Campus Curricula Committee Meeting Agenda
August 15, 2017
9am- 10:30am, 106 Parker Hall

Review of submitted Course Change forms:

File: 2564.1	AERO ENG 2861: Aerospace Vehicle Performance
File: 776.5	AERO ENG 3131: Aerodynamics I
File: 873.1	AERO ENG 3251: Aerospace Structures I
File: 835.1	AERO ENG 3613: Aerospace Mechanics I
File: 942.1	ARCH ENG 4800: Principles of HVAC I
File: 2069.5	ARCH ENG 4820: Building Lighting Systems
File: 4219.5	ARCH ENG 4850: Building Electrical Systems
File: 4428	ART 3500: Innovation Through Design Thinking
File: 4426	GEOLOGY 6098: Advanced Geologic Field Methods
File: 765.3	MECH ENG 2519: Thermodynamics
File: 105.1	MECH ENG 2527: Thermal Analysis
File: 1474.1	MECH ENG 2653: Introduction To Manufacturing Processes
File: 2099.1	MECH ENG 2761: Introduction To Design
File: 517.3	MECH ENG 3313: Machine Dynamics
File: 1286.3	MECH ENG 3411: Modeling and Analysis of Dynamic Systems
File: 2026.1	MECH ENG 4840: Mechanical Instrumentation
File: 1729.1	MECH ENG 5139: Computational Fluid Dynamics
File: 1603.1	MECH ENG 5763: Principles And Practice Of Computer Aided Design
File: 1579.1	MECH ENG 5830: Applied Computational Methods
File: 4433	MET ENG 4325: Ferrous Microstructures
File 4434	MET ENG 6325: Advanced Ferrous Microstructures
File: 1563.8	SPANISH 4311: Advanced Spanish Conversation
File: 986.3	TCH COM 6450: Advanced International Technical Communication

Review of submitted Degree Change forms:

File: 239.9	ANA&DTA-MI: Business Analytics and Data Science Minor
File: 153.45	CP ENG-BS: Computer Engineering BS
File: 249	PROPOSED: Master of Science in Explosives Technology
File: 132.7	TCH COM-BS: Technical Communication BS

Review of submitted Experimental Course forms:

File 4430	ELEC ENG 6001.004: Adaptive Control
File 4429	ELEC ENG 6001.005: High Frequency Sensors and Sensing Systems
File 4431	EXP ENG 6001.003: Experimental Techniques for Ultra-high-velocity Impact
File: 4432	MS&E 6001.001: Advanced Chemistry of Construction Materials
File: 4436	PET ENG 4001.002: Petroleum Engineering Applications of MATLAB

File 4437	PET ENG 6001.008: Advanced Petroleum Engineering Applications with MATLAB
File: 4427	POL SCI 3001.002: Policy for Science, Technology, and Innovation
File: 4435	STAT 6001.004: Foundations of Statistical Learning II

Review of tabled items:

File: 4408	ENG MGT 6216: Financial Data Analysis

Course Inventory Change Request

Date Submitted: 04/21/17 1:12 pm

Viewing: **AERO ENG 2861 : Aerospace Vehicle Performance**

File: 2564.1

Last edit: 05/16/17 9:15 am

Changes proposed by: nisbett

Programs referencing this course	AE ENG-BS: Aerospace Engineering BS AE ENG-MI: Aerospace Engineering Minor
Other Courses referencing this course	In The Prerequisites: AERO ENG 2780 : Introduction to Aerospace Design AERO ENG 2790 : Introduction to Spacecraft Design AERO ENG 3131 : Aerodynamics I
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Aerospace Engineering (AERO ENG)
Course Number	2861
Title	Aerospace Vehicle Performance
Abbreviated Course Title	Aero Vehicle Performance
Catalog Description	Nature and theory of lift, drag, performance, and stability and control of aerospace vehicles.
Prerequisites	**A** ~~"C" or better~~ grade **of "C" or better** in **each of the following:** ~~both Math 1215 and Physics 1135.~~ **Math 1215 or Math 1221; Physics 1135 or Physics 1111.**
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	**Yes** ~~No~~
Elective for Majors	No
Justification for change:	Adding acceptable alternate courses as prerequisites for non-engineering majors and transfer students.
Semesters previously offered as an experimental course	
Co-Listed Courses:	

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. lshelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:31 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:52 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/28/17 2:57 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Course Reviewer Comments	**sraper (05/16/17 9:15 am):** changed prereq to current "standard". Checked required for majors box.

Key: 2564
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:16 pm

Viewing: **AERO ENG 3131 : Aerodynamics I**

File: 776.5

Last approved: 10/19/15 3:33 am

Last edit: 04/21/17 1:16 pm

Changes proposed by: nisbett

Programs referencing this course	AE ENG-BS: Aerospace Engineering BS AE ENG-MI: Aerospace Engineering Minor
Other Courses referencing this course	In The Prerequisites: AERO ENG 3171 : Aerodynamics II AERO ENG 3361 : Flight Dynamics and Control AERO ENG 4133 : Introduction to Aerothermochemistry AERO ENG 4882 : Experimental Methods in Aerospace Engineering I AERO ENG 5131 : Intermediate Thermofluid Mechanics AERO ENG 5570 : Plasma Physics I AERO ENG 5715 : Concurrent Engineering MECH ENG 5131 : Intermediate Thermofluid Mechanics MECH ENG 5570 : Plasma Physics I MECH ENG 5715 : Concurrent Engineering NUC ENG 4370 : Plasma Physics I NUC ENG 5370 : Plasma Physics I PHYSICS 4543 : Plasma Physics I
Requested Effective Change Date	Spring **2018** ~~2016~~
Department	Mechanical & Aerospace Engineering
Discipline	Aerospace Engineering (AERO ENG)
Course Number	3131
Title	Aerodynamics I
Abbreviated Course Title	Aerodynamics I
Catalog Description	A study of the fundamental concepts of fluid mechanics as applied to aerodynamic applications with both differential and control volume analysis. Theory and application of viscous and inviscid incompressible flow including boundary layer theory and two dimensional airfoil theory.
Prerequisites	A grade of "C" or better in each of **the following:** ~~Aero Eng 2861, Math 1214, Math 1215, Math 2222 and Physics 1135.~~ **Aero Eng 2861; Math 1214 or Math 1208; Math 1215 or Math 1221; Math 2222; Physics 1135 or Physics 1111.**
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
	Yes

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
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7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:32 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:52 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/28/17 3:14 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Oct 19, 2015 by isaac (776.1)

Required for Majors	
Elective for Majors	No
Justification for change:	Adding acceptable alternate courses as prerequisites for non-engineering majors and transfer students.
Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	

Key: 776
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:19 pm

Viewing: **AERO ENG 3251 : Aerospace Structures I**

File: 873.1

Last edit: 05/16/17 9:17 am

Changes proposed by: nisbett

Programs referencing this course	AE ENG-BS: Aerospace Engineering BS AE ENG-MI: Aerospace Engineering Minor
Other Courses referencing this course	In The Prerequisites: AERO ENG 4253 : Aerospace Structures II AERO ENG 4780 : Aerospace Systems Design I AERO ENG 4790 : Spacecraft Design I AERO ENG 4883 : Experimental Methods in Aerospace Engineering II AERO ENG 5353 : Aeroelasticity AERO ENG 5758 : Integrated Product Development
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Aerospace Engineering (AERO ENG)
Course Number	3251
Title	Aerospace Structures I
Abbreviated Course Title	Aerospace Structures I
Catalog Description	An introduction to various loads on aerospace vehicles. Basic theory and analysis of typical aerospace and related vehicle structures subjected to steady loading. An overview of various failure theories including yielding, buckling, fracture and fatigue. Design of thin walled structures. Introduction to advanced composite materials.
Prerequisites	**A grade of "C" or better in each of the following: Math 1214** ~~"C"~~ or **Math 1208; Math** ~~better in Math 1214 (or 1208),~~ 1215 **or Math 1221; Math 2222;** ~~(or 1221), 2222,~~ Physics 1135 **or Physics 1111;** ~~and~~ Civ Eng 2210.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	**Yes** ~~No~~
Elective for Majors	No
Justification for change:	Adding acceptable alternate course as prerequisites for non-engineering majors and transfer students.
Semesters previously	

In Workflow

1. **RMECHENG Chair**
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11. Peoplesoft

Approval Path

1. 04/21/17 2:32 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:52 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/28/17 3:26 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	**sraper (05/16/17 9:16 am):** Changed prereqs to current "standard". Checked required for majors box.

Key: 873
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:37 pm

Viewing: **AERO ENG 3613 : Aerospace Mechanics I**

File: 835.1

Last edit: 05/16/17 9:17 am

Changes proposed by: nisbett

Programs referencing this course	AE ENG-BS: Aerospace Engineering BS AE ENG-MI: Aerospace Engineering Minor AP MATH-BS: Applied Mathematics BS
Other Courses referencing this course	In The Prerequisites: AERO ENG 3361 : Flight Dynamics and Control AERO ENG 5307 : Vibrations I AERO ENG 5309 : Engineering Acoustics I AERO ENG 5313 : Intermediate Dynamics of Mechanical and Aerospace Systems AERO ENG 5614 : Spaceflight Mechanics MECH ENG 5307 : Vibrations I MECH ENG 5309 : Engineering Acoustics I MECH ENG 5313 : Intermediate Dynamics Of Mechanical And Aerospace Systems
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Aerospace Engineering (AERO ENG)
Course Number	3613
Title	Aerospace Mechanics I
Abbreviated Course Title	Aerospace Mechanics I
Catalog Description	Introduction to celestial mechanics and an analytical study of space flight. Emphasis is placed on satellite orbits and general theory of gyrodynamics.
Prerequisites	Math 3304; a grade of "C" or better in each of **the following:** ~~Aero Eng 2360 (or Mech Eng 2360), Math 1214 (or 1208), 1215 (or 1221),2222, and Physics 1135.~~ **Aero Eng 2360 or Mech Eng 2360; Math 1214 or Math 1208; Math 1215 or Math 1221; Math 2222; Physics 1135 or Physics 1111.**
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	**Yes** ~~No~~
Elective for Majors	No
Justification for change:	Adding acceptable alternate course as prerequisite for non-engineering majors and transfer students.

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
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7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:33 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:52 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/28/17 3:53 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	**sraper (05/16/17 9:17 am):** Changed effective date to Spring 18 and checked required for majors box.

Key: 835
Preview Bridge

Course Inventory Change Request

Date Submitted: 05/05/17 2:09 pm

Viewing: **ARCH ENG 4800 ~~5872~~: Principles of HVAC I ~~Environmental Controls~~**

File: 942.1

Last edit: 05/16/17 9:18 am

Changes proposed by: baur

Requested Effective Change Date	Fall **2018** ~~2014~~
Department	Civil, Architectural, and Environmental Engineering
Discipline	Architectural Engineering (ARCH ENG)
Course Number	**4800** ~~5872~~
Title	**Principles of HVAC I** ~~Environmental Controls~~
Abbreviated Course Title	**Principles of HVAC I** ~~Environmental Controls~~

Catalog Description

Heating, ventilating, and air conditioning ~~Theory and applications of~~ principles **related to the heat loss and heat gain calculations for commercial buildings.** ~~of heating, ventilating, and air conditioning equipment and systems; design problems.~~ **Calculations will be performed manually and using current computer software. Analysis and specification of the building envelope components, with an emphasis on improving energy efficiency by reducing heating and cooling loads** ~~Physiological and psychological factors relating to environmental control.~~

Prerequisites

Mech Eng ~~3521 and accompanied or preceded by Mech Eng 3525; or Mech Eng~~ 2527 and Civ Eng 3330.

Field Trip Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
Required for Majors	**Yes** ~~No~~				
Elective for Majors	No				

In Workflow

1. **RCIVILEN Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 05/11/17 11:36 am
   Joel Burken (burken): Approved for RCIVILEN Chair
2. 05/12/17 9:56 am
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 05/22/17 12:30 pm
   sraper: Approved for Engineering DSCC Chair
4. 06/28/17 4:03 pm
   Brittany Parnell (ershenb): Approved for

Justification for change:	The architectural engineering program is realigning the building systems courses to provide a path for a continuous design project. The realignment and renumbering of courses include environmental controls, building lighting systems and building electrical systems. When complete a student project that was initially started in architectural design will be carried through environmental controls and building lighting systems. The same project will be forwarded to building electrical systems course once complete it will have a fully designed building environmental systems in place.	Pending CCC Agenda post
Semesters previously offered as an experimental course		
Co-Listed Courses:	~~MECH ENG 5571~~ - ~~Environmental Controls~~	
Course Reviewer Comments	**lahne (05/05/17 11:57 am):** Rollback: . **sraper (05/16/17 9:18 am):** Changed effective date to Fall 18 and checked required for majors box. Approval subject to DC form to be submitted.	

Key: 942
Preview Bridge

Course Inventory Change Request

Date Submitted: 05/01/17 2:42 pm

Viewing: **ARCH ENG 4820 ~~3805~~: Building Lighting Systems**

File: 2069.5

Last approved: 09/21/15 3:55 am

Last edit: 05/16/17 9:20 am

Changes proposed by: baur

Requested Effective Change Date	**Fall 2018** ~~Spring 2016~~
Department	Civil, Architectural, and Environmental Engineering
Discipline	Architectural Engineering (ARCH ENG)
Course Number	**4820** ~~3805~~
Title	Building Lighting Systems
Abbreviated Course Title	Bldg Light Syst
Catalog Description	Design and specifications for interior and exterior building illumination systems. Work includes study of applicable NFPA 70 (NEC) and related building codes.
Prerequisites	**ArchE 3804 and Physics 2135** ~~Arch Eng 3803 and Arch Eng 3804.~~
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:	The architectural engineering program is realigning the building systems courses to provide a path for a continuous design project. The realignment and renumbering of courses include environmental controls, building lighting systems and building electrical systems. When complete a student project that was initially started in architectural design will be carried through environmental controls and building lighting systems. The same project will be forwarded to building electrical systems course once complete it will have a fully designed building environmental systems in place.
Semesters previously offered as an experimental course	ArchE 3805 typically has an enrollment of 40 students. Student enrollment numbers are expected to be similar.
Co-Listed Courses:	
Course Reviewer Comments	**sraper (05/16/17 9:20 am):** Changed effective date to Fall 2018. Approval subject to DC form submission.

In Workflow

1. **RCIVILEN Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 05/11/17 11:36 am
   Joel Burken (burken): Approved for RCIVILEN Chair
2. 05/12/17 9:57 am
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 05/22/17 12:30 pm
   sraper: Approved for Engineering DSCC Chair
4. 06/28/17 4:24 pm
   Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Sep 21, 2015 by baur (2069.1)

Key: 2069
Preview Bridge

Course Inventory Change Request

Date Submitted: 05/01/17 2:34 pm

Viewing: **ARCH ENG 4850 ~~3803~~: Building Electrical Systems**

File: 4219.5

Last approved: 09/21/15 3:55 am

Last edit: 05/16/17 9:21 am

Changes proposed by: baur

Requested Effective Change Date	**Fall 2018** ~~Spring 2016~~
Department	Civil, Architectural, and Environmental Engineering
Discipline	Architectural Engineering (ARCH ENG)
Course Number	**4850** ~~3803~~
Title	Building Electrical Systems
Abbreviated Course Title	Bldg Elect Syst
Catalog Description	The design of interior and exterior building electrical systems, including power loads, branch circuits and switching. Work includes study of applicable NFPA 70 (NEC) and related building codes.
Prerequisites	**ARCH ENG 4800 and ARCH ENG 4820** ~~Math 3304 and Physics 2135.~~
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:	The architectural engineering program is realigning the building systems courses to provide a path for a continuous design project. The realignment and renumbering of courses include environmental controls, building lighting systems and building electrical systems. When complete a student project that was initially started in architectural design will be carried through environmental controls and building lighting systems. The same project will be forwarded to building electrical systems course once complete it will have a fully designed building environmental systems in place.
Semesters previously offered as an experimental course	This ~~will be the new pre-requisite for ArchE 3805, which~~ typically has an enrollment of 40 students. ~~As the pre-requisite for ArchE 3805, student enrollment numbers are expected to be similar.~~
Co-Listed Courses:	
Course Reviewer Comments	**sraper (05/16/17 9:21 am):** Changed effective date to Fall 2018. Approval subject to DC form submission.

In Workflow

1. **RCIVILEN Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 05/11/17 11:36 am
   Joel Burken (burken): Approved for RCIVILEN Chair
2. 05/12/17 9:58 am
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 05/22/17 12:30 pm
   sraper: Approved for Engineering DSCC Chair
4. 06/28/17 4:25 pm
   Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Sep 21, 2015 by Stuart Baur (baur)

Key: 4219

Course Inventory Change Request

New Course Proposal

Date Submitted: 05/31/17 1:15 pm

Viewing: **ART 3500 : Innovation Through Design Thinking**

File: 4428

Last edit: 06/09/17 9:37 am

Changes proposed by: bartonch

Requested Effective Change Date	Spring 2018
Department	Arts, Languages, & Philosophy
Discipline	Art (ART)
Course Number	3500
Title	Innovation Through Design Thinking
Abbreviated Course Title	Innov. Design Thinking
Catalog Description	Design thinking is a human-centered approach to innovation. Students will investigate and address a variety of identified human-centered problems through group collaboration, creative problem-solving, and prototyping. A multidisciplinary approach combines science, technology, engineering, math, and art with design thinking in a creative atmosphere.
Prerequisites	none
Field Trip Statement	
Credit Hours	LEC: 0 LAB: 3 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	No
Justification for new course:	Course has been taught as a experimental course since FS 2015.
Semesters previously offered as an experimental course	FS 2015, SP 2016, FS 2016, SP 2017
Co-Listed Courses:	
Course Reviewer Comments	**audram (05/31/17 11:36 am):** Rollback: Course description needs to be updated, please. **dewittp (06/09/17 9:37 am):** Updated course description.

In Workflow

1. **RPHILOSO Chair**
2. **CCC Secretary**
3. **Arts & Humanities DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 05/31/17 2:51 pm Audra Merfeld-Langston (audram): Approved for RPHILOSO Chair
2. 06/05/17 4:27 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 06/09/17 9:37 am Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 06/30/17 8:10 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 4428

Preview Bridge

Course Inventory Change Request

New Course Proposal

Date Submitted: 04/14/17 4:41 pm

Viewing: **GEOLOGY 6098 : Advanced Geologic Field Methods**

File: 4426

Last edit: 07/13/17 1:59 pm

Changes proposed by: jhogan

Requested Effective Change Date	Spring 2018
Department	Geosciences and Geological and Petroleum Engineering
Discipline	Geology (GEOLOGY)
Course Number	6098
Title	

In Workflow

1. **RGEOSENG Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. lshelton
11. Peoplesoft

Approval Path

1. 04/17/17 12:23 pm Francisca Oboh-Ikuenobe (ikuenobe): Approved for RGEOSENG Chair

2. 04/17/17 12:35 pm
   Lahne Black (lahne): Approved for CCC Secretary
3. 07/25/17 1:23 pm
   Ilene Morgan (imorgan): Approved for Sciences DSCC Chair
4. 07/25/17 4:30 pm
   Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Advanced Geologic Field Methods

Abbreviated Course Title: Adv Geo Field Methods

Catalog Description:

Advanced instruction in theory and practice of qualitative and quantitative description of spatial relationships of rock types in areas exhibiting complex deformation. Emphasis on experiential learning where students plan, implement, and reflect on outcomes for several scientific field campaigns in a manner consistent with professional scientific practices.

Prerequisites:

Graduate Standing.

Field Trip Statement:

Students will be charged a fee to cover the cost of field trip expenses.

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

Required for Majors: No

Elective for Majors: No

Justification for new course:

Students pursuing a graduate degree that have not had an intensive course in geologic field methods (many schools are unable to offer such a course) and need one will register for this course.

Semesters previously offered as an experimental course

The Advanced Field Geology course has been taught by me for many years. This course will be taught at the same time and is really not an experimental course in that regard. However, graduate students will be using more sophisticated techniques to process field data (such as the software MOVE) that we are unable to offer to the undergraduates due to availability and the intensive nature of instruction.

Co-Listed Courses:

Course Reviewer Comments

imorgan (07/13/17 1:59 pm): This course will be offered as a graduate dual for Geology 4097, which is why it is not being proposed as an experimental course. I changed the effective date to Spring 2018 and added the Field Trip statement.

Course Inventory Change Request

Date Submitted: 04/21/17 1:39 pm

Viewing: **MECH ENG 2519 : Thermodynamics**

File: 765.3

Last approved: 10/19/15 3:34 am

Last edit: 04/21/17 1:39 pm

Changes proposed by: nisbett

Programs referencing this course	AE ENG-BS: Aerospace Engineering BS AP MATH-BS: Applied Mathematics BS CP ENG-BS: Computer Engineering BS EL ENG-BS: Electrical Engineering BS MC ENG-BS: Mechanical Engineering BS
Other Courses referencing this course	In The Prerequisites: AERO ENG 3171 : Aerodynamics II AERO ENG 5519 : Advanced Thermodynamics MECH ENG 3131 : Thermofluid Mechanics I MECH ENG 3521 : Applied Thermodynamics MECH ENG 3525 : Heat Transfer MECH ENG 4840 : Mechanical Instrumentation MECH ENG 5519 : Advanced Thermodynamics
Requested Effective Change Date	Spring **2018** ~~2016~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	2519
Title	Thermodynamics
Abbreviated Course Title	Thermodynamics
Catalog Description	Energy transformations and the relation of energy to the status of matter. Fundamental laws, concepts, and modes of analysis which underlie all applications of energy conversion in engineering.
Prerequisites	A grade of "C" or better in each of **the following:** ~~Comp Sci 1570 or Comp Sci 1970 or Comp Sci 1971 or Comp Sci 1972, Math 1214 (or Math 1208), Math 1215 (or Math 1221), Math 2222, and Physics 1135.~~ **Comp Sci 1570 or Comp Sci 1970 or Comp Sci 1971 or Comp Sci 1972; Math 1214 or Math 1208; Math 1215 or Math 1221; Math 2222; Physics 1135 or Physics 1111.**
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	Yes
Elective for Majors	No

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
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7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:33 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:52 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:14 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Oct 19, 2015 by nisbett (765.1)

Justification for change:	Adding acceptable alternate course as prerequisite for non-engineering majors and transfer students.
Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	

Key: 765
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:40 pm

Viewing: **MECH ENG 2527 : Thermal Analysis**

File: 105.1

Last edit: 04/21/17 1:40 pm

Changes proposed by: nisbett

Programs referencing this course	AP MATH-BS: Applied Mathematics BS ARC ENG-BS: Architectural Engineering BS CP ENG-BS: Computer Engineering BS EL ENG-BS: Electrical Engineering BS ENG MG-BS: Engineering Management BS MI ENG-BS: Mining Engineering BS PE ENG-BS: Petroleum Engineering BS
Other Courses referencing this course	In The Prerequisites: ARCH ENG 4800 : Principles of HVAC I ARCH ENG 5850 : Residential Renewable Energy Systems MECH ENG 5571 : Environmental Controls MECH ENG 5575 : Mechanical Systems For Environmental Control MIN ENG 4113 : Mine Atmosphere Control MIN ENG 4912 : Mine Power And Drainage
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	2527
Title	Thermal Analysis
Abbreviated Course Title	Thermal Analysis
Catalog Description	Basic principles of thermodynamics and heat transfer. First and second laws of thermodynamics and applications to engineering systems. Fundamentals of heat transfer by conduction, convection, and radiation with applications. Not for mechanical engineering majors.
Prerequisites	Math 1215 **or Math 1221;** ~~(or 1221),~~ Physics **1135 or Phys 1111.** ~~1135.~~
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	No
Justification for change:	Adding acceptable alternate course as prerequisite for non-engineering majors and transfer students.

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:33 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:52 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:16 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	

Key: 105
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/24/17 10:50 am

Viewing: **MECH ENG 2653 : Introduction To Manufacturing Processes**

File: 1474.1

Last edit: 05/16/17 9:22 am

Changes proposed by: nisbett

Programs referencing this course	MC ENG-BS: Mechanical Engineering BS
Other Courses referencing this course	In The Prerequisites: MECH ENG 2761 : Introduction To Design MECH ENG 3653 : Manufacturing MECH ENG 3708 : Machine Design I MET ENG 4420 : Metals Casting MET ENG 5420 : Advanced Metals Casting
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	2653
Title	Introduction To Manufacturing Processes
Abbreviated Course Title	Intro To Mfg Processes
Catalog Description	Introduction into the fundamentals of manufacturing processes. Welding, joining, casting, forming, powder metallurgy and material removal are covered. The material is presented in a descriptive fashion with emphasis on the fundamental working of the processes, their capabilities, applications, advantages and limitations.
Prerequisites	**Mech Eng 1720; a grade of "C" or better in Phys 1135 or Phys 1111** ~~Mech Eng 1720.~~
Field Trip Statement	
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3
Required for Majors	**Yes** ~~No~~
Elective for Majors	No
Justification for change:	Additional prerequisite to increase the level of preparation and progress in the engineering curriculum.
Semesters previously offered as an experimental course	

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. lshelton
11. Peoplesoft

Approval Path

1. 04/24/17 10:55 am
   James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/24/17 11:58 am
   Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm
   sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:17 am
   Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Co-Listed Courses:	
Course Reviewer Comments	**sraper (05/16/17 9:22 am):** Changed prereqs to current standard. Checked required for majors box.

Key: 1474
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:42 pm

Viewing: **MECH ENG 2761 : Introduction To Design**

File: 2099.1

Last edit: 05/16/17 9:23 am

Changes proposed by: nisbett

Programs referencing this course	MC ENG-BS: Mechanical Engineering BS
Other Courses referencing this course	In The Prerequisites: MECH ENG 3708 : Machine Design I MECH ENG 5763 : Principles And Practice Of Computer Aided Design
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	2761
Title	Introduction To Design
Abbreviated Course Title	Introduction To Design
Catalog Description	Introduces the process of design with emphasis on creativity and design visualization. Solid modeling is presented as a design tool. The solid modeling environment will also be used to reinforce the concepts of tolerancing, dimensioning, and multiview representation. Concurrent engineering will be introduced in a group design project.
Prerequisites	Mech Eng 1720, Mech Eng 2653, preceded or accompanied by Civ Eng 2200; a grade of "C" or better in each of **the following:** ~~Math 1214 (or 1208), Physics 1135.~~ **Math 1214 or Math 1208; Physics 1135 or Physics 1111.**
Field Trip Statement	
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3
Required for Majors	**Yes** ~~No~~
Elective for Majors	No
Justification for change:	Adding acceptable alternate course as prerequisite for non-engineering majors and transfer students.
Semesters previously offered as an experimental course	

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:34 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:52 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:19 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Co-Listed Courses:	
Course Reviewer Comments	**sraper (05/16/17 9:23 am):** Changed effective date to Sp 2018 and checked required for majors box.

Key: 2099
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:43 pm

Viewing: **MECH ENG 3313 : Machine Dynamics**

File: 517.3

Last approved: 10/19/15 3:33 am

Last edit: 04/21/17 1:43 pm

Changes proposed by: nisbett

Programs referencing this course	AP MATH-BS: Applied Mathematics BS MC ENG-BS: Mechanical Engineering BS
Other Courses referencing this course	In The Prerequisites: AERO ENG 5313 : Intermediate Dynamics of Mechanical and Aerospace Systems AERO ENG 5449 : Robotic Manipulators and Mechanisms AERO ENG 5715 : Concurrent Engineering AERO ENG 5758 : Integrated Product Development MECH ENG 5313 : Intermediate Dynamics Of Mechanical And Aerospace Systems MECH ENG 5449 : Robotic Manipulators and Mechanisms MECH ENG 5702 : Synthesis Of Mechanisms MECH ENG 5704 : Compliant Mechanism Design MECH ENG 5715 : Concurrent Engineering
Requested Effective Change Date	Spring **2018** ~~2016~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	3313
Title	Machine Dynamics
Abbreviated Course Title	Machine Dynamics
Catalog Description	Motion analysis using vector methods is considered for machine elements including linkages, cams, and gears. Dynamic force analysis methods are applied to balancing, flywheels, and single and multicylinder engines.
Prerequisites	A grade of "C" or better in each of **the following:** ~~Comp Sci 1570 or Comp Sci 1970 or Comp Sci 1971 or Comp Sci 1972, Mech Eng 2360 (or Aero Eng 2360), Math 1214 (or Math 1208), Math 1215 (or Math 1221), Math 2222, and Physics 1135.~~ **Comp Sci 1570 or Comp Sci 1970 or Comp Sci 1971 or Comp Sci 1972; Mech Eng 2360 or Aero Eng 2360; Math 1214 or Math 1208; Math 1215 or Math 1221; Math 2222; Physics 1135 or Physics 1111.**
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	Yes

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:34 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:52 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:22 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Oct 19, 2015 by nisbett (517.1)

Elective for Majors	No
Justification for change:	Adding acceptable alternate course as prerequisite for non-engineering majors and transfer students.
Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	

Key: 517
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:46 pm

Viewing: **MECH ENG 3411 : Modeling and Analysis of Dynamic Systems**

File: 1286.3

Last approved: 10/19/15 3:34 am

Last edit: 05/16/17 9:24 am

Changes proposed by: nisbett

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Programs referencing this course	MC ENG-BS: Mechanical Engineering BS
Other Courses referencing this course	In The Prerequisites: AERO ENG 5307 : Vibrations I AERO ENG 5309 : Engineering Acoustics I MECH ENG 4479 : Automatic Control Of Dynamic Systems MECH ENG 5307 : Vibrations I MECH ENG 5309 : Engineering Acoustics I MECH ENG 5420 : Signal Processing for Instrumentation and Control

Requested Effective Change Date	Spring **2018** ~~2016~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	3411
Title	Modeling and Analysis of Dynamic Systems
Abbreviated Course Title	Model Analysis Dyn Sys

Catalog Description	Concepts of modeling mechanical systems as linear systems are studied and applied to hydraulic, pneumatic, and electromechanical systems. Analysis techniques described include matrix formulations, Laplace transforms, and time domain response methods.
Prerequisites	**A grade of "C" or better in each of the following:** ~~A grade of "C" or better in each of~~ Comp Sci 1570 or Comp Sci 1970 or Comp Sci 1971 or Comp Sci **1972;** ~~1972,~~ Mech Eng 2360 **or** ~~(or~~ Aero Eng **2360;** ~~2360),~~ Math 1214 **or** ~~(or~~ Math **1208;** ~~1208),~~ Math 1215 **or** ~~(or~~ Math **1221;** ~~1221),~~ Math **2222;** ~~2222,~~ Math **3304;** ~~3304,~~ Physics **1135 or** ~~1135,~~ Physics **1111; Physics 2135 or Physics 2111.** ~~2135.~~
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	Yes
Elective for Majors	No

Approval Path

1. 04/21/17 2:34 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:53 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:30 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:28 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Oct 19, 2015 by nisbett (1286.1)

Justification for change:	Adding acceptable alternate courses as prerequisites for non-engineering majors and transfer students.
Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	**sraper (05/16/17 9:24 am):** Changed effective date to Spring 2018.

Key: 1286
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 4:37 pm

Viewing: **MECH ENG 4840 : Mechanical Instrumentation**

File: 2026.1

Last edit: 05/16/17 9:24 am

Changes proposed by: nisbett

Programs referencing this course	MC ENG-BS: Mechanical Engineering BS
Other Courses referencing this course	In The Prerequisites: MECH ENG 4842 : Mechanical Engineering Systems
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	4840
Title	Mechanical Instrumentation
Abbreviated Course Title	Mechanical Instrumentatn
Catalog Description	**Theory** ~~A basic course in the theory~~ and application of instrumentation to ~~typical~~ measurement problems in mechanical and aerospace engineering. Experiments employing basic devices to measure quantities such as strain, pressure, force, temperature, motion, flow, **and** sound level are performed. Accepted procedures for recording, **interpreting,** ~~interpretation,~~ and **presenting** ~~presentation of~~ experimental results are illustrated.
Prerequisites	A grade of "C" or better **in** each of **the following:** ~~Math 3304, Mech Eng 2519, Physics 2135.~~ **Math 3304; Mech Eng 2519; Physics 2135 or Physics 2111.**
Field Trip Statement	
Credit Hours	LEC: 0 LAB: 2 IND: 0 RSD: 0 Total: 2
Required for Majors	**Yes** ~~No~~
Elective for Majors	No
Justification for change:	Adding acceptable alternate course as prerequisite for non-engineering majors and transfer students.
Semesters previously offered as an experimental course	

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 04/21/17 4:48 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:53 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:31 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:30 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Co-Listed Courses:	
Course Reviewer Comments	**drallmei (04/21/17 2:36 pm):** Rollback: Keith: Something seems to have been deleted in the course description **sraper (05/16/17 9:24 am):** Checked required for majors box.

Key: 2026
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:51 pm

Viewing: **MECH ENG 5139 : Computational Fluid Dynamics**

File: 1729.1

Last edit: 05/16/17 9:25 am

Changes proposed by: nisbett

Catalog Pages referencing this course	Mechanical Engineering
Programs referencing this course	AP MATH-BS: Applied Mathematics BS MC ENG-BS: Mechanical Engineering BS
Other Courses referencing this course	In The Catalog Description: AERO ENG 5139 : Computational Fluid Dynamics In The Prerequisites: AERO ENG 6123 : Viscous Fluid Flow AERO ENG 6135 : Turbulent Flows - Theory, Measurements and Modeling MECH ENG 6123 : Viscous Fluid Flow MECH ENG 6135 : Turbulent Flows - Theory, Measurements and Modeling
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	5139
Title	Computational Fluid Dynamics
Abbreviated Course Title	Computational Fluid Dyn
Catalog Description	Introduction to the numerical solution of the Navier-Stokes equations, by finite difference methods, in both stream function-vorticity and primitive variable formulations. Course format emphasizes student development of complete computer programs utilizing a variety of solution methods.
Prerequisites	Comp Sci 1570 or 1970 or **1971 or 1972;** ~~1971;~~ one course in fluid mechanics.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	**Yes** ~~No~~

Adding MatLab as an acceptable programming prerequisite.

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:36 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:53 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:31 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:33 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Justification for change:	
Semesters previously offered as an experimental course	
Co-Listed Courses:	AERO ENG 5139 - Computational Fluid Dynamics
Course Reviewer Comments	**sraper (05/16/17 9:25 am):** Checked elective for majors box.

Key: 1729
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:51 pm

Viewing: **MECH ENG 5763 : Principles And Practice Of Computer Aided Design**

File: 1603.1

Last edit: 05/16/17 9:26 am

Changes proposed by: nisbett

Catalog Pages referencing this course	Information Science and Technology Manufacturing Engineering Mechanical Engineering
Programs referencing this course	DSCMGMT-MI: Digital Supply Chain Mgt Minor MC ENG-BS: Mechanical Engineering BS
Other Courses referencing this course	In The Prerequisites: MECH ENG 6663 : Advanced Digital Design and Manufacturing
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	5763
Title	Principles And Practice Of Computer Aided Design
Abbreviated Course Title	Prin & Pract Cmp Aid Dsg
Catalog Description	Lectures cover the fundamentals of computer-aided design with emphasis on geometric modeling of curves, surfaces and solids, CAD/CAM data exchange, and computer graphics. In the lab session, students practice with commercial CAD/CAM systems including NX and SolidWorks to gain practical experience.
Prerequisites	Comp Sci 1570 or Comp Sci 1970 or Comp Sci **1971 or Comp Sci 1972,** ~~1971,~~ Mech Eng 2761, Math 2222, at least Junior standing.
Field Trip Statement	
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	**Yes** ~~No~~
Justification for change:	Adding MatLab as an acceptable programming prerequisite.
Semesters previously offered as an	

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. lshelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:36 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:53 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:31 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 8:37 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

experimental course	
Co-Listed Courses:	
Course Reviewer Comments	**sraper (05/16/17 9:26 am):** Checked elective for majors box. "at least junior standing" may need revision to current standard.

Key: 1603
Preview Bridge

Course Inventory Change Request

Date Submitted: 04/21/17 1:53 pm

Viewing: **MECH ENG 5830 : Applied Computational Methods**

File: 1579.1

Last edit: 05/16/17 9:26 am

Changes proposed by: nisbett

Programs referencing this course	AP MATH-BS: Applied Mathematics BS MC ENG-MS: Mechanical Engineering MS
Other Courses referencing this course	In The Catalog Description: AERO ENG 5830 : Applied Computational Methods
Requested Effective Change Date	**Spring 2018** ~~Fall 2014~~
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	5830
Title	Applied Computational Methods
Abbreviated Course Title	Applied Computational Methods
Catalog Description	Detailed study of computational methods for efficient solution of selected fluids, structures, thermodynamics, and controls problems in aerospace and mechanical engineering. Besides basic numerical techniques, topics covered include gradient-based optimization and uncertainty quantification.
Prerequisites	Comp Sci 1570 or 1970 or **1971 or 1972;** ~~1981;~~ Math 3304.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	**Yes** ~~No~~
Justification for change:	Adding MatLab as an acceptable programming prerequisite. Also correcting 1981 (lab) to 1971(lecture).
Semesters previously offered as an experimental course	
Co-Listed Courses:	AERO ENG 5830 - Applied Computational Methods

In Workflow

1. **RMECHENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. lshelton
11. Peoplesoft

Approval Path

1. 04/21/17 2:37 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 04/22/17 3:53 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/22/17 12:31 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 9:06 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Course Reviewer Comments	**sraper (05/16/17 9:26 am):** Checked elective for majors box.

Key: 1579
Preview Bridge

Course Inventory Change Request

New Course Proposal

Date Submitted: 07/10/17 1:18 pm

Viewing: **MET ENG 4325 : Ferrous Microstructures**

File: 4433

Last edit: 07/11/17 2:29 pm

Changes proposed by: smiller

Requested Effective Change Date	Spring 2018
Department	Materials Science & Engineering
Discipline	Metallurgical Engineering (MET ENG)
Course Number	4325
Title	

In Workflow

1. **RMATSENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. lshelton
11. Peoplesoft

Approval Path

1. 07/10/17 5:46 pm Greg Hilmas (ghilmas): Approved for RMATSENG Chair
2. 07/13/17 8:09 am Brittany Parnell (ershenb):

Approved for CCC Secretary
3. 07/31/17 12:27 pm
sraper: Approved for Engineering DSCC Chair
4. 07/31/17 1:53 pm
Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Ferrous Microstructures

Abbreviated Course Title	Ferrous Microstructures
Catalog Description	Course provides an in-depth explanation of microstructural development during solidification, thermo-mechanical processing, and heat treatment of steel. Topics included: optical microscopy, quantitative metallography, the Fe-C phase diagram, solidification and banding, homogenization, grain size control, formation of microstructures upon heating/cooling.
Prerequisites	Met Eng 2110 with grade of "C" or better
Field Trip Statement	

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

Required for Majors	No

Elective for Majors	Yes
Justification for new course:	Create tech elective for Met Eng majors and other interested students Spring 2016 enrollment: 8 Spring 2017 enrollment: 9
Semesters previously offered as an experimental course	Spring 2017 and Spring 2016 as Met Eng 3001
Co-Listed Courses:	
Course Reviewer Comments	

Key: 4433
Preview Bridge

Course Inventory Change Request

New Course Proposal

Date Submitted: 07/10/17 1:22 pm

Viewing: **MET ENG 6325 : Advanced Ferrous Microstructures**

File: 4434

Last edit: 07/10/17 1:22 pm

Changes proposed by: smiller

Requested Effective Change Date	Spring 2018
Department	Materials Science & Engineering
Discipline	Metallurgical Engineering (MET ENG)
Course Number	6325
Title	

In Workflow

1. **RMATSENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. lshelton
11. Peoplesoft

Approval Path

1. 07/10/17 5:46 pm Greg Hilmas (ghilmas): Approved for RMATSENG Chair
2. 07/13/17 8:09 am Brittany Parnell (ershenb):

Approved for CCC Secretary
3. 07/31/17 12:28 pm sraper: Approved for Engineering DSCC Chair
4. 07/31/17 1:54 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Advanced Ferrous Microstructures

Abbreviated Course Title: Adv Ferrous Microstruct

Catalog Description:
Course provides an in-depth explanation of microstructural development during solidification, thermo-mechanical processing, and heat treatment of steel. Topics included: microscopy, metallography, the Fe-C phase diagram, solidification, homogenization, grain size control, formation of microstructures upon heating/cooling. Term paper and presentation required

Prerequisites:
graduate standing

Field Trip Statement:

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

Required for Majors: No

Elective for Majors	No
Justification for new course:	graduate level course to accompany Met 4325
Semesters previously offered as an experimental course	Spring 2016 and Spring 2017 as Met Eng 3001
Co-Listed Courses:	
Course Reviewer Comments	

Key: 4434

Preview Bridge

Course Inventory Change Request

Date Submitted: 05/04/17 10:06 am

Viewing: **SPANISH 4311 : Advanced Spanish Conversation**

File: 1563.8

Last approved: 06/22/15 3:46 am

Last edit: 06/06/17 9:42 am

Changes proposed by: lahne

Programs referencing this course	MUL&DIV-MI: Multiculture & Diversity Minor
Requested Effective Change Date	**Spring 2018** ~~Fall 2015~~
Department	Arts, Languages, & Philosophy
Discipline	Spanish (SPANISH)
Course Number	4311
Title	Advanced Spanish Conversation
Abbreviated Course Title	Adv Span Conversation
Catalog Description	Advanced Spanish conversation and oral practice.
Prerequisites	Any Spanish course at the 2000 or 3000 level.
Field Trip Statement	
Credit Hours	LEC: **3** ~~2~~ LAB: 0 IND: 0 RSD: 0 Total: **3** ~~2~~
Required for Majors	No
Elective for Majors	No
Justification for change:	This is a course for the Spanish Minor. Students taking this 2 credit course need to be granted an additional credit so they can reach the 21 credits required for the minor. In addition, all courses in the department are 3 credits.
Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	**dewittp (06/06/17 9:42 am):** Updated effective date to Spring 2018.

Key: 1563

In Workflow

1. **RPHILOSO Chair**
2. **CCC Secretary**
3. **Arts & Humanities DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. lshelton
11. Peoplesoft

Approval Path

1. 05/31/17 2:52 pm Audra Merfeld-Langston (audram): Approved for RPHILOSO Chair
2. 06/06/17 8:54 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 06/06/17 9:42 am Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 06/30/17 9:59 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Sep 29, 2014 by denises (1563.1)
2. Jun 22, 2015 by denises (1563.5)

Course Inventory Change Request

Date Submitted: 06/19/17 3:49 pm

Viewing: **TCH COM 6450 : Advanced International Technical Communication**

File: 986.3

Last approved: 10/20/14 3:35 am

Last edit: 06/22/17 1:51 pm

Changes proposed by: kswenson

Programs referencing this course	TCH COM-MS: Technical Communication MS
Other Courses referencing this course	In The Catalog Description: TCH COM 4450 : International Dimensions of Technical Communication
Requested Effective Change Date	**Spring 2018** ~~01/13/2015~~
Department	English and Technical Communication
Discipline	Technical Communication (TCH COM)
Course Number	6450
Title	Advanced International Technical Communication
Abbreviated Course Title	Adv International Tech Com
Catalog Description	Advanced study of international technical communication. Includes topics such as graphics, icons, symbols; user interface design; intercultural communication. ~~Requires field work at student's expense.~~Students may not earn credit for both TCH COM 4450 and TCH COM 6450.
Prerequisites	Graduate Standing.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	No
Justification for change:	Eliminated 'requires field work at student's expense' from catalog description because has not and will not be required for this course. This was raising questions and confusing students.
Semesters previously offered as an experimental course	

In Workflow

1. **RENGLISH Chair**
2. **CCC Secretary**
3. **Arts & Humanities DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 06/19/17 3:49 pm Kristine Swenson (kswenson): Approved for RENGLISH Chair
2. 06/21/17 10:47 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 06/22/17 1:51 pm Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 06/30/17 10:08 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Oct 20, 2014 by kswenson (986.1)

Co-Listed Courses:	
Course Reviewer Comments	**dewittp (06/22/17 1:51 pm):** updated effective date

Key: 986
Preview Bridge

Program Change Request

Date Submitted: 03/09/17 9:21 am

Viewing: ANA&DTA-MI : Business Analytics and Data Science Minor

File: 239.9

Last approved: 02/01/16 8:42 am

Last edit: 03/09/17 9:21 am

Changes proposed by: barryf

Catalog Pages Using this Program	Information Science and Technology
Start Term	08/22/2016
Program Code	ANA&DTA-MI
Department	Business and Information Technology
Title	Business Analytics and Data Science Minor

Program Requirements and Description

Minor in Business Analytics and Data Science

The minor in business analytics and data science requires the following 15 hours of coursework:

IS&T 1750	Introduction to Management Information Systems	3
IS&T 3423	Database Management	3
IS&T 3420	Introduction to Data Science and Management	3
Two courses from the following list:		**6**
IS&T 4450	**Introduction to Information Visualization**	
IS&T 5420	**Business Analytics and Data Science**	
IS&T 5520	**Data Methodologies in Python**	

~~And two of the following:IS&T 4450 Introduction to Information Visualization IS&T 5420 Business Analytics and Data ScienceIS&T 5001 Data Methodologies in Python~~

Justification for request	Trying to Fix Formatting. Also update IS&T 5001 to IS&T 5520 (new number).
Supporting Documents	

In Workflow

1. **RINFSCTE Chair**
2. **CCC Secretary**
3. **Social Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. kristyg

Approval Path

1. 06/26/17 3:25 pm siauk: Approved for RINFSCTE Chair
2. 06/27/17 8:46 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 06/28/17 6:36 am Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 06/28/17 3:57 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Mar 17, 2015 by Barry Flachsbart (barryf)
2. Jul 28, 2015 by kleb6b
3. Jul 29, 2015 by pantaleoa
4. Jul 29, 2015 by pantaleoa
5. Feb 1, 2016 by Barry Flachsbart (barryf)

Course Reviewer
Comments

Key: 239
Preview Bridge

Program Change Request

Date Submitted: 06/22/17 12:54 pm

Viewing: CP ENG-BS : Computer Engineering BS

File: 153.45

Last approved: 12/01/16 3:47 pm

Last edit: 07/20/17 12:07 pm

Changes proposed by: stanleyj

Catalog Pages Using this Program

Computer Engineering

Start Term **Spring 2018** ~~Fall 2017~~

Program Code

CP ENG-BS

Department

Electrical and Computer Engineering

Title

Program Requirements and Description

Bachelor of Science Computer Engineering[1]

Entering freshmen desiring to study Computer Engineering will be admitted to the Freshman Engineering Program. They will be permitted to state a Computer Engineering preference, which will be used as a consideration for available freshman departmental scholarships. The focus of the Freshman Engineering program is on enhanced advising and career counseling,

In Workflow

1. **RELECENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. kristyg

Approval Path

1. 06/22/17 3:19 pm Daryl Beetner (daryl): Approved for RELECENG Chair
2. 06/23/17 9:08 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 07/20/17 11:28 am sraper: Approved for Engineering DSCC Chair
4. 07/20/17 1:23 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

with the goal of providing to the student the information necessary to make an informed decision regarding the choice of a major.

For the Bachelor of Science degree in Computer **Engineering,** ~~Engineering~~ a minimum of 128 credit hours is required. These requirements are in addition to credit received for algebra, trigonometry, and basic ROTC courses. An average of at least two grade points per credit hour must be attained. At least two grade points per credit hour must also be attained in all courses taken in Computer Engineering.

Each student's program of study must contain a minimum of 21 credit hours of course work in general education and must be chosen according to the following rules:

History

1. Aug 6, 2014 by Stanley (stanleyj)
2. Aug 13, 2014 by pantaleoa
3. Sep 21, 2015 by kleb6b
4. Apr 25, 2016 by Stanley (stanleyj)
5. Dec 1, 2016 by Stanley (stanleyj)

[1]Computer Engineering BS

All students are required to take one American history course, one economics course, one humanities course, and . The history course is to be selected from HISTORY 1200, HISTORY 1300, HISTORY 1310, or **POL SCI 1200**. ~~POL SCI 1200.~~ The economics course may be either **ECON 1100** ~~ECON 1100~~ or ECON 1200. The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.

2. Depth requirement. Three credit hours must be taken in humanities or social sciences at the 2000 level or above and must be selected from the approved list. This course must have as a prerequisite one of the humanities or social sciences courses already taken. Foreign language courses numbered 1180 will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 4000 level. All courses taken to satisfy the depth requirement must be taken after graduating from high school.
3. The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to ENGLISH 1120.
4. Any specific departmental requirements in the general studies area must be satisfied.
5. Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chairman.

The Computer Engineering program at Missouri S&T is characterized by its focus on the scientific basics of engineering and its innovative application; indeed, the underlying theme of this educational program is the application of the scientific basics to engineering practice through attention to problems and needs of the public. The necessary interrelations among the various topics, the engineering disciplines, and the other professions as they naturally come together in the solution of real world problems are emphasized as research, analysis, synthesis, and design. These interrelations are presented and discussed through classroom and laboratory instruction.

Free Electives Footnote:

Each student is required to take three hours of free electives in consultation with his/her academic advisor. Credits which do not count towards this requirement are deficiency courses (such as algebra and trigonometry), and extra credits in required courses. Any courses outside of engineering and science must be at least three credit hours.

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
FR ENG 1100[2]	1	MECH ENG 1720	3
MATH 1214[3]	4	MATH 1215[3]	4

CHEM 1310	4	PHYSICS 1135[3,4]	4
CHEM 1319	1	ECON 1100 or 1200	3
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	Elective-Hum or Soc (any level)[5]	3
ENGLISH 1120	3		
	16		17

Sophomore Year

First Semester	Credits	Second Semester	Credits
ELEC ENG 2100[3,6,7]	3	COMP ENG 2210[3,6,8]	3
ELEC ENG 2101[3,6]	1	COMP ENG 2211[3,6]	1
MATH 2222[3]	4	ELEC ENG 2120[3,7,9]	3
COMP SCI 1570[3]	3	MATH 3304[3]	3
COMP SCI 1580[3]	1	~~COMP SCI 1510[3]~~	~~3~~
PHYSICS 2135[3,4]	4	COMP SCI 1200[3]	3
		COMP SCI 1575	**3**
	16		16

Junior Year

First Semester	Credits	Second Semester	Credits
COMP ENG 3110	3	COMP ENG Elective A[3,14]	3
COMP ENG 3150	3	ELEC ENG 3410[3,6,9]	3
COMP ENG 3151[3,6,8]	1	COMP SCI 3800 or 2500[3]	3
ELEC ENG 2200[3,6,7]	3	STAT 3117[12]	3
ELEC ENG 2201[3,6,7]	1	Communication Elective [13]	3
Mathematics Elective[10]	3		
SP&M S 1185[13]	3		
	17		15

Senior Year

First Semester	Credits	Second Semester	Credits
COMP ENG 5410 or COMP SCI 5600[3]	3	COMP ENG Elective D[3,15,16]	3
COMP ENG Elective C[3,15,16]	3	COMP ENG Elective E[3,15,16]	3
COMP ENG 4096[3,17]	1	COMP ENG 4097[3,17]	3
Elective-Hum or Soc (any level)[5]	3	Elective-Hum or Soc (upper level)[5]	3
Engineering Science Elective [11]	3	Free Elective[18]	3
COMP ENG Elective B[3,19]	3		
	16		15

Total Credits: 128

Notes: Student must satisfy the common engineering freshman year requirements and be admitted into the department.

1	The minimum number of hours required for a degree in Computer Engineering is 128.
2	Students that transfer to Missouri S&T after their freshman year are not required to enroll in Freshman Engineering Seminars.
3	A minimum grade of "C" must be attained in MATH 1214, MATH 1215, MATH 2222, and MATH 3304, PHYSICS 1135 and PHYSICS 2135 (or their equivalents), COMP SCI 1570, COMP SCI 1580, COMP SCI 1575, COMP SCI 1200, COMP SCI 2500 or COMP SCI 3800, COMP ENG 2210, COMP ENG 2211, COMP ENG 3150, COMP ENG 3551, COMP ENG 3110, COMP ENG 5410 or COMP SCI 5600, COMP ENG 4096, and ELEC ENG 2100, ELEC ENG 2101, ELEC ENG 2120, ELEC ENG 2200, ELEC ENG 2201, ELEC ENG 3410, and ELEC ENG 3411, and the COMP ENG electives A, B, C, D and E. Also, students may not enroll in other courses that use these courses as prerequisites until the minimum grade of "C" is attained.
4	Students may take PHYSICS 1111 and PHYSICS 1119 in place of PHYSICS 1135. Students may take PHYSICS 2111 and PHYSICS 2119 in place of PHYSICS 2135.
5	All electives must be approved by the student's advisor. Students must comply with the general education requirements with respect to selection and depth of study. These requirements are specified in the current catalog.
6	Students who drop a lecture course prior to the deadline to drop a class must also drop the corequisite lab course.
7	Students must earn a passing grade on the ELEC ENG Advancement Exam I (associated with ELEC ENG 2100) before they enroll in ELEC ENG 2120 or ELEC ENG 2200 and ELEC ENG 2201.
8	Students must earn a passing grade on the COMP ENG Advancement Exam (associated with COMP ENG 2210) before they enroll in any course with COMP ENG 2210 and COMP ENG 2211 as prerequisites.
9	Students must earn a passing grade on the ELEC ENG Advancement Exam II (associated with ELEC ENG 2120) before they enroll in ELEC ENG 3410 and ELEC ENG 3411.
10	Students must take one of the following courses: MATH 3103, MATH 3108, MATH 3109, MATH 5302, MATH 5603, MATH 5105, MATH 5106, MATH 5107, MATH 5108, MATH 4209, MATH 4211, MATH 5215, MATH 5222, MATH 5325, MATH 4530, MATH 5737, MATH 5351, MATH 5154, MATH 4096, MATH 5483, MATH 5585, STAT 5644, STAT 5346, STAT 5353.
11	Students must take MECH ENG 2340, MECH ENG 2519, MECH ENG 2527, PHYSICS 2311, PHYSICS 2401, CHEM 2210, BIO SCI 2213, or BIO SCI 2223. The following pairs of course are substitutions for any single course: CIV ENG 2200 and MECH ENG 2350, PHYSICS 2305 and PHYSICS 4311, PHYSICS 2305 and CER ENG 4240, or PHYSICS 2305 and NUC ENG 3205.
12	Students may replace STAT 3117 with STAT 3115 or STAT 5643.
13	Student must take English 3560 or English 1160. Students may replace SpMS 1185 with the ROTC sequence of Mil Army 4250 and 4500 or Mil Air 4110 and 4120
14	Comp Eng Elective A must be a 4000 or 5000-level Comp Eng, Elec Eng, or Comp Sci course with at least a 3-hour lecture component. This normally includes all Comp Eng and Elec Eng 4000 or 5000-level courses except Comp Eng or Elec Eng 4000, 4099, 4096, and 4097 or Comp Sci 5000, 4010, 5600, and 4099.

[15]	Comp Eng Electives C, D, and E must be 3000, 4000 or 5000-level courses from an approved list of science, mathematics, and engineering courses. In particular, this list includes all 3000, 4000 or 5000-level Comp Eng, Elec Eng and Comp Sci courses except required courses in Comp Eng, Elec Eng, and Comp Sci and except Comp Eng 4096 and 4097, Elec Eng 2800, 1002, 1003, 4096, and 4097, and Comp Sci 2002 and 4600/5600). Comp Eng Electives C, D, and E must include at least six hours of engineering or computer science courses.
[16]	COMP ENG Electives C, D, and E cannot include more than three hours of COMP ENG 4000, COMP ENG 4099, ELEC ENG 4000, or ELEC ENG 4099.
[17]	Students pursuing dual degrees in COMP ENG and ELEC ENG may take either COMP ENG 4096 or ELEC ENG 4096 and COMP ENG 4097 or ELEC ENG 4097. Students may not receive credit for both COMP ENG 4096 and ELEC ENG 4096 or COMP ENG 4097 and ELEC ENG 4097 in the same degree program.
[18]	Students are required to take at least three credit hours. Elec Eng 2800 level, ELEC ENG 4096, ELEC ENG 4097, COMP ENG 4096 and COMP ENG 4097 may not be used for free electives. No more than one credit hour of COMP ENG 3002 or ELEC ENG 3002 may be applied to the BS degree for free electives.
[19]	Comp Eng Elective B must be a 4000 or 5000 level COMP ENG course with at least a 3-hour lecture component, excluding COMP ENG 4096 and COMP ENG 4097.

Emphasis Areas for Computer Engineering

Note: The following emphasis areas identify courses from which a student may opt to develop a specific emphasis. It is not required that students obtain an emphasis specialty within computer engineering.

Computational Intelligence

Highly Recommended		
COMP ENG 5310	Computational Intelligence	3
ELEC ENG 5370	Introduction to Neural Networks and Applications	3
COMP ENG 6310	Markov Decision Processes	3
Suggested		
ELEC ENG 5330	Fuzzy Logic Control	3
COMP ENG 5450	Digital Image Processing	3
COMP ENG 5460	Machine Vision	3

Computer Architecture and Embedded Systems

Highly Recommended		
COMP ENG 5110	Principles of Computer Architecture	3
COMP ENG 5120	Digital Computer Design	3
COMP ENG 5151	Digital Systems Design Laboratory	3
COMP ENG 5160	Embedded Processor System Design	3
COMP ENG 5170	Real-Time Systems	3

Suggested		
COMP ENG 5610	Real-Time Digital Signal Processing	3
COMP ENG 5130	Advanced Microcomputer System Design	3
ELEC ENG 3100	Electronics I	3
COMP SCI 3100	Software Engineering I	3

Integrated Circuits and Logic Design

Highly Recommended		
COMP ENG 2210	Introduction to Digital Logic	3
COMP ENG 5210	Introduction To VLSI Design	3
COMP ENG 5220	Digital System Modeling	3
COMP ENG 6210	Digital Logic	3
Suggested		
ELEC ENG 3100	Electronics I	3
COMP ENG 5110	Principles of Computer Architecture	3
COMP ENG 5151	Digital Systems Design Laboratory	3
COMP ENG 5120	Digital Computer Design	3
COMP ENG 5130	Advanced Microcomputer System Design	3
COMP ENG 5510	Fault-Tolerant Digital Systems	3

Networking, Security, and Dependability

Highly Recommended		
COMP ENG 5420	Introduction to Network Security	3
COMP ENG 5430	Wireless Networks	3
COMP ENG 6440	Network Performance Analysis	3
COMP ENG 6510	Resilient Networks	3
Suggested		
COMP ENG 5510	Fault-Tolerant Digital Systems	3

Justification for request

Comp Sci 1510 - Data Structures changed course number to Comp Sci 1575 - Data Structures.

Supporting
Documents

Course Reviewer
Comments

ershenb (07/20/17 12:07 pm): .

Key: 153
Preview Bridge

Program Change Request

New Program Proposal

Date Submitted: 03/06/17 6:34 pm

Viewing: PROPOSED : Master of Science in Explosives Technology

File: 249

Last edit: 05/15/17 4:10 pm

Changes proposed by: kapqh4

Start Term	Spring 2018
Program Code	PROPOSED
Department	Mining & Nuclear Engineering
Title	Master of Science in Explosives Technology

In Workflow

1. **RMINNUCL Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. kristyg

Approval Path

1. 03/08/17 10:13 am Braden Iusk (blusk): Approved for RMINNUCL Chair
2. 03/08/17 11:13 am Kristy Giacomelli (kristyg): Approved for CCC Secretary
3. 05/15/17 4:10 pm sraper: Approved for Engineering DSCC Chair
4. 06/30/17 9:38 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Program Requirements and Description

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 and a minor and certificate in explosives engineering for students with bachelor's degrees in engineering, science or technology. It also offers an explosives technology certificate and master of science (MS) for those with other bachelor's degrees. 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. 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.

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 6099), 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 5612	Principles of Explosives Engineering Exp Eng 5622	Blasting Design and Technology
Exp Eng 5713	Demolition of Buildings and Structures	
Exp Eng 5922	Tunneling and Underground Construction Techniques	
Exp Eng 6412	Environmental Controls for Blasting	
Exp Eng 6312	Scientific Instrumentation for Explosives and Blasting	

Four of the following core courses are required of all M.S. students in Explosives Technology:

Exp Eng 5612	Principles of Explosives Engineering Exp Eng 5622	Blasting Design and Technology
Exp Eng 5711	Explosives in Industry	
Exp Eng 5713	Demolition of Buildings and Structures	
Exp Eng 5721	Specialty Uses of Energetic Materials	
Exp Eng 5914	Explosives Manufacturing	
Exp Eng 5922	Tunneling and Underground Construction Techniques	
Exp Eng 5711	Environmental Controls for Blasting	
Exp Eng 5721	Scientific Instrumentation for Explosives and Blasting	
Exp Eng 6112	Explosives Regulations	

Students select 12 hours of Exp Eng and other appropriate elective courses. M.S. in explosives engineering and explosives technology 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 course work which may include an explosives related cooperative work experience (Exp Eng 6070) or industry project (Exp Eng 6080) with an established company or government agency commonly using explosives and an additional explosives course.

Justification for request	We are applying for an M.S. degree in Explosives Technology. Building on our Masters of Explosives Engineering degree, the Masters of Explosives Technology degree has high potential for attracting students from our online certificate program, particularly from the military and government. The ATF, which currently sends 30-40 agents per year through our Explosives Technology Certificate program, has requested that we make changes to the Certificate program (currently in progress) to accommodate an extra 30-40 agents a year and also develop a Masters of Explosives Technology degree. We receive a constant stream of inquires about our current program. However prospective students without an engineering or physical science degree are currently limited in their options. The Graduate Certificate in Explosives Technology was developed in response to the demand from these students. However, in order to continue on to the M.S. in Explosives Engineering, a series of makeup/prerequisite courses are required for most of these students. An M.S. in Explosives Technology would allow these students (who are mostly military) to continue on. The ATF has requested that we develop the degree so that their agents can continue on to an M.S. degree. Currently only a handful of the agents that have received the Explosives Technology Graduate Certificate have had engineering or physical science degrees. They are wanting to double the number of agents they send through this program and to encourage their agents to continue on to an M.S. degree, and have requested that we develop the M.S. in Explosives Technology degree. In addition it would cater to the demand from military EOD and other students. There will continue to be growing opportunities for graduates with explosives qualifications in the defense, consulting and explosives manufacturing industries and in government. It is expected that the overwhelming majority of our online students will already have a job in industry, the military or a government agency and will be using the M.S. to advance their career, but we would also like to be able to offer the degree on campus so that students can complete the degree in a shorter time frame and move on to a new career. We have already had army officers come to campus and complete their M.S. degree in Explosives Engineering upon their separation from the army
Supporting Documents	Explosives Technology MS Proposal 3-06-17.pdf FinancialProjections - MS Explosives Technology.xlsx
Course Reviewer Comments	**sraper (05/15/17 4:10 pm):** There were no objections from the DSCC to this new program.

Key: 249
Preview Bridge

Program Change Request

Date Submitted: 05/01/17 12:56 pm

Viewing: TCH COM-BS : Technical Communication BS

File: 132.7

Last approved: 07/21/15 3:25 pm

Last edit: 05/01/17 12:56 pm

Changes proposed by: kswenson

Catalog Pages Using this Program	Technical Communication
Start Term	Fall **2017** ~~2015~~
Program Code	TCH COM-BS
Department	English and Technical Communication
Title	Technical Communication BS

In Workflow

1. **RENGLISH Chair**
2. **CCC Secretary**
3. **Arts & Humanities DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. kristyg

Approval Path

1. 05/01/17 12:58 pm Kristine Swenson (kswenson): Approved for RENGLISH Chair
2. 05/10/17 12:29 pm Lahne Black (lahne): Approved for CCC Secretary
3. 05/11/17 2:37 pm Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 06/30/17 10:14 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Apr 23, 2014 by Kristine Swenson (kswenson)
2. Aug 4, 2014 by Kristine Swenson (kswenson)
3. Jul 21, 2015 by pantaleoa

Program Requirements and Description

Bachelor of Science
Technical Communication

The technical communication degree requires 33 credit hours of core courses: ENGLISH 2410 , TCH COM 2540 (or ENGLISH 2540), TCH COM 2560 (or ENGLISH 2560), TCH COM 5620, TCH COM 3440, TCH COM 4410, and five additional courses from the following list: ENGLISH 3560, ENGLISH 3302, TCH COM 3001, TCH COM 3010, TCH COM 5510, TCH COM 4550, TCH COM 5610, TCH COM 4085, TCH COM 5530, TCH COM 5560, TCH COM 4520, TCH COM 4450. It also requires 42 hours of general education courses, 36 hours of interdisciplinary courses (see note below), and 15 hours of free electives, for a total of 126 hours. Specific requirements for the bachelor's degree are outlined in the sample program listed below.

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
ENGLISH 1120	3	TCH COM 1600	3
MATH 1140, or 1110, or 1103	3	BIO SCI 1113, or 2223, or 2233, or 2263	3
PSYCH 1101	3	HISTORY 1300, or 1310, or 1100, or 1200	3
Interdisciplinary Course[1]	3	Interdisciplinary Course[1]	3
Humanities, Art, Music, Theater	3	ECON 1100	3
	15		15
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
SP&M S 1185	3	Humanities, Art, Music, Theater	3
English Literature	3	POL SCI 1200	3
TCH COM 2540	3	TCH COM 2560	3
ENGLISH 2410	3	TCH COM Elective	3
Interdisciplinary Course[1]	3	Chemistry, Geology, Physics	3
		Interdisciplinary Course[1]	3
	15		18

Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
Math/Statistics	3	TCH COM 5620	3
TCH COM 3440	3	TCH COM Elective	3
Interdisciplinary Course[1]	3	TCH COM Elective	3
Interdisciplinary Course[1]	3	Interdisciplinary Course[1]	3
Interdisciplinary Course[1]	3	Interdisciplinary Course[1]	3
		Free Elective	3
	15		18
Senior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
TCH COM Elective	3	TCH COM 4410	3
Interdisciplinary Course[1]	3	TCH COM Elective	3
Interdisciplinary Course[1]	3	Interdisciplinary Course[1]	3
Free Elective	3	Free Elective	3
Free Elective	3	Free Elective	3
	15		15
Total Credits: 126			

[1] In consultation with his or her advisor, the student will select 36 hours of interdisciplinary courses from only two of the areas listed below, with no fewer than 15 credit hours per area: biological sciences, business, chemistry, computer science, economics, education, engineering management, English, finance, one foreign language, geology, history, information science and technology, management and information systems, mathematics, philosophy, physics, political science, psychology, speech and media studies, statistics, any area of engineering.
At least 12 of the 36 hours must come from courses numbered 2000-level or above. The student's course selections must be approved by the department of English and technical communication's technical communication committee.

Justification for request	We're expanding the possible math requirements to accommodate different students' emphases and career goals.
Supporting Documents	
Course Reviewer Comments	

Key: 132
Preview Bridge

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 06/14/17 10:50 am

Viewing: **ELEC ENG 6001.004 : Adaptive Control**

File: 4430

Last edit: 07/20/17 2:11 pm

Changes proposed by: martins

Requested Effective Change Date	Spring 2018
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	6001
Topic ID	004
Experimental Title	

In Workflow

1. **RELECENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. Registrar

Approval Path

1. 06/14/17 11:00 am
   Daryl Beetner (daryl): Approved for RELECENG Chair
2. 06/21/17 10:27 am
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 07/20/17 11:29 am

sraper: Approved for Engineering DSCC Chair
4. 07/20/17 2:12 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Adaptive Control

Experimental Abbreviated Course Title: Adaptive Control

Instructors: Dr. Jagannathan Sarangapani

Experimental Catalog Description:

Intro to adaptive control, Lypunov stability, positive real and strictly positive real, Kalman-Yukabovich lemma, system identification, direct and indirect adaptive control, adaptive observers, adaptive control design, nonlinear adaptive design tools-adaptive control with multiple models, adaptive neural network control, decentralized adaptive control design

Prerequisites:

Elec Eng 6300 or consent of the instructor

Field Trip Statement:

N/A

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

Total: 3

Justification for new course:

This course will become a core controls course.

Semester(s)
previously taught

Co-Listed
Courses:
Course Reviewer
Comments

Key: 4430
Preview Bridge

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 06/14/17 10:26 am

Viewing: **ELEC ENG 6001.005 : High Frequency Sensors and Sensing Systems**

File: 4429

Last edit: 07/20/17 2:19 pm

Changes proposed by: martins

Requested Effective Change Date	Spring 2018
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	6001
Topic ID	005
Experimental Title	

In Workflow

1. **RELECENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. Registrar

Approval Path

1. 06/14/17 11:01 am
   Daryl Beetner (daryl): Approved for RELECENG Chair
2. 06/21/17 10:28 am
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 07/20/17 11:29 am

sraper: Approved for Engineering DSCC Chair
4. 07/20/17 2:21 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

High Frequency Sensors and Sensing Systems

Experimental Abbreviated Course Title: High Frequency Sensors

Instructors: Dr. Kristen Donnell

Experimental Catalog Description:

Topics include basics of sensing and sensor systems, wireless sensor networks, embedded sensing, modulated scatterer technique, sensing approaches based on RFID, frequency selective surfaces, and coaxial transmission lines. Other topics may include magnetic sensors, capacitive and inductive sensors, and optical sensors.

Prerequisites:

Elec Eng 3600 or equivalent undergraduate electromagnetics course.

Field Trip Statement:

N/A

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

Total: 3

Justification for new course:

This course was taught as Elec Eng 5001 in SP 2016. Dr. Donnell found that the undergraduate student that took the course struggled. The grad students that took

the course would have liked to the course count toward their program of study on the graduate level. This course includes material not covered in other electromagnetic courses that supports or is related to a number of research programs. This course number change is requested due to the emphasis on sensor engineering/design in both homework and class projects.

Semester(s) previously taught

None as Elec Eng 6001

Co-Listed Courses:

Course Reviewer Comments

sraper (06/26/17 3:03 pm): edit of senor to sensor.

sraper (07/06/17 10:37 am): Edit to description as provided by Kristen Donnell.

Key: 4429

Preview Bridge

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 06/16/17 2:46 pm

Viewing: **EXP ENG 6001.003 : Experimental Techniques for Ultra-high-velocity Impact**

File: 4431

Last edit: 07/20/17 2:25 pm

Changes proposed by: pworsey

Requested Effective Change Date	Spring 2018
Department	Mining & Nuclear Engineering
Discipline	Explosives Engineering (EXP ENG)
Course Number	6001
Topic ID	003
Experimental Title	

In Workflow

1. **RMINNUCL Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

Approval Path

1. 06/19/17 7:17 am Braden lusk (blusk): Approved for RMINNUCL Chair
2. 06/21/17 10:29 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 07/20/17 11:30 am sraper: Approved

for Engineering
DSCC Chair

Experimental Techniques for Ultra-high-velocity Impact

Experimental Abbreviated Course Title: Ultra-High-Vel Impact

Instructors: Vilem Petr

Experimental Catalog Description:

This course offers participants the opportunity to develop a fundamental knowledge of the principles of ultra-high-velocity impact and current experimental techniques for capturing such phenomena. The course will overview ballistic theory and impact; metallurgical observations; energy partitioning and engineering considerations in the hypervelocity regime.

Prerequisites:

Field Trip Statement:

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

Justification for new course:

Expansion of offerings in the explosives engineering graduate programs

Semester(s) previously taught:

Co-Listed Courses:

Course Reviewer Comments:

Key: 4431

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 06/27/17 2:45 pm

Viewing: **MS&E 6001.001 : Advanced Chemistry of Construction Materials**

File: 4432

Last edit: 07/20/17 2:38 pm

Changes proposed by: smiller

Requested Effective Change Date	Fall 2017
Department	Materials Science & Engineering
Discipline	Materials Science & Eng (MS&E)
Course Number	6001
Topic ID	001
Experimental Title	

In Workflow

1. **RMATSENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

Approval Path

1. 06/28/17 9:16 am mjokeefe: Approved for RMATSENG Chair
2. 06/28/17 9:56 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 07/20/17 11:30 am sraper: Approved for Engineering DSCC Chair

Experimental Abbreviated Course Title	Advanced Chemistry of Construction Materials Adv Constr Mat Chem
Instructors	Aditya Kumar
Experimental Catalog Description	Objectives: To describe fundamental composition-microstructure-property relationships in construction materials. Tests will include quizzes, written-exams, as well as a term paper and a presentation on a topic relevant to the course.
Prerequisites	Graduate standing
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Justification for new course:	Graduate level course to be offered simultaneously with the MS&E 5001 Chemistry of Constructrion Materials course. Co Listed Courses: MS&E 5001.001 Chemistry of Construction Materials
Semester(s) previously taught	none
Co-Listed Courses:	
Course Reviewer Comments	**ershenb (06/28/17 9:56 am):** moved co-listed course to "Justification" section per the EC process in the workflow.

Key: 4432

Preview Bridge

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 07/18/17 11:05 am

Viewing: **PET ENG 4001.002 : Petroleum Engineering Applications of MATLAB**

File: 4436

Last edit: 07/31/17 2:16 pm

Changes proposed by: reflori

Requested Effective Change Date	Spring 2018
Department	Geosciences and Geological and Petroleum Engineering
Discipline	Petroleum Engineering (PET ENG)
Course Number	4001
Topic ID	002
Experimental Title	

In Workflow

1. **RGEOSENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

Approval Path

1. 07/18/17 11:14 am
   Francisca Oboh-Ikuenobe (ikuenobe): Approved for RGEOSENG Chair
2. 07/18/17 2:00 pm
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 07/31/17 12:28 pm

sraper: Approved for Engineering DSCC Chair

Petroleum Engineering Applications of MATLAB

Experimental Abbreviated Course Title: Pet Eng Applic MATLAB

Instructors: Ralph Flori

Experimental Catalog Description:

Use of MATLAB for modeling, solving and simulating Petroleum Engineering problems. Coverage of a wide variety of operations and functions in MATLAB while solving many kinds of Petroleum Engineering drilling, production, reservoir, geomechanical and other problems.

Prerequisites:

Pet Eng 3520.

Field Trip Statement:

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

Justification for new course:

Petroleum engineering undergraduates and graduate students need more computational and programming experience. This course aims to provide that.

Semester(s) previously taught:

New course.

Co-Listed Courses:

Course Reviewer

Comments

sraper (07/20/17 11:44 am): Changed effective date to Spring 2018

sraper (07/31/17 12:28 pm): deleted "or consent of the instructor"

Key: 4436

Preview Bridge

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 07/18/17 11:10 am

Viewing: **PET ENG 6001.008 : Advanced Petroleum Engineering Applications with MATLAB**

File: 4437

Last edit: 07/31/17 2:31 pm

Changes proposed by: reflori

Requested Effective Change Date	Spring 2018
Department	Geosciences and Geological and Petroleum Engineering
Discipline	Petroleum Engineering (PET ENG)
Course Number	6001
Topic ID	008
Experimental Title	

In Workflow

1. **RGEOSENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. Registrar

Approval Path

1. 07/18/17 11:13 am
   Francisca Oboh-Ikuenobe (ikuenobe): Approved for RGEOSENG Chair
2. 07/18/17 2:01 pm
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 07/31/17 12:29 pm

sraper: Approved for Engineering DSCC Chair

Advanced Petroleum Engineering Applications with MATLAB

Experimental Abbreviated Course Title: Adv Pet Eng Appl MATLAB

Instructors: Ralph E Flori

Experimental Catalog Description:

Use of MATLAB for modeling, solving and simulating advanced, high level Petroleum Engineering problems. Coverage of a wide variety of operations and functions in MATLAB while solving many kinds of Petroleum Engineering drilling, production, reservoir, geomechanical and other advanced problems.

Prerequisites:

Pet Eng 3520.

Field Trip Statement:

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

Justification for new course:

Pet Eng graduate students need an advanced programming and computational class. This class has been developed to address this need.

Semester(s) previously taught:

New course, never before offered.

Co-Listed Courses:

Course Reviewer

Comments

sraper (07/20/17 11:44 am): Changed effective date to Spring 2018.

sraper (07/31/17 12:29 pm): deleted "or consent of instructor"

Key: 4437

Preview Bridge

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 05/28/17 8:51 am

Viewing: **POL SCI 3001.002 : Policy for Science, Technology, and Innovation**

File: 4427

Last edit: 05/30/17 7:45 pm

Changes proposed by: sfogg

Requested Effective Change Date	Spring 2018
Department	History and Political Science
Discipline	Political Science (POL SCI)
Course Number	3001
Topic ID	002
Experimental Title	Policy for Science, Technology, and Innovation
Experimental Abbreviated Course Title	Sci Tech Policy
Instructors	Alanna Krolikowski
Experimental Catalog Description	Do Google, Airbus, and Samsung owe their success to the wisdom and foresight of government bureaucrats? This course explores whether and how public policy can foster the advancement of science, technology, and innovation. The course compares how national innovation systems have evolved and function in U.S., European, and East Asian contexts.
Prerequisites	None
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Justification for new course:	This course in public policy aims to meet the needs and interests of advanced undergraduate students in the natural, applied, and social sciences, in business, and in history. This course can contribute to students' academic experience and career pursuits in at least three ways. First, the subject matter of this course is directly relevant to the interests and professional aspirations of students envisaging careers in engineering, the sciences, business, or government. The course aims to enhance students' awareness of the social and political context of scientific and technical work and to strengthen their grasp of related policy issues. Second, this course promises to equip students with the analytical tools to become active participants in the public debate of policy issues facing their communities. Assignments and readings focus on conceptual and theoretical content in the study of public policy and the development of communication skills in this area. These enable students to critically evaluate and more effectively formulate and convey arguments about policy.

In Workflow

1. **RHISTORY Chair**
2. **CCC Secretary**
3. **Arts & Humanities DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. Registrar

Approval Path

1. 05/28/17 9:06 am sfogg: Approved for RHISTORY Chair
2. 05/30/17 11:33 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 05/30/17 7:45 pm Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 06/30/17 9:09 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Third, a familiarity with the policy context of scientific and technical work prepares students for future leadership positions in firms, government agencies, and research institutions. To succeed, leaders in many scientific and technical organizations must routinely engage diverse government and civil-society actors. This course introduces students to advanced scholarship on this topic and allows them to experience the real-world applicability of these skills through policy and business cases and simulations.

In sum, the substantive focus, analytical content, and practical relevance of this course combine to make it a potentially helpful complement to the courses required in various science, technology, and other programs at MST, promising to enhance both students' educational experience and preparation for professional life.

Semester(s) previously taught	None
Co-Listed Courses:	
Course Reviewer Comments	**dewittp (05/30/17 7:45 pm):** Updated language in course description.

Key: 4427
Preview Bridge

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 07/12/17 12:43 pm

Viewing: **STAT 6001.004 : Foundations of Statistical Learning II**

File: 4435

Last edit: 07/26/17 8:26 am

Changes proposed by: imorgan

Requested Effective Change Date	Spring 2018
Department	Mathematics & Statistics
Discipline	Statistics (STAT)
Course Number	6001
Topic ID	004
Experimental Title	

In Workflow

1. **RMATHEMA Chair**
2. **CCC Secretary**
3. **Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. Registrar

Approval Path

1. 07/12/17 6:08 pm sclark: Approved for RMATHEMA Chair
2. 07/13/17 8:11 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 07/25/17 1:23 pm Ilene Morgan (imorgan): Approved for

Sciences DSCC Chair
4. 07/26/17 8:27 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

	Foundations of Statistical Learning II				
Experimental Abbreviated Course Title	Statistical Learning II				
Instructors	Prof. Robert Paige				
Experimental Catalog Description	Statistical learning techniques for Data Mining and analysis of Big Data. Topics include reproducing kernel Hilbert spaces, wavelets, PRIM, hierarchical mixtures of experts, ensemble learning, clustering, topological data analysis, self-organizing maps, principal surfaces, independent components, projection pursuit, manifold learning and graphical models.				
Prerequisites	Math 2222; Math 3108, Math 5108, or Math 6108; Stat 3111, Stat 3113, Stat 3115, Stat 3117, or Stat 5643.				
Field Trip Statement					
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
Justification for new course:					

Statistical Learning is increasing in importance as a research area so we would like to expand our offerings. In addition, a number of students who have taken Foundations of Statistical Learning have expressed an interest in a second semester of Statistical Learning topics. One of the main reasons for this interest Is that Foundations of Statistical Learning emphasizes supervised learning and another course on the Foundations of Statistical Learning would provide a detailed coverage of unsupervised learning techniques.

Semester(s) previously taught

None

Co-Listed Courses:

Course Reviewer Comments

Key: 4435

Preview Bridge

Course Inventory Change Request

New Course Proposal

Date Submitted: 03/08/17 10:00 am

Viewing: **ENG MGT 6216 : Financial Data Analysis**

File: 4408

Last edit: 03/15/17 3:27 pm

Changes proposed by: cornss

Requested Effective Change Date	Spring 2018
Department	Engineering Management and Systems Engineering
Discipline	Engineering Management (ENG MGT)
Course Number	6216
Title	Financial Data Analysis
Abbreviated Course Title	Financial Data Analysis
Catalog Description	Statistical analysis of financial markets data (e.g., equity prices, exchange rates, and interest rates). The application of exploratory data analysis as well as more formal statistical methods such as regression, time series, principal component analysis (PCA), factor models, and Bayesian data analysis in modeling financial data will be covered.
Prerequisites	An undergraduate calculus based statistics course and one of Eng Mgt 6212, Sys Eng 6612, Eng Mgt 6213, or Sys Eng 6613.
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 new course:	Course will be added to the Financial Engineering Certificate as a required course. This course will be co-listed with Sys Eng 6616. Because this has been done in mid-process. We will have to manually add Sys Eng 6616 at end of process because it is not an existing course.
Semesters previously offered as an experimental course	Spring 2016
Co-Listed Courses:	
Course Reviewer Comments	**kristyg (03/15/17 3:27 pm):** Rollback: Rollback per email.

In Workflow

1. **RENGMNGT Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Ishelton
11. Peoplesoft

Approval Path

1. 03/08/17 10:47 am Suzanna Long (longsuz): Approved for RENGMNGT Chair
2. 03/08/17 2:35 pm Kristy Giacomelli (kristyg): Approved for CCC Secretary
3. 03/14/17 2:54 pm sraper: Approved for Engineering DSCC Chair
4. 03/15/17 3:27 pm Kristy Giacomelli (kristyg): Rollback to Engineering DSCC Chair for Pending CCC Agenda post
5. 04/10/17 2:57 pm sraper: Approved for Engineering DSCC Chair
6. 04/10/17 3:01 pm Kristy Giacomelli (kristyg):