Campus Curricula Committee Meeting Agenda
October 3, 2018
9:00-10:30 a.m., 110 Bertelsmeyer 110H
(For Faculty Senate Meeting of October 18, 2018)

Review of submitted Course Change forms:

File: 519.10	CER ENG 3240: Applied Glass Forming
File: 4292.5	CHEM ENG 5241: Intermediate Process Safety in the Chemical and Biochemical Industries
File: 4557	ELEC ENG 6370: Adaptive Control
File: 21.1	ENG MGT 5320: Project Management
File: 1636.1	ENG MGT 6101: Advanced Research Methodology in Engineering Management
File: 1986.1	ENG MGT 6412: Mathematical Programming
File: 565.9	ERP 5410: Use of Business Intelligence
File: 4563	EXP ENG 6767: Special Explosive Applications
File: 2441.11	IS&T 3131: Computing Internals and Operating Systems
File: 2225.8	IS&T 3333: Data Networks and Information Security
File: 4156.6	IS&T 3420: Introduction to Data Science and Management
File: 259.10	IS&T 3423: Database Management
File: 264.1	IS&T 3553: Modular Software Systems in Java
File: 4407.7	IS&T 5520: Data Science and Machine Learning with Python
File: 4471.8	IS&T 5535: Machine Learning Algorithms and Applications
File: 2003.1	IS&T 5652: Advanced Web Development
File: 4553	MECH ENG 5543: Energy Efficiency of Vehicles
File: 4560	PET ENG 6211: Advanced Directional Drilling and MWD
File: 4561	PET ENG 6811: Advanced Petroleum Offshore Technology
File: 1495.1	PHYSICS 6311: Statistical Mechanics

Review of submitted Degree Change forms:

File: 148.29	BUS&MS-BS: Business and Mgmt Systems BS
File: 150.61	CH ENG-BS: Chemical Engineering BS
File: 153.57	CP ENG-BS: Computer Engineering BS

Review of submitted Experimental Course forms:

File: 4550	BIO SCI 3001.002: Ecophysiology
File: 4568	COMP SCI 4001.003: Introduction to Cyber Security Offense
File: 4559	HISTORY 3001.006: Folk Technology and Material Culture
File: 4564	MS&E 6001.TBD: Advanced Materials Communication
File: 4556	NUC ENG 6001.006: Nuclear Data Processing
File: 4567	THEATRE 2001.002: Story Structure: From Stage to Video Games

Review of tabled items:

File: 124.3	PSY LEA-MI: Psychol of Leadership – Minor

Course Change Request

Date Submitted: 09/12/18 3:58 pm

Viewing: **CER ENG 3240** ~~2240~~ **: Applied Glass Forming**

File: 519.10

Last approved: 04/03/17 3:15 am

Last edit: 09/18/18 9:45 am

Changes proposed by: smiller

Requested Effective Change Date	**Spring 2019** ~~Fall 2017~~
Department	Materials Science & Engineering
Discipline	Ceramic Engineering (CER ENG)
Course Number	**3240** ~~2240~~
Title	Applied Glass Forming
Abbreviated Course Title	Applied Glass Forming

Catalog Description

Examines the properties and behavior of molten glass along with basic forming techniques, including off-hand shaping, molding and casting.

Prerequisites

A grade of "C" or better in either Cer Eng 2210 or **instructor's permission.** ~~Met Eng 1210. Freshman standing or sophomore standing only.~~

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 change:

The change of course number reflects the more advanced technical level of the course compared to most 2XXX level courses.

Semesters previously

Approval Path

1. 09/12/18 3:59 pm
   Greg Hilmas (ghilmas): Approved for RMATSENG Chair
2. 09/12/18 4:09 pm
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/18/18 10:55 am
   Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/18/18 11:41 am
   Brittany Parnell (ershenb):

offered as an
experimental
course

Approved for
Pending CCC
Agenda post

Co-Listed
Courses:

Course Reviewer
Comments
   sraper (09/17/18 8:51 am): Changed prereq per Scott Millers email.

History
1. Oct 21, 2016 by
   smiller (519.1)
2. Apr 3, 2017 by
   smiller (519.5)

Key: 519

Preview Bridge

Course Change Request

Date Submitted: 08/29/18 3:03 am

Viewing: **CHEM ENG 5241 : Intermediate Process Safety in the Chemical and Biochemical Industries**

File: 4292.5

Last approved: 05/24/16 4:57 am

Last edit: 09/10/18 10:15 am

Changes proposed by: jcwang

Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	5241
Title	Intermediate Process Safety in the Chemical and Biochemical Industries
Abbreviated Course Title	Bioprocess Safety

Catalog Description

This course covers risk assessment, biohazard containment and inactivation practices, and other biosafety issues relevant to industrial bioprocessing. Considerations relating to the release of genetically modified organisms are also discussed.

Prerequisites

~~Chem Eng 3150 or~~ graduate standing.

Field Trip Statement

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

Justification for change:

Undergraduate Chem Eng students are not supposed to take this course. They should take Chem Eng 4241.

In Workflow

1. **RCHEMENG 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. CAT entry
11. Peoplesoft

Approval Path

1. 08/30/18 2:50 pm Muthanna Al-Dahhan (aldahhanm): Approved for RCHEMENG Chair
2. 08/31/18 8:34 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/10/18 3:01 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/14/18 2:47 pm Brittany Parnell (ershenb): Approved for

Semesters
previously
offered as an
experimental
course

Removed "Special project" from end of prereq. Email from Chem Eng.

Co-Listed
Courses:

Course Reviewer
Comments

History

1. May 24, 2016 by
   Daniel Forciniti
   (forcinit)

Key: 4292

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 08/27/18 10:04 am

Viewing: **ELEC ENG 6370 : Adaptive Control**

File: 4557

Last edit: 09/10/18 2:56 pm

Changes proposed by: sweetk

Requested Effective Change Date	Spring 2019
Department	Electrical and Computer Engineering
Discipline	Electrical Engineering (ELEC ENG)
Course Number	6370
Title	Adaptive Control
Abbreviated Course Title	Adaptive Control

Catalog Description

Intro to adaptive control, Lypunov stability, positive real and strictly positive real, Kalman-Yukabovich lemma, system identification, direct/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.

Field Trip Statement
  N/A

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

Required for Majors	No
Elective for Majors	Yes

Justification for new course:

At present, the control curriculum covers linear, nonlinear and neural network control courses whereas there is no course that connects the traditional linear and

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. CAT entry
11. Peoplesoft

Approval Path

1. 08/29/18 8:26 pm Daryl Beetner (daryl): Approved for RELECENG Chair
2. 08/30/18 1:55 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/10/18 2:56 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/14/18 2:49 pm Brittany Parnell (ershenb): Approved for

nonlinear with neural network and fuzzy control. Adaptive control is a traditional controls course. Also, many in the campus work on the application of this course to real world problems. No other course covers the material included in this course.

Pending CCC
Agenda post

Semesters previously offered as an experimental course	Spring 2014 (11 enrolled) Spring 2018 (9 enrolled)
Co-Listed Courses:	

Course Reviewer Comments	**sraper (09/10/18 2:56 pm):** changed to elective for majors though neither is required.

Key: 4557

Preview Bridge

Course Change Request

Date Submitted: 09/13/18 11:45 am

Viewing: **ENG MGT 5320 : Project Management**

File: 21.1

Last edit: 09/13/18 12:04 pm

Changes proposed by: cornss

Catalog Pages referencing this course	Business Administration Civil, Architectural, and Environmental Engineering Economics Engineering Management Information Science and Technology
Other Courses referencing this course	In The Prerequisites: ENG MGT 6322 : Case Studies in Project Management ENG MGT 6323 : Global Project Management
Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Engineering Management and Systems Engineering
Discipline	Engineering Management (ENG MGT)
Course Number	5320
Title	Project Management
Abbreviated Course Title	Project Management
Catalog Description	Organization structure and staffing; motivation, authority and influence; conflict management; project planning; network systems; pricing, estimating, and cost control; proposal preparation; project information systems; international project management.
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:	Co-list with Systems Engineering Project Management Course
Semesters previously offered as an experimental course	

Approval Path

1. 09/13/18 11:48 am Suzanna Long (longsuz): Approved for RENGMNGT Chair
2. 09/13/18 12:04 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/18/18 10:56 am Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/18/18 1:06 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

SYS ENG 6105 - **Complex Engineering Systems Project Management**

Co-Listed
Courses:

Course Reviewer
Comments

Course Change Request

Date Submitted: 09/12/18 2:29 pm

Viewing: **ENG MGT 6101 : Advanced Research Methodology in** ~~In~~ **Engineering Management**

File: 1636.1

Last edit: 09/18/18 1:07 pm

Changes proposed by: cornss

Requested Effective Change Date	**Spring 2019** ~~08/01/2014~~
Department	Engineering Management and Systems Engineering
Discipline	Engineering Management (ENG MGT)
Course Number	6101
Title	Advanced Research Methodology **in** ~~In~~ Engineering Management
Abbreviated Course Title	Adv Res **Meth** ~~Mthdlgy~~ Eng Mgt

Catalog Description

An advanced study of research methodology techniques and theories in conducting research activities. The research problems, hypotheses, literature search, data requirements and analyses, interpretation and presentation of results are examined.

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:

Co-list with systems engineering

Semesters previously

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. CAT entry
11. Peoplesoft

Approval Path

1. 09/12/18 2:38 pm Suzanna Long (longsuz): Approved for RENGMNGT Chair
2. 09/12/18 2:51 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/18/18 10:56 am Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/18/18 1:07 pm Brittany Parnell (ershenb):

offered as an experimental course		Approved for Pending CCC Agenda post

Co-Listed Courses:	**Sys Eng 6101** - **Course Not Found**

Course Reviewer Comments	**sraper (09/17/18 9:16 am):** changed part of abbreviated title. Cleared with Dr. Corns.

Key: 1636

Preview Bridge

Course Change Request

Date Submitted: 09/12/18 3:04 pm

Viewing: **ENG MGT 6412 : Mathematical Programming**

File: 1986.1

Last edit: 09/18/18 10:57 am

Changes proposed by: cornss

Other Courses referencing this course	In The Catalog Description: MATH 6665 : Mathematical Programming

Requested Effective Change Date	**Spring 2019** 08/01/2014
Department	Engineering Management and Systems Engineering
Discipline	Engineering Management (ENG MGT)
Course Number	6412
Title	Mathematical Programming
Abbreviated Course Title	Mathematical Programming

Catalog Description

Linear An introduction to linear optimization and its engineering applications; problem modeling, search-based optimization, the simplex method for solving linear problems, multi-objective optimization, discrete dynamic programming. Applications of optimization in the fields such as transportation, project management, manufacturing and facility location will be discussed.

Prerequisites

One of Stats 3113, 3115, Stat 3113 or **3117,** equivalent and (Eng Mgt 5414 or Math **3108.** 3103 or Math 3108)

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:		Engineering DSCC Chair
Co-list with Systems Engineering		5. 09/18/18 1:42 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
Semesters previously offered as an experimental course		

Co-Listed Courses:	MATH 6665 - Mathematical Programming **SYS ENG 6412** - **Course Not Found**
Course Reviewer Comments	**longsuz (09/12/18 2:39 pm):** Rollback: this is a 6000 level course, NOT an INTRO. Can we strike the word completely? **sraper (09/18/18 10:57 am):** Changed prereq per S. Corns.

Key: 1986

Preview Bridge

Course Change Request

Date Submitted: 08/26/18 1:14 pm

Viewing: **ERP 5410 : Use of Business Intelligence**

File: 565.9

Last approved: 08/24/18 12:04 pm

Last edit: 09/10/18 8:46 am

Changes proposed by: barryf

Catalog Pages referencing this course	Information Science and Technology
Other Courses referencing this course	In The Prerequisites: IS&T 6443 : Information Retrieval and Analysis
Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Business and Information Technology
Discipline	Enterprise Resource Planning (ERP)
Course Number	5410
Title	Use of Business Intelligence
Abbreviated Course Title	Use of Business Intel
Catalog Description	This course introduces data-oriented techniques for business intelligence. Topics include Business Intelligence architecture, Business Analytics, and Enterprise Reporting. SAP Business Information Warehouse, Business Objects, or similar tools will be used to access and present data, generate reports, and perform analysis.
Prerequisites	IS&T 1750 or **equivalent.** ~~equivalent; ERP 2110 or preceded or accompanied by ERP 5110.~~
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:	Instructor plans to cover those features of SAP used as examples in the class, rather than requiring them from a prerequisite.
Semesters previously offered as an experimental course	

In Workflow

1. **RBUSADMN 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. CAT entry
11. Peoplesoft

Approval Path

1. 09/07/18 5:17 pm siauk: Approved for RBUSADMN Chair
2. 09/10/18 8:47 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/10/18 5:21 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/14/18 2:49 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Nov 20, 2017 by barryf (565.1)
2. Aug 24, 2018 by ershenb (565.8)

Co-Listed
Courses:

Course Reviewer
Comments

Course Change Request

<div style="text-align: center">

New Course Proposal

</div>

Date Submitted: 08/30/18 4:53 pm

Viewing: **EXP ENG 6767 : Special Explosive Applications**

File: 4563

Last edit: 08/31/18 8:31 am

Changes proposed by: pworsey

Requested Effective Change Date	Spring 2019
Department	Mining & Nuclear Engineering
Discipline	Explosives Engineering (EXP ENG)
Course Number	6767
Title	Special Explosive Applications
Abbreviated Course Title	Special Explosive Apps
Catalog Description	Advanced theory and special application of explosives other than for rock excavation. Students will be introduced to different industrial, military and government special uses such as avalanche control, explosive welding, forming, synthesis and hardening, aerospace, forest service, agriculture and oil industry applications.
Prerequisites	Exp Eng 5612 or equivalent.
Field Trip Statement	
Credit Hours	LEC: 2 LAB: 1 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	No
Justification for new course:	Application for a permanent number after two successful offerings.
Semesters previously offered as an experimental course	Spring 2016: enrollment 18 Summer 2018: enrollment 11
Co-Listed Courses:	
Course Reviewer Comments	

In Workflow

1. **MINEXP ENG 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. CAT entry
11. Peoplesoft

Approval Path

1. 08/30/18 5:30 pm Kwame Awuah-Offei (kwamea): Approved for MINEXP ENG Chair
2. 08/31/18 8:31 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/10/18 2:59 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/14/18 2:51 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 4563

Preview Bridge

Course Change Request

Date Submitted: 08/26/18 1:07 pm

Viewing: **IS&T 3131 : Computing Internals and ~~And~~ Operating Systems**

File: 2441.11

Last approved: 08/24/18 12:05 pm

Last edit: 09/14/18 3:05 pm

Changes proposed by: barryf

Other Courses referencing this course	In The Prerequisites: IS&T 3553 : Modular Software Systems in Java

Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	3131
Title	Computing Internals **and** ~~And~~ Operating Systems
Abbreviated Course Title	Comp **Internal and** ~~Internals &~~ Op Sys

Catalog Description
  Design-oriented introduction to computer components and operation. Standard codes; number systems; base conversions; computer arithmetic; boolean algebra; operating system components including memory management, device management, and I/O management; and related issues are covered.

Prerequisites
  A grade of "C" or better in ~~either~~ IS&T **1562** ~~1552~~ or **IS&T 1552 or** Comp Sci 1575.

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. 08/27/18 3:25 pm siauk: Approved for RINFSCTE Chair
2. 08/28/18 2:03 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/28/18 3:53 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/18/18 9:57 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Justification for change: B.S. for IS&T has changed (IS&T 1562 now required instead of IS&T 1552). Other students may still have IS&T 1552.	**History** 1. Apr 3, 2017 by barryf (2441.1) 2. Aug 24, 2018 by ershenb (2441.8)

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments   **ershenb (08/28/18 2:03 pm):** updated start term to Spring 2019.

Key: 2441

Course Change Request

Date Submitted: 08/26/18 1:09 pm

Viewing: **IS&T 3333 : Data Networks and Information Security**

File: 2225.8

Last approved: 08/24/18 12:05 pm

Last edit: 08/28/18 2:08 pm

Changes proposed by: barryf

Other Courses referencing this course	In The Prerequisites: IS&T 3321 : Network Performance Design And Management IS&T 4642 : E-Commerce Architecture IS&T 6780 : Adv Human and Organizational Factors in Cybersecurity
Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	3333
Title	Data Networks and Information Security
Abbreviated Course Title	**Netwk and** ~~Networks &~~ Info Security

Catalog Description

  The course provides an overview of current and evolving networking and information security principles. Concepts include network standards and protocols; operation and management; switching and routing; area networks; wireless network infrastructure; security frameworks, policies, and management.

Prerequisites

  IS&T 1750; IS&T **1562** ~~1552~~ or **IS&T 1552 or** Comp Sci **1575.** ~~1510.~~

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. **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. CAT entry
11. Peoplesoft

Approval Path

1. 08/27/18 3:25 pm siauk: Approved for RINFSCTE Chair
2. 08/28/18 2:04 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/28/18 3:53 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/18/18 10:19 am Brittany Parnell (ershenb): Approved for

Justification for change:

  B.S. for IS&T has changed (IS&T 1562 now required instead of IS&T 1552). Other students may still have IS&T 1552.

Semesters previously offered as an experimental course

Co-Listed Courses:

History

1. Feb 9, 2015 by barryf (2225.1)
2. Jun 29, 2015 by barryf (2225.4)
3. Aug 24, 2018 by ershenb (2225.7)

Course Reviewer Comments

ershenb (08/28/18 2:04 pm): updated start term to Spring 2019

Key: 2225

Preview Bridge

Course Change Request

Date Submitted: 08/26/18 1:09 pm

Viewing: **IS&T 3420 : Introduction to Data Science and Management**

File: 4156.6

Last approved: 08/24/18 12:05 pm

Last edit: 08/28/18 2:09 pm

Changes proposed by: barryf

Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	3420
Title	Introduction to Data Science and Management
Abbreviated Course Title	Intro Data **Sci and** ~~Science &~~ Mgt

Catalog Description

Introduces students to increasing business success through analysis of large-scale data collections. Topics include: import/export of data, summary statistics, cross-tabulation, data transformations (sub setting, merging, sorting and aggregation), modeling methods, and visualization. Significant programming in R is expected.

Prerequisites

IS&T **1562** ~~1552~~ or IS&T **1552 or** Comp Sci **1575.** ~~1510.~~

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:

B.S. for IS&T has changed (IS&T 1562 now required instead of IS&T 1552). Other students may still have IS&T 1552.

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. CAT entry
11. Peoplesoft

Approval Path

1. 08/27/18 3:25 pm siauk: Approved for RINFSCTE Chair
2. 08/28/18 2:10 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/28/18 3:54 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/18/18 10:32 am Brittany Parnell (ershenb): Approved for

Semesters previously offered as an experimental course
  None.

Co-Listed Courses:

History

1. Feb 9, 2015 by Barry Flachsbart (barryf)
2. Aug 24, 2018 by ershenb (4156.5)

Course Reviewer Comments

ershenb (08/28/18 2:09 pm): updated start term to Spring 2019.

Key: 4156

Preview Bridge

Course Change Request

Date Submitted: 08/26/18 1:10 pm

Viewing: **IS&T 3423 : Database Management**

File: 259.10

Last approved: 08/24/18 12:07 pm

Last edit: 08/28/18 2:12 pm

Changes proposed by: barryf

Other Courses referencing this course	In The Prerequisites: ERP 6444 : Essentials of Data Warehouses IS&T 3343 : Systems Analysis IS&T 4444 : Introduction to Data Warehouses
Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	3423
Title	Database Management
Abbreviated Course Title	Database Management

Catalog Description

The course introduces the concepts of database management systems. Issues in database architecture, design, administration, and implementation are covered.

Prerequisites

IS&T 1750; A grade of "C" or better in ~~either~~ IS&T **1562** ~~1552~~ or **IS&T 1552 or** Comp Sci 1575.

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. **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. CAT entry
11. Peoplesoft

Approval Path

1. 08/27/18 3:26 pm siauk: Approved for RINFSCTE Chair
2. 08/28/18 2:12 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/28/18 3:54 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/18/18 10:33 am Brittany Parnell (ershenb): Approved for

Justification for change:

  B.S. for IS&T has changed (IS&T 1562 now required instead of IS&T 1552). Other students may still have IS&T 1552.

Semesters previously offered as an experimental course

Co-Listed Courses:

History

1. Apr 3, 2017 by barryf (259.1)
2. Aug 24, 2018 by ershenb (259.8)

Course Reviewer Comments

ershenb (08/28/18 2:12 pm): updated start term to Spring 2019.

Key: 259

Preview Bridge

Course Change Request

Date Submitted: 08/26/18 1:11 pm

Viewing: **IS&T 3553 : Modular Software Systems in Java**

File: 264.1

Last edit: 08/28/18 2:15 pm

Changes proposed by: barryf

Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	3553
Title	Modular Software Systems in Java
Abbreviated Course Title	**Mod Sftwr** ~~Modular Software~~ Systs in Java

Catalog Description

Introduction to Software Life Cycle and characteristics of large modular software systems. Exploration of software support for such systems, using Java, including use of GUI interfaces, advanced I/O and String handling, Interfaces, Threads, and other modularity features. Program project included.

Prerequisites

IS&T **3131** ~~1552~~ and **either** IS&T **1562 or IS&T 1552.** ~~3131.~~

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:

B.S. for IS&T has changed (IS&T 1562 now required instead of IS&T 1552). Other students may still have IS&T 1552.

Semesters previously

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. CAT entry
11. Peoplesoft

Approval Path

1. 08/27/18 3:27 pm siauk: Approved for RINFSCTE Chair
2. 08/28/18 2:16 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/28/18 3:54 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/18/18 10:34 am Brittany Parnell (ershenb): Approved for

offered as an experimental course	Pending CCC Agenda post

Co-Listed Courses:

Course Reviewer Comments	**ershenb (08/28/18 2:15 pm):** updated start term to Spring 2019

Key: 264

Preview Bridge

Course Change Request

Date Submitted: 08/26/18 1:12 pm

Viewing: **IS&T 5520 : Data Science and Machine Learning with Python**

File: 4407.7

Last approved: 06/20/18 3:40 am

Last edit: 08/28/18 2:21 pm

Changes proposed by: barryf

Catalog Pages referencing this course	Business Administration Information Science and Technology

Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~

Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	5520
Title	Data Science and Machine Learning with Python
Abbreviated Course Title	Data Sci ML in Python

Catalog Description	Examines data science methodologies for scraping, manipulating, transforming, cleaning, visualizing, summarizing, and modeling large-scale data as well as supervised and unsupervised machine learning algorithms applied in various business analytics and data science scenarios. Python libraries such as Pandas, NumPy, Matplotib, and Scikit-learn are utilized.
Prerequisites	One of Stat 3111, Stat 3113, Stat 3115, Stat 3117 and **one of** ~~either~~ IS&T **1552, IS&T 1562,** ~~1552 or~~ Comp Sci 1575; for Graduate Students: Graduate Standing and **knowledge** ~~Knowledge~~ of **calculus,** **statistics,** ~~Calculus, Statistics,~~ and **programming.** ~~Programming.~~
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	Yes
Justification for change:	B.S. for IS&T has changed (IS&T 1562 now required instead of IS&T 1552). Other students may still have IS&T 1552.
Semesters previously offered as an experimental course	

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. CAT entry
11. Peoplesoft

Approval Path

1. 08/27/18 3:27 pm siauk: Approved for RINFSCTE Chair
2. 08/28/18 2:19 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/28/18 3:55 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/18/18 10:34 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Sep 29, 2017 by Barry Flachsbart (barryf)
2. Nov 20, 2017 by barryf (4407.2)

Co-Listed Courses:		3. Jun 20, 2018 by barryf (4407.5)
Course Reviewer Comments	**ershenb (08/28/18 2:19 pm):** updated start term to Spring 2019.	

Key: 4407

Preview Bridge

Course Change Request

Date Submitted: 08/26/18 1:12 pm

Viewing: **IS&T 5535 : Machine Learning Algorithms and Applications**

File: 4471.8

Last approved: 06/20/18 3:39 am

Last edit: 09/18/18 10:36 am

Changes proposed by: barryf

Catalog Pages referencing this course	<u>Information Science and Technology</u>

Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	5535
Title	Machine Learning Algorithms and Applications
Abbreviated Course Title	ML Algs and Apps

Catalog Description

Introduces techniques of modern machine learning methods with applications in marketing, finance, and other business disciplines. Topics include regression, classification, resampling methods, model selection, regularization, decision trees, support vector machines, principal component analysis, and clustering. R programming is required.

Prerequisites

One of Stat 3111, Stat 3113, Stat 3115, Stat 3117 and **one of** ~~either~~ IS&T **1552, IS&T 1562,** ~~1552 or~~ Comp Sci 1575; or Graduate Standing with knowledge **of** ~~of~~ calculus, statistics, and programming.

Field Trip Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
	No				

Approval Path

1. 08/27/18 3:27 pm siauk: Approved for RINFSCTE Chair
2. 08/28/18 2:22 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/28/18 3:55 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/18/18 10:36 am Brittany Parnell (ershenb): Approved for

Required for Majors	
Elective for Majors	Yes

History

1. Nov 20, 2017 by Barry Flachsbart (barryf)
2. Jun 20, 2018 by barryf (4471.6)

Justification for change:
    B.S. for IS&T has changed (IS&T 1562 now required instead of IS&T 1552). Other students may still have IS&T 1552.

Semesters previously offered as an experimental course   None

Co-Listed Courses:

Course Reviewer Comments

Key: 4471

Preview Bridge

Course Change Request

Date Submitted: 08/26/18 1:13 pm

Viewing: **IS&T 5652 : Advanced Web Development**

File: 2003.1

Last edit: 08/28/18 2:29 pm

Changes proposed by: barryf

Catalog Pages referencing this course	Information Science and Technology
Programs referencing this course	BUS&MS-BS: Business and Mgmt Systems BS

Requested Effective Change Date	**Spring 2019** ~~08/14/2018~~
Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	5652
Title	Advanced Web Development
Abbreviated Course Title	Advanced Web Development

Catalog Description

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

Prerequisites

IS&T **4654** ~~1551~~ and **one of** IS&T **1551, IS&T 1561.** ~~4654.~~

Field Trip Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
Required for Majors	No				

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. CAT entry
11. Peoplesoft

Approval Path

1. 08/27/18 3:28 pm siauk: Approved for RINFSCTE Chair
2. 08/28/18 2:30 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/28/18 3:56 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 09/18/18 10:58 am Brittany Parnell (ershenb): Approved for

Elective for Majors	No		Pending CCC Agenda post
Justification for change:	B.S. for IS&T has changed (IS&T 1561 now required instead of IS&T 1551). Other students may still have IS&T 1551.		
Semesters previously offered as an experimental course			
Co-Listed Courses:			

Course Reviewer Comments	**ershenb (08/28/18 2:29 pm):** updated start term to Spring 2019.

Key: 2003

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 08/02/18 10:57 am

Viewing: **MECH ENG 5543 : Energy Efficiency of Vehicles**

File: 4553

Last edit: 08/03/18 11:22 am

Changes proposed by: nisbett

Requested Effective Change Date	Spring 2019
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	5543
Title	Energy Efficiency of Vehicles
Abbreviated Course Title	Energy Eff of Vehicles

Catalog Description	Course topics include the energy consumption, energy efficiency, pollution and carbon emissions of vehicles. Energy efficiency models are developed to illustrate how to optimize the energy efficiency of vehicles. Detailed models are developed for gasoline, diesel, electric and hybrid-electric cars and trucks.
Prerequisites	Math 2222, Physics 2135.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	Yes

Justification for new course:	This course is relevant to current developments in vehicles. It has been offered twice with good enrollments.
Semesters previously offered as an experimental course	Spring 2017, Spring 2018 Spring 17 enrollment: 3(campus), 10 (MSU) Spring 18 enrollment: 17 (campus), 2 (DIS), 14 (MSU)
Co-Listed Courses:	
Course Reviewer Comments	

Key: 4553

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. CAT entry
11. Peoplesoft

Approval Path

1. 08/02/18 11:04 am
   James Drallmeier (drallmei):
   Approved for RMECHENG Chair
2. 08/03/18 11:22 am
   Brittany Parnell (ershenb):
   Approved for CCC Secretary
3. 08/29/18 1:42 pm
   Stephen Raper (sraper):
   Approved for Engineering DSCC Chair
4. 09/18/18 11:07 am
   Brittany Parnell (ershenb):
   Approved for Pending CCC Agenda post

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 08/29/18 3:23 pm

Viewing: **PET ENG 6211 : Advanced Directional Drilling and MWD**

File: 4560

Last edit: 08/31/18 1:51 pm

Changes proposed by: hendrixrl

Requested Effective Change Date	Spring 2019
Department	Geosciences and Geological and Petroleum Engineering
Discipline	Petroleum Engineering (PET ENG)
Course Number	6211
Title	Advanced Directional Drilling and MWD
Abbreviated Course Title	Directional Drilling

Catalog Description

In-depth study of directional well planning and drilling. The course covers the bottom hole assemblies and operational techniques used in directional drilling as well as the limiting factors and hole problems related to horizontal wells. Advanced research topics and well design in directional drilling.

Prerequisites

Pet Eng 4210.

Field Trip Statement

None

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

Required for Majors	No
Elective for Majors	Yes

Justification for new course:

This course has been successfully taught for two semesters and is an important foundation course for drilling engineers. The course will be part of the new

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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Approval Path

1. 08/31/18 1:37 pm David Borrok (borrokd): Approved for RGEOSENG Chair
2. 08/31/18 1:52 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/10/18 3:00 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/18/18 11:22 am Brittany Parnell (ershenb): Approved for

certificate program in drilling engineering, but we are just waiting for a permanent course number.

Semesters previously offered as an experimental course	Spring 2017 enrollment: 14 Spring 2018 enrollment: 5
Co-Listed Courses:	

Course Reviewer Comments

Key: 4560

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 08/29/18 3:34 pm

Viewing: **PET ENG 6811 : Advanced Petroleum Offshore Technology**

File: 4561

Last edit: 08/31/18 1:44 pm

Changes proposed by: hendrixrl

Requested Effective Change Date	Spring 2019
Department	Geosciences and Geological and Petroleum Engineering
Discipline	Petroleum Engineering (PET ENG)
Course Number	6811
Title	Advanced Petroleum Offshore Technology
Abbreviated Course Title	Adv Petro Offshore Tech

Catalog Description

  A study of factors affecting offshore structural design and operation. Focus is on mobile offshore drilling units (MODUs). Subsea well systems and offshore pipelines are covered. Advanced topics in system design.

Prerequisites

  Pet Eng 4210, Civ Eng 3330, Civ Eng 2210.

Field Trip Statement

  None

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

Justification for new course:

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. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft

Approval Path

1. 08/31/18 1:37 pm David Borrok (borrokd): Approved for RGEOSENG Chair
2. 08/31/18 1:45 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/10/18 3:00 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/18/18 11:22 am Brittany Parnell (ershenb): Approved for

This course has been successfully taught for two semesters and is an important foundation course for drilling engineers. The course will be part of the new certificate program in drilling engineering, but we are just waiting for a permanent course number.

Pending CCC
Agenda post

Semesters previously offered as an experimental course	Spring 2017- enrollment 13 Fall 2017- enrollment 0

Co-Listed Courses:

Course Reviewer Comments

Key: 4561

Preview Bridge

Course Change Request

Date Submitted: 07/09/18 4:14 pm

Viewing: **PHYSICS 6311 : Statistical Mechanics**

File: 1495.1

Last edit: 07/10/18 8:27 am

Changes proposed by: peacher

Other Courses referencing this course	In The Prerequisites: PHYSICS 6323 : Quantum Statistical Mechanics
Requested Effective Change Date	**Spring 2019** ~~08/01/2014~~
Department	Physics
Discipline	Physics (PHYSICS)
Course Number	6311
Title	Statistical Mechanics
Abbreviated Course Title	Statistical Mechanics
Catalog Description	A study of statistical ensembles; Maxwell-Boltzmann, FermiDirac and Einstein-Bose distribution laws, application to some simple physical systems.
Prerequisites	Physics **4311 and Physics 5301.** ~~4563, 4301.~~
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:	The current prerequisite courses are not correct. When the original course numbers were changed, the prerequisite courses were not put in correctly.
Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	

Approval Path

1. 07/09/18 4:36 pm Thomas Vojta (vojtat): Approved for RPHYSICS Chair
2. 07/10/18 8:27 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/14/18 10:53 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 09/18/18 11:26 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 1495

Preview Bridge

Program Change Request

Date Submitted: 09/06/18 10:21 am

Viewing: **BUS&MS-BS : Business and Mgmt Systems BS**

File: 148.29

Last approved: 03/07/16 2:04 pm

Last edit: 09/07/18 8:30 am

Changes proposed by: barryf

Catalog Pages Using this Program
Business and Management Systems

Start Term
Fall 2019 ~~08/22/2016~~
Program Code
BUS&MS-BS
Department
Business and Information Technology
Title
Business and Mgmt Systems BS
Program Requirements and Description

Approval Path

1. 08/30/18 10:13 am Brittany Parnell (ershenb): Rollback to Initiator
2. 09/06/18 4:14 pm siauk: Approved for RINFSCTE Chair
3. 09/07/18 8:31 am Brittany Parnell (ershenb): Approved for CCC Secretary
4. 09/07/18 1:56 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
5. 09/14/18 2:45 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Aug 5, 2014 by Barry Flachsbart (barryf)
2. Jan 30, 2015 by Barry Flachsbart (barryf)
3. Jun 17, 2015 by pantaleoa
4. Jul 14, 2015 by pantaleoa
5. Mar 7, 2016 by Barry Flachsbart (barryf)

Bachelor of Science
Business and Management Systems

In Business and Management Systems, the Bachelor of Science degree consists of 120 credit hours. All undergraduate students in Business and Management Systems are required to complete a General Education Requirements Core, including courses in Humanities, Social Sciences, Mathematics, Science, and Communication Skills.

A common departmental core of courses in Management and Information Technology helps provide students with skills to succeed in a fast-changing and globalized environment. Business Core courses and Business Electives provide students with comprehensive knowledge in business disciplines.

A minimum grade of "C" is required in the Business Core, Business Electives, Management, and Information Technology courses. Students have 9 credit hours for free electives.

Freshman Year

First Semester	Credits	Second Semester	Credits
PSYCH 1101	3	MATH 1140	3
BUS 1810[1]	1	IS&T 1750	3
BUS 1110	3	ENGLISH 1600 or TCH COM 1600	3
ENGLISH 1120	3	ECON 1200	3
Science Elective[3]	3	Science Elective[3]	3
Laboratory w/ Science Elective[3]	1		
	14		15
Sophomore Year			
First Semester	Credits	Second Semester	Credits
BUS 1210	3	FINANCE 2150	3
MATH 1212	4	IS&T 1552	3
IS&T 1551	3	ERP 2110	3
ECON 1100	3	POL SCI 1200	3
SP&M S 1185	3	History Elective	3
	16		15
Junior Year			
First Semester	Credits	Second Semester	Credits
MKT 3110	3	BUS 5580	3
IS&T 4654	3	ENGLISH 2560 or TCH COM 2560	3
STAT 3111	3	BUS 3220	3
Business Elective	3	Business Electives	6
Free Elective	3		
	15		15
Senior Year			
First Semester	Credits	Second Semester	Credits
BUS 2910	3	BUS 5980[1]	3
BUS 5360	3	~~BUS 4675~~	~~3~~
MKT 5310	3	**BUS 4111**	**3**
Business Elective	3	Business Elective	3
Free Elective	3	Fine Art, Social Science, or Humanities Elective[2]	3
		Free Elective	3
	15		15
Total Credits: 120			

A grade of "C" or better is required in the following courses for graduation: IS&T 1551, IS&T 1552, IS&T 1750, IS&T 4654, ERP 2110, FIN 2150, MKT 3110, MKT 5310, ECON 1100, ECON 1200, BUS 1110, BUS 1210, BUS 2150, BUS 2910, BUS 3220, BUS 4675, BUS 5360, BUS 5580, BUS 5980, and all Business Electives.

[1]	Writing intensive course
[2]	Any course in the following areas not used for other degree requirements: Art, economics, English, foreign language, history, literature, music, philosophy, political science, psychology, sociology, theater.
[3]	Any course in the following areas: Biology, Chemistry, Geology, Geological Engineering, Physics.

Areas of Concentration

All students are required to complete twelve credit hours chosen from 2000, 3000, 4000, or 5000-level courses in business, economics, finance, enterprise resource planning, information science & technology, or marketing. A "C" or better grade is required in all twelve credit hours. If the student chooses to designate an area of concentration for these courses, focusing at least 3 courses (9 credits) in one area, he or she may do so. Students are not required to choose a concentration area. Areas of concentration are:

E-Commerce

IS&T 5652	Advanced Web Development	3
IS&T 4641	Digital Commerce and the Internet of Things	3
IS&T 4642	E-Commerce Architecture	3
IS&T 4257	Network Economy	3
IS&T 5168	Law and Ethics in E-Commerce	3

Enterprise Resource Planning

Any 9 hours of ERP-designated courses at the 4000-level or above.

Finance

FINANCE 5160	Corporate Finance II	3
FINANCE 5260	Investments I	3
ECON 4720	International Finance	3
Any other finance course at the 3000-level or above.		

ECON 4410, and ECON 5337 cannot be used toward this concentration.

Human-Computer Interaction

IS&T 5652	Advanced Web Development	3
IS&T 5885	Human-Computer Interaction	3
IS&T 5886	Prototyping Human-Computer Interactions	3
IS&T 5887	Human-Computer Interaction Evaluation	3

Management

BUS 5470	Human Resource Management	3
BUS 4111	Business Negotiations	3
IS&T 5251	Technological Innovation Management and Leadership	3

Marketing

MKT 3210	Consumer Behavior	3
MKT 4150	Customer Focus and Satisfaction	3
MKT 4580	Marketing Strategy	3
ERP 4610	Customer Relationship Management in ERP Environment	3
MKT 5320	Marketing for Non-Profits	3

Bachelor of Science

Business and Management Systems

Secondary Education Emphasis Area

Degree Requirements

You may earn a B.S. degree in business and management systems from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with this emphasis area. This program can be completed in four academic years and field experiences are arranged with public schools within 30 miles of the Rolla campus.

Students interested in this emphasis area should consult with the advisor for business and management systems education majors in the business and management systems department.

In order to successfully complete this emphasis area, students must maintain a cumulative GPA of at least 2.75, and attain at least a 3.0 GPA average for all business content and professional education courses required by the Missouri Department of Elementary and Secondary Education for teacher certification. Current Missouri S&T or transfer students who wish to pursue this emphasis area must meet both these GPA requirements to be accepted into the program. Students must also meet all requirements listed under the teacher education program in this catalog. Students who do not meet all the teacher certification requirements will not be eligible for the secondary education emphasis area, even if they have completed all required course work.

A degree in this emphasis area requires 134 to 136 credit hours (the variance depends on the mathematics courses taken). The required courses are listed below. A minimum grade of "C" is required by the department in all courses designated BUS, MKT, FINANCE, IS&T, ECON, or ERP that are counted toward this degree.

General Education

PSYCH 1101	General Psychology	3
PSYCH 2300	Educational Psychology	3
PSYCH 3310	Developmental Psychology	3
Science Elective [1]		3
Science Laboratory [1]		1
Fine Art, Social Science or Humanities Elective [2]		3
History Elective		3
ECON 1100	Principles Of Microeconomics	3
ECON 1200	Principles Of Macroeconomics	3
POL SCI 1200	American Government	3
MATH 1140	College Algebra	3-5
or MATH 1120	College Algebra	
MATH 1212	Business Calculus	4
STAT 3111	Statistical Tools For Decision Making	3
ENGLISH 1120	Exposition And Argumentation	3
ENGLISH 1600	Introduction to Technical Communication	3

IS&T 4654	Web and Digital Media Development	3

[1]	Any course in the following areas: Biology, Chemistry, Geology, Geological Engineering, Physics
[2]	Any course in the following areas not used for other degree requirements: Art, Economics, English, Foreign Language, History, Literature, Music, Philosophy, Political Science, Psychology, Sociology, Theater

Common Core Courses and Management

IS&T 1750	Introduction to Management Information Systems	3
IS&T 1551	Implementing Information Systems: User Perspective	3
IS&T 1552	Implementing Information Systems: Data Perspective	3
ERP 2110	Introduction to Enterprise Resource Planning	3
BUS 1210	Financial Accounting	3
FINANCE 2150	Corporate Finance I	3
MKT 3110	Marketing	3
BUS 1110	Introduction to Management and Entrepreneurship	3
BUS 5980	Business Models for Entrepreneurship and Innovation	3
BUS 2910	Business Law	3
BUS 3220	Managerial Accounting	3
BUS 5360	Business Operations	3
BUS 5580	Strategic Management	3
MKT 5310	Digital Marketing and Promotions	3
BUS 4111	Business Negotiations	3
BUS 3115	Introduction to Teambuilding and Leadership	3

Education

EDUC 1040	Perspectives In Education	2
EDUC 1174	School Organization & Adm For Elementary & Secondary Teachers	2
EDUC 3216	Teaching Reading in Content Area	3
ENGLISH 3170	Teaching And Supervising Reading and Writing	3
EDUC 3280	Teaching Methods And Skills In The Content Areas	6
EDUC 3290	Coordination of Cooperative Education	3
EDUC 4298	Student Teaching Seminar	1
EDUC 4310	Psychology Of The Exceptional Child	3
EDUC 1104	Teacher Field Experience	2
EDUC 1164	Aiding Elementary, Middle And Secondary Schools	2
EDUC 4299	Student Teaching	12

Justification for request
Adding Bachelor of Science
Business and Management Systems
Secondary Education Emphasis Area
Degree Requirements

This will allow students to take additional courses in order to gain certification to teach at the secondary level in the Schools of Missouri

We are also changing one required course - replacing BUS 4675 with BUS 4111.
Supporting Documents
Course Reviewer Comments
ershenb (08/30/18 10:13 am): Rollback: Rolling back to Dr. Flachsbart, per his request, to make additional edits.
ershenb (09/07/18 8:30 am): updated start term to Fall 2019

Key: 148

Program Change Request

Date Submitted: 08/29/18 1:59 am

Viewing: **CH ENG-BS : Chemical Engineering BS**

File: 150.61

Last approved: 07/03/18 11:02 am

Last edit: 08/31/18 8:54 am

Changes proposed by: jcwang

Catalog Pages Using this Program
Chemical & Biochemical Engineering

Start Term
Fall **2019** ~~2018~~
Program Code
CH ENG-BS
Department
Chemical and Biochemical Engineering
Title
Chemical Engineering BS
Program Requirements and Description

Approval Path

1. 08/30/18 2:51 pm Muthanna Al-Dahhan (aldahhanm): Approved for RCHEMENG Chair
2. 08/31/18 8:55 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/14/18 2:46 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Mar 18, 2014 by Lahne Black (lahne)
2. May 2, 2014 by Lahne Black (lahne)
3. Jan 30, 2015 by kleb6b
4. Jul 15, 2015 by pantaleoa
5. Jul 15, 2015 by pantaleoa
6. Nov 18, 2015 by marlene
7. Mar 7, 2016 by Daniel Forciniti (forcinit)
8. Mar 27, 2017 by Daniel Forciniti (forcinit)
9. May 3, 2018 by Daniel Forciniti (forcinit)
10. May 7, 2018 by Brittany Parnell (ershenb)
11. May 7, 2018 by Brittany Parnell (ershenb)
12. May 7, 2018 by Brittany Parnell (ershenb)
13. Jul 3, 2018 by Brittany Parnell (ershenb)

Bachelor of Science
Chemical Engineering

Entering freshmen desiring to study chemical engineering will be admitted to the Freshman Engineering Program. They will be permitted, if they wish, to state a chemical 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, 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 chemical engineering a minimum of 129 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 chemical 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:

1. All students are required to take one American history course, one economics course, one humanities course, and ENGLISH 1120. The history course is to be selected from HISTORY 1200, HISTORY 1300, HISTORY 1310, or POL SCI 1200. The economics course may be either ECON 1100 or ECON 1200. The humanities course must be selected and meets the requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog.
2. Depth requirement. Three credit hours must be taken in humanities or social sciences at the 1000 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 3000 level or above. 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 and meets the requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog and may include one communications course in addition to ENGLISH 1120.
4. Any specific departmental requirements in the general studies area must be satisfied and meets the requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog.
5. Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chairman.

The chemical 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 are presented and discussed through classroom and laboratory instruction.

Freshman Year			
First Semester	Credits	Second Semester	Credits
FR ENG 1100	1	MECH ENG 1720	3
CHEM 1310	4	CHEM ENG 1100, or COMP SCI 1972 and COMP SCI 1982, or COMP SCI 1971 and COMP SCI 1981, or COMP SCI 1570 and COMP SCI 1580	3
CHEM 1319	1	CHEM 1320	3
ENGLISH 1120	3	MATH 1215	4
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	PHYSICS 1135	4
MATH 1214	4		
CHEM 1100	1		
	17		17
Sophomore Year			
First Semester	Credits	Second Semester	Credits
CHEM ENG 2100[1]	3	CHEM ENG 2310[2]	1
CHEM 2210	4	CHEM ENG 2110[1]	3
MATH 2222	4	Humanities and Social Sciences Elective[4]	3
PHYSICS 2135	4	Humanities and Social Sciences Elective[4]	3
CHEM ENG 2300	3	MATH 3304	3
		Science Elective[5]	4
	18		17
Junior Year			
First Semester	Credits	Second Semester	Credits
CHEM ENG 3120[1]	3	CHEM ENG 3141	2
CHEM ENG 3101	4	CHEM ENG 3131	3
CHEM ENG 3111	3	CHEM ENG 3150	3
ECON 1100 or 1200	3	STAT 3113	3
Upper level Humanities or Social Science Elective[4]	3	ENGLISH 1160 or 3560	3
	16		14
Senior Year[3]			
First Semester	Credits	Second Semester	Credits
CHEM ENG 4110	3	CHEM ENG 4097[2]	3
CHEM ENG 5XXX-Chem Eng Elective[6]	3	CHEM ENG 5XXX-Chem Eng Elective[6]	3
CHEM ENG 4101[2]	3	CHEM ENG 4130[2]	3
CHEM ENG 4140	3	Chem Eng 5xxx --Chem Eng Elective[6]	3
CHEM ENG 4091	3	Chem Eng 5xxx -Chem Eng Elective[6]	3
	15		15
Total Credits: 129			

Note: The minimum number of hours required for a degree in chemical engineering is 129.

A cumulative grade point average of 2.50 or better and a "C" or better in Chem 1310, Chem 1319, Chem 1320, Math 1214, Math 1215 and Physics 1135 are required to be admitted into the chemical engineering major.

1	A grade of "C" or better is required in Chem Eng 2100 & Chem Eng 2110 in order to enroll in Chem Eng 3120 .
2	Communications emphasized course (See bachelor of science degree, general education communications requirement).
3	Chemical engineering majors are encouraged to take the fundamentals of engineering exam prior to graduation. It is the first step toward becoming a registered professional engineer.
4	Must meet the requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog. The prerequisites for the upper level course must be completed with a passing grade.
5	CHEM 2510, or CHEM 4610 and CHEM 4619, or BIO SCI 2213 and BIO SCI 2219, or CHEM 2220 and CHEM 2289, or Bio Sci 3313 and Bio Sci 3319, or CHEM 3420 and CHEM 3459.
6	Any Chem Eng 5xxx and any class from the approved list published in the Chemical Engineering web site but only 3 cr. hr of Chem. Eng. 4000, Chem Eng 4099 or Chem Eng 4099. Students may have no more than three hours from approved, out-of-department elective.

Chemical Engineering
Biochemical Engineering Emphasis

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
FR ENG 1100	1	MECH ENG 1720	3
CHEM 1310	4	CHEM ENG 1100, or COMP SCI 1972 *and* COMP SCI 1982, or COMP SCI 1971 *and* COMP SCI 1981	3
CHEM 1319	1	CHEM 1320	3
ENGLISH 1120	3	MATH 1215	4
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	PHYSICS 1135	4
MATH 1214	4		
CHEM 1100	1		
	17		17
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM ENG 2100[1]	3	CHEM ENG 2110[1]	3
CHEM 2210	4	STAT 3113	3
MATH 2222	4	CHEM ENG 2310[2]	1
PHYSICS 2135	4	Science Elective[5]	4
CHEM ENG 2300	3	MATH 3304	3
	18		14
Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM ENG 3120[1]	3	ECON 1100 or 1200	3
CHEM ENG 3101	4	Science Elective[5]	4
Humanities or Social Sciences Elective[4]	3	CHEM ENG 3141	2
Science Elective[5]	4	CHEM ENG 3131	3
CHEM ENG 3111	3	ENGLISH 1160 (or English 3560)	3
		CHEM ENG 3150	3
	17		18
Senior Year[3]			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM ENG 4110	3	CHEM ENG 4210	3
Upper Levrel Humanities or Social Sciences Elective[4]	3	CHEM ENG 4097[2]	3
CHEM ENG 4091	3	Humanities or Social Science Elective[4]	3
CHEM ENG 4220[2]	3	CHEM ENG 4201[2]	3
CHEM ENG 5250	3	CHEM ENG 4241	3
	15		15
Total Credits: 131			

Note: The minimum number of hours required for a degree in chemical engineering with an emphasis in biochemical engineering is 131.

A cumulative grade point average of 2.50 or better and a "C" or better in Chem 1310, Chem 1319, Chem 1320, Math 1214, Math 1215 and Physics 1135 are required to be admitted into the chemical engineering major.

1	A grade of "C" or better is required in Chem Eng 2100 & Chem Eng 2110 in order to enroll in Chem Eng 3120.
2	Communications emphasized course (See bachelor of science degree, general education communications requirement).
3	Chemical engineering majors are encouraged to take the fundamentals of engineering exam prior to graduation. It is the first step toward becoming a registered professional engineer.
4	

	Must meet the requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog. The prerequisites for the upper level course must be completed with a passing grade.
5	A minimum of 12 credit hours in Science Electives are required. Select three courses from Chem 2220, Chem 4610, Chem 4620, BioSci 2213, BioSci 3313, and BioSci 4323; and a minimum of two laboratory courses from Chem 2229 or Chem 2289, Chem 4619, BioSci 2219, BioSci 3319, and BioSci 4329.

Justification for request

changes are being proposed to freshman year second semester for the bachelor of chem eng. (addition of "or Comp Sci 1570 and Comp Sci 1580")

Supporting Documents

Course Reviewer Comments

ershenb (08/31/18 8:48 am): updated start term to fall 19

ershenb (08/31/18 8:54 am): notated the proposed change in the Justifications section

Key: 150

Program Change Request

Date Submitted: 08/03/18 2:08 pm

Viewing: **CP ENG-BS : Computer Engineering BS**

File: 153.57

Last approved: 06/18/18 12:29 pm

Last edit: 08/20/18 10:35 am

Changes proposed by: stanleyj

Catalog Pages Using this Program

[Computer Engineering](#)

Start Term

Fall **2019** ~~2018~~

Program Code

CP ENG-BS

Department

Electrical and Computer Engineering

Title

Computer Engineering BS

Program Requirements and Description

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. Kristy Giacomelli

Approval Path

1. 08/03/18 7:30 pm Daryl Beetner (daryl): Approved for RELECENG Chair
2. 08/06/18 8:45 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/29/18 1:42 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/14/18 2:47 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Aug 6, 2014 by Stanley (stanleyj)
2. Aug 13, 2014 by pantaleoa

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, 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, 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.

Electrical and Computer Engineering degree programs will require a minimum of 24 credit hours of humanities/social-sciences as specified below:

- **ENGLISH 1120**
- ~~ENGLISH 1120~~~~HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200~~**HISTORY 1200** ~~ECON 1100~~ **or HISTORY 1300 or HISTORY 1310 or POL SCI 1200** ~~ECON 1200~~
- **ECON 1100 or ECON 1200**
- Technical Communication Elective: **ENGLISH 1160 or ENGLISH 3560**
- **SP&M S 1185**
- ~~ENGL 1160 or ENGL 3560~~~~SP&M 1185~~The remaining minimum of 9 additional credit hours must be three-credit hour lecture courses offered in disciplines in the humanities and social sciences. Humanities courses are defined as those in: Art, English and Technical Communication, Etymology, Foreign Languages, Music, Philosophy, Speech and Media Studies, and Theatre. Social Sciences courses are defined as those in: Economics, History, Political Science, and Psychology. At least one of the courses must be at the upper level. Upper-level H/SS courses are defined as those at the 2000-level or above, and that require as a prerequisite the successful completion of a lower-level H/SS course. Study abroad courses may count as upper-level H/SS courses, even if they do not have a prerequisite. H/SS courses numbered 2001, 3001, and 4001 (experimental courses) may also be used to complete these elective requirements.

  Courses in business, education, information science and technology, or any other discipline not listed above will **not** satisfy the humanities/social sciences elective requirement, although such courses may count toward general education requirements. Transfer credits from other universities in sociology and general humanities may count as humanities or social science electives.

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 1200[3]	3
PHYSICS 2135[3,4]	4	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[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 3151, COMP ENG 3110,COMP ENG 5410, COMP ENG 4096, and ELEC ENG 2100, ELEC ENG 2101, ELEC ENG 2120, ELEC ENG 2200, ELEC ENG 2201, and ELEC ENG 3410 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 one of MECH ENG 2340, MECH ENG 2519, MECH ENG 2527, PHYSICS 2311, PHYSICS 2401, CHEM 2210, BIO SCI 2213, BIO SCI 2223, CIV ENG 2200, MECH ENG 2350, PHYSICS 2305, PHYSICS 4311, CER ENG 4240, or 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. Students admitted to the accelerated BS/MS program must satisfy Cp Eng Electives B and C with 5xxx or 6xxx-level courses and a minimum grade of B.

A accelerated BS/MS program is optional.

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

Accelerated BS/MS Program Option for EE and CpE Majors

Electrical engineering or computer engineering undergraduates in ECE at Missouri S&T may opt to apply for an accelerated BS/MS ECE program where a student can achieve both degrees faster than if pursuing the degrees separately. The degrees may be BS EE and MS EE, BS CpE and MS CpE, BS EE and MS CpE, or BS CpE and MS EE. The benefits of the program for admitted students are:

- Undergraduate and graduate courses may be chosen with greater flexibility,
- Dual-enrollment status is automatically granted,
- Six hours of 5000-level or above ECE coursework may apply to both the BS and MS requirements,
- The dual-counted classes may be taken at the lower undergraduate tuition rate,
- The GRE is not required for admission,
- Other graduate credit courses may be taken anytime after entering the program, and
- Work on a thesis project may begin before the BS requirements are completed.

The BS-degree requirements are modified for admitted students such that EE Electives D and E or CpE Electives B and C will be satisfied by six-credit-hours of 5000-level or above ECE coursework. The courses must be identified as dual-counted courses and must be completed with a B or better. These six hours of coursework will be taken as undergraduate credit, must be approved by the academic advisor, and may not be undergraduate research, special problems, or transfer courses. (A co-listed course can only apply for these undergraduate requirements if it is under an EE or CpE registration. Note that the choice of EE or CpE registration may effect how a course can apply within an MS program.) Other courses for the MS degree program must be identified as graduate credit when taken. All other MS degree requirements are not changed and the MS degree must be for the thesis option. The program may be combined with existing honors research and emphasis area options. Admitted students will have both undergraduate and graduate records in the Registrar's

Office. Upon separate completion of requirements, the BS degree would be awarded followed by the MS degree at a later semester, or the BS and MS degrees may be awarded simultaneously at the same semester.

To be eligible for the accelerated BS/MS ECE program, a EE or CpE undergraduate must be at or beyond the junior level with a minimum of 60 credit hours and must have completed 18 credit hours of EE and/or CpE courses at Missouri S&T with at least a 3.50 GPA in the ECE courses. To be admitted, the student must complete the program application and must have the recommendation of an ECE faculty member who agrees to serve as the graduate thesis advisor. The Graduate Form 1 must be completed no later than the beginning of the semester after the dual-counted courses are completed. Until completing their BS degree, students must fill out a form each semester indicating which courses will be completed for graduate credit. To remain in the program, the student must maintain good standing within the undergraduate EE or CpE program and must maintain continuous enrollment at Missouri S&T. If the student exits the program before completion of the MS degree requirements or fails to maintain continuous enrollment at Missouri S&T, the dual-counted courses may not apply toward graduate requirements in the event of future readmission. The student is responsible for checking on how dual-enrollment status and graduate coursework will affect scholarships and other financial aid. International students should check with international affairs during completion of an accelerated BS/MS to ensure immigration status will be maintained throughout the program.

Justification for request

Changing the networking requirement from Comp Eng 5410 or Comp Sci 5600 to Comp Eng 5410 (only) The Computer Engineering reviewed the curriculum for Comp Sci 5600, and the curriculum for Comp Sci 5600 does not meet key requirements, including calculus-based statistics with design examples, which are met in Comp Eng 5410 to satisfy ABET requirements. Thus, Comp Sci 5600 is requested to be removed as an option to satisfy the networking requirement. Changes were made to the Senior Year First Semester and Footnote 3 to remove references to Comp Sci 5600.

Changing the Science Elective courses Physics 2305, Civ Eng 2200, Mech Eng 2350, Physics 4311 Cer Eng 4240, and Nuc Eng 3205 from being paired courses to satisfy the Science Elective to being standalone courses to satisfy the Science Elective requirement The Computer Engineering faculty reviewed the curriculum for Physics 2305, Civ Eng 2200, Mech Eng 2350, Physics 4311, Cer Eng 4240, and Nuc Eng 3205 and determined that these courses individually meet the intent of the Science Elective. We request for students to be able to take these courses individually and the other remaining courses on the Science Elective course list to satisfy the Science Elective requirement. Changes were made to Footnote 11 to replace the courses given as part of pairs to be listed as individual courses that can be taken to satisfy the Science Elective Requirement.

The Computer Engineering faculty voted unanimously to approve these changes at the Computer Engineering faculty meeting on May 14, 2018.

Footnote 3 was changed to replace Comp Eng 3551 with Comp Eng 3151-Comp Eng 3551 is the old course number for Comp Eng 3151 (Comp Eng 3551 does not exist anymore).
Supporting Documents
Course Reviewer Comments
ershenb (08/06/18 8:43 am): hyperlinked H/SS courses
sraper (08/20/18 10:35 am): Corrected footnote 11 per instructions of Joe Stanley (Comp Eng Assoc Chair).

Key: 153

Course Change Request

New Experimental Course Proposal

Date Submitted: 06/25/18 10:55 am

Viewing: **BIO SCI 3001.002 : Ecophysiology**

File: 4550

Last edit: 09/14/18 2:33 pm

Changes proposed by: shannonk

Requested Effective Change Date	Spring 2019
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	3001
Topic ID	002
Experimental Title	Ecophysiology
Experimental Abbreviated Course Title	Ecophysiology
Instructors	Chen Hou

Experimental Catalog Description	Study of physiological adaptations that improve species' fitness. We will focus on animals and discuss how selection has shaped the basic physiology of species in different niches. Although some molecular and cellular mechanisms will be addressed, the major themes of the course will be comparative, ecological, evolutionary, integrative, and organismal.
Prerequisites	Bio Sci 1113 or 1213, and Bio Sci 1223.
Field Trip Statement	

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

Justification for new course:	Diversification of course offerings for more ecological and organismal courses
Semester(s) previously taught	
Co-Listed Courses:	

Course Reviewer Comments

In Workflow

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

Approval Path

1. 06/25/18 11:12 am
   David Duvernell (duvernelld): Approved for RBIOLSCI Chair
2. 06/25/18 2:05 pm
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/14/18 10:53 am
   Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 09/14/18 2:42 pm
   Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 4550

Preview Bridge

Course Change Request

New Experimental Course Proposal

Date Submitted: 09/13/18 1:21 pm

Viewing: **COMP SCI 4001.003 : Introduction to Cyber Security Offense**

File: 4568

Last edit: 09/18/18 11:43 am

Changes proposed by: tauritzd

Requested Effective Change Date	Spring 2019
Department	Computer Science
Discipline	Computer Science (COMP SCI)
Course Number	4001
Topic ID	003
Experimental Title	Introduction to Cyber Security Offense
Experimental Abbreviated Course Title	Cyber Security Offense
Instructors	Sammie Bush

Experimental Catalog Description	Students will learn tactics and gain skills needed to be effective in ethical cyber security offense operational careers. They will develop tools and leverage techniques to complete offense goals in cyberspace. Assignments will be given in the form of Capture the Flag (CTF) challenges with write-ups. Assessments will cover conceptual and tool knowledge.
Prerequisites	A grade of "C" or better in both Comp Eng 3150 and Comp Sci 3600.
Field Trip Statement	n/a
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3

Justification for new course:	The computer science department is known for its research and education in cyber security, but few classes touch on the offense side of cyber security. A class covering these topics would give us a more comprehensive coverage of topics in cyber security and open the door for future certifications in cyber security, such as NSA's National Center of Academic Excellence in Cyber Operations certificate. This couse is synergistic with the department's planned CyberLab: Experiential Learning Computer Systems and Cyber Security Student Lab.
Semester(s) previously taught	n/a
Co-Listed Courses:	

Course Reviewer Comments	**sraper (09/18/18 10:56 am):** Changed abbreviated course title per D. Tauritz via email.

In Workflow

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

Approval Path

1. 09/13/18 4:33 pm Bruce McMillin (ff): Approved for RCOMPSCI Chair
2. 09/14/18 8:36 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/18/18 10:56 am Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/18/18 11:44 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 4568

Preview Bridge

Course Change Request

New Experimental Course Proposal

Date Submitted: 08/29/18 2:47 pm

Viewing: **HISTORY 3001.006 : Folk Technology and Material Culture**

File: 4559

Last edit: 09/14/18 2:56 pm

Changes proposed by: kswenson

Requested Effective Change Date	Spring 2019
Department	History and Political Science
Discipline	History (HISTORY)
Course Number	3001
Topic ID	006
Experimental Title	Folk Technology and Material Culture
Experimental Abbreviated Course Title	Folk Technology
Instructors	Simon Bronner

Experimental Catalog Description

Explores the emerging folk technologies in the US from settlement to the present, the legacy of cultural exchange and hybridization, and regionalization. Primary attention will be given to architecture and craft, and ways that many of these technologies are being revitalized in modern society, and have been represented in literature, film, and museums.

Prerequisites

History 1100 or History 1200 or History 1300 or History 1310.

Field Trip Statement

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

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. CAT entry
8. Registrar

Approval Path

1. 08/29/18 3:34 pm sfogg: Approved for RHISTORY Chair
2. 08/31/18 8:24 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 08/31/18 8:32 am Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 09/14/18 3:04 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Justification for new course:	This is a seminar to be given one time only by the Weiner Visiting Professor in the Humanities. It will fulfill upper-level humanities requirements for non-humanities majors as well as a 3000-level course in their major for humanities majors. Co-listed Courses: English 3001 Special Topics Philos 3001 Special Topics
Semester(s) previously taught	N/A
Co-Listed Courses:	
Course Reviewer Comments	**ershenb (08/31/18 8:24 am):** moved co-listed courses to the justifications section per the EC process

Key: 4559

Preview Bridge

Course Change Request

<div align="center">

New Experimental Course Proposal

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Date Submitted: 08/31/18 3:22 pm

Viewing: **MS&E 6001.003 : Advanced Materials Communication**

File: 4564

Last edit: 09/18/18 3:02 pm

Changes proposed by: billf

Requested Effective Change Date	Fall 2019
Department	Materials Science & Engineering
Discipline	Materials Science & Eng (MS&E)
Course Number	6001
Topic ID	003
Experimental Title	Advanced Materials Communication
Experimental Abbreviated Course Title	Advanced Communication
Instructors	William Fahrenholtz

Experimental Catalog Description	This project-based class will focus on written and oral communication skills needed for researchers in materials science and engineering. Students will prepare conference-style technical presentations, critically review scientific manuscripts, and draft a paper for publication in a technical journal.
Prerequisites	Passing the MSE qualifying exam or instructor permission.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3

Justification for new course:	This class will help strengthen the communications skills of graduate students in the MSE program. It will cover topics that are not covered in any other classes on campus in terms of having the students draft papers that will be suitable for publication and work with a faculty member who has the Editor-in-Chief of a technical journal. This class will also give the MSE students another choice for a 6000 level class in the department, which is a need for the department.
Semester(s) previously taught	New class.
Co-Listed Courses:	

Course Reviewer Comments

<div align="right">

Key: 4564

Preview Bridge

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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. CAT entry
8. Registrar

Approval Path

1. 08/31/18 3:23 pm Greg Hilmas (ghilmas): Approved for RMATSENG Chair
2. 08/31/18 4:19 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/10/18 3:00 pm Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/18/18 11:09 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Course Change Request

New Experimental Course Proposal

Date Submitted: 08/16/18 11:27 am

Viewing: **NUC ENG 6001.006 : Nuclear Data Processing**

File: 4556

Last edit: 09/18/18 11:20 am

Changes proposed by: alajoa

Requested Effective Change Date	Spring 2019
Department	Mining & Nuclear Engineering
Discipline	Nuclear Engineering (NUC ENG)
Course Number	6001
Topic ID	006
Experimental Title	Nuclear Data Processing
Experimental Abbreviated Course Title	Nuclear Data Processing
Instructors	Alajo

Experimental Catalog Description

An introduction to NJOY modules and subdivisions and how they are used to process nuclear data files. Example problem statements will be given for various ENDF files. Students will learn ENDF format and process ENDF files into their code of choice and use them for analysis. Mass file processing will be covered using scripts and Python.

Prerequisites

Comp Sci 1970 & Comp Sci 1980 or Comp Sci 1971 & Comp Sci 1981 or Comp Sci 1972 & Comp Sci 1982; Nuc Eng 3205; Nuc Eng 4253; or concurrent enrollment in Nuc Eng 3205 and/or Nuc Eng 4253.

Field Trip Statement

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

Justification for new course:

In Workflow

1. **NUC ENG 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. CAT entry
11. Peoplesoft

Approval Path

1. 08/16/18 11:32 am
   Hyoung-Koo Lee (leehk): Approved for NUC ENG Chair
2. 08/29/18 12:29 pm
   Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/10/18 2:45 pm
   Stephen Raper (sraper): Approved for Engineering DSCC Chair
4. 09/18/18 11:20 am
   Brittany Parnell

Nuclear data processing is necessary for the robust analysis of various nuclear systems. All nuclear analysis/computation tools come with some nuclear cross-section data pre-processed for use with each tool. However, these data are not exhaustive and only apply to limited practical situations requiring analysis. A database of evaluated but unprocessed nuclear cross-section data exists. This course provides students with the avenue to learn how to process these data for use in nuclear system analyses. With this knowledge the student are able to generated problem-specify nuclear cross-section data; thereby yielding more accurate results for problem being solved.

(ershenb): Approved for Pending CCC Agenda post

Semester(s)   N/A
previously taught

Co-Listed
Courses:

Course Reviewer
Comments

Key: 4556

Preview Bridge

Course Change Request

New Experimental Course Proposal

Date Submitted: 09/11/18 12:57 pm

Viewing: **THEATRE 2001.002 : Story Structure: From Stage to Video Games**

File: 4567

Last edit: 09/18/18 11:28 am

Changes proposed by: heldenbrandt

Requested Effective Change Date	Spring 2019
Department	Arts, Languages, & Philosophy
Discipline	Theatre (THEATRE)
Course Number	2001
Topic ID	002
Experimental Title	Story Structure: From Stage to Video Games
Experimental Abbreviated Course Title	Story Structure
Instructors	Gruenloh, Taylor

Experimental Catalog Description	This class provides a solid foundation in the essentials of story writing: concept, character, story, plot, dialogue, and structure. Students will examine format, the importance of visual storytelling, developing an economical writing style, the process of shaping story for a ten-minute play, the first act for a film, and their own video game idea.
Prerequisites	
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3

Justification for new course:	Department Request
Semester(s) previously taught	None
Co-Listed Courses:	

Course Reviewer Comments

Key: 4567

Preview Bridge

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. CAT entry
8. Registrar

Approval Path

1. 09/11/18 2:48 pm Audra Merfeld-Langston (audram): Approved for RPHILOSO Chair
2. 09/11/18 4:27 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 09/12/18 8:02 am Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 09/18/18 11:33 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Program Change Request

Date Submitted: 06/26/18 2:25 pm

Viewing: PSY LEA-MI : Psychol of Leadership - Minor

File: 124.3

Last approved: 07/21/15 2:42 pm

Last edit: 06/27/18 8:54 am

Changes proposed by: murray

Catalog Pages Using this Program
Psychology

Start Term
Fall **2019** ~~2015~~
Program Code
PSY LEA-MI
Department
Psychological Science
Title
Psychol of Leadership - Minor
Program Requirements and Description

In Workflow

1. **RPSYCHOL 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. Kristy Giacomelli

Approval Path

1. 06/26/18 2:59 pm murray: Approved for RPSYCHOL Chair
2. 06/27/18 8:54 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 06/29/18 2:01 pm Barry Flachsbart (barryf): Approved for Social Sciences DSCC Chair
4. 07/06/18 11:20 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. May 7, 2014 by Lahne Black (lahne)
2. Jul 21, 2015 by pantaleoa

Psychology of Leadership

Requirements include general psychology and 4 of the following 5 courses:

PSYCH 4610	Psychology of Leadership in Organizations	3
and 3 of the following		
PSYCH 4600	Social Psychology	3
PSYCH 4601	Group Dynamics	3
PSYCH 4602	Organizational Psychology	3
~~PSYCH 4603~~	~~Social Influence: Science and Practice~~	~~3~~
PSYCH 4992	**Cross-Cultural Psychology**	**3**

PSYCH 4993	Psychology of Gender	3

Justification for request

Supporting Documents

Course Reviewer Comments

ershenb (06/27/18 8:54 am): updated start term

Key: 124