Campus Curricula Committee Meeting Agenda
August 10, 2021
8:15am - 9:30am, Bertelsmeyer 110H
(For Faculty Senate Meeting of September 23, 2021)

Review of submitted Course Change forms:
File: 4816   BIO SCI 4663 : Animal Behavior
File: 222.1   CHEM ENG 6085 : Internship
File: 4809   COMP SCI 5409 : Applied Social Network Analysis
File: 4812   HISTORY 3241 : World War I A Global Perspective
File: 2491.6   HISTORY 4097 : Senior Project
File: 1283.1   PHYSICS 1135 : Engineering Physics I

Review of submitted Certificate forms:
File: 346.11   GEO SCI-CT : Geoenvironmental Science and Engineering CT
File: 379   PROPOSED : UCT - Military and Security Studies
File: 380   PROPOSED : UCT - War and Society

Review of submitted Experimental Course forms:
File: 4810   ECON 5001.003 : Technology Commercialization
File: 4813   EDUC 3001.002 : Educational Technology K-12
File: 4804   ELEC ENG 5001.008 : Protection of Renewable Energy Resources
File: 4819   FRENCH 3001.001 : The French-Speaking World
File: 4818   MKT 5001.003 : Marketing Revolution with Machine Learning
File: 4817   MS&E 6001.005 : Communication in Materials Science and Engineering
File: 4815   RUSSIAN 5001.002 : Advanced Russian Phonetics and Intonation

New Business:

Approval of 2021-2022 CCC Calendar

Reminder: Departments will need to update Degree Programs to reflect the recent Math 1210/1211 changes before Fall 2022 catalog publication.

Clarification on which program changes require MDHE approval

Course Change Request

New Course Proposal

Date Submitted: 06/03/21 3:46 pm

Viewing: **BIO SCI 4663 : Animal Behavior**

File: 4816

Last edit: 06/03/21 4:02 pm

Changes proposed by: shannonk

Requested Effective Change Date	Spring 2022
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	4663
Title	
Animal Behavior	
Abbreviated Course Title	Animal Behavior

Catalog Description

Approval Path

1. 06/03/21 3:49 pm David Duvernell (duvernelld): Approved for RBIOLSCI Chair
2. 06/03/21 4:02 pm Marita Tibbetts (tibbettsmg): Approved for CCC Secretary

3. 06/18/21 2:02 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC
Chair

An introduction to key concepts in Animal Behavior. Topics include communication, foraging, spatial behavior, parental care, social behaviors, the effects of environment on behavior, phenotypic plasticity, behavioral ecology, and anthropomorphism. The course will consist of lectures and laboratory exercises.

Prerequisites
  Bio Sci 1113 or Bio Sci 1213.

Field Trip
Statement
  The laboratory portion of this course will require three local field trips that will be arranged prior to the beginning of the course.

Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0
Total: 3				

Required for Majors	No
Elective for Majors	Yes

Justification for new course:
  Area of biology not currently represented in our curriculum

Semesters previously offered as an experimental course
  Fall 2019, Spring 2021

Co-Listed
Courses:

Course Reviewer
Comments

tibbettsmg (06/03/21 4:02 pm): Enrollment: FS19-22; SP21-23. mt

Preview Bridge

Course Change Request

Date Submitted: 05/19/21 3:05 pm

Viewing: **CHEM ENG 6085 : Internship**

File: 222.1

Last edit: 05/20/21 6:25 am

Changes proposed by: luksc

Requested Effective Change Date	**Spring 2022** ~~08/01/2014~~
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	6085
Title	Internship
Abbreviated Course Title	Internship

Catalog Description

Approval Path

1. 05/19/21 3:27 pm Hu Yang (huyang): Approved for RCHEMENG Chair
2. 05/20/21 6:27 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary

Students working toward a graduate (M.S. or Ph.D.) ~~Students working toward a doctor of engineering~~ degree will select, with the advice of their committees, appropriate **work experience** ~~problems~~ for preparation of a dissertation. The problem selected and internship plan must conform to the purpose of providing a high level engineering experience consistent with the intent of the ~~doctor of engineering~~ degree.

Prerequisites

Field Trip Statement

Credit Hours Total: 0-15   LEC: 0   LAB: 0   IND: 0   RSD: 0

Required for Majors   No

Elective for Majors   No

Justification for change:
  To allow all levels of international graduate students to use this for CPT

Semesters previously offered as an experimental course

Co-Listed
Courses:

Course Reviewer
Comments

tibbettsmg (05/20/21 6:25 am): updated effective term to Sp22. mt

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 05/01/21 5:22 pm

Viewing: **COMP SCI 5409 : Applied Social Network Analysis**

File: 4809

Last edit: 05/03/21 11:01 am

Changes proposed by: zhupe

Requested Effective Change Date	Spring 2022
Department	Computer Science
Discipline	Computer Science (COMP SCI)
Course Number	5409
Title	
	Applied Social Network Analysis
Abbreviated Course Title	Applied SNA

Catalog
Description

Approval Path

1. 05/02/21 11:28 pm
   Samuel Frimpong (frimpong):
   Approved for RCOMPSCI Chair
2. 05/03/21 11:01 am
   Marita Tibbetts (tibbettsmg):

In this course students will learn how to use networks to model and analyze relationships between people, artifacts, and ideas. Analyses will include identification of both communities and key individuals, and the modeling of diffusion processes such as the transmission of diseases. Methods will be practiced in programming assignments using Python.

Prerequisites
A grade of "C" or better in Comp Sci 2500.

Field Trip
Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				

Required for Majors	No

Elective for Majors	Yes

Justification for new course:
This course has been offered twice within the last year with good enrollment. It is a contemporary topic that is of interest to students, and teaches many technical skills as well as consideration of ethical issues.

Semesters previously

offered as an
experimental
course

This course is offered as an experimental course in Summer 2020 and Spring 2021.

Summer 2020 (enrollment: 20), Spring 2021 (enrollment: 26)

Co-Listed
Courses:

Course Reviewer
Comments

tibbettsmg (05/03/21 11:01 am): Enrollment verified; missed deadline for FS21.
Updated term to Sp22. MT

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 05/15/21 9:20 am

Viewing: **HISTORY 3241 : World War I A Global Perspective**

File: 4812

Last edit: 05/18/21 1:17 pm

Changes proposed by: dewittp

Programs referencing this course

[PROPOSED: UCT - Military and Security Studies](#)

[PROPOSED: UCT - War and Society](#)

Requested Effective Change Date	Spring 2022
Department	History and Political Science
Discipline	History (HISTORY)
Course Number	3241
Title	World War I A Global Perspective
Abbreviated Course Title	WWI Global Perspective

Catalog Description

Approval Path

1. 05/16/21 5:08 pm Michael Bruening (bruening): Approved for RHISTORY Chair
2. 05/18/21 1:18 pm Marita Tibbetts (tibbettsmg):

This course traces the social, cultural, economic, and military factors that contributed to the First World War, accounts for why it continued for so long, and explains the aftermath during the 1920s and 1930s from a global, not just a European or American perspective.

Prerequisites
  History 1200 or History 1310.

Field Trip
Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				

Required for Majors	No
Elective for Majors	Yes

Justification for
new course:
  The course fills the gap between military history courses taught about the American Civil War and World War II. The course is also part of the new undergraduate certificate in Military and Security Studies.

Semesters
previously
offered as an

experimental

course

  Spring 2019: 26

  Spring 2021: 25

Co-Listed

Courses:

> Course Reviewer
>
> Comments
>
> **tibbettsmg (05/18/21 1:17 pm):** enrollment verified and course required for new
> proposed UCT. MT

Course Change Request

Date Submitted: 05/25/21 11:42 am

Viewing: **HISTORY 4097 : Senior Project**

File: 2491.6

Last approved: 02/08/21 6:01 am

Last edit: 05/25/21 11:42 am

Changes proposed by: dewittp

Programs referencing this course

  HIST-BA: History BA

  PROPOSED: UCT - Military and Security Studies

  PROPOSED: UCT - War and Society

Requested Effective Change Date	Fall **2022** ~~2021~~
Department	History and Political Science
Discipline	History (HISTORY)
Course Number	4097
Title	Senior Project
Abbreviated Course Title	Senior Project

Catalog Description

Approval Path

1. 05/26/21 2:00 pm Michael Bruening (bruening): Approved for RHISTORY Chair
2. 05/26/21 2:21 pm Marita Tibbetts (tibbettsmg):

History

History majors **(or Political Science minors)** interested in graduate school or professional school, such as law school, should complete an extended research project, or thesis, under the supervision of a department faculty member.

Prerequisites
  History 2791 and senior standing.

Field Trip
Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				

Required for Majors	Yes
Elective for Majors	No

Justification for
change:

Creating a co-listed POL SCI 4790 because the course is part of the new UCT-Military and Security Studies. It also offers Political Science minors the opportunity to conduct intensive research should they wish to attend political science focused graduate school.

Semesters previously offered as an experimental course

Co-Listed Courses:

POL SCI 4790 - **Course Not Found**

Course Reviewer Comments

Key: 2491

Course Change Request

Date Submitted: 05/17/21 9:53 am

Viewing: **PHYSICS 1135 : Engineering Physics I**

File: 1283.1

Last edit: 05/18/21 9:26 am

Changes proposed by: vojtat

Programs referencing this course

NU ENG-BS: Nuclear Engineering BS

PE ENG-BS: Petroleum Engineering BS

PHYSIC-BS: Physics BS

PHYSIC-MI: Physics Minor

PRE-MED-MI: Pre-Medicine Minor

AE ENG-BS: Aerospace Engineering BS

AP MATH-BS: Applied Mathematics BS

ARC ENG-BS: Architectural Engineering BS

BIO SC-BA: Biological Sciences BA

BIO SC-BS: Biological Sciences BS

CR ENG-BS: Ceramic Engineering BS

CH ENG-BS: Chemical Engineering BS

CHEM-BA: Chemistry BA

CV ENG-BS: Civil Engineering BS

CP ENG-BS: Computer Engineering BS

EL ENG-BS: Electrical Engineering BS

GE ENG-BS: Geological Engineering BS

CHEM-BS: Chemistry BS

FR ENG-UN: Foundational Engineering and Computing

CMP SC-BS: Computer Science BS

PROPOSED: Biological Sciences BS with Emphasis area in Medical Laboratory Scientist

Approval Path

1. 05/17/21 9:54 am Thomas Vojta (vojtat): Approved for RPHYSICS Chair
2. 05/18/21 9:27 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary

ENG MG-BS: Engineering Management BS

EV ENG-BS: Environmental Engineering BS

GL&GPH-BS: Geology and Geophysics BS

MC ENG-BS: Mechanical Engineering BS

MT ENG-BS: Metallurgical Engineering BS

MI ENG-BS: Mining Engineering BS

Other Courses
referencing this
course

In The Prerequisites:

AERO ENG 2861 : Aerospace Vehicle Performance

AERO ENG 3131 : Aerodynamics I

AERO ENG 3251 : Aerospace Structures I

AERO ENG 3613 : Aerospace Mechanics I

CHEM 3410 : Chemical Thermodynamics I

CHEM 4710 : Principles Of Environmental Monitoring

CHEM ENG 2100 : Chemical Engineering Material & Energy
Balances

CHEM ENG 4301 : Chemical Process Materials

CIV ENG 2200 : Statics

ENV ENG 3603 : Chemical Fundamentals Of Environmental
Engineering

GEO ENG 2536 : Basic Weather

MECH ENG 2340 : Statics and Dynamics

MECH ENG 2519 : Thermodynamics

MECH ENG 2527 : Thermal Analysis

MECH ENG 2761 : Introduction To Design

MECH ENG 3313 : Machine Dynamics

MECH ENG 3411 : Modeling and Analysis of Dynamic Systems

PET ENG 3320 : Petrophysics

PHYSICS 2111 : General Physics II

PHYSICS 2135 : Engineering Physics II

3. 06/18/21 2:02 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC
Chair

Requested Effective Change Date	**Spring 2022** ~~08/14/2018~~
Department	Physics
Discipline	Physics (PHYSICS)
Course Number	1135
Title	Engineering Physics I
Abbreviated Course Title	Engineering Physics I

Catalog Description

An introduction to mechanics, with an emphasis on topics needed by engineering students, including kinematics, dynamics, statics, and energetics.

Prerequisites

A grade of "C" ~~Math 1208~~ or **better in Math 1208 or Math 1211 or Math** 1214.

Field Trip Statement

Credit Hours Total: 4	LEC: 1.5	LAB: 1	IND: 0	RSD: 1.5

Required for Majors	**Yes** ~~No~~
Elective for Majors	No

Justification for change:

The change in the prerequisites serves two purposes:

(i) We are adding the new Math 1211 course as a way to fulfill the Calculus I requirement.

(ii) We are adding the requirement of a grade C or better for Calculus I. An extensive data analysis by the professors in charge of Engineering Physics has shown a strong

correlation between the receiving a D in Calculus 1 and poor performance (D or F) in Physics 1135. It thus seems better for the students (both academically and financially) to bring up their Calculus 1 grade to a C *before* they attempt (and potentially fail) Physics 1135. As most students need a grade C in Calculus 1 for their major, this change should not erect additional barriers for students progress towards their degrees.

We have informed the chairs of departments whose students need Physics 1135 of this change and only received positive feedback.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments

Program Change Request

Date Submitted: 06/08/21 11:46 am

Viewing: **GEO SCI-CT : Geoenvironmental Science and Engineering CT**

File: 346.11

Last approved: 02/03/21 10:51 am

Last edit: 06/08/21 12:25 pm

Changes proposed by: sbrower

Catalog Pages Using this Program
[Geology and Geophysics](#)
[Geological Engineering](#)

Start Term
Fall **2022** ~~2021~~
Program Code
GEO SCI-CT
Department
Geosciences and Geological and Petroleum Engineering
Title
Geoenvironmental Science and Engineering CT

Program Requirements and Description

Approval Path

1. 06/08/21 11:57 am David Borrok (borrokd): Approved for RGEOSENG Chair
2. 06/08/21 12:26 pm Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 06/18/21 2:02 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair

History

1. Jul 1, 2020 by Sharon Lauck (laucks)
2. Feb 3, 2021 by Sharon Lauck (laucks)

Geoenvironmental Science and Engineering

The graduate certificate in Geoenvironmental Science and Engineering is designed to provide graduate students with the geoscience and engineering backgrounds they will need to be successful in the geoenvironmental consulting or regulatory fields.

The Geoenvironmental Science and Engineering Certificate Program is open to all persons holding a B.S., M.S., or Ph.D. degree in Geology, Geophysics, Geological Engineering, Civil Engineering, or Biology or are currently accepted into a graduate degree program in one of these fields at Missouri S&T. Once admitted to the program, the student must take the four designated courses (provided in the curriculum section). In order to receive a Graduate Certificate, the student must have an average cumulative grade point of 3.0 or better in the certificate courses. Once admitted to the program, a student will be given three years to complete the program.

Students admitted to the Geoenvironmental Science and Engineering Certificate Program will have non-degree graduate status, however, they will earn graduate credit for the courses they complete. If the student completes the four-course sequence with a grade of B or better in each of the courses taken, they, upon application, will be admitted to the non-thesis M.S. degree program in Geology and Geophysics. The certificate credits taken by the students admitted to the M.S. degree program will count towards their master's degree. Students who do not have all of the prerequisite courses necessary to begin the courses in the Geoenvironmental Science and Engineering Certificate Program will be allowed to take "bridge" courses at either the graduate or undergraduate level to prepare for the formal certificate courses.

One of the following courses is required:		
GEOLOGY 4411	Hydrogeology	3
GEO ENG 5331	Subsurface Hydrology	3
GEO ENG 5332	Fundamentals of Groundwater Hydrology	3
Three of the following courses are required:		
GEOLOGY 4431	Methods Of Karst Hydrogeology	3
GEOLOGY 4451	Aqueous Geochemistry	3
GEOPHYS 5782	Environmental and Engineering Geophysics	3
GEO ENG 5174	Geological Engineering Field Methods	3
GEO ENG 5233	Risk Assessment In Environmental Studies	3
GEO ENG 5235	Environmental Geological Engineering	3
GEO ENG 5237	Geological Aspects Of Hazardous Waste Management	3
GEO ENG 5381	Intermediate Subsurface Hydrology And Contaminant Transport Mechs	3
GEO ENG 6331	**Advanced Subsurface Hydrology**	**3**
BIO SCI 6313	Environmental Microbiology	3
BIO SCI 6363	Advanced Freshwater Ecology	3
BIO SCI 6463	Bioremediation	3
ENV ENG 5605	Environmental Systems Modeling	3
ENV ENG 5635	Phytoremediation and Natural Treatment Systems: Science and Design	3
ENV ENG 6601	Biological Principles In Environmental Engineering Systems	3

Justification for request
Supporting documents attached.

Change in Modality: Geoenvironmental Science and Engineering graduate certificate is now offered

online and on the main campus.

Adding another elective course: Adding another elective course option to provide more course flexibility for students.
Supporting Documents
~~Geo Env Sci & Eng Cert Course Add Approval Ltr.pdf~~
MDHE Geo Env Sci&Eng Cert Mode change approval JUN 2021.pdf
Proposal Geo Env Sci&Eng cert_provost appr APR 2021.pdf
Course Reviewer Comments
tibbettsmg (06/08/21 12:25 pm): updated effective term to FS22. mt

Program Change Request

New Program Proposal

Date Submitted: 05/25/21 11:46 am

Viewing: PROPOSED : UCT - Military and Security Studies

File: 379

Last edit: 05/27/21 9:56 am

Changes proposed by: dewittp

Start Term
Fall 2022
Program Code
PROPOSED
Department
History and Political Science
Title
UCT - Military and Security Studies

Program Requirements and Description

The undergraduate certificate in Military and Security Studies is designed to provide students with background in the understanding of war-making and peace building, the effects of war, the history of armed conflict and armed forces, and national security in relation to the development of society. Students who complete this certificate will understand more fully how integrated the perspectives of the humanities and the social sciences are in fostering a deep understanding of the many ways in which military and security issues continue to shape public policy and discourse. Students will learn the valuable quality of knowing how their work is shaped by, and in turn shapes, social values and contexts in an increasingly interconnected world. This certificate aims to prepare students for careers in security and national defense by developing skills and competency conducive to professional success in these field, such as analytical, research, leadership and communication abilities, interpretation of complex problems, interdisciplinary collaboration, and inclusive deliberation of contentious topics.

General Requirements: Must take FOUR courses, at least one of which MUST be in a discipline other than History.		
Core Required Course: Must take ONE of the following (3 hours):		
HISTORY 3443	The American Military Experience	3
POL SCI 3300	Principles Of Public Policy	3
POL SCI 4500	Geopolitics and International Security	3

Elective Courses: Must take THREE of the following (9 hours) as approved by certificate advisor:		
BUS 5910	Privacy and Information Security	3
HISTORY 3241	Course HISTORY 3241 Not Found	
HISTORY 3325	Revolutionary America, 1754-1789	3
HISTORY 3345	Civil War And Reconstruction	3
HISTORY 3440	20th Century Americans In Combat	3
HISTORY 3441	The United States In World War II	3
HISTORY 3442	The United States in Vietnam	3
HISTORY 3443	The American Military Experience	3
HISTORY 4085	Internship [1]	3
or POL SCI 4085	Political Science Internship	
HISTORY 4097	Senior Project [2]	3
or POL SCI 4097	Course POL SCI 4097 Not Found	
POL SCI 3300	Principles Of Public Policy	3
POL SCI 3310	Public Policy Analysis	3
POL SCI 3760	The American Presidency	3

or HISTORY 3760	The American Presidency	
POL SCI 3761	U.S. Diplomatic History to World War II	3
or HISTORY 3761	U.S. Diplomatic History to World War II	
POL SCI 3762	American Foreign Policy Since 1945	3
or HISTORY 3762	American Foreign Policy Since 1945	
POL SCI 4500	Geopolitics and International Security	3
MIL AIR 4110	National Security, Leadership Responsibilities & Commissioning Preparation I	2.5
MIL AIR 4120	National Security, Leadership Responsibilities & Commissioning Preparation II	2.5
MIL ARMY 3500	Leadership in Changing Environments	3
MIL ARMY 4250	Developing Adaptive Leaders	3
MIL ARMY 4500	Leadership in a Complex World	3

1	In order to count towards the certificate, the History or Pol Sci 4085 internship need to be taken for at least 3 credit hours and with an organization related to the certificate topic. Requires certificate advisor approval.
2	In order to count towards certificate, the History or Pol Sci 4097 senior project needs to be on topic related to the certificate. Requires certificate advisor approval.

Justification for request

The purpose for this certificate is to enrich students' careers in security and national defense with courses that develop skills and competencies conducive to professional success in these fields. Careers for which this certificate is an asset include, but are not limited to, those in every branch of the military, the defense industries, cybersecurity in both industry and government, civilian-employing government agencies responsible for defense, intelligence, and homeland security, and non-governmental organizations (NGOs) focused on security, defense, and international cooperation.

Supporting Documents

Proposal_Military and Security Studies.pdf

MST PC April 2021.pdf

Course Reviewer Comments

bruening (05/16/21 5:07 pm): Rollback: Needs to correct course list

tibbettsmg (05/18/21 1:26 pm): Rollback: course lists must match what was approved by MDHE. mt

tibbettsmg (05/25/21 11:08 am): Rollback: rollback to be submitted at the same time as new course proposal of Pol Sci 4097. MT

tibbettsmg (05/27/21 9:56 am): History 3241 and Pol Sci 4097 are currently in workflow for approval. formatted to include footnotes. MT

Program Change Request

New Program Proposal

Date Submitted: 05/15/21 2:12 pm

Viewing: PROPOSED : UCT - War and Society

File: 380

Last edit: 05/18/21 1:54 pm

Changes proposed by: dewittp

Start Term
Fall 2022
Program Code
PROPOSED
Department
History and Political Science
Title
UCT - War and Society

Program Requirements and Description

Approval Path

1. 05/16/21 5:08 pm Michael Bruening (bruening): Approved for RHISTORY Chair
2. 05/18/21 1:55 pm Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 05/18/21 2:41 pm Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair

The undergraduate certificate in War and Society is designed to provide students with a strong understanding of the history of war and its social effects. The American Revolution, the French Revolution, and the wars of the nineteenth and twentieth centuries completely transformed politics, culture, and society. The effects of these wars continue to influence our ideas and our actions even today. Understanding this transformational role is thus essential in creating global citizens and engaging with the consequences of armed conflict.

To receive S&T's undergraduate certificate in War and Society, a student must take FOUR of the following courses		
HISTORY 3230	Europe In The Age Of The French Revolution And Napoleon	3

HISTORY 3240	Contemporary Europe	3
HISTORY 3241	Course HISTORY 3241 Not Found	
HISTORY 3325	Revolutionary America, 1754-1789	3
HISTORY 3345	Civil War And Reconstruction	3
HISTORY 3440	20th Century Americans In Combat	3
HISTORY 3441	The United States In World War II	3
HISTORY 3442	The United States in Vietnam	3
HISTORY 3443	The American Military Experience	3
HISTORY 4085	Internship [1]	3
HISTORY 4097	Senior Project [2]	3
HISTORY 4245	Nazi Germany and the Holocaust	3
HISTORY 4246	War and Society in Twentieth-Century Europe	3

[1]	In order to count towards the certificate, the History 4085 internship needs to be taken for at least 3 credit hours and with an organization related to the certificate topic, such as a military history museum. Requires certificate advisor approval.
[2]	In order to count towards certificate, the History 4097 senior project needs to be on topic related to the certificate. Requires certificate advisor approval.

Justification for request

Student interest and enrollment in classes that are currently offered in the department of History and Political Science with a focus on war remains strong. Our geographic location near Fort Leonard Wood, our active ROTC programs, and our student veteran populations means we attract students with an interest in the topic. We also have several faculty members with research and teaching strengths in war and society. This certificate allows students - both majors and non-majors - to recognize formally a concentration within their degree plans. War is an enduring world challenge and this certificate allows students to engage with the human issues surrounding the political decisions to wage war.

Supporting Documents

Proposal_War and Society.pdf

MST PC April 2021.pdf

Course Reviewer Comments

tibbettsmg (05/18/21 1:54 pm): updated eff term to FS22 and modified formatting to include footnotes. History 3241 is a new course proposal. mt

Course Change Request

New Experimental Course Proposal

Date Submitted: 04/26/21 9:48 am

Viewing: **ECON 5001.003 : Technology Commercialization**

File: 4810

Last edit: 04/26/21 12:15 pm

Changes proposed by: davismc

Requested Effective Change Date	Spring 2022
Department	Economics
Discipline	Economics (ECON)
Course Number	5001
Topic ID	003
Experimental Title	
Technology Commercialization	
Experimental Abbreviated Course Title	Tech Commercialization
Instructors	Bonnie Bachman

Experimental Catalog Description

Market adoption of new technologies is of concern to researchers interested in creating economic value from their research and attracting research. This course helps technologists understand the complex issues around enhancing the value proposition of novel technologies and overcoming barriers to adoption through strategic partnerships or venture creation.

Prerequisites
Econ 1100, Econ 1200 or Eng Mgt 1210.

Field Trip
Statement
Potential visit to St. Louis: Venture Café, Incubator, or other suitable entrepreneurial event/location. (TBD). Use of university van or gas will be reimbursable to individuals, no rental cars will be used. Students are responsible for their own meals. 6-8 hours (including travel time of about 2.5-3 hours).

Credit Hours	LEC: 2	LAB: 1	IND: 0	RSD: 0
Total: 3				

Justification for
new course:
Co-listed with Eng Mgt 5001.

There is an increasing recognition of the importance of understanding the process and behavioral sides of technology commercialization, given that most new technologies fail to reach the market. Greater commercialization success rates increase the return on investment from research, increase the likelihood that useful novel technologies are used by the market, and increase the prospect of obtaining research funding.

Technology commercialization integrates a process and behavioral framework, to help students understand the stage nature of the commercialization process, its behavioral implications, and how the commercialization process can influence the research path. The technology commercialization course focuses on integrating the

technological, market and business risks associated with technological research and innovation, into a framework, that helps the student understand which question to ask at each stage of the commercialization process, challenging the traditional view that commercialization only happens once the technical research is complete.

This course is intended primarily for upper level or graduate science or engineering students, who either wish to pursue a research career, or an industrial career involving the adoption of new technology solutions into new products. This course is designed to integrate with research projects, so that students can apply the principles either to their own research projects, or to ones with which they are familiar. The course is designed to allow students to learn about the theory of technology commercialization, and then to apply the practical lessons, which integrate different diverse perspectives, to a real project, using examples and case studies from their own knowledge, experience, or research.

Semester(s)
previously taught
  None

Co-Listed
Courses:

Course Reviewer
Comments
  tibbettsmg (04/26/21 12:15 pm): Dr. Long; EMSE Chair approved Eng Mgt co-list via email 4.26.21 MT

Course Change Request

New Experimental Course Proposal

Date Submitted: 05/20/21 8:56 am

Viewing: **EDUC 3001.002 : Educational Technology K-12**

File: 4813

Last edit: 05/20/21 9:22 am

Changes proposed by: schwartzem

Requested Effective Change Date	Spring 2022
Department	Teacher Education and Certification
Discipline	Education (EDUC)
Course Number	3001
Topic ID	002
Experimental Title	
Educational Technology K-12	
Experimental Abbreviated Course Title	Ed Tech
Instructors	Michelle Schwartze

Experimental Catalog Description

Approval Path

1. 05/20/21 8:58 am Beth Kania-Gosche (bkaniagosche): Approved for REDUCATION Chair
2. 05/20/21 9:23 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 05/20/21 10:49 am

This course will introduce students to emerging technologies that can be integrated into K-12 classrooms. Students will create an online portfolio. International Society for Technology in Education Standards will be aligned to lesson plans exploring digital citizenship. Students will also examine current models for integrating technology into education.

Prerequisites
  None

Field Trip
Statement

Credit Hours   LEC: 3   LAB: 0   IND: 0   RSD: 0
  Total: 3

Justification for
new course:
  This would be an elective for education majors. Currently we integrate technology into our methods courses and feel there is more that we need to address with regards to Google Classroom and other technologies that teachers need to be familiar with when they get into a classroom. This course would give us an opportunity to explore more technology with students and help them be more comfortable with technology that will be in K-12 classrooms before they student teach.

Semester(s)
previously taught
  N/A

Co-Listed
Courses:

Course Reviewer
Comments

tibbettsmg (05/20/21 9:22 am): EC's do not receive a permanent number. not required for program. Changed course number to 3001. mt

Preview Bridge

Course Change Request

New Experimental Course Proposal

Date Submitted: 04/19/21 1:39 pm

Viewing: **ELEC ENG 5001.008 : Protection of Renewable Energy Resources**

File: 4804

Last edit: 04/22/21 10:28 am

Changes proposed by: mlr6xd

Requested Effective Change Date	Spring 2022
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	5001
Topic ID	008
Experimental Title	Protection of Renewable Energy Resources
Experimental Abbreviated Course Title	Prot Renew Enrgy Res
Instructors	Paul Nauert
Experimental Catalog Description	

Approval Path

1. 04/19/21 1:48 pm
   Watkins
   (watkins):
   Approved for
   RELECENG Chair
2. 04/19/21 3:24 pm
   Marita Tibbetts
   (tibbettsmg):
   Approved for CCC
   Secretary
3. 04/22/21 10:28
   am
   Stephen Raper
   (sraper):
   Approved for

Protection/analysis of utility-scale photovoltaic, wind generators & interconnected system fault for abnormal conditions. Fuse, protective relay, circuit breaker, & surge arrester application in accordance with IEEE, NERC, & PRC (Protective Relaying & Control) standards for such dispersed power producing and/or inverter-based resources.

Prerequisites

Elec Eng 3540.

Field Trip
Statement

Credit Hours   LEC: 3   LAB: 0   IND: 0   RSD: 0

Total: 3

Justification for
new course:

Massive renewable energy resources are being engineered worldwide at all voltage levels. Proper protection of these electrical generators and their system interconnection is imperative. Classical power system analysis generally cannot be used because they are not synchronous generators. This course will teach Senior level and masters students the concepts and skills required.

Semester(s)
previously taught

Co-Listed
Courses:

Course Reviewer
Comments

sraper (04/22/21 10:28 am): Changed prereq to EE 3540 only. Approved by EE DSCC member after communicating with proposed instructor.

Preview Bridge

Course Change Request

New Experimental Course Proposal

Date Submitted: 06/22/21 10:13 am

Viewing: **FRENCH 3001.001 : The French-Speaking World**

File: 4819

Last edit: 06/22/21 11:42 am

Changes proposed by: peralal

Requested Effective Change Date	Fall 2021
Department	Arts, Languages, & Philosophy
Discipline	French (FRENCH)
Course Number	3001
Topic ID	001
Experimental Title	The French-Speaking World
Experimental Abbreviated Course Title	French-Speaking World
Instructors	Audra Merfeld-Langston

Experimental Catalog Description

Approval Path

1. 06/22/21 11:32 am Audra Merfeld-Langston (audram): Approved for RPHILOSO Chair
2. 06/22/21 11:42 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary

This course explores history and culture of the French-speaking world. Students will broaden and deepen their understanding of its richness and diversity. Specific topics and regions covered may vary. The course is taught in French.

Prerequisites
  Any 2000-level French course or consent of instructor.

Field Trip
Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				

Justification for
new course:
  Expanding and diversifying French curriculum

Semester(s)
previously taught
  N/A

Co-Listed
Courses:

Course Reviewer
Comments

Course Change Request

New Experimental Course Proposal

Date Submitted: 06/10/21 10:52 am

Viewing: **MKT 5001.003 : Marketing Revolution with Machine Learning**

File: 4818

Last edit: 06/15/21 9:55 am

Changes proposed by: cecq8z

Requested Effective Change Date	Fall 2021
Department	Business and Information Technology
Discipline	Marketing (MKT)
Course Number	5001
Topic ID	003
Experimental Title	
Marketing Revolution with Machine Learning	
Experimental Abbreviated Course Title	Marketing Revolution
Instructors	Nobuyuki Fukawa (BIT) & Yanzhi Zhang (Math)

Experimental Catalog Description

Emerging technologies force marketers to revolutionize the way of implementing innovation. Reflecting this trend, this course introduces machine learning and artificial intelligence applications in marketing innovation contexts through case studies, and explores the underlining mathematics and implements algorithms using R programming language.

Prerequisites
  Math 1212 or Math 1214 or graduate standing.

Field Trip
Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				

Justification for
new course:
  CO-LISTED WITH MATH 5001

• Currently, the department does not offer any marketing courses on machine learning. Reflecting this marketing focus, the proposed course focuses on how companies utilize machine learning in innovation activities, and building customer-centric organization. Additionally, we will employ latest academic articles in marketing journals, such as Journal of Academy of Marketing Science, International Journal of Research in Marketing as a theoretical foundation of the course. This focus on marketing and innovation makes MKT/MATH 5001 different from other machine learning courses in the department.

• MKT 5410, Big Data consumer analytics focuses on analyzing and extracting insights from consumer Big Data, particularly unstructured data (e.g., texts from social media), and exploring marketing strategy around the use of Big Data. In contrast, MKT/MATH 5001 focuses on machine learning as an enabler for marketing innovation activities.

• Today, majority of the marketing innovation applications of machine learning and AI are focused more on incremental innovation than on radical/breakthrough innovation. To overcome these challenges of firms and guide them to take better advantage of machine learning and AI, the course focuses on the impacts of machine learning and AI on radical/ breakthrough innovation in relation to marketing activities.

• A collaborative instruction by both marketing faculty and computational and applied mathematics faculty makes the course unique not just in marketing area, but also in machine learning in general. The course will offer students hands-on experiences to transform theoretical mathematics and machine learning techniques into marketing and industrial applications through case studies. Additionally, students will learn the mathematical foundation of the machine learning techniques and algorithms through implement algorithms using R programming language. Consequently, this proposed course would bridge the gap between marketers and data scientists in relation to disruptive innovation in marketing, and break through the boundary of traditional disciplines (marketing, and mathematics).

Semester(s)
previously taught

Co-Listed
Courses:

Course Reviewer
Comments

siauk (06/10/21 12:48 pm): This is a good course but faculty resource is an issue. In other words, approving the course is one thing and having the faculty resources to teach the course is another. Offering it in the summer is an option and probably the only viable option.

tibbettsmg (06/15/21 9:55 am): Co-list with Math approved by Dr. Samaranayake via 6/12/21 email. mt

Course Change Request

New Experimental Course Proposal

Date Submitted: 06/09/21 11:18 am

Viewing: **MS&E 6001.005 : Communication in Materials Science and Engineering**

File: 4817

Last edit: 06/09/21 11:34 am

Changes proposed by: billf

Requested Effective Change Date	Fall 2021
Department	Materials Science & Engineering
Discipline	Materials Science & Eng (MS&E)
Course Number	6001
Topic ID	005
Experimental Title	
	Communication in Materials Science and Engineering
Experimental Abbreviated Course Title	Materials Communication
Instructors	William Fahrenholtz

Experimental Catalog Description

Approval Path

1. 06/09/21 11:19 am
   Greg Hilmas (ghilmas): Approved for RMATSENG Chair
2. 06/09/21 11:36 am
   Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 07/08/21 11:24 am
   Stephen Raper

This project-based class focuses on written and oral communication skills needed for professionals in materials science and engineering. Students will prepare presentations, critically review manuscripts, and draft technical proposals.

Prerequisites
Graduate standing or consent of instructor.

Field Trip
Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				

Justification for
new course:
This class is planned as a core class for students in the PHD programs in Materials Science and Engineering, Metallurgical Engineering, and Ceramic Engineering. Satisfactory completion of the class is planned to be a requirement for the qualifying exam in these programs.

Semester(s)
previously taught
None

Co-Listed
Courses:

Course Reviewer
Comments

Key: 4817

Preview Bridge

Course Change Request

New Experimental Course Proposal

Date Submitted: 06/11/21 11:09 am

Viewing: **RUSSIAN 5001.002 : Advanced Russian Phonetics and Intonation**

File: 4815

Last edit: 06/15/21 11:19 am

Changes proposed by: peralal

Requested Effective Change Date	Spring 2022
Department	Arts, Languages, & Philosophy
Discipline	Russian (RUSSIAN)
Course Number	5001
Topic ID	002
Experimental Title	

Advanced Russian Phonetics and Intonation

Experimental Abbreviated Course Title	Adv Russian Phonetics
Instructors	Ivliyeva, Irina

Experimental Catalog Description

Approval Path

1. 06/11/21 10:02 am
   Audra Merfeld-Langston (audram): Approved for RPHILOSO Chair
2. 06/11/21 11:08 am
   Marita Tibbetts (tibbettsmg): Rollback to Initiator

Focus on self-efficacy, pronunciation improvement, development of advanced transcription skills, comprehension of advanced Russian speech at fast tempo, interactions of intonation and syntax. The final research project is required.

Prerequisites
  Consent of instructor required.

Field Trip
Statement

Credit Hours   LEC: 3   LAB: 0   IND: 0   RSD: 0
  Total: 3

Justification for
new course:
  Accommodate graduate students who wish to continue studying Russian; enhance
  Russian curriculum

Semester(s)
previously taught

  Spring 2016

Co-Listed
Courses:

Course Reviewer
Comments
  tibbettsmg (06/11/21 11:08 am): Rollback: Courses within the same discipline
  cannot be co-listed. mt

Preview Bridge

MISSOURI S&T

MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Formerly University of Missouri-Rolla

CCC INFORMATION	Department submission to Registrar *Fridays*	DSCC submission to Registrar *Fridays*	CCC Meeting *Tuesdays*	Faculty Senate Meeting *Thursdays*
EC forms for Fall 2021	July 9, 2021	July 23, 2021	August 10, 2021	September 23, 2021
Affecting CC forms for Spring 2022 & Summer 2022	July 9, 2021	July 23, 2021	August 10, 2021	September 23, 2021
Non-affecting CC forms for Spring 2022	August 27, 2021	September 10, 2021	September 28, 2021	October 21, 2021
Non-affecting CC forms for Summer 2022	September 17, 2021	October 1, 2021	October 19, 2021	November 11, 2021
EC forms for Spring 2022	November 5, 2021	November 19, 2021	Dec 7, 2021	January 20, 2022
Affecting CC forms for Fall 2022	December 17, 2021	January 7, 2022	January 25, 2022 March 1* (if needed)	February 17, 2022 March 24, 2022
EC forms for Summer 2022	March 4, 2022	March 18, 2022	April 5, 2022	April 28, 2022
DC forms & Non-affecting CC forms for Fall 2022	April 8, 2022	April 15, 2022	May 3, 2022	June 9, 2022
EC forms for Fall 2022				TBD

Official dates for Spring 2022 CCC Meetings will be determined at a later date.

PROGRAM CHANGE FORM (Updated January 2020)

1. Submitted by: <u>Click here to enter text.</u>
                  Name of Institution

2. Type of Program Change (Check all that apply)

☐ Degree title change only

☐ Change degree program modality

☐ Combination program created out of closely allied existing programs

☐ Option(s) added to existing program(s)

☐ CIP code change

☐ Change name of option(s)

☐ Addition of certificate program developed from approved existing parent degree

☐ Addition of free-standing certificate program (available to all students)

☐ Delete program(s)

☐ Delete option(s)

☐ Place program on "Inactive Status" list

Before the Proposed Change			After the Proposed Change		
Title of Old Program/Certificate	Degree	CIP Code	Title of New Program/Certificate	Degree	CIP Code
Click here to enter text	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.

Modality / Modalities Before Proposed Change	Modality / Modalities After Proposed Change
☐ Classroom ☐ Online ☐ Hybrid ☐ Competency-based	☐ Classroom ☐ Online ☐ Hybrid ☐ Competency-based

3. Attach a copy of "before and after" curriculum, as applicable, and a rationale for the proposed change.

4. If an <u>***undergraduate***</u> certificate proposal, please indicate whether the certificate is intended to be completable in ☐ a single semester (C0); ☐ one year (C1)

5. Intended date of changes to be effective (Month/Year): Click here to enter text.

AUTHORIZATION

Click here to enter text.   DATE
_____
Name/Title of Institutional Officer   Signature   Date

_____
Person to Contact for More Information   Telephone Number