check box: ☐

6. Credit Hours:

Present:

Lecture:

Lab:

Total:

Proposed:

Lecture: 3.0

Lab: 0

Total: 3.0

7. Prerequisites:

Present:

Proposed: Senior or graduate standing.

8. Required for Majors: ☒Elective for Majors: ☐

9. Justification: After experimenting with this course (BUS 301 in F12), it will now become a required course for the undergraduate major, for a proposed Entrepreneurship Minor and for a proposed Graduate Certificate. DCs for the degree and for the Minor are being proposed in parallel.

10. Semesters

previously offered as an experimental course (101, 201, 301, 401): FS12

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1)

2)

3)

4)

5)

6)

Recommended by Department

(Chair signature)

Date: 1/28/12

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Date: 11/30/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

(Revised 1/29/09)

CC File # 8416-2012-BUS-350-32

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 350** Proposed:3. Course Title: Present: **Customer Focus and Satisfaction**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present: **Major emphasis is given to the concept of customer focus, with coverage of techniques for obtaining customer needs, measuring customer satisfaction, developing products and services to satisfy customers, and maximizing the benefits of customer feedback. A semester-long HoQ project will be done.**

Proposed:

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **MKT 310 or MKT 307 or Eng Mgt 251**Proposed: **MKT 311 or MKT 307 or Eng Mgt 251**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **There is no MKT 310--this is a typo. The co-listed course has it correct, by the way!**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) **MKT 350**

3)

5)

2)

4)

6)

Recommended by Department

(Chair signature)

Date: 11/28/12

Recommended by DSCC

(Chair signature)

Date: 11/30/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

Effective Year: 2013

CC File # 8417-2012-MKT-331-33

Term: Summer ☐ Fall ☒ Spring ☐

Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☒Catalog Description ☒Course Number ☐Co-listing ☐**Course Information** (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.)1. **Department:** Business & Information Technol2. **Discipline and Course Number:** Present : MKT 331

Proposed:

3. **Course Title:** Present: Promotions Management

Proposed: Digital Marketing and Promotions

Abbreviated Course Title: Marketing Promotions

(24 Spaces or Less. Only needed for New Courses or Title Changes.)

4. **Catalog Description** (300 Character Spaces or Less.)

Present: A managerial examination of advertising techniques and how they affect decisions in advertising and sales promotion. Topics include setting advertising objectives and the budget, applying media tools, and developing advertisements.

Proposed: A managerial examination of integrated marketing communication (IMC) and creativity, with a focus on digital media and new marketing concepts. Specifically, we will look at innovative marketing techniques such as viral marketing, brand communities, experiential marketing and guerilla tactics.

5. If course requires field trip check box: ☐6. **Credit Hours:**

Present:

Lecture:

Lab:

Total:

Proposed:

Lecture: 3.0

Lab: 0

Total: 3.0

7. **Prerequisites:**

Present: Psych 50

Proposed:

8. **Required for Majors:** ☐ **Elective for Majors:** ☒

9. **Justification:** Revised title and description. Course is used in Digital Media Graduate Certificate and will be proposed for use in the Entrepreneurship Minor and Graduate Certificate (which will be submitted shortly).

10. **Semesters previously offered as an experimental course (101, 201, 301, 401):**11. **List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.**

1)

2)

3)

4)

5)

6)

Recommended by Department

(Chair signature)

Date:

11/20/12

Recommended by Discipline Specific Curricula Committee

(Chair signature)

Date:

11/30/12

Approved by Curricula Committee:

(Chair signature)

Date:

1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date:

(Revised 1/29/09)

CC File # 8418-2012-IST-351-33

Effective Year: **2013** Effective Term: **Summer** ☐ **Fall** ☒ **Spring** ☐**Course Change Form (CC)****This form is for creating or modifying permanent courses.****Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐
 Course Title ☒ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **IST 351** Proposed:3. Course Title: Present: **Leadership in Technology-Based Organizations**Proposed: **Technological Innovation Management and Leadership**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Tech Innovation Mgt**

4. Catalog Description (360 character spaces or less.)

Present: **The course focuses on the knowledge and skills necessary for the development and implementation of effective strategies for the management of technology-based organizations. This involves: developing a general management perspective on technology and innovation, examining the problems of new product development, identifying distinctive technological competen**

Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**
 Proposed: Lecture Lab Total

7. Prerequisites:

Present: **Senior or Graduate standing**

Proposed:

8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Update to title to make the fit with new Graduate Certificates more clear**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department

(Chair signature)

Date: 11/29/12

Recommended by DSCC

(Chair signature)

Date: 11/30/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # 8419-2012-Pet Eng-415-10

Effective Year: 2013 Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐
 Course Title ☒ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Geological Sciences and Engineering**2. Discipline and Course Number: Present: **Pet Eng 401** Proposed: **Pet Eng 415**

3. Course Title: Present: **Drilling simulation and geomechanics**
 Proposed: **Drilling Optimization**

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Drilling Optimization**

4. Catalog Description (360 character spaces or less.)

Present: **Advanced drilling engineering optimization and simulation of drilling hydraulics, drill bits, operational parameters and time and cost based on a geomechanical model of the subsurface.**Proposed: **Optimization of the drilling process based on a geomechanical model of the subsurface . Topics include drilling hydraulics, drilling bits, selection of operational parameters and analysis of drilling time and cost.**5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 3 Lab 0 Total 3
 Proposed: Lecture 3 Lab 0 Total 3

7. Prerequisites:

Present: **Pet Eng 313**

Proposed:

8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **This course will be the first permanent graduate class offered in drilling engineering.**10. Semesters previously offered as an experimental course (101, 201, 301, 401): **FS 2010; FS 2012**

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
 2) 4) 6)

Recommended by Department *Ralph How* Date: 11-27-12
(Chair signature)Recommended by DSCC *Stephen A. Raper* Date: 12-14-12
(Chair signature)Approved by Curricula Committee: *Daniel Smith* Date: 1/16/2013
(Chair signature)Approved by Faculty Senate: _____ Date: _____
(Chair signature)

CC File # 8420-2012-Pet Eng 418-10

Effective Year: 2013 Effective Term: Summer ☒ Fall ☐ Spring ☒**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Geological Sciences and Engineering**2. Discipline and Course Number: Present: **Pet Eng 401** Proposed: **Pet Eng 418**3. Course Title: Present: **Advanced Well Stimulation**Proposed: **Advanced Well Stimulation**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Adv Well Stim**

4. Catalog Description (360 character spaces or less.)

Present: **This course reviews fundamentals of hydraulic fracturing and builds on the basic theory through the use of STIMPLAN software and hands on industry examples. The course teaches the methods used to plan, execute and evaluate hydraulic fracturing treatments. Students completing this graduate level course will be required to complete a research assignment in ..**

Proposed: **This course builds on the basic theory and fundamentals of hydraulic fracturing through the use of STIMPLAN software and hands on industry examples. The course teaches the methods used to plan, execute and evaluate hydraulic fracturing treatments. An advanced exercise and a research assignment ^{are} required. *Students may not earn credit for both PET ENG 318 and PET ENG 418.***

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 3 Lab 0 Total 3

Proposed: Lecture 3 Lab 0 Total 3

7. Prerequisites:

Present: **Pet Eng 241**Proposed: **Pet Eng 241 and Pet Eng 232**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **This course is necessary in designing horizontal multi zone frac completions currently used in industry.**10. Semesters previously offered as an experimental course (101, 201, 301, 401): **FS 2006; FS 2007; FS 2011**

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department Ralph How Date: 11-27-12
(Chair signature)Recommended by DSCC [Signature] Date: 12-14-12
(Chair signature)Approved by Curricula Committee: [Signature] Date: 1/16/2013
(Chair signature)Approved by Faculty Senate: _____ Date: _____
(Chair signature)

CC File # 8421-2012-Pet Eng-318-10

Effective Year: 2013 Effective Term: Summer ☒ Fall ☐ Spring ☒**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Geological Sciences and Engineering**2. Discipline and Course Number: Present: **Pet Eng 301** Proposed: **Pet Eng 318**3. Course Title: Present: **Well Stimulation**Proposed: **Well Stimulation**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Well Stim**

4. Catalog Description (360 character spaces or less.)

Present: **This course reviews fundamentals of hydraulic fracturing and builds on the basic theory through the use of STIMPLAN software and hands on industry examples. The course teaches the methods used to plan, execute and evaluate hydraulic fracturing treatments.**Proposed: **This course reviews fundamentals of hydraulic fracturing and builds on the basic theory through the use of STIMPLAN software and hands on industry examples. The course teaches the methods used to plan, execute and evaluate hydraulic fracturing treatments. *Students may not earn credit for both PETENG 318 and PET ENG 418***5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 3 Lab 0 Total 3

Proposed: Lecture 3 Lab 0 Total 3

7. Prerequisites:

Present: **Pet Eng 241**Proposed: **Pet Eng 241 and Pet Eng 232**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **This course is necessary in designing horizontal multi zone frac completions currently used in industry.**10. Semesters previously offered as an experimental course (101, 201, 301, 401): **FS 2007; FS 2011**

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department

Ralph Glow
(Chair signature)Date: 11-27-12

Recommended by DSCC

Stephane Repe
(Chair signature)Date: 12-19-12

Approved by Curricula Committee:

Daniel Smith
(Chair signature)Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # 8422-2012-Pet Eng-441-10

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐
 Course Title ☐ Catalog Description ☒ Course Number ☒ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Geological Sciences and Engineering**2. Discipline and Course Number: Present: **Pet Eng 401** Proposed: **Pet Eng 441**3. Course Title: Present: **Advanced Well Test Analysis**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Adv Well Test Analysis**

4. Catalog Description (360 character spaces or less.)

Present: **Pressure transient analysis equations, well test analysis for fractured wells, horizontal wells, and other special situations, rate transient analysis.**Proposed: **Pressure transient analysis equations, well test analysis for fractured wells, horizontal wells, injection wells, and other special situations. Introduction to rate transient analysis.**5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 2 Lab 1 Total **3**
 Proposed: Lecture 2 Lab 1 Total **3**

7. Prerequisites:

Present: **Pet Eng 241/Pet Eng 341**

Proposed:

8. Required for Majors: ☐ Elective for Majors: ☒

9. Justification:

10. Semesters previously offered as an experimental course (101, 201, 301, 401): **F10, F11, F12**

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
 2) 4) 6)

Recommended by Department

Ralph Jhon
(Chair signature)Date: **11-27-12**

Recommended by DSCC

Stephen Rapp
(Chair signature)Date: **12-14-12**

Approved by Curricula Committee:

Daniel J. Smith
(Chair signature)Date: **1/16/2013**

Approved by Faculty Senate:

(Chair signature)

Date:

CC File # 8423-2012-Pet Eng 314-34

Effective Year: 2013 Effective Term: Summer ☒ Fall ☐ Spring ☒**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)New Course ☐Course Deletion ☐Credit Hours ☐Prerequisites ☐Course Title ☐Catalog Description ☒Course Number ☐Co-listing ☐**Course Information** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Geological Sciences and Engineering**2. Discipline and Course Number: Present: **Pet Eng 314** Proposed: **Pet Eng 314**3. Course Title: Present: **Advanced Drilling Technology**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Adv Drilling Technology**

4. Catalog Description (360 character spaces or less.)

Present: **In-depth studies of directional well planning and bottom hole assemblies, hole problems and wellbore stability in deviated wells; computer aided drilling optimization and drill bit selection for directional wells. Field trip required.**Proposed: **In-depth study of directional well planning and drilling. The course covers the bottom hole assemblies and operational techniques used in drill directional drilling as well as the limiting factors and hole problems related to horizontal wells.**5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture 3 Lab Total 3

Proposed: Lecture 3 Lab Total 3

7. Prerequisites:

Present: **Pet Eng 313**

Proposed:

8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **The same course but the course description is changed to better reflect the actual material covered.**10. Semesters previously offered as an experimental course (101, 201, 301, 401): **FS 2007; FS 2011**

11. List all co-listed courses, Initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)

2) 4) 6)

Recommended by Department *Ralph J. Roy* Date: 11-27-12
(Chair signature)Recommended by DSCC *Steph in Lopez* Date: 12-18-12
(Chair signature)Approved by Curricula Committee: *Daniel J. Fink* Date: 1/16/2013
(Chair signature)Approved by Faculty Senate: _____ Date: _____
(Chair signature)

CC File # 8424-2012-IST361-32

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)****This form is for creating or modifying permanent courses.****Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **IST 361** Proposed:3. Course Title: Present: **Information Systems Project Management**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present: **The course overviews general project management principles and then focuses on information system application development. Topics include requirements analysis, project scheduling, risk management, quality assurance, testing, and team coordination.**

Proposed:

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **Senior or Graduate standing**Proposed: **Strong programming knowledge and Senior standing**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **We intended that this be available only to undergrads. IST 461 is for graduate students. Need programming.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department

(Chair signature)

Date: 12/1/12

Recommended by DSCC

(Chair signature)

Date: 12/10/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

Effective Year: 2013 Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Biological Sciences**2. Discipline and Course Number: Present: **BIO SCI 388** Proposed:3. Course Title: Present: **Biomedical Problems**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present:

Proposed:

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3.0** Lab **0** Total **3.0**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **Bio Sci 211 and 221, Bio Sci 242 recommended**Proposed: **Bio Sci 242 or 244 or 246**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **Change in preequisites reflects emphasis on physiology in class.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

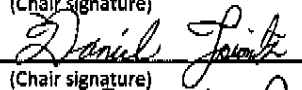
1)	3)	5)
2)	4)	6)

Recommended by Department



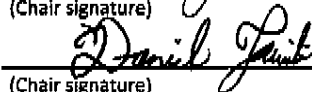
(Chair signature)
Date: 12/14/12

Recommended by DSCC



(Chair signature)
Date: 12/12/2012

Approved by Curricula Committee:



(Chair signature)
Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # 8429-2012-BUS-421-32

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)****This form is for creating or modifying permanent courses.****Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 421** Proposed:3. Course Title: Present: **Teambuilding and Leadership**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present: **This class will teach students how to work well in teams and lead teams and organizations. Management, networking, presentation skills, and sustainable business practices will be covered.**Proposed: **This class will teach students how to work well in teams and lead teams and organizations. Management, networking, presentation skills, and sustainable business practices will be covered. MBA core.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total


7. Prerequisites:

Present: **Admission into the MBA or the Management of Sustainable Business Graduate Certificate program.**Proposed: **Graduate standing.**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Making prereqs for all MBA courses consistent. Identify MBA core.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department  Date: 12/6/12
(Chair signature)Recommended by DSCC  Date: 12/10/12
(Chair signature)Approved by Curricula Committee:  Date: 1/16/2013
(Chair signature)Approved by Faculty Senate: _____ Date: _____
(Chair signature)

CC File # 8430-2012-BUS-422-32

Effective Year: **2013** Effective Term: **Summer** ☐ **Fall** ☒ **Spring** ☐**Course Change Form (CC)****This form is for creating or modifying permanent courses.****Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 422** Proposed:3. Course Title: Present: **International Marketing**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present: **This course focuses on the challenges faced by business managers as they deal with a competitive global market. The course will examine various topics related to international marketing such as cultural differences, economic differences, differences in product and technical standards, global advertising, and international pricing and segmentation.**

Proposed: **This course focuses on the challenges faced by business managers as they deal with a competitive global market. The course will examine various topics related to international marketing such as cultural differences, economic differences, differences in product and technical standards, global advertising, and international pricing and segmentation. MBA core.**

5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **MKT 307/407 or equivalent.**Proposed: **Graduate standing.**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Making prereqs for all MBA courses consistent; not using Essentials courses.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department

(Chair signature)

Date: 12/6/12

Recommended by DSCC

(Chair signature)

Date: 12/10/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # 8431-2012-BUS-423-32

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)****This form is for creating or modifying permanent courses.****Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☒ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 423** Proposed:3. Course Title: Present: **Management Information Systems and Databases**Proposed: **Corporate Information Systems Management**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Corporate IS Mgmt**

4. Catalog Description (360 character spaces or less.)

Present: **This course covers the use of management information systems and databases as used by business managers as they deal with a competitive global market.**Proposed: **This course is designed primarily for potential managerial end users as managers, entrepreneurs, or business professionals in a technology-enabled business environment; it helps students learn how to use and manage information to revitalize business processes, improve business decision-making, manage IT projects, and gain competitive advantages. MBA core.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **BUS 312/412 or equivalent.**Proposed: **Graduate standing.**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Making prereqs for all MBA courses consistent; not using Essentials courses. Identify MBA core.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1)	3)	5)
2)	4)	6)

Recommended by Department _____
(Chair signature)Date: 12/6/12Recommended by DSCC _____
(Chair signature)Date: 12/10/12Approved by Curricula Committee: _____
(Chair signature)Date: 1/16/2013Approved by Faculty Senate: _____
(Chair signature)

Date: _____

CC File # 8432-2012-BUS-424-32

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☒ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 424** Proposed:3. Course Title: Present: **Managerial Accounting for Monitoring & Control**Proposed: **Managerial Accounting and Control**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Managerial Accounting**

4. Catalog Description (360 character spaces or less.)

Present: **This course covers managerial accounting and its critical role in decision making, monitoring, and controlling business processes.**Proposed: **This course covers managerial accounting and its critical role in decision making, monitoring, and controlling business processes. MBA core.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **Bus 305/405 or equivalent.**Proposed: **Graduate standing.**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Making prereqs for all MBA courses consistent; not using Essentials courses. Identify MBA core.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1)	3)	5)
2)	4)	6)

Recommended by Department

(Chair signature)

Date: 12/8/12

Recommended by DSCC

(Chair signature)

Date: 12/10/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # 8433-2012-BUS-425-32

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)****This form is for creating or modifying permanent courses.****Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☒ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 425** Proposed:3. Course Title: Present: **Operations and Project Management**Proposed: **Supply Chain and Project Management**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Supply Chain & Proj Mgmt**

4. Catalog Description (360 character spaces or less.)

Present: **This course covers operations management and its critical role in developing and maintaining effective and efficient processes in the organization. The use of project management tools is covered for purposes of effectively managing organizational change.**Proposed: **This course covers supply chain management and its critical role in developing and maintaining effective and efficient processes in the organization, including operations and project management processes and principles. MBA core.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **Bus 308/408 or equivalent.**Proposed: **Graduate standing.**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Making prereqs for all MBA courses consistent; not using Essentials courses. Identify MBA core.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department  Date: 12/6/12
(Chair signature)Recommended by DSCC  Date: 12/10/12
(Chair signature)Approved by Curricula Committee:  Date: 1/18/2013
(Chair signature)Approved by Faculty Senate: _____ Date: _____
(Chair signature)

CC File # 8434-2012-BUS-426-32

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 426** Proposed:3. Course Title: Present: **Integration of Business Areas**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present: **Students will work on projects and simulations to learn to integrate the business functions to maximize performance efficiency and effectiveness. The consulting field will be covered through projects and readings.**Proposed: **Students will acquire knowledge to integrate the business functions to maximize performance efficiency and effectiveness. It will be covered through case studies and readings. MBA core.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **Student must have completed at least 12 hours towards the MBA degree.**Proposed: **Graduate standing.**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Making prereqs for all MBA courses consistent. Identify MBA core. Use case studies more.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department  Date: 12/6/12
(Chair signature)Recommended by DSCC  Date: 12/10/12
(Chair signature)Approved by Curricula Committee:  Date: 1/16/2013
(Chair signature)Approved by Faculty Senate: _____ Date: _____
(Chair signature)

CC File # 8435-2012-BUS-427-32

Effective Year: **2013** Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)****This form is for creating or modifying permanent courses.****Course Changes** (Check all changes.)

New Course ☐ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☐ Catalog Description ☒ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 427** Proposed:3. Course Title: Present: **Managerial Finance**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present: **This course covers the use of financial tools to manage the organization. The main focus is the strategic decision-making process of modern managers responsible for major financial decisions. Topics include financial policy, capital investment analysis, dividend policy, capital structure, and other contemporary corporate finance issues.**Proposed: **This course covers the use of financial tools to manage the organization. The main focus is the strategic decision-making process of modern managers responsible for major financial decisions. Topics include financial policy, capital investment analysis, dividend policy, capital structure, and other contemporary corporate finance issues. MBA core.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **Finance 305/405 or equivalent.**Proposed: **Graduate standing.**8. Required for Majors: ☒ Elective for Majors: ☐9. Justification: **Making prereqs for all MBA courses consistent; not using Essentials courses. Identify MBA core.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department

(Chair signature)

Date: 12/6/12

Recommended by DSCC

(Chair signature)

Date: 12/10/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # 8436-2012-Bus-330-20

Effective Year: **2013** Effective Term: Summer ☒ Fall ☐ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐ Course Deletion ☒ Credit Hours ☐ Prerequisites ☐
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 330** Proposed:3. Course Title: Present: **Foundations of Sustainable Business**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present:

Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture Lab Total

Proposed: Lecture Lab Total

7. Prerequisites:

Present:


Proposed:

8. Required for Majors: ☐ Elective for Majors: ☐9. Justification: **This course will be picked up by Economics, under an Econ number**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department  Date: 12/12/12
(Chair signature)Recommended by DSCC  Date: 12/14/12
(Chair signature)Approved by Curricula Committee:  Date: 1/16/2013
(Chair signature)Approved by Faculty Senate: _____ Date: _____
(Chair signature)

CC File # 8437-2012-BUS-340-20

Effective Year: 2013 Effective Term: Summer ☒ Fall ☐ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐ Course Deletion ☒ Credit Hours ☐ Prerequisites ☐
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)

1. Department: **Business and Information Technology**
 2. Discipline and Course Number: Present: **BUS 340** Proposed:
 3. Course Title: Present: **Introduction to Innovations for Business Sustainability**
 Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present:

Proposed:

5. If course requires field trip check box:
- ☐

6. Credit Hours: Present: Lecture Lab Total
 Proposed: Lecture Lab Total

7. Prerequisites:

Present:

Proposed:

8. Required for Majors:
- ☐
- Elective for Majors:
- ☐

9. Justification:
- This course will be picked up by Economics, under an Econ number**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
 2) 4) 6)

Recommended by Department  Date: 12/12/12
 (Chair signature)

Recommended by DSCC  Date: 12/14/12
 (Chair signature)

Approved by Curricula Committee:  Date: 1/16/2013
 (Chair signature)

Approved by Faculty Senate: _____ Date: _____
 (Chair signature)

Effective Year: **2013** Effective Term: **Summer** ☒ **Fall** ☐ **Spring** ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐ Course Deletion ☒ Credit Hours ☐ Prerequisites ☐
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: **BUS 440** Proposed:3. Course Title: Present: **Innovations for Business Sustainability**

Proposed:

Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):

4. Catalog Description (360 character spaces or less.)

Present:

Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture Lab Total
 Proposed: Lecture Lab Total

7. Prerequisites:

Present:

Proposed:

8. Required for Majors: ☐ Elective for Majors: ☐9. Justification: **This course will be picked up by Economics, under an Econ number**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
 2) 4) 6)

Recommended by Department  Date: 12/12/12
(Chair signature)Recommended by DSCC  Date: 12/14/12
(Chair signature)Approved by Curricula Committee:  Date: 1/16/2013
(Chair signature)Approved by Faculty Senate: _____ Date: _____
(Chair signature)

CC File # 8439-2012-IST-341-10

Effective Year: 2013 Effective Term: Summer ☐ Fall ☒ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☐
 Course Title ☐ Catalog Description ☐ Course Number ☐ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Business and Information Technology**2. Discipline and Course Number: Present: Proposed: **IST 341**

3. Course Title: Present:

Proposed: **Advanced Electronic and Mobile Commerce**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Adv Elect & Mob Commerce**

4. Catalog Description (360 character spaces or less.)

Present:

Proposed: **Fundamental concepts of management and application to IT and support of commerce. Examines the use of IT in business processes and the management issues of integrating IT into organization processes to gain a competitive advantage. Includes a major end-of-semester project. Cannot receive credit for IST 241 & IST 341.**5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture Lab Total

Proposed: Lecture **3** Lab **0** Total **3**

7. Prerequisites:

Present:

Proposed: **Knowledge of management information systems and graduate standing.**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **Required course for the E- Commerce graduate certificate. Course is co-taught with IST 241.**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department

(Chair signature)

Date: 12/12/12

Recommended by DSCC

(Chair signature)

Date: 12/14/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # *8440-2012-Econ-342-10*Effective Year: **2013** Effective Term: Summer ☒ Fall ☐ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☒ Catalog Description ☒ Course Number ☒ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Economics**2. Discipline and Course Number: Present: ~~BUS 330~~ Proposed: **Econ 342**3. Course Title: Present: **Foundations of Sustainable Business**Proposed: **Foundations of Sustainability**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Sustainability Fndns.**

4. Catalog Description (360 character spaces or less.)

Present: **An introduction to sustainability, this course examines the concept of environmental issues in a business context. Principles, processes, and practices of sustainable business will be explored through a wide range of case studies.**Proposed: **This interdisciplinary course is designed as an introduction to sustainability in commerce. It examines the concept of environmental, social, and economic issues in an organizational context. Principles, processes, and practices of sustainability will be explored.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **Junior, Senior, or Graduate standing.**Proposed: **Senior or Graduate Standing**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **Economics will become the primary department for this course.** *Formerly taught as BUS 330.*

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
2) 4) 6)

Recommended by Department

(Chair signature)

*Gray Gilles*Date: *12/12/12*

Recommended by DSCC

(Chair signature)

*Rory Plunkett*Date: *12/14/12*

Approved by Curricula Committee:

(Chair signature)

*Daniel J. Smith*Date: *1/16/2013*

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # *8441-2012-ECON-344-10*Effective Year: **2013** Effective Term: **Summer** ☒ Fall ☐ Spring ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☒ Course Deletion ☐ Credit Hours ☐ Prerequisites ☒
 Course Title ☒ Catalog Description ☒ Course Number ☒ Co-listing ☐

Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Economics**2. Discipline and Course Number: Present: **BUS-340** Proposed: **Econ 344**3. Course Title: Present: **Introduction to Innovations for Business Sustainability**Proposed: **Intro to Global Eco- and Social-preneurship and Innovation**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Intro Global Innova.**

4. Catalog Description (360 character spaces or less.)

Present: **Applies an entrepreneurial mindset to the environmental and social opportunities and challenges facing the global community. Topics are examined from multiple perspectives: nonprofit, hybrid, and for-profit organizations. Credit cannot be earned for both BUS340 and 440.**

Proposed: **This interdisciplinary course applies an entrepreneurial mindset to the environmental and social opportunities and challenges facing the global community. Topics are examined from multiple perspectives: nonprofit, hybrid, and for-profit organizations. Credit cannot be earned for both Econ 344 and 444.**

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**
 Proposed: Lecture Lab Total

7. Prerequisites:

Present: **BUS 330 or equivalent.**Proposed: **Econ 342.**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **Economics will become the primary department for this course. Formerly taught as**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):

BUS 340

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1) 3) 5)
 2) 4) 6)

Recommended by Department

(Chair signature)

Date: 12/12/12

Recommended by DSCC

(Chair signature)

Date: 12/14/12

Approved by Curricula Committee:

(Chair signature)

Date: 1/16/2013

Approved by Faculty Senate:

(Chair signature)

Date: _____

CC File # *8442-2012-ECON-444-10*Effective Year: **2013** Effective Term: **Summer** ☒ **Fall** ☐ **Spring** ☐**Course Change Form (CC)**

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)New Course ☒Course Deletion ☐Credit Hours ☐Prerequisites ☒Course Title ☒Catalog Description ☒Course Number ☒Co-listing ☐**Course Information** (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)1. Department: **Economics**2. Discipline and Course Number: Present: **BUS 440** Proposed: **Econ 444**3. Course Title: Present: **Innovations for Business Sustainability**Proposed: **Global Eco- and Social-preneurship and Innovation**Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): **Global Innovation**

4. Catalog Description (360 character spaces or less.)

Present: **Applies an entrepreneurial mindset to the environmental and social opportunities and challenges facing the global community. Topics are examined from multiple perspectives: nonprofit, hybrid, and for-profit organizations.****Written case studies required. Credit cannot be earned for both BUS340 and 440.**Proposed: **This interdisciplinary course applies an entrepreneurial mindset to the environmental and social opportunities and challenges facing the global community. Topics are examined from multiple perspectives: nonprofit, hybrid, and for-profit organizations. Written case studies required. Credit cannot be earned for both Econ 344 and 444.**5. If course requires field trip check box: ☐6. Credit Hours: Present: Lecture **3** Lab **0** Total **3**

Proposed: Lecture Lab Total

7. Prerequisites:

Present: **BUS 330**Proposed: **Econ 342**8. Required for Majors: ☐ Elective for Majors: ☒9. Justification: **Economics will become the primary department for this course.** *Formerly taught as*10. Semesters previously offered as an experimental course (101, 201, 301, 401): *BUS 440*

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

1)

3)

5)

2)

4)

6)

Recommended by Department

(Chair signature)

*Greg Gelles*Date: *12/12/12*

Recommended by DSCC

(Chair signature)

*Brian Blackwell*Date: *12/14/12*

Approved by Curricula Committee:

(Chair signature)

*Daniel J. Smith*Date: *1/16/2013*

Approved by Faculty Senate:

(Chair signature)

Date: _____

Effective Year: 2013

Effective Term: Summer ☐ Fall ☐ Spring ☒

EC File # 2445-SP2013-GE0E-301

Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved SP2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department: Geological Engineering

Discipline and Course Number: GE301

Course Title: Introduction to Asteroid Resource Utilization

Abbreviated Title (24 spaces or less): Asteroid Mining

Instructor(s): Gertsch, Pernicka

Credit Hours: **Lecture:** 3 **Lab:** 0 **Total:** 3

Prerequisites: IDE 150 or AE 160; MA 204

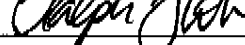
Semester(s) previously taught: none

Brief Course Description: (40 words or less)

Introduction to the fundamentals of mining engineering and aerospace engineering as applied to the sustainable utilization of the natural resources of asteroids and comets. May not be used as 300-level technical elective credit for AE majors.

List all co-listed courses: Include initials of Dept. Chair, if signature is not already included below.

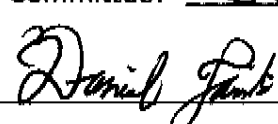
1) AE 301 2) 3)
4) 5) 6)

Department Chair:  (Chair Signature)

Date: 9-18-12

Discipline Specific Curricula Committee:  (Chair signature)

Date: 11-28-12

Curricula Committee:  (Chair Signature)

Date: 1/16/2013

EC # 2446-Sp 2013-Pet Eng-401

Effective Year: 2013 Effective Term: Summer ☐ Fall ☐ Spring ☒

Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved Spring 2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number.

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department: **Geological Sciences and Engineering**

Discipline and Course Number: **Pet Eng 401**

Course Title: **Advanced Well Completion Design**

Abbreviated Title (24 spaces or less): **Adv Well Compl**

Instructor(s): **S. Dunn-Norman**

Credit Hours: Lecture **3** Lab **0** Total **3**

Prerequisites: **Pet Eng 241**

Semester(s) previously taught:

Brief Course Description (360 character spaces or less): **An advanced examination of the design and application of well completions, along with the metals, polymers and composites used in completion equipment.**

List all co-listed courses: Include initials of Department Chair, if signature is not already included below.

1) 3) 5)

2) 4) 6)

Recommended by Department:

Ralph How
(Chair signature)

Date: 11-27-12

Recommended by DSCC:

Step 2a Raper
(Chair signature)

Date: 12-19-12

Approved by Curricula Committee:

Daniel Fink
(Chair signature)

Date: 1/16/2013

EC # 2447-Sp 2013-Pet Eng-401

Effective Year: **2013** Effective Term: Summer ☐ Fall ☐ Spring ☒

Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved Spring 2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number.

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department: **Geological Sciences and Engineering**

Discipline and Course Number: **Pet Eng 401**

Course Title: **Production Data Analysis**

Abbreviated Title (24 spaces or less): **Production Data Analysis**

Instructor(s): **Ralph Flori**

Credit Hours: **Lecture 2 Lab 1 Total 3**

Prerequisites: **Pet Eng 341**

Semester(s) previously taught: **N/A**

Brief Course Description (360 character spaces or less): **Modern production data analysis topics, including decline curves, rate transient analysis, Fetkovich curves, Blasingame curves, Agarwal-Gardner curves, transient PI, and other emerging methods.**

List all co-listed courses: Include initials of Department Chair, if signature is not already included below.

1)	3)	5)
2)	4)	6)

Recommended by Department:

Ralph Flori
(Chair signature)

Date: 11-27-12

Recommended by DSCC:

Stephen Raper
(Chair signature)

Date: 12-19-12

Approved by Curricula Committee:

David Fink
(Chair signature)

Date: 1/16/2013

EC # *2448-SS 2013- BioSci -201*Effective Year: **2013** Effective Term: Summer ☒ Fall ☐ Spring ☐**Experimental Course Form (EC)**

An EC form must be submitted before an experimental course is to be offered. EC forms approved Spring 2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number.

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department: **Biological Sciences**Discipline and Course Number: **BIO201**Course Title: **Cave Biology**Abbreviated Title (24 spaces or less): **Cave Biology**Instructor(s): **Maria Potter**Credit Hours: **Lecture 1 Lab 1 Total 2**Prerequisites: **any geology, environmental engineering, or biology class except Bio 102**Semester(s) previously taught: **N/A**

Brief Course Description (360 character spaces or less): **In Biospeleology we will study cave organisms and cave ecosystems. We will cover such topics as growth of speleothems, caves as a natural laboratory, behavior of cave animals, and regressive characteristics of cave species. We will investigate the relationship between Karst topography (caves, springs, sinkholes) and underground water contamination.**

List all co-listed courses: Include initials of Department Chair, if signature is not already included below.

1) 3) 5)
2) 4) 6)

Recommended by Department: _____

(Chair signature)

Date: *12/7/2012*

Recommended by DSCC: _____

(Chair signature)

Date: *12/12/2012*

Approved by Curricula Committee: _____

(Chair signature)

Date: *1/16/2013*

11/2/2012

(Revised October 2012)

Effective Year: 2013

Effective Term: Summer ☒ Fall ☐ Spring ☐

EC File # 2450-SS2013-Hist-301

Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved SP2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department: History & Political Science

Discipline and Course Number: ^{HISTORY} 301

Course Title: The Memory of War In Twentieth-Century France

Abbreviated Title (24 spaces or less): War & Memory in France

Instructor(s): Shannon Fogg

Credit Hours: Lecture: 3 Lab: 0 Total: 3

Prerequisites: Hist 112 or Hist 176

Semester(s) previously taught:

Brief Course Description: (40 words or less)

This study abroad course examines the history and memory of World War I and World War II in France. Lectures and readings are supplemented with field trips to war sites in Paris and Normandy. Pre-departure activities required. *Students are responsible for all associated costs.*

List all co-listed courses: Include initials of Dept. Chair, if signature is not already included below.

1) 2) 3)
4) 5) 6)

Department Chair:



(Chair Signature)

Date:

12-7-12

Discipline Specific Curricula Committee:



(Chair signature)

Date:

12-11-12

Curricula Committee:



(Chair Signature)

Date:

1/16/2013

12/6/12

(Revised 10/12/2010)

Hist 301 and French 301
 Summer Study Abroad – France and Memory of War
 May 26-June 14, 2013

**STUDENTS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH COURSES,
 TRAVEL TO FRANCE, ACCOMMODATIONS, FOOD, AND FIELD TRIPS.**

Potential Schedule DRAFT - updated 12.11.2012 Subject to change.
 Assignments not yet included. All lectures and assignments in ENGLISH.

PRE-DEPARTURE ASSIGNMENTS – May 20-25.
 See Blackboard for assignments to be completed before arriving in France.

PARIS

Date	Morning	Afternoon	Evening
Sunday, May 26	Arrival in Paris		Welcome dinner – pick a place near lodging
Monday, May 27	Class – Introduction, WWI in France	Les Invalides-Département des Deux Guerres Mondiales	
Tuesday, May 28	ALL DAY TRIP	TO THE SOMME	
Wednesday, May 29		Class – WWII – Nazi invasion/collaboration	Louvre – (related to Rape of Europa)
Thursday, May 30	Lit stuff – Ayme, Duras	Montmartre Walking Tour	Fondue dinner – opt.
Friday, May 31	Free day		
Saturday, June 1	Free day		
Sunday, June 2	Free day		
Monday, June 3	Class – Resistance Holocaust	Pantheon/Latin Quarter Walking Tour	
Tuesday, June 4		Mt Valerien	
Wednesday, June 5		Shoah Museum/Marais/Deportation Memorial (Notre Dame)	Vel' d'Hiv memorials- Eiffel Tower (opt)
Thursday, June 6	D-Day lecture	Find D-Day Commemoration	
Friday, June 7	Free day		
Saturday, June 8	Free day		
Sunday, June 9	Take train from Paris to Caen		

Normandy

Monday, June 10	William the Conqueror Chateau	Caen Cathedral - background on Normandy	
Tuesday, June 11	Bayeux Tapestry	Musee de la Bataille de Normandie(Bayeux)	
Wednesday, June 12	DAY TRIP TO	LANDING BEACHES	
Thursday, June 13	Memorial de Caen - Conclusion.		Take train from Caen to Paris
Friday, June 14	Depart from Paris		

Optional evening lectures depending on availability.... TBD.

Readings/Assignments include:

The Rape of Europa

Sarah's Key

Short stories by Marcel Ayme

Marguerite Duras, *The War*

Patrick Modiano

Henry Rousso and Eric Conan

Richard J. Golsan

Effective Year: 2013

Effective Term: Summer ☒ Fall ☐ Spring ☐

EC File # 2451-SS2013-Econ-301

Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved SP2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department: Economics

Discipline and Course Number: Econ 301

Course Title: Ethical Problems in a Global Environment

Abbreviated Title (24 spaces or less): Ethical Probs Global Env

Instructor(s): Dr. Bonnie Bachman

Credit Hours: Lecture: 3 Lab: 0 Total: 3

Prerequisites: Senior or graduate standing.


Semester(s) previously taught: Sum 12 as BUS 301-Int. Bus Eth

Brief Course Description: (40 words or less)


Focuses on the international dimension of ethics including corporate responsibility from economic, social, and environmental perspectives. It addresses the ethical challenges of corporate decision making, corporate citizenship, stakeholder engagement, partnerships, and governance at micro- (personal), meso- (organization), and macro- (system) levels.

List all co-listed courses: Include initials of Dept. Chair, if signature is not already included below.


- 1) 2) 3)
4) 5) 6)

Department Chair:  (Chair Signature)

Date: 12/11/12

Discipline Specific Curricula Committee:  (Chair signature)

Date: 12/14/12

Curricula Committee:  (Chair Signature)

Date: 1/16/2013

EC File # 2452-SS2013-Elon-301

Date: