Campus Curricula Committee Meeting Agenda
October 30, 2013
10:00 am
Room 106B Parker Hall

Review of submitted Degree Change forms:

File #1.1 Mechanical and Aerospace Engineering – Aerospace Engineering Minor
File #2.6 Mechanical and Aerospace Engineering – Aerospace Engineering MS
File #44.2 Engineering Management and Systems Engineering – Engineering Management BS
File #45.1 Engineering Management and Systems Engineering – Engineering Management Minor
File #48.1 English and Technical Communication – English BA
File #49.1 Business and Information Technology – Enterprise Resource Planning Minor
File #53.1 Arts, Languages, and Philosophy – Ethics Minor
File #58.1 Business and Information Technology – Finance Minor
File #71.1 History and Political Science – History Minor
File #73.1 Business and Information Technology – Information Science and Technology MS
File #74.1 Business and Information Technology – Information Science and Technology Minor
File #75.1 Business and Information Technology – Information Science and Technology BS
File #81.1 Business and Information Technology – Marketing Minor
File #86.1 Mechanical and Aerospace Engineering – Mechanical Engineering BS
File #88.3 Mechanical and Aerospace Engineering – Mechanical Engineering MS
File #89.1 Mechanical and Aerospace Engineering – Mechanical Engineering PhD
File #91.1 Materials Science and Engineering – Metallurgical Engineering MS
File #102.1 Arts, Languages, and Philosophy – Multiculturalism and Diversity Minor
File #120.1 History and Political Science – Political Science Minor
File #122.1 Business and Information Technology – Pre MBA Minor
File #133.1 English and Technical Communication – Technical Communication Graduate Minor
File #135.1 English and Technical Communication – Technical Communication MS
File #136.1 Arts, Languages, and Philosophy – Theatre Minor
File #141.1 Mechanical and Aerospace Engineering – Aerospace Engineering BS
File #143.4 Civil, Architectural, and Environmental Engineering – Architectural Engineering BS
File #144.1 Arts, Languages, and Philosophy – Art Minor
File #148.1 Business and Information Technology – Business and Management Systems BS
File #173.1 Mechanical and Aerospace Engineering – Manufacturing Engineering MS

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File #177.1 English and Technical Communication – Creative Writing Minor
File #178.1 English and Technical Communication – Literature and Film Minor
File #179.1 English and Technical Communication – Literature Minor
File #181.1 English and Technical Communication – Technical Communication Minor
File #183.1 Psychological Science – Psychology Minor
File #184.1 Materials Science and Engineering – Ceramic Engineering MS
File #185.1 Materials Science and Engineering – Ceramic Engineering PhD
File #186.1 Business and Information Technology – Business Administration MBA
File #187.1 Arts, Languages, and Philosophy – Philosophy Minor
File #188.1 Arts, Languages, and Philosophy – Philosophy of Technology Minor
File #204.1 Materials Science and Engineering – Materials Science and Engineering PhD
File #209.1 Materials Science and Engineering – Metallurgical Engineering PhD
File #217.1 Arts, Languages, and Philosophy – French Minor
File #218.1 Arts, Languages, and Philosophy – German Minor
File #219.1 Arts, Languages, and Philosophy – Russian Minor
File #220.1 Arts, Languages, and Philosophy – Spanish Minor

Review of submitted Experimental Course forms:

File #4000 Mining Engineering 401 – Managing Social and Environmental Risks in Mining
File #4001 Mining Engineering 401 – Biodiversity, Closure, and Compliance
File #4002 Mining Engineering 401 – Energy, Tailings, and Water Management
File #4008 Economics 401 – Mining Industry Economics II
File #4009 Mining Engineering 401 – Advanced Mine Ventilation
File #4010 Information and Science Technology 301 – Introduction to Big Data Analysis
File #4012 Mechanical Engineering 401 – Iterative Learning and Repetitive Process Control

Review of Tabled Items:

CC #8475 Mining Engineering 407 – Theory of High Explosives
CC #8476 Economics 350 – Ethical Problems in a Global Environment
CC #8477 Explosives Engineering 305 – Explosives Handling and Safety
CC #8478 Materials Science and Engineering 325 – Materials Selection in Mechanical Design
CC #8479 Environmental Engineering 265 – Water and Wastewater Engineering
CC #8480 Philosophy 201 – Symbolic Logic in Argumentation

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Program Change Request

Date Submitted: 09/27/13 2:54 pm

Viewing: **AE ENG-MI : Aerospace Engineering Minor**

File: 1.1

Last edit: 09/27/13 2:54 pm

Changes proposed by: nisbett

Catalog Pages Using this Program	Aerospace Engineering
Start Term	**Fall 2014**
Program Code	AE ENG-MI
Department	**Mechanical & Aerospace Engineering** ~~AERO ENG~~
Title	Aerospace Engineering Minor

In Workflow

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

Program Requirements and Description

Requirements for a Minor in Aerospace Engineering

A student who receives a bachelor of science degree in an accredited engineering program from Missouri S&T may receive a minor in aerospace engineering by completing the 15 hours of courses listed below. Students must satisfy the prerequisite requirements for each course. The department granting the bachelor of science degree shall determine whether or not courses taken for the minor may also be used to fulfill the requirements of the B.S. degree.

Approval Path

1. 09/27/13 3:45 pm drallmei: Approved for RMECHENG Chair
2. 09/27/13 3:47 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:47 pm sraper: Approved for Engineering DSCC Chair

AERO ENG 161	Aerospace Vehicle Performance	3
AERO ENG 213	Aerospace Mechanics I	3
AERO ENG 231	Aerodynamics I	3
AERO ENG 251	Aerospace Structures I	3
AERO ENG 3000 level 3-hour lecture course (student choice)		3

Justification for request	This is to specify four-digit course numbering for all references in the curriculum that are not covered by the renumbering cross-walk tables.
Supporting Documents	
Course Reviewer Comments	

Key: 1

Program Change Request

Date Submitted: 09/27/13 3:18 pm

Viewing: **AE ENG-MS : Aerospace Engineering MS**

File: 2.6

Last approved: 09/27/13 3:10 pm

Last edit: 10/10/13 2:50 pm

Changes proposed by: nisbett

In Workflow

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

Catalog Pages Using this Program	Aerospace Engineering
Start Term	Fall **2014** ~~2013~~
Program Code	AE ENG-MS
Department	Mechanical & Aerospace Engineering
Title	Aerospace Engineering MS

Approval Path

1. 09/27/13 3:45 pm drallmei: Approved for RMECHENG Chair
2. 09/27/13 3:47 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:52 pm sraper: Approved for Engineering DSCC Chair

History

1. Sep 27, 2013 by lahne

Program Requirements and Description

The master of science thesis program consists of a minimum of 30 credit hours, including the following requirements: at least 21 credit hours of lecture courses, at least 6 credit hours of ME 490, at least 9 credit hours of lecture courses in the MAE department (of which at least 3 credit hours must be at the **6xxx** ~~4xx~~ level), at least 3 credit hours of mathematics, statistics, or computer science (AE/ME 330: Applied Computational Methods may be used to satisfy this requirement), and at least 6 credit hours of **6xxx** ~~4xx~~ lecture courses. A master of science non-thesis program consists of a minimum of 30 credit hours, including the following requirements: at least 24 credit hours in the MAE department and at least 9 credit hours of **6xxx** ~~4xx~~ lecture courses (of which at least 6 credit hours must be in the MAE department). Note that no course below the **5xxx** ~~3xx~~ level may be applied to the degree requirements.

A student holding an MS degree and pursuing the doctor of philosophy degree must complete at least 60 total credit hours, including the following requirements: at least 24 credit hours of lecture courses, at least 36 credit hours of ME 490, at least 12 credit hours of course work in the MAE department, at least 3 credit hours of mathematics, statistics, or computer science (AE/ME 330: Applied Computational Methods may be used to satisfy this requirement), and at least 9 credit hours of **6xxx** ~~4xx~~ courses (of which at least 6 credit hours must be in the MAE department). In addition to these course requirements, a candidate must prepare a dissertation based on analytical, numerical, and/or experimental research. Note that no course below the **5xxx** ~~3xx~~ level may be applied to the degree requirements.

A student holding a BS degree and pursuing the direct doctor of philosophy degree must complete at least 90 total credit hours, including the following requirements: at least 45 credit hours of lecture courses, at least 45 credit hours of ME 490, at least 21 credit hours of course work in the MAE department, at least 6 credit hours of mathematics, statistics, or computer science (AE/ME 330: Applied Computational Methods may be used to satisfy three credit hours of this requirement), and at least 15 credit hours of **6xxx** ~~4xx~~ courses (of which at least 9 credit hours must be in the MAE department). In addition to these course requirements, a candidate must prepare a dissertation based on analytical, numerical, and/or experimental research. Note that no course below the **5xxx** ~~3xx~~ level may be applied to the degree requirements.

A candidate for the degree of doctor of philosophy must pass a qualifying examination. The candidate is considered to have passed the qualifying examination if the candidate has taken at least four courses and has a **GPA** ~~GPA~~ ≥ 3.5 at the end of the candidate's fourth semester. At least two courses must be in the MAE department, one of which must be at the **6xxx** ~~4xx~~ level.

Justification for request	This is to specify four-digit course numbering for all references in the curriculum that are not covered by the renumbering cross-walk tables
Supporting Documents	

Course Reviewer Comments

Key: 2

Program Change Request

Date Submitted: 09/24/13 11:59 am

Viewing: **ENG MG-BS : Engineering Management BS**

File: 44.2

Last approved: 09/24/13 11:05 am

Last edit: 10/10/13 2:51 pm

Changes proposed by: sraper

Catalog Pages Using this Program	Engineering Management
Start Term	Fall **2014** ~~2013~~
Program Code	ENG MG-BS
Department	Engineering Management and Systems Engineering
Title	Engineering Management BS

In Workflow

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

Approval Path

1. 09/24/13 12:14 pm
   enke: Approved for RENGMNGT Chair
2. 09/30/13 1:26 pm
   lahne: Approved for CCC Secretary
3. 10/10/13 2:53 pm
   sraper: Approved for Engineering DSCC Chair

History

1. Sep 24, 2013 by lahne

Program Requirements and Description

Bachelor of Science
Engineering Management

Entering freshmen intending to study Engineering Management are admitted to the Freshman Engineering Program. They may, however, state an Engineering Management 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.

The Bachelor of Science degree in Engineering Management requires a minimum of 128 credit hours. 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 Engineering Management.

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:

All students are required to take one American history course, one economics course, one humanities course, and ENGLISH 20. The history course is to be selected from HISTORY 112, HISTORY 175, HISTORY 176, or POL SCI 90. The economics course may be either ECON 121 or ECON 122. The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.

Depth requirement. Three credit hours must be taken in humanities or social sciences at the 100 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 70 or 80 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 300 level. All courses taken to satisfy the depth requirement must be taken after graduating from high school.

The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to ENGLISH 20.

Any specific departmental requirements in the general studies area must be satisfied.

Special topics, special problems and honors seminars are allowed only by petition to and approval by the student's department chairman.

The Engineering Management 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.

Free Electives Footnote:

Free electives. 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 10	1	IDE 20	3
CHEM 1	4	MATH 151	4
CHEM 2	1	PHYSICS 231	4
CHEM 4	1	ECON 121 or 122	3
MATH 141	4	Humanities Elective2	3
ENGLISH 20	3		
HISTORY 112, or 175, or 176, or POL SCI 903			
	17		17

Sophomore Year

First Semester	Credits	Second Semester	Credits
MATH 221	4	MATH 2041	3
PHYSICS 241	4	STAT 215 or 2171	3
CIV ENG 501	3	ENG MGT 1341	3
ENG MGT 1371	2	ENG MGT 1471	3
ENG MGT 2131	3	IDE 150	2
		PSYCH 50	3
	16		17

Junior Year

First Semester	Credits	Second Semester	Credits
ENG MGT 2531	3	ENG MGT 2661	3
CIV ENG 110	3	MECH ENG 227	3
CIV ENG 120	1	ELEC ENG 281	3
ENG MGT 2511	3	ENGLISH 160	3
COMP SCI 741	2	ENG MGT 2541	3
COMP SCI 78	1		
~~SP&M S 85 or SP&M S 181~~	~~3~~		
SPM S 85 or SPM S 181	**3**		
	16		15

Senior Year

First Semester	Credits	Second Semester	Credits
Emphasis Area Required Course	3	ENG MGT Technical Elective	3
Emphasis Area Required Course	3	ENG MGT Technical Elective	3
Emphasis Area Required Course	3	ENG MGT 2991	3
ENG MGT 2601	3	Upper Level Hum/SS	3
ENG MGT Technical Elective	3	Free Elective	3
	15		15

Total Credits: 128

Example Emphasis Area Programs for Engineering Management Students

One unique aspect of the Engineering Management degree is the student's ability to select an established emphasis area or create a specialized emphasis. Two examples of established emphasis areas are shown below.

Management of Technology

ENG MGT 320 ~~ENG MGT 320~~	Technical Entrepreneurship	3
ENG MGT 327	~~ENG MGT 327~~Legal Environment	3
ENG MGT 356	~~ENG MGT 356~~Industrial System Simulation	3
ENG MGT 366	~~ENG MGT 366~~Supply Chain Management Systems	3
ENG MGT Technical Electives (In consultation with your advisor)		6

Industrial Engineering		
ENG MGT 257 ~~ENG MGT 257~~	Materials Handling And Plant Layout	3
ENG MGT 311 OR ENG MGT 4330	~~ENG MGT 311~~Human Factors	3
ENG MGT 356	~~ENG MGT 356~~Industrial System Simulation	3
ENG MGT 382	~~ENG MGT 382~~Introduction To Operations Research	3
ENG MGT Technical Electives (In consultation with your advisor)		6
General		
Engineering Area Courses (Engineering Discipline)		15
ENG MGT-Technical Elective		3

Note: All electives must be chosen in consultation with the student's advisor. Students must satisfy the common engineering freshman year course requirements in addition to the sophomore, junior, and senior year requirements listed above with a minimum of 128 hours.

1 Must have a grade of "C" or better in these courses for graduation. MATH 8 and MATH 21 may be substituted for MATH 14 and MATH 15, respectively.

2 Humanities and Social Science 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.

3 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.

4 Students are required to select an emphasis area and maintain a minimum 2.0 GPA for these courses.

5 All Engineering Management students must take the Associate Engineering Manager Certification exam prior to graduation. A passing grade on this examination is not required to earn a B.S. degree. This requirement is part of the Missouri S&T assessment process as described in Assessment Requirements found elsewhere in this catalog. Students must sign a release form giving the University access to their Associate Engineering Manager Certification score.

Justification for request	Emg MGT 311 IS A Dual Career course number. 4330 is for undergraduates and is a required change for the new course numbering system.
Supporting Documents	
Course Reviewer Comments	

Key: 44

Program Change Request

Date Submitted: 09/24/13 10:53 am

Viewing: **ENG MGT-MI : Engineering Management Minor**

File: 45.1

Last edit: 09/24/13 11:17 am

Changes proposed by: sraper

Catalog Pages Using this Program	Engineering Management
Start Term	**Fall 2014**
Program Code	ENG MGT-MI
Department	**Engineering Management and Systems Engineering** ~~ENG MGT~~
Title	Engineering Management Minor

In Workflow

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

Program Requirements and Description

Minor in Engineering Management

A student who receives a bachelor of science degree in an accredited engineering program from Missouri S&T may receive a minor in Engineering Management by completing 15 hours of the courses listed below.

Approval Path

1. 09/24/13 11:14 am
   enke: Approved for RENGMNGT Chair
2. 09/24/13 11:18 am
   lahne: Approved for CCC Secretary
3. 09/24/13 12:22 pm
   lahne: Rollback to CCC Secretary for CCC Meeting Agenda
4. 09/24/13 12:32 pm
   lahne: Approved for CCC Secretary
5. 09/25/13 9:09 am
   lahne: Rollback to CCC Secretary for Col DSCC Chair
6. 09/25/13 9:12 am
   lahne: Approved for CCC Secretary
7. 09/25/13 10:09 am
   sraper: Approved for Engineering DSCC Chair

ENG MGT 134	Managing Engineering And Technology	3
ENG MGT 147	Engineering Accounting and Finance	3
ENG MGT 253	Operations And Production Management	3
Eng Mgt 3000, 4000, or 5000 level course work chosen in consultation with minor advisor.		6
Total Credits		15

Justification for request	To meet new course renumbering requirements. (Item four of the course list above should be changed to the following: Eng Mgt 3000, 4000, or 5000 level course work chosen in consultation with minor advisor. Credit hours remain at 6.)
Supporting Documents	
Course Reviewer Comments	

Key: 45

Program Change Request

Date Submitted: 09/13/13 12:24 pm

Viewing: **ENGL-BA : English BA**

File: 48.1

Last edit: 09/30/13 1:43 pm

Changes proposed by: kswenson

Catalog Pages Using this Program	English
Start Term	**Fall 2014**
Program Code	ENGL-BA
Department	**English and Technical Communication** ~~ENGLISH~~
Title	English BA

In Workflow

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

Approval Path

1. 09/13/13 12:29 pm kswenson: Approved for RENGLISH Chair
2. 09/30/13 1:43 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:29 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Requirements and Description

Bachelor of Arts

English

The requirements for the English major are as follows:

~~Prerequisites for the English major are ENGLISH 75, ENGLISH 80, ENGLISH 105, and ENGLISH 106.~~ **Prerequisites for the English major are ENGLISH 75, ENGLISH 80, ENGLISH 105, and ENGLISH 106. Six** ~~Six~~ of these hours will satisfy the General Education Humanities requirements **for the** ~~for the~~ Bachelor of Arts degree.

Twenty-four hours of English course work at the **2000** ~~200~~ and **3000** ~~300~~ level, including **ENGLISH 202:** ~~ENGLISH 202 Critical Approaches To Literature and ENGLISH 350 Texts And Contexts.~~ **Critical Approaches to Literature and ENGLISH 350: Texts and Contexts.**

Of these twenty-four hours a minimum of fifteen hours must be at the **3000 level or higher.** ~~300 level.~~ Only nine hours at the **2000** ~~200~~ level may count towards fulfilling the major requirements.

Students are strongly recommended to work closely with their advisors in planning their major curriculum.

Bachelor of Arts

(Emphasis Area in Secondary Education)

The student will fulfill the general requirements for the Bachelor of Arts degree, *except for foreign language and a minor;* the requirements for the English major *(emphasis in secondary education);* and the requirements for Missouri certification in the teaching of English. See Education. Contact the Missouri S&T English Department for advising. Students who do not complete certification requirements must complete regular requirements (foreign language and a minor) in order to receive a B.A. Students preparing for Teacher Certification should note that the requirements for the English major are as follows:

ENGLISH 75, ENGLISH 80, ENGLISH 105, ENGLISH 106.

Fifteen hours of course work at the **2000** ~~200~~ or **3000** ~~300~~ level in English and American literature, including two courses in English Literature; and two American Literature courses, including literature for adolescents.

Six hours of linguistics.

ENGLISH 202 Critical Approaches to Literature.

~~ENGLISH 202 Critical Approaches To Literature.~~ Capstone course for major: **ENGLISH 350 Texts and Contexts.**

~~ENGLISH 350.~~ Twelve hours of writing, including a course in the teaching of writing. Six of these hours will also be satisfied by the General Education Composition requirement for the B.A. degree; three of these hours will also be satisfied by the capstone course.

A minimum of fifteen hours must be at the **3000** ~~300~~ level.

Justification for request	Updated in keeping with renumbering.
Supporting Documents	
Course Reviewer Comments	

Key: 48

Program Change Request

Date Submitted: 09/24/13 6:11 pm

Viewing: **ERP-MI : Enterprise Resource Plan Minor**

File: 49.1

Last edit: 09/30/13 2:07 pm

Changes proposed by: barryf

Catalog Pages Using this Program	Information Science and Technology
Start Term	**Fall 2014**
Program Code	ERP-MI
Department	**Business and Information Technology** ~~IS&T~~
Title	Enterprise Resource Plan Minor

In Workflow

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

Approval Path

1. 09/25/13 7:09 pm siauk: Approved for RINFSCTE Chair
2. 09/30/13 2:08 pm lahne: Approved for CCC Secretary
3. 10/09/13 4:32 pm barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Minor in Enterprise Resource Planning (ERP)

A minor in ERP requires the following 15 hours of course work:

BUS 120	Financial Accounting	3
ERP 246	Introduction to Enterprise Resource Planning	3
ERP 346	Enterprise Resource Planning Systems Design and Implementation	3
And 6 hours of electives from any other ERP-designated courses at the 4000-level or above		6
Total Credits		15

Justification for request	Correct for renumbering, fix title.
Supporting Documents	
Course Reviewer Comments	

Key: 49

Program Change Request

Date Submitted: 09/30/13 2:43 pm

Viewing: **ETHICS-MI : Ethics Minor**

File: 53.1

Last edit: 09/30/13 2:43 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Philosophy
Start Term	**Fall 2014**
Program Code	ETHICS-MI
Department	**Arts, Languages, & Philosophy** ~~PHILOS~~
Title	Ethics Minor

In Workflow

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

Program Requirements and Description

Ethics Minor

To qualify, all students must take 15 hours of course work from the following list of which at least 6 hours are from **the 4000** ~~the 300~~ level:

PHILOS 5	Introduction To Philosophy	3
PHILOS 15	Introduction To Logic	3
PHILOS 75	Comparative Religious Philosophy	3
PHILOS 223	Bioethics	3
PHILOS 225	Engineering Ethics	3
PHILOS 235	Business Ethics	3
PHILOS 335	Philosophy Of Religion	3
PHILOS 340	Social Ethics	3
PHILOS 350	Environmental Ethics	3
PHILOS 360	Foundations Of Political Conflict	3
PHILOS 368	Law and Ethics in E-Commerce	3

Justification for request	
Supporting Documents	
Course Reviewer Comments	**lahne (09/30/13 8:24 am):** Rollback: Please update the reference to "300 level" courses.

Approval Path

1. 09/30/13 4:05 pm lance: Approved for RPHILOSO Chair
2. 10/07/13 3:49 pm lahne: Approved for CCC Secretary
3. 10/07/13 4:01 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 53

Program Change Request

Date Submitted: 09/24/13 6:11 pm

Viewing: **FINANCE-MI : Finance Minor**

File: 58.1

Last edit: 09/30/13 10:36 am

Changes proposed by: barryf

Catalog Pages Using this Program	Business and Management Systems
Start Term	**Fall 2014**
Program Code	FINANCE-MI
Department	**Business and Information Technology** ~~BUS~~
Title	Finance Minor

In Workflow

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

Approval Path

1. 09/25/13 7:09 pm siauk: Approved for RINFSCTE Chair
2. 09/30/13 10:37 am lahne: Approved for CCC Secretary
3. 10/09/13 4:33 pm barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Minor in Finance

A minor in Finance* requires the following 15 hours of course work:

ECON 121	Principles Of Microeconomics	3
or ECON 122	Principles Of Macroeconomics	
FINANCE 250	Corporate Finance I	3
FINANCE 360	**Investments I**	**3**
ECON 323	**International Finance**	**3**
And 3 hours of FINANCE courses at the 3000-level or above (Undergraduate Research is acceptable).		3

Justification for request	Correct for renumbering. Correct and expand the course list.
Supporting Documents	
Course Reviewer Comments	

Key: 58

Program Change Request

Date Submitted: 08/26/13 12:33 pm

Viewing: **HIST-MI : History Minor**

File: 71.1

Last edit: 09/25/13 11:39 am

Changes proposed by: dewittp

Catalog Pages Using this Program	History
Start Term	**Fall 2014**
Program Code	HIST-MI
Department	**History and Political Science** ~~HISTORY~~
Title	History Minor

In Workflow

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

Program Requirements and Description

History Minor Curriculum

The History/Political Science Department offers a minor in history. To qualify, all students must take 15 hours of course work in history to include:

Course List

Approval Path

1. 08/27/13 7:21 am lgragg: Approved for RHISTORY Chair
2. 09/25/13 11:41 am lahne: Approved for CCC Secretary
3. 09/25/13 11:49 am ivliyeva: Approved for Arts & Humanities DSCC Chair

HISTORY 111	**Early Western Civilization**	**3**
or HISTORY 112	**Modern Western Civilization**	
HISTORY 175	**American History To 1877**	**3**
or HISTORY 176	**American History Since 1877**	
An additional 9 hours of an approved sequence of 2000 or higher level courses.		**9**
~~HISTORY 111~~	~~Early Western Civilization~~	~~3~~
~~or HISTORY 112~~	~~Modern Western Civilization~~	
~~HISTORY 175~~	~~American History To 1877~~	~~3~~
~~or HISTORY 176~~	~~American History Since 1877~~	
~~An additional 9 hours of HISTORY 200 or 300 level courses.~~		~~9~~

Justification for request	Course Renumbering Initiative
Supporting Documents	
Course Reviewer Comments	

Key: 71

Program Change Request

Date Submitted: 09/24/13 6:11 pm

Viewing: **IST-MS : Info Science & Tech MS**

File: 73.1

Last edit: 09/30/13 11:06 am

Changes proposed by: barryf

Catalog Pages Using this Program	Information Science and Technology
Start Term	**Fall 2014**
Program Code	IST-MS
Department	**Business and Information Technology** ~~IS&T~~
Title	Info Science & Tech MS

In Workflow

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

Approval Path

1. 09/25/13 7:09 pm siauk: Approved for RINFSCTE Chair
2. 09/30/13 11:06 am lahne: Approved for CCC Secretary
3. 10/09/13 4:33 pm barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Degree Requirements

M.S. with Thesis: The M.S. degree with thesis requires the completion of 24 hours of graduate course work **(5000 level or above),** ~~(a minimum of 12 at the 400 level),~~ 6 hours of **research,** ~~research (IS&T 490),~~ and the successful completion and defense of a research thesis.

M.S. without Thesis: The M.S. degree without thesis requires the completion of 30 hours of graduate course work **(5000 level and above). Courses below** ~~(a minimum of 15 at~~ the **5000 level will not count toward the M.S.** ~~400 level)~~ **degree, even if they are taken to fulfill prerequisites.**

The following core courses are required of all M.S. students in Information Science and Technology. These courses are designated to ensure that all IST masters students study the four information systems perspectives of networks and web design, human perception, application implementation, and organizational systems.

IS&T 351	Technological Innovation Management and Leadership
IS&T 385	Human Computer Interaction
IS&T 436	Foundations of Internet Computing
IS&T 461	Advanced Information Systems Project Management

Justification for request	Corrected for renumbering. Fix title. Specify clearly that only graduate courses are accepted toward the degree.
Supporting Documents	
Course Reviewer Comments	

Key: 73

Program Change Request

Date Submitted: 09/24/13 6:11 pm

Viewing: **IST-MI : Information Sci & Tech Minor**

File: 74.1

Last edit: 09/30/13 10:57 am

Changes proposed by: barryf

Catalog Pages Using this Program	Information Science and Technology
Start Term	**Fall 2014**
Program Code	IST-MI
Department	**Business and Information Technology** ~~IS&T~~
Title	Information Sci & Tech Minor

In Workflow

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

Approval Path

1. 09/25/13 7:09 pm siauk: Approved for RINFSCTE Chair
2. 09/30/13 10:58 am lahne: Approved for CCC Secretary
3. 10/09/13 4:33 pm barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Minor in Information Science and Technology

A minor in Information Science and Technology requires 15 hours of courses:

IS&T 50	Introduction to Management Information Systems	3
IS&T 51	Implementing Information Systems: User Perspective	3
IS&T 151	Implementing Information Systems: Data Perspective	3
ERP 246	Introduction to Enterprise Resource Planning	3
Any IS&T or ERP course at the 2000 level or above.		3
Total Credits		15

Justification for request	Correct for renumbering, fix title.
Supporting Documents	
Course Reviewer Comments	

Key: 74

Program Change Request

Date Submitted: 09/24/13 6:10 pm

Viewing: **IST-BS : Information Science and Tch BS**

File: 75.1

Last edit: 09/30/13 10:50 am

Changes proposed by: barryf

Catalog Pages Using this Program	Information Science and Technology
Start Term	**Fall 2014**
Program Code	IST-BS
Department	**Business and Information Technology** ~~IS&T~~
Title	Information Science and Tch BS

In Workflow

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

Approval Path

1. 09/25/13 7:09 pm siauk: Approved for RINFSCTE Chair
2. 09/30/13 10:51 am lahne: Approved for CCC Secretary
3. 10/09/13 4:33 pm barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Bachelor of Science

Information Science and Technology

In Information Science and Technology, the Bachelor of Science degree consists of 120 credit hours. First, all undergraduate students in Information Science and Technology are required to complete a prescribed General Education Requirements Core that corresponds to the recommendations of the Missouri State Coordinating Board for Higher Education and consists of 54 credit hours in the areas of Natural Systems, Human Institutions, Quantitative Skills, and Communication Skills. In addition, all undergraduate students are required to complete a 27 credit hour core consisting of courses in Information Technology, Management, and Entrepreneurship. A minimum grade of "C" is required for courses in these areas. Finally, the degree includes 12 credit hours of free electives.

The remaining 27 credit hours of the required 120 credit hours for the Information Science and Technology degree are divided into a prescribed 18 credit hour degree core and 9 credit hours of specific degree electives. A minimum grade of "C" is required in these courses. The Information Science and Technology Degree requires courses in Database Management, Systems Analysis, Web and Digital Media Development, Computing Internals, Networks and Communications, and E-Commerce. The electives for this degree consist of advanced coursework in the areas introduced by the required courses.

Freshman Year

First Semester	Credits	Second Semester	Credits
BUS 101	1	PSYCH 50	3
ENGLISH 20	3	MATH 12	4
MATH 45	3	IS&T 51	3
Science Elective2	3	BUS 110	3
IS&T 50	3	BUS 120	3
Laboratory w/Science Elective	1		
	14		16

Sophomore Year

First Semester	Credits	Second Semester	Credits
ECON 122	3	Fine Art, Social Science, or Humanities Elective3	3
SP&M S 85	3	IS&T 231	3
IS&T 151	3	Science Elective2	3
ENGLISH 65 or TCH COM 65	3	STAT 211	3

ERP 246	3	ECON 121	3
	15		15

Junior Year

First Semester	Credits	Second Semester	Credits
IS&T 286	3	IS&T Elective	3
FINANCE 250	3	IS&T 243	3
IS&T 223	3	MKT 311	3
IS&T 233	3	IS&T 241	3
IS&T Elective	3	ENGLISH 260 or TCH COM 260	3
	15		15

Senior Year

First Semester	Credits	Second Semester	Credits
Free Electives	6	BUS 396	3
Fine Art, Social Science, or Humanities Elective[3]	3	POL SCI 90	3
Speech or Tech Com Elective	3	IS&T Elective or Emphasis Area[4]	3
History Elective	3	Free Electives	6
	15		15

Total Credits: 120

A grade of "C" or better is required in the following courses for graduation; **BUS 10**, ~~BUS 10,~~ BUS 396, IS&T 50, IS&T 51, IS&T 151, , ~~ERP 246,~~ BUS 110, BUS 120, MKT 311, FINANCE 250, ECON 121, ECON 122, IS&T 286, IS&T 223, IS&T 231, IS&T 233, IS&T 241, and IS&T 243.

1 Writing Intensive Course

2 Any course in the following areas: Biology, Chemistry, Geology, Geological Engineering, Physics.

3 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.

4 A grade of "C" or better is required in IS&T Electives and Emphasis Area courses for graduation. Students choosing the Human-Computer Interaction Emphasis Area must take IS&T 385, IS&T 386, and IS&T 387. Students choosing the Enterprise Resource Planning Emphasis Area must take 9 hours of ERP-designated courses at the 4000-level or above. Students who choose no Emphasis Area must take three courses from: IS&T 4000-level or above, COMP SCI 317, COMP SCI 362.

5 MATH 2 may be subsituted for MATH 4.

Emphasis Areas

Two Emphasis Areas may be taken to specialize if the student wishes to do so. The first, Human-Computer Interaction, consists of three courses:

IS&T 385	Human Computer Interaction	3
IS&T 386	Human-Computer Interaction Prototyping	3
IS&T 387	Human-Computer Interaction Evaluation	3

The second Emphasis Area, Enterprise Resource Planning, consists of any 9 hours of ERP-designated courses at the **4000-level or above.** ~~300-level.~~

Justification for request	Corrected for renumbering. Fix title.
Supporting Documents	
Course Reviewer Comments	

Key: 75

Program Change Request

Date Submitted: 09/24/13 6:12 pm

Viewing: **MARKET-MI : Marketing Minor**

File: 81.1

Last edit: 09/30/13 11:00 am

Changes proposed by: barryf

Catalog Pages Using this Program	Business and Management Systems
Start Term	**Fall 2014**
Program Code	MARKET-MI
Department	**Business and Information Technology** ~~BUS~~
Title	Marketing Minor

In Workflow

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

Approval Path

1. 09/25/13 7:09 pm siauk: Approved for RINFSCTE Chair
2. 09/30/13 11:00 am lahne: Approved for CCC Secretary
3. 10/09/13 4:34 pm barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Minor in Marketing

A minor in Marketing* requires the following 15 hours of course work:

ECON 121	Principles Of Microeconomics	3
or ECON 122	Principles Of Macroeconomics	
MKT 311	Marketing	3
9 hours from the following list:		9
MKT 321	Consumer Behavior	
MKT 331	Digital Marketing and Promotions	
MKT 350	Customer Focus and Satisfaction	
MKT 380	Marketing Strategy	
ERP 342	Customer Relationship Management in ERP Environment	
Other Marketing electives approved by the department (MKT 3000 and above)		

Justification for request	Corrected for renumbering.
Supporting Documents	
Course Reviewer Comments	

Key: 81

Program Change Request

Date Submitted: 09/27/13 2:51 pm

Viewing: **MC ENG-BS : Mechanical Engineering BS**

File: 86.1

Last edit: 09/27/13 2:51 pm

Changes proposed by: nisbett

Catalog Pages Using this Program	Mechanical Engineering
Start Term	**Fall 2014**
Program Code	MC ENG-BS
Department	**Mechanical & Aerospace Engineering** ~~MECH ENG~~
Title	Mechanical Engineering BS

In Workflow

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

Approval Path

1. 09/27/13 3:45 pm drallmei: Approved for RMECHENG Chair
2. 10/08/13 10:51 am lahne: Approved for CCC Secretary
3. 10/10/13 3:09 pm sraper: Approved for Engineering DSCC Chair

Program Requirements and Description

Bachelor of Science

Mechanical Engineering

Entering freshmen desiring to study Mechanical Engineering will be admitted to the Freshman Engineering Program. They will, however, be permitted, if they wish, to state a Mechanical 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 Mechanical 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. An average of at least two grade points per credit hour must also be attained in all courses taken in Mechanical 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:

All students are required to take one history course, one economics course, one humanities course, and ENGLISH 20. The history course is to be selected from HISTORY 112, HISTORY 175, HISTORY 176, or POL SCI 90. The economics course may be either ECON 121 or ECON 122. The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.

Depth requirement. Three credit hours must be taken in humanities or social sciences at the **2000** ~~100~~ 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** ~~70 or 80~~ will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the **4000** ~~300~~ level. All courses taken to satisfy the depth requirement must be taken after graduating from high school.

The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to ENGLISH 20.

Any specific departmental requirements in the general studies area must be satisfied.

Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chairman.

The Mechanical 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.

Free Electives Footnote:

Free electives. Each student is required to take six 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 10	1	IDE 20	3
CHEM 1a	4	MATH 15a, b	4
CHEM 2	1	PHYSICS 23a	4
MATH 14a, b	4	ECON 121 or 122	3
ENGLISH 20	3	Elective-Hum or Soc Scif	3
HISTORY 112, or 175, or 176, or POL SCI 90	3		
	16		17

Sophomore Year

First Semester	Credits	Second Semester	Credits
Programming Electivea, c	3	MECH ENG 161	3
CIV ENG 50a	3	MECH ENG 219a	3
MATH 22a	4	MECH ENG 160a	3
PHYSICS 24a	4	MATH 204a	3
MECH ENG 153	3	MET ENG 121a	3
	17		15

Junior Year

First Semester	Credits	Second Semester	Credits
MECH ENG 213	3	MECH ENG 211a	3
MECH ENG 221	3	MECH ENG 208	3
ELEC ENG 281	3	MECH ENG 225	3
CIV ENG 110a	3	MECH ENG 231	3
CIV ENG 120	1	MECH ENG 240	2
Elective-Advanced Math/Stat or Cmp Sce	3	Elective-Communicationsd	3
	16		17

Senior Year

First Semester	Credits	Second Semester	Credits
MECH ENG 242	2	ENG MGT 124	1
MECH ENG 279	3	ENG MGT 137	2
MECH ENG technical electiveg	3	MECH ENG 261	3
Free electivei	3	MECH ENG 280	1
Literature electivef	3	MECH ENG 5xxx technical electiveg	3
Elective-Advanced Hum or Soc Scif	3	Free Electivei	3
	17		13

Total Credits: 128

Note: Students must satisfy the common engineering freshman year course requirements, and be admitted into the department, in addition to the sophomore, junior and senior year requirements listed above with a minimum of 128 hours.

a A grade of "C" or better is required in CHEM 1, MATH 14, MATH 15, MATH 22, MATH 204, PHYSICS 23, PHYSICS 24, programming elective, MET ENG 121, CIV ENG 50, CIV ENG 110, MECH ENG 219, MECH ENG 160, and MECH ENG 211, both as prerequisite for follow-up courses in the curriculum and for graduation.

b MATH 8 and MATH 21 may be substituted for MATH 14 and MATH 15, respectively.

c The programming elective consists of a lecture and lab combination, and may be selected from COMP SCI 73/COMP SCI 77, COMP SCI 74/COMP SCI 78, or COMP SCI 53/COMP SCI 54. Note that COMP SCI 53/COMP SCI 54 requires one more credit hour than the other options.

dThis course must be selected from the following: ENGLISH 60, ENGLISH 160 or SP&M S 85, or the complete four course sequence in Advanced ROTC (MIL ARMY 3250, MIL ARMY 3500, MIL ARMY 4250, and MIL ARMY 4500; or MIL AIR 3110, MIL AIR 3120, MIL AIR 4110, and MIL AIR 4120.)

e This course must be selected from the following: COMP SCI 228, MATH 203, MATH 208, STAT 213, STAT 215 or any 5000-level math or computer science course approved by the student's advisor.

f 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.

g Electives must be approved by the student's advisor. Six hours of technical electives, which may not include AERO ENG 202/MECH ENG 202/MECH ENG 202, MECH ENG 300 or MECH ENG 390, must be in the Department of Mechanical and Aerospace Engineering. At least three of these technical elective hours in the Department must be at the 5000 level. Honors students have special requirements for technical electives.

h All Mechanical Engineering students must take the Fundamentals of Engineering Examination prior to graduation. A passing grade on this examination is not required to earn a B.S. degree, however, it is the first step toward becoming a registered professional engineer. This requirement is part of the Missouri S&T assessment process as described in Assessment Requirements found elsewhere in this catalog. Students must sign a release form giving the University access to their Fundamentals of Engineering Examination score.

i Each student is required to take six 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.

Energy Conversion Emphasis Area for Mechanical Engineering

Students desiring to obtain a Bachelor of Science degree in Mechanical Engineering with an Emphasis Area in Energy Conversion must satisfy all the requirements of the Bachelor of Science degree in Mechanical Engineering, with the additional stipulation that four courses must be taken as follows:

a. Two courses from the following list:		6
MECH ENG/AERO ENG 327	Combustion Processes	
MECH ENG 333	Internal Combustion Engines	
MECH ENG 366	Solar Energy Technology	
MECH ENG 371	Environmental Controls	
MECH ENG 375	Mechanical Systems For Environmental Control	
AERO ENG 369	Introduction To Hypersonic Flow	
AERO ENG 335	Aerospace Propulsion Systems	
b. One course from the following list:		3
MECH ENG/AERO ENG 319	Advanced Thermodynamics	
MECH ENG/AERO ENG 325	Intermediate Heat Transfer	
MECH ENG/AERO ENG 331	Intermediate Thermofluid Mechanics	
MECH ENG/AERO ENG 339	Computational Fluid Dynamics	
c. One additional course from either list “a” or list “b”, or from the following list:		3
ECON 355	Energy Economics	
ELEC ENG 352	Photovoltaic Systems Engineering	
ENV ENG 367	Introduction To Air Pollution	
NUC ENG 317	Two-phase Flow in Energy Systems - I	

Note: By using the free electives and technical electives to satisfy the above requirements, this emphasis area requires the same total number of credit hours as the BSME degree. A change of major form should be submitted to designate the Energy Conversion Emphasis Area

Manufacturing Processes Emphasis Area for Mechanical Engineering

Students desiring to obtain a Bachelor of Science in Mechanical Engineering with an Emphasis Area in Manufacturing Processes must satisfy all requirements of the Bachelor of Science in Mechanical Engineering with the additional stipulation that four courses must be taken as follows:

a. The following course:		3
MECH ENG 253	Manufacturing	
b. One course from the following Manufacturing/Automation courses:		3
MECH ENG 353	Computer Numerical Control Of Manufacturing Processes	
MECH ENG 355	Manufacturing Equipment Automation	
MECH ENG 349	Robotic Manipulators And Mechanisms	
MECH ENG 306	Material Processing By High-Pressure Water Jet	
c. One course from the following Design courses:		3
MECH ENG 363	Principles And Practice Of Computer Aided Design	
MECH ENG 356	Design For Manufacture	

MECH ENG 302	Synthesis Of Mechanisms	
d. One course from the following list:		3
MECH ENG 308	Rapid Product Design And Optimization	
MECH ENG 358	Integrated Product Development	
e. The Math/Stat elective must be one of the following:		3
STAT 213	Applied Engineering Statistics	
STAT 215	Engineering Statistics	

A suggested sequence for the Junior and Senior years is given below. Note that by using the free electives and technical electives to satisfy the above requirements, this emphasis area requires the same total number of credit hours as the BSME degree. A change of major form should be submitted to designate the Manufacturing Processes Emphasis Area.

Junior Year

First Semester	Credits	Second Semester	Credits
MECH ENG 213	3	MECH ENG 211a	3
ELEC ENG 281	3	MECH ENG 231	3
MECH ENG 221	3	MECH ENG 225	3
CIV ENG 110a	3	MECH ENG 240	2
CIV ENG 120	1	MECH ENG 253	3
STAT 213 or 215	3	Elective-Communicationsd	3
	16		17

Senior Year

First Semester	Credits	Second Semester	Credits
MECH ENG 242	2	ENG MGT 124	1
MECH ENG 279	3	ENG MGT 137	2
MECH ENG 208	3	MECH ENG 261	3
Manufacturing Technical Electivef	3	MECH ENG 280	1
Manufacturing Technical Electivef	3	Manufacturing Technical Electivef	3
Elective Literature	3	Electives-Hum or Soc Sci	3
	17		13

Total Credits: 63

a A grade of "C" or better is required in CHEM 1, MATH 14, MATH 15, MATH 22, MATH 204, PHYSICS 23, PHYSICS 24, programming elective, MET ENG 121, CIV ENG 50, CIV ENG 110, MECH ENG 219, MECH ENG 160 and MECH ENG 211, both as prerequisite for follow-up courses in the curriculum and for graduation.

b MATH 8 and MATH 21 may be substituted for MATH 14 and MATH 15, respectively.

c The programming elective consists of a lecture and lab combination, and may be selected from COMP SCI 73/COMP SCI 77, COMP SCI 74/COMP SCI 78, or COMP SCI 53/COMP SCI 54. Note that COMP SCI 53/COMP SCI 54 requires one more credit hour than the other options.

dThis course must be selected from the following: ENGLISH 60, ENGLISH 160 or SP&M S 85, or the complete four course sequence in Advanced ROTC (MIL ARMY 3250, MIL ARMY 3500, MIL ARMY 4250, and MIL ARMY 4500; or MIL AIR 3110, MIL AIR 3120, MIL AIR 4110, and MIL AIR 4120.)

e To include at least one course in literature. 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.

f The nine hours of Manufacturing technical elective must be selected as follows:
One course from the following Manufacturing/Automation courses: MECH ENG 353, MECH ENG 355, MECH ENG 349, MECH ENG 306.
One of the following Design courses: MECH ENG 363, MECH ENG 356, MECH ENG 302.
Once course from the following list: MECH ENG 308, MECH ENG 358.

g All Mechanical Engineering students must take the Fundamentals of Engineering Examination prior to graduation. A passing grade on this examination is not required to earn a B.S. degree, however, it is the first step toward becoming a registered professional engineer. This requirement is part of the Missouri S&T assessment process as described in Assessment Requirements found elsewhere in this catalog. Students must sign a release form giving the University access to their Fundamentals of Engineering Examination score.

Mechanical Design and Analysis Emphasis Area

Students desiring to obtain a Bachelor of Science in Mechanical Engineering with an Emphasis Area in Mechanical Design and Analysis must satisfy all requirements of the Bachelor of Science in Mechanical Engineering, with the additional stipulation that four courses must be taken as follows:

a. One design course from the following list:		3

MECH ENG 209	Machine Design II	
MECH ENG 302	Synthesis Of Mechanisms	
MECH ENG 304	Compliant Mechanism Design	
MECH ENG 308	Rapid Product Design And Optimization	
MECH ENG 315	Concurrent Engineering	
MECH ENG 356	Design For Manufacture	
MECH ENG 357	Integrated Product And Process Design	
MECH ENG 360	Probabilistic Engineering Design	
MECH ENG 363	Principles And Practice Of Computer Aided Design	
IDE 220	Engineering Design Methodology	
b. One analysis course from the following list:		3
MECH ENG 307	Vibrations I	
MECH ENG 311	Introduction To Continuum Mechanics	
MECH ENG 312	Introduction to Finite Element Analysis	
MECH ENG 313	Intermediate Dynamics Of Mechanical And Aerospace Systems	
MECH ENG 322	Introduction To Solid Mechanics	
MECH ENG 338	Fatigue Analysis	
MECH ENG 349	Robotic Manipulators And Mechanisms	
MECH ENG 378	Mechatronics	
c. Two additional courses from either of the previous lists.		6

Note that by using the free electives and technical electives to satisfy the above requirements, this emphasis area requires the same total number of credit hours as the BSME degree A change of major form should be submitted to designate the Mechanical Design and Analysis Emphasis Area.

Justification for request	This is to specify four-digit course numbering for all references in the curriculum that are not covered by the renumbering cross-walk tables.
Supporting Documents	
Course Reviewer Comments	

Key: 86

Program Change Request

Date Submitted: 09/27/13 3:21 pm

Viewing: **MC ENG-MS : Mechanical Engineering MS**

File: 88.3

Last approved: 09/27/13 3:09 pm

Last edit: 09/27/13 3:21 pm

Changes proposed by: nisbett

Catalog Pages Using this Program	Mechanical Engineering
Start Term	Fall 2013
Program Code	MC ENG-MS
Department	Mechanical & Aerospace Engineering
Title	Mechanical Engineering MS

In Workflow

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

Approval Path

1. 09/27/13 3:46 pm drallmei: Approved for RMECHENG Chair
2. 10/08/13 10:55 am lahne: Approved for CCC Secretary
3. 10/10/13 3:10 pm sraper: Approved for Engineering DSCC Chair

History

1. Sep 27, 2013 by lahne

Program Requirements and Description

The master of science thesis program consists of a minimum of 30 credit hours, including the following requirements: at least 21 credit hours of lecture courses, at least 6 credit hours of ME 490, at least 9 credit hours of lecture courses in the MAE department (of which at least 3 credit hours must be at the **6xxx** ~~4xx~~ level), at least 3 credit hours of mathematics, statistics, or computer science (AE/ME 330: Applied Computational Methods may be used to satisfy this requirement), and at least 6 credit hours of **6xxx** ~~4xx~~ lecture courses. A master of science non-thesis program consists of a minimum of 30 credit hours, including the following requirements: at least 24 credit hours in the MAE department and at least 9 credit hours of **6xxx** ~~4xx~~ lecture courses (of which at least 6 credit hours must be in the MAE department). Note that no course below the **5xxx** ~~3xx~~ level may be applied to the degree requirements.

A student holding an MS degree and pursuing the doctor of philosophy degree must complete at least 60 total credit hours, including the following requirements: at least 24 credit hours of lecture courses, at least 36 credit hours of ME 490, at least 12 credit hours of course work in the MAE department, at least 3 credit hours of mathematics, statistics, or computer science (AE/ME 330: Applied Computational Methods may be used to satisfy this requirement), and at least 9 credit hours of **6xxx** ~~4xx~~ courses (of which at least 6 credit hours must be in the MAE department). In addition to these course requirements, a candidate must prepare a dissertation based on analytical, numerical, and/or experimental research. Note that no course below the **5xxx** ~~3xx~~ level may be applied to the degree requirements.

A student holding a BS degree and pursuing the direct doctor of philosophy degree must complete at least 90 total credit hours, including the following requirements: at least 45 credit hours of lecture courses, at least 45 credit hours of ME 490, at least 21 credit hours of course work in the MAE department, at least 6 credit hours of mathematics, statistics, or computer science (AE/ME 330: Applied Computational Methods may be used to satisfy three credit hours of this requirement), and at least 15 credit hours of **6xxx** ~~4xx~~ courses (of which at least 9 credit hours must be in the MAE department). In addition to these course requirements, a candidate must prepare a dissertation based on analytical, numerical, and/or experimental research. Note that no course below the **5xxx** ~~3xx~~ level may be applied to the degree requirements.

A candidate for the degree of doctor of philosophy must pass a qualifying examination. The candidate is considered to have passed the qualifying examination if the candidate has taken at least four courses and has a GPA ≥ 3.5 at the end of the candidate's fourth semester. At least two courses must be in the MAE department, one of which must be at the **6xxx** ~~4xx~~ level.

Justification for request	This is to specify four-digit course numbering for all references in the curriculum that are not covered by the renumbering cross-walk tables
Supporting Documents	

Course Reviewer Comments

Key: 88

Program Change Request

Date Submitted: 09/27/13 3:23 pm

Viewing: **MC ENG-PHD : Mechanical Engineering PhD**

File: 89.1

Last edit: 09/27/13 3:23 pm

Changes proposed by: nisbett

Start Term	**Fall 2014**
Program Code	MC ENG-PHD
Department	**Mechanical & Aerospace Engineering** ~~MECH ENG~~
Title	Mechanical Engineering PhD

In Workflow

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

Approval Path

1. 09/27/13 3:46 pm drallmei: Approved for RMECHENG Chair
2. 10/08/13 10:55 am lahne: Approved for CCC Secretary
3. 10/10/13 3:10 pm sraper: Approved for Engineering DSCC Chair

Program Requirements and Description

A student pursuing the doctor of philosophy degree normally follows a program of 90 semester hours beyond the B.S. degree or 60 semester hours beyond the M.S. degree. For those with M.S. degree, the 60 hours will consist of 24 hours of course work and 36 hours of thesis research. The Ph.D. course work must satisfy the departmental core course requirements for the M.S. degree. For the 24 hours of course work, a minimum of 12 hours must be completed within the department and at least three credit hours of mathematics/statistics. At least nine credit hours of course work must be at the **6000-level** ~~400-level~~ in the major field of study. In addition to these course requirements, a candidate must prepare a dissertation based on analytical and/or experimental research in a major area. This research must be equivalent to a minimum of 36 hours beyond the M.S. degree. There are no foreign language requirements for the master of science, doctor of engineering and doctor of philosophy degrees in mechanical engineering. However, a reading knowledge of one foreign language, German, French or Russian, may be required for the doctor of philosophy degree if the candidate's advisory committee feels that it is necessary.

A candidate for the degree of doctor of philosophy must pass a qualifying examination. The qualifying examination consists of taking a minimum of nine credit hours of approved graduate course work at the **5000-** ~~300-~~ and **6000-level,** ~~400-level,~~ including six hours in the major field, of which three hours must be at the **6000-level,** ~~400-level,~~ and three hours of mathematics/statistics. To pass the qualifying examination, a student must have obtained a grade of B or better for all the courses with a GPA of at least 3.25.

The comprehensive examination and the final examination, consisting of the dissertation defense, are conducted according to the rules of the Graduate Faculty and the department. The Graduate Faculty has residency requirements which must be satisfied by all doctoral students.

Justification for request	This is to specify four-digit course numbering for all references in the curriculum that are not covered by the renumbering cross-walk tables
Supporting Documents	
Course Reviewer Comments	

Key: 89

Program Change Request

Date Submitted: 09/25/13 3:25 pm

Viewing: **MT ENG-MS : Metallurgical Engineering MS**

File: 91.1

Last edit: 09/25/13 3:25 pm

Changes proposed by: smiller

Start Term	**Fall 2014**
Program Code	MT ENG-MS
Department	**Materials Science & Engineering** ~~MET ENG~~
Title	Metallurgical Engineering MS

Program Requirements and Description

Degree Requirements

M.S. and Ph.D. degrees are offered in Metallurgical Engineering. Recognizing the educational value of research, most metallurgical engineering M.S. degree candidates complete a thesis program. Non-thesis exceptions may be granted in special circumstances.

The total number of hours required for the M.S. in Metallurgical Engineering is 30. A minimum of 6 hours **6000** ~~400~~ level lectures and a minimum of 11 hours graduate research on the Missouri S&T campus are required. A maximum of 6 hours **4000** ~~200~~ level lectures may be accepted.

The minimum number of hours (beyond the bachelor's degree) required for the Ph.D. in Metallurgical Engineering is 72. At least 12 hours of course work outside metallurgy is recommended, a minimum of 24 hours will be dissertation research, and a minimum of 24 hours must be course work. Students will also be required to take and pass qualifying and comprehensive exams in accordance with Missouri S&T rules.

Justification for request

Supporting Documents

Course Reviewer Comments

Key: 91

In Workflow

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

Approval Path

1. 09/25/13 3:41 pm huebner: Approved for RMATSENG Chair
2. 09/27/13 2:45 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:57 pm sraper: Approved for Engineering DSCC Chair

Program Change Request

Date Submitted: 09/25/13 12:16 pm

Viewing: **MUL&DIV-MI : Multiculture & Diversity Minor**

File: 102.1

Last edit: 09/25/13 12:16 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Multiculturalism & Diversity
Start Term	**Fall 2014**
Program Code	MUL&DIV-MI
Department	**Arts, Languages, & Philosophy**
Title	Multiculture & Diversity Minor

In Workflow

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

Approval Path

1. 09/25/13 1:34 pm lance: Approved for RPHILOSO Chair
2. 09/27/13 2:37 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:29 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Requirements and Description

Multiculturalism & Diversity Minor

The minor requires 15 hours in a minimum of 3 of 4 Humanities and Social Sciences (HSS) departments: the Departments of Arts, Languages & Philosophy; English & Technical Communication; History & Political Science; and Psychology. The academic home for this minor will be the HSS department in which the student takes the majority of their classes. Courses offered by these departments that can be included in the minor are listed below.

Arts, Languages & Philosophy:		
One 3rd level basic study course in a foreign language (German, Spanish, French, or Russian) *		
FRENCH 360	French Culture And Civilization	3
PHILOS 340	Social Ethics	3
RUSSIAN 360	Russian Civilization	3
SP&M S 235	Intercultural Communication	3
English and Technical Communication:		
ENGLISH 102	World Literature I: From The Beginnings To The Renaissance	3
ENGLISH 215	Literature By Women	3
ENGLISH 230	African American Literature	3
ENGLISH 378	The American Experience	3
History and Political Science:		
HISTORY 226	Modern East Asia	3
~~HISTORY 355~~	~~Course HISTORY 355 Not Found~~	
~~HISTORY 360~~	~~Course HISTORY 360 Not Found~~	
POL SCI 226	International Relations	3
POL SCI 350	The Politics Of The Third World	3
Psychology:		
PSYCH 350	Psychology of Women	3

PSYCH 380	Cross-Cultural Psychology	3
HISTORY 330	**European Migrations and Nationalism Formation (remove Hist 335, replace with Hist 330)**	**3**
HISTORY 227	**History of Japan (Remove Hist 360, replace with Hist 227)**	**3**

* Specific 3rd Level Language Courses, as listed below.

FRENCH 80	French Readings And Composition	4
~~FRENCH 90~~	~~Course FRENCH 90 Not Found~~	
FRENCH 110	Basic French Conversation	2
FRENCH 360	**French Culture And Civilization**	**3**
FRENCH 170	Masterpieces Of French Literature	3
FRENCH 180	Basic French Composition	3
FRENCH 311	Advanced French Conversation	2
FRENCH 370	Survey Of French Literature I(Early Period)	3
FRENCH 375	Survey Of French Literature II(Modern Period)	3

~~GERMAN 70~~	~~Course GERMAN 70 Not Found~~	
~~GERMAN 90~~	~~Course GERMAN 90 Not Found~~	
GERMAN 110	Basic German Conversation	2
GERMAN 170	Masterpieces Of German Literature	3
~~GERMAN 180~~	~~Course GERMAN 180 Not Found~~	
~~GERMAN 311~~	~~Course GERMAN 311 Not Found~~	
~~GERMAN 370~~	~~Course GERMAN 370 Not Found~~	
~~GERMAN 375~~	~~Course GERMAN 375 Not Found~~	
~~GERMAN 385~~	~~Course GERMAN 385 Not Found~~	
GERMAN 80	**Classical And Modern German Readings (Remove German 70, replace with German 80)**	**4**

RUSSIAN 80	Readings In Science And Literature	4
RUSSIAN 110	Basic Russian Conversation	2
RUSSIAN 170	Masterpieces Of Russian Literature	3
~~RUSSIAN 180~~	~~Course RUSSIAN 180 Not Found~~	
~~RUSSIAN 311~~	~~Course RUSSIAN 311 Not Found~~	
RUSSIAN 370	Survey Of Russian Literature I (Early Period)	3
RUSSIAN 330	**Business Russian**	**3**
RUSSIAN 320	**Russian Phonetics and Intonation**	**3**
RUSSIAN 375	Survey Of Russian Literature II(Modern Period)	3

SPANISH 80	Readings And Composition	4
~~SPANISH 90~~	~~Course SPANISH 90 Not Found~~	
SPANISH 110	Basic Spanish Conversation	2
SPANISH 160	Hispanic Culture	3
SPANISH 170	Masterpieces Of Hispanic Literature	3
SPANISH 180	Intermediate Spanish Composition	3
SPANISH 311	Advanced Spanish Conversation	2
SPANISH 377	Spanish-American Novel And Short Story	3
~~SPANISH 378~~	~~Course SPANISH 378 Not Found~~	

Justification for request

Supporting Documents

Course Reviewer Comments

Key: 102

Program Change Request

Date Submitted: 08/26/13 12:38 pm

Viewing: **POL SC-MI : Political Science Minor**

File: 120.1

Last edit: 09/27/13 2:27 pm

Changes proposed by: dewittp

Catalog Pages Using this Program	Political Science
Start Term	**Fall 2014**
Program Code	POL SC-MI
Department	**History and Political Science** ~~POL SCI~~
Title	Political Science Minor

In Workflow

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

Program Requirements and Description

Political Science Minor Curriculum

(Missouri S&T)

The Department of History and Political Science offers a minor degree in Political Science which must include 15 hours divided as follows: completion of **POL SCI 90**, ~~POL SCI 90 American Government,~~ plus an approved sequence of 12 hours of **upper** ~~200 and 300~~ level courses.

Justification for request	Course Renumbering Initiative
Supporting Documents	
Course Reviewer Comments	

Approval Path

1. 08/27/13 7:22 am lgragg: Approved for RHISTORY Chair
2. 09/27/13 2:27 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:30 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 120

Program Change Request

Date Submitted: 09/26/13 8:49 pm

Viewing: **PRE MBA-MI : Pre MBA Minor**

File: 122.1

Last edit: 09/26/13 8:49 pm

Changes proposed by: barryf

Catalog Pages Using this Program	Business and Management Systems
Start Term	**Fall 2014**
Program Code	PRE MBA-MI
Department	**Business and Information Technology ~~BUS~~**
Title	Pre MBA Minor

In Workflow

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

Approval Path

1. 09/26/13 8:51 pm siauk: Approved for RINFSCTE Chair
2. 09/30/13 11:02 am lahne: Approved for CCC Secretary
3. 10/09/13 4:34 pm barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Pre MBA Minor

A minor in Pre MBA* will prepare students to enter an accredited MBA program at Missouri S&T or elsewhere. This minor requires the following 39 hours of course work:

PSYCH 50	General Psychology	3
MATH 8	Calculus With Analytic Geometry I	5
or MATH 12	Business Calculus	
or MATH 14	Calculus For Engineers I	
ECON/STAT 111	Business And Economic Statistics I	3
or STAT 115	Statistics For The Social Sciences I	
or STAT 211	Statistical Tools For Decision Making	
or STAT 213	Applied Engineering Statistics	
or STAT 215	Engineering Statistics	
or STAT 217	Introduction To Probability And Statistics	
ECON 121	Principles Of Microeconomics	3
ECON 122	Principles Of Macroeconomics	3
BUS 110	Introduction to Management and Entrepreneurship	3
BUS 120	Financial Accounting	3
BUS 320	Managerial Accounting	3
BUS 230	Business Law	3
MKT 311	Marketing	3
FINANCE 250	Corporate Finance I	3
BUS 360	Business Operations	3

IS&T 50	Introduction to Management Information Systems	3

*At least 6 hours of the minor course work must be taken in residence at Missouri S&T.

Justification for request	Correct to remove courses in Eng Mgt that have been discontinued.
Supporting Documents	
Course Reviewer Comments	

Key: 122

Program Change Request

Date Submitted: 09/16/13 2:32 pm

Viewing: **TCH CM-MIG : Technical Communication Minor**

File: 133.1

Last edit: 09/25/13 1:17 pm

Changes proposed by: kswenson

Catalog Pages Using this Program	Technical Communication
Start Term	**Fall 2014**
Program Code	TCH CM-MIG
Department	**English and Technical Communication** ~~TCH COM~~
Title	Technical Communication Minor

In Workflow

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

Approval Path

1. 09/16/13 2:34 pm kswenson: Approved for RENGLISH Chair
2. 09/25/13 1:20 pm lahne: Approved for CCC Secretary
3. 09/25/13 3:38 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Requirements and Description

Technical Communication Graduate Minor

The technical communication program offers a graduate-level minor that is open to any graduate student. The minor is designed to strengthen the written, oral, and visual communication skills of students majoring in the sciences, engineering, management, information systems, or other fields. The minor will be particularly useful for those students who will pursue the “paper option” thesis or dissertation. The minor will also be beneficial for those students who will make oral or poster presentations at technical conferences, write journal articles, prepare research proposals, design technical web pages, or prepare technical marketing information.

The program requires a minimum of 12 hours of credit (excluding all courses taken for undergraduate credit). A minimum of 6 hours of **4000** ~~300- or 400-~~level **or above** courses with the TCH COM designation is required. At least 6 additional hours of technical communication intensive courses are required. The additional courses may come from courses with the TCH COM designation, the list of approved technical communication intensive courses, and/or technical communication intensive courses from any academic discipline with the approval of the minor advisor and the English and Technical Communication Department.

Students can elect to pursue this minor at any point during their graduate studies by submitting the Application for a Designated Graduate Minor form (available at http://registrar.mst.edu/documents/gradminorapp.pdf) to the English and Technical Communication Department. Upon application, each student will be assigned a minor advisor who will work with the student to develop a proposed list of courses to fulfill the program requirements.

Approved Technical Communication Intensive Courses

All TCH COM courses, 4000 level and above

BIO SCI 451	**Environmental Microbiology**	**3**
BUS 311	**Business Negotiations**	**3**
ENGLISH 281	**Theory Of Written Communication**	**3**
ENGLISH 392	**Advanced Writing For Science & Engineering**	**3**
GEO ENG 352	**International Engineering and Design**	**3**
IS&T 487	**Research Methods in Human-Computer Interaction**	**3**
MATH 209	**Foundations Of Mathematics**	**3**
MATH 303	**Methods of Applied Mathematics**	**3**
MATH 308	**Linear Algebra II**	**3**
MATH 354	**Mathematical Logic I**	**3**
MS&E 422	**Thermodynamics and Phase Equilibria**	**3**

The Technical Communication Graduate Minor Advisory Committee will evaluate other courses, upon the request of students or faculty, for inclusion on the approved list or on a case-by-case basis for individual programs.

Justification for request	Updated in keeping with renumbering.
Supporting Documents	
Course Reviewer Comments	

Key: 133

Program Change Request

Date Submitted: 09/16/13 2:34 pm

Viewing: **TCH COM-MS : Technical Communication MS**

File: 135.1

Last edit: 09/30/13 10:47 am

Changes proposed by: kswenson

Catalog Pages Using this Program	Technical Communication
Start Term	**Fall 2014**
Program Code	TCH COM-MS
Department	**English and Technical Communication** ~~TCH COM~~
Title	Technical Communication MS

In Workflow

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

Approval Path

1. 09/16/13 2:34 pm kswenson: Approved for RENGLISH Chair
2. 09/30/13 10:48 am lahne: Approved for CCC Secretary
3. 09/30/13 2:31 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Requirements and Description

Degree Requirements

The following 10 courses (totaling 30 credit hours) are required for the M.S. and may be taken **online:** ~~online:~~

TCH COM 302	**Research Methods in Technical Communication**	**3**
TCH COM 325	**Help Authoring**	**3**
TCH COM 331	**Technical Editing**	**3**
TCH COM 334	**Usability Studies**	**3**
TCH COM 361	**History of Technical Communication**	**3**
TCH COM 402	**Foundations of Technical Communication**	**3**
TCH COM 409	**Web-Based Communication**	**3**
TCH COM 411	**Advanced International Technical Communication**	**3**
TCH COM 420	**Advanced Theories of Visual Technical Communication**	**3**
TCH COM 433	**Advanced Proposal Writing**	**3**
Total Credits		30

A student completing the master's degree will also take a comprehensive exam during his/her final **semester.** ~~semester and prepare a portfolio of projects.~~ If the student chooses to do a thesis instead of the exam, and the technical communication faculty **give** ~~gives~~ their approval to this plan, the student will have to take 6 hours of **advisor-approved 4000 level and** ~~in addition to the~~ above **TCH COM coursework in addition to the above** 10-course sequence.

Justification for request	Updated in keeping with renumbering.

Supporting Documents

Course Reviewer Comments

Key: 135

Program Change Request

Date Submitted: 09/25/13 12:29 pm

Viewing: **THEATRE-MI : Theatre Minor**

File: 136.1

Last edit: 09/25/13 12:29 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Theatre
Start Term	**Fall 2014**
Program Code	THEATRE-MI
Department	**Arts, Languages, & Philosophy** ~~THEATRE~~
Title	Theatre Minor

In Workflow

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

Approval Path

1. 09/26/13 10:34 am lance: Approved for RPHILOSO Chair
2. 09/27/13 2:13 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:31 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Requirements and Description

Theatre Minor Curriculum

A minor in Theatre requires a minimum of 16 hours comprised of the following courses:

THEATRE 90	Theatre via Video	3
THEATRE 141	Acting I	3
THEATRE 42	Stage Productions, Performers	1
or THEATRE 220	Theatre Ensemble	
THEATRE 43	Stage Productions, Technicians	1
THEATRE 143	Stagecraft	3

In addition to the courses listed above, the student is required to choose a concentration and complete enough hours from one of the following concentration areas to meet the minimum 16 hours.

Acting/Directing

THEATRE 241	Acting II	3
THEATRE 341	Directing	3
THEATRE 243	Entertainment Design	3
or MUSIC 11	Individual Music Instruction I	

Technical Theatre

THEATRE 243	Entertainment Design	3
THEATRE 241	Acting II	3
or THEATRE 341	Directing	

Justification for request	
Supporting Documents	
Course Reviewer Comments	Key: 136

Program Change Request

Date Submitted: 09/27/13 2:52 pm

Viewing: **AE ENG-BS : Aerospace Engineering BS**

File: 141.1

Last edit: 09/27/13 2:52 pm

Changes proposed by: nisbett

Catalog Pages Using this Program	Aerospace Engineering
Start Term	**Fall 2014**
Program Code	AE ENG-BS
Department	**Mechanical & Aerospace Engineering** ~~AERO ENG~~
Title	Aerospace Engineering BS

In Workflow

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

Approval Path

1. 09/27/13 3:43 pm drallmei: Approved for RMECHENG Chair
2. 09/27/13 3:44 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:47 pm sraper: Approved for Engineering DSCC Chair

Program Requirements and Description

Bachelor of Science
Aerospace Engineering

Entering freshmen desiring to study Aerospace Engineering will be admitted to the Freshman Engineering Program. They will, however, be permitted, if they wish, to state an Aerospace 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.

A Cumulative GPA of 2.5, and math science GPA of 2.25 are the minimum requirements for admission to the Aerospace Engineering program.

Students must comply with the requirements specified in the current online catalog published by the Registrar. For the Bachelor of Science degree in Aerospace 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 Aerospace 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 to satisfy the following requirements:

All students are required to take one American history course/political science course, one economics course, one humanities course, and ENGLISH 20. The history course is to be selected from HISTORY 112, HISTORY 175, HISTORY 176, or POL SCI 90. The economics course may be either ECON 121 or ECON 122.

Depth requirement. Three credit hours must be taken in humanities or social sciences at the **2000** ~~100~~ 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** ~~70 or 80~~ will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the **4000** ~~300~~ level. All courses taken to satisfy the depth requirement must be taken after graduating from high school.

Once course should be in the ethics area. Select from PHILOS 223, PHILOS 225, or PHILOS 235.

The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to ENGLISH 20, and a literature course.

Any specific departmental requirements in the general studies area must be satisfied.

Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chairman.

The Aerospace 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.

Free Electives Footnote:

Free electives. Each student is required to take two 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.

Freshman Year

First Semester	Credits	Second Semester	Credits
FR ENG 10	1	IDE 20	3
CHEM 1	6	MATH 154	4
& CHEM 2			
& CHEM 41			
ENGLISH 20	3	PHYSICS 234	4
MATH 144	4	H/SS Economics elective3	3
H/SS History Elective2	3		
	17		14

Sophomore Year

First Semester	Credits	Second Semester	Credits
COMP SCI 73 or 7410	2	AERO ENG 180	2
COMP SCI 77 or 7810	1	AERO ENG 1604	3
CIV ENG 504	3	MECH ENG 2194	3
MATH 224	4	MATH 2044	3
PHYSICS 244	4	CIV ENG 1104	3
AERO ENG 1614	3	Elective/Literature	3
	17		17

Junior Year

First Semester	Credits	Second Semester	Credits
AERO ENG 2134	3	AERO ENG 2514	3
AERO ENG 2314	3	AERO ENG 261	3
AERO ENG 377	3	AERO ENG 271	3
ELEC ENG 281	3	AERO ENG 282	2
Electives-Advanced Math/Cmp Sc5	3	Elective/Ethics11	3
		Elective/Communications7	3
	15		17

Senior Year

First Semester	Credits	Second Semester	Credits
AERO ENG 235	3	AERO ENG 281 or 382	3
AERO ENG 253	3	Electives-Technical6	3
AERO ENG 280 or 380	2	Electives-Technical6	3
AERO ENG 283	2	AERO ENG 285	1
Electives-Technical7	3	Electives Free9	2
Elective upper level/Hum/Soc Sci8	3	Electives-Hum/Soc Sci	3
	16		15

Total Credits: 128

1 CHEM 1, CHEM 2 and CHEM 4 or an equivalent training program approved by Missouri S&T.

2 Must be one of the following: POL SCI 90, HISTORY 112, HISTORY 175, or HISTORY 176.

3 Must be one of the following: ECON 121 or ECON 122.

4 A grade of "C" or better in CHEM 1, MATH 14, MATH 15, MATH 22, MATH 204, PHYSICS 23, PHYSICS 24, CIV ENG 50, CIV ENG 110, and computer programming elective, AERO ENG 160, AERO ENG 161, and MECH ENG 219, as prerequisite for follow-up courses in the curriculum and for graduation.

5 Must be one of the following: AERO ENG 330, COMP SCI 228, MATH 203, MATH 208, STAT 213, STAT 215, or any 5000-level math or computer science course approved by the student's advisor.

6 Electives must be approved by the student's advisor. Nine hours of technical electives must be in Mechanical and Aerospace Engineering. Three hours of departmental technical electives must be at the 5000-level. AERO ENG 377 and the 5000-level Asteroid Mining course co-listed with Geological Engineering are not to be used for 5000-level technical elective.

7 This course can be selected from ENGLISH 60, ENGLISH 160, SP&M S 85, or the complete four-course sequence in Advanced ROTC (MIL ARMY 3250, MIL ARMY 3500, MIL ARMY 4250, and MIL ARMY 4500; or MIL AIR 3110, MIL AIR 3120, MIL AIR 4110, and MIL AIR 4120.)

8 Choose 2000-or higher-level course from the approved list. One of the other courses taken in humanities/social science should be a prerequisite for this course.

9 Each student is required to take two or more 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.

10 Computer Science requirement can be satisfied by taking COMP SCI 53 and COMP SCI 54.

11 Must be a course on engineering ethics, business ethics, bio ethics, social ethics, or any ethics course approved by the student's advisor.

Note: All Aerospace Engineering students must take and pass the Aerospace **Engineering Assessment** ~~Engineering Assessment~~ Exam prior to graduation.

Justification for request	Changes in course-level designations to be consistent with the course renumbering.
Supporting Documents	
Course Reviewer Comments	

Key: 141

Program Change Request

Date Submitted: 09/27/13 4:32 pm

Viewing: **ARC ENG-BS : Architectural Engineering BS**

File: 143.4

Last approved: 09/27/13 3:03 pm

Last edit: 09/27/13 4:32 pm

Changes proposed by: lahne

Catalog Pages Using this Program	Architectural Engineering
Start Term	Fall 2014
Program Code	ARC ENG-BS
Department	Civil, Architectural, and Environmental Engineering
Title	Architectural Engineering BS

In Workflow

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

Approval Path

1. 09/27/13 7:37 pm wschon: Approved for RCIVILEN Chair
2. 09/30/13 8:19 am lahne: Approved for CCC Secretary
3. 10/10/13 2:53 pm sraper: Approved for Engineering DSCC Chair

History

1. Sep 27, 2013 by lahne
2. Sep 27, 2013 by lahne

Program Requirements and Description

Architectural Engineering
Bachelor of Science

Entering freshmen desiring to study Architectural Engineering will be admitted to the Freshman Engineering Program. They will, however, be permitted, if they wish, to state a Architectural 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 Architectural 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 Architectural 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:

All students are required to take one American history course, one economics course, one humanities course, and ENGLISH 20.

The history course is to be selected from HISTORY 112 (preferred), HISTORY 175, or HISTORY 176. The economics course may be either ECON 121 or ECON 122. The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.

Depth requirement. Three credit hours must be taken in humanities or social sciences at **the 2000** ~~the 100~~ level or above and must be selected from **"THE APPROVED LIST OF Humanities and Social Science COURSES FOR ENGINEERING DEGREES". This course must have as a prerequisite one of the humanities or social sciences courses already taken.** ~~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** ~~70 or 80 will~~ be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the **4000 level.** ~~300 level.~~ All courses taken to satisfy the depth requirement must be taken after graduating from high school.

The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to ENGLISH 20.

Any specific departmental requirements in the general studies area must be satisfied.

Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chair.

The Architectural 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.

Free Elective Footnote:

Each student is required to take three hours of free elective 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
CHEM 4	1	IDE 20	3
FR ENG 102	1	MATH 15	4
CHEM 1 & CHEM 2	5	PHYSICS 23	4
MATH 14	4	General Ed Elective1	3
ENGLISH 20	3		
General Ed Elective1	3		
	17		14

Sophomore Year

First Semester	Credits	Second Semester	Credits
CIV ENG 12	3	IDE 150	2
CIV ENG 502	3	STAT 213	3
MATH 22	4	CIV ENG 1102	3
PHYSICS 24	4	CIV ENG 120	1
ARCH ENG 3	2	ARCH ENG 103	3
		ART 203	3
		MATH 204	3
	16		18

Junior Year

First Semester	Credits	Second Semester	Credits
ARCH ENG 2172	3	ARCH ENG 205	3
CIV ENG 2302	3	ARCH ENG 223	3
ELEC ENG 281	3	ARCH ENG 371	3
MECH ENG 227	3	CIV ENG 216	3
ARCH ENG 204	3	HISTORY 270	3
CIV ENG 215	3		
	18		15

Senior Year

First Semester	Credits	Second Semester	Credits
ARCH ENG 210	1	ARCH ENG 298	3
ARCH ENG 221	3	ARCH ENG Technical Elective3,4	3
ARCH ENG 248	3	CIV ENG 229	3
HISTORY 375	3	General Education Elective1	3
ARCH ENG Technical Elective3,4	3	Free Elective5	3
ENG MGT 137	2		
	15		15

Total Credits: 128

1All general education 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.

2A grade of 'C' or better required to satisfy graduation requirements.

3A grade of 'C' or better may be required in ARCH ENG technical elective prerequisite courses. Refer to the Missouri S&T undergraduate catalog for this prerequisite information.

4 Choose technical electives from approved lists under Emphasis Areas for Architectural Engineering Students. A maximum of 3 credits of independent study (ARCH ENG 300 or ARCH ENG 390) may be used as a technical elective. Additional independent study course may be taken but will not count towards the B.S. Architectural Engineering degree.

5 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.

Note: All Architectural Engineering students must take the Fundamentals of Engineering examination prior to graduation. A passing grade on this examination is not required to earn a B.S. degree, however, it is the first step toward becoming a registered professional engineer. This requirement is part of the Missouri S&T assessment process as described in Assessment Requirements found elsewhere in this catalog. Students must sign a release form giving the University access to their Fundamentals of Engineering Examination score.

Emphasis Areas and Course Listings by Area for Architectural Engineering Students

Area I, Structural Engineering		
ARCH ENG 301	Special Topics	6
ARCH ENG 319	Applied Mechanics In Structural Engineering	3
ARCH ENG 320	Structural Analysis II	3
ARCH ENG 322	Analysis And Design Of Wood Structures	3
ARCH ENG 323	Computer Methods of Structural Analysis	3
ARCH ENG 326	Advanced Steel Structures Design	3
ARCH ENG 327	Advanced Concrete Structures Design	3
ARCH ENG 328	Prestressed Concrete Design	3
ARCH ENG 329	Foundation Engineering II	3
ARCH ENG 374	Infrastructure Strengthening With Composites	3
ARCH ENG 375	Low-Rise Building Analysis And Design	3
ARCH ENG 384	Structural Dynamics	3
Area II, Construction Engineering and Project Management		
ARCH ENG 342	Construction Planning and Scheduling Strategies	3
ARCH ENG 345	Construction Methods	3
ARCH ENG 346	Management Of Construction Costs	3
ARCH ENG 348	Green Engineering: Analysis of Constructed Facilities	3
ARCH ENG 349	Engineering And Construction Contract Specifications	3
ENG MGT 313	Managerial Decision Making	3
ENG MGT 364	Value Analysis	3
ENG MGT 375	Total Quality Management	3
Area III, Environmental Systems for Buildings		
ARCH ENG 301	Special Topics	0-6
ARCH ENG 365	Sustainability, Population, Energy, Water, and Materials	3
ARCH ENG 366	Indoor Air Pollution	3
ARCH ENG 372	Residential Renewable Energy Systems	3
ENG MGT 345	Energy and Sustainability Management Engineering	3
Mechanical Emphasis Courses		
MECH ENG 309	Engineering Acoustics I	3
MECH ENG 366	Solar Energy Technology	3
MECH ENG 375	Mechanical Systems For Environmental Control	3
Electrical Emphasis Courses		
ELEC ENG 235	Controllers For Factory Automation	3
ELEC ENG 352	Photovoltaic Systems Engineering	3
COMP ENG 111 & COMP ENG 112	Introduction To Computer Engineering and Computer Engineering Laboratory	4
Area IV, Construction Materials		
ARCH ENG 319	Applied Mechanics In Structural Engineering	3
CIV ENG 313	Composition And Properties Of Concrete	3
CIV ENG 318	Smart Materials And Sensors	3
CIV ENG 356	Concrete Pavement Design	3
CER ENG 377	Principles Of Engineering Materials	3

Architectural Engineering Courses		
ARCH ENG 103	Architectural Materials And Methods Of Construction	3
ARCH ENG 204	Architectural Design II	3
ARCH ENG 205	Building Electrical and Lighting Systems	3
ART 203	Architectural Design I	3
Architectural Engineering Courses (cross–list with existing civil engineering courses)		
ARCH ENG 001	Course ARCH ENG 001 Not Found	
ARCH ENG 3	Engineering Communications	2
ARCH ENG 101	Special Topics	0-6
ARCH ENG 200	Special Problems	1-6
ARCH ENG 201	Special Topics	0-6
ARCH ENG 202	Cooperative Engineering Training	1
ARCH ENG 210	Senior Seminar: Engineering In A Global Society	1
ARCH ENG 217	Structural Analysis I	3
ARCH ENG 221	Structural Design In Metals	3
ARCH ENG 223	Reinforced Concrete Design	3
ARCH ENG 247	Ethical, Legal And Professional Engineering Practice	2
ARCH ENG 248	Fundamentals Of Contracts And Construction Engineering	3
ARCH ENG 298	Senior Design Project	3
ARCH ENG 300	Special Problems	6
ARCH ENG 301	Special Topics	6
ARCH ENG 320	Structural Analysis II	3
ARCH ENG 322	Analysis And Design Of Wood Structures	3
ARCH ENG 323	Computer Methods of Structural Analysis	3
ARCH ENG 326	Advanced Steel Structures Design	3
ARCH ENG 327	Advanced Concrete Structures Design	3
ARCH ENG 328	Prestressed Concrete Design	3
ARCH ENG 345	Construction Methods	3
ARCH ENG 346	Management Of Construction Costs	3
ARCH ENG 349	Engineering And Construction Contract Specifications	3
ARCH ENG 374	Infrastructure Strengthening With Composites	3
ARCH ENG 390	Undergraduate Research	6
Civil Engineering Courses (required courses, emphasis area, and/or technical electives)		
CIV ENG 215	Fundamentals of Geotechnical Engineering	3
CIV ENG 216	Construction Materials, Properties And Testing	3
CIV ENG 229	Foundation Engineering	3
CIV ENG 230	Engineering Fluid Mechanics	3
CIV ENG 313	Composition And Properties Of Concrete	3
CIV ENG 317	Asphalt Pavement Design	3
CIV ENG 329	Foundation Engineering II	3
CIV ENG 341	Professional Aspects Of Engineering Practice	3
CIV ENG 345	Construction Methods	3
CIV ENG 346	Management Of Construction Costs	3
CIV ENG 349	Engineering And Construction Contract Specifications	3

Justification for request

Supporting Documents

Course Reviewer Comments

Key: 143

Program Change Request

Date Submitted: 09/25/13 11:56 am

Viewing: **ART-MI : Art Minor**

File: 144.1

Last edit: 09/27/13 2:21 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Art
Start Term	**Fall 2014**
Program Code	ART-MI
Department	**Arts, Languages, & Philosophy** ~~ART~~
Title	Art Minor

In Workflow

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

Program Requirements and Description

Art Minor

The Art Minor offers students the opportunity to pursue an area of focus in studio art, art history, and film studies.

Requirements:

The minor requires 15 hours, **including ART 80**, ~~including ART 80 Art Appreciation,~~ which is a required course. Students may take additional hours from these offerings:

ART 85	Study Of Film	3
ART 222	Revolution And Romanticism In The Arts 1785 - 1832	3
~~ART 255~~	~~Course ART 255 Not Found~~	
~~PHILOS 330~~	~~Course PHILOS 330 Not Found~~	
ART 250	**Thematic Studies In Film & Literature**	**3**

Any 3000-level Philosophy course

Topics course from the following series:

ART 101	Special Topics	
ART 201	Special Topics	
ART 301	Special Topics	
PHILOS 333	**American Philosophy**	**3**

In addition, students may take up to six hours of Studio classes.

Justification for request	Replace Art 255 with Art 250 Replace Phil 330 wiht Any Philosophy course at 3000 level
Supporting Documents	

Key: 144

Approval Path

1. 09/25/13 1:22 pm lance: Approved for RPHILOSO Chair
2. 09/27/13 2:22 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:29 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Course Reviewer Comments

Program Change Request

Date Submitted: 09/24/13 6:09 pm

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

File: 148.1

Last edit: 09/30/13 1:27 pm

Changes proposed by: barryf

Catalog Pages Using this Program	Business and Management Systems
Start Term	**Fall 2014**
Program Code	BUS&MS-BS
Department	**Business and Information Technology** ~~BUS~~
Title	Business and Mgmt Systems BS

In Workflow

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

Approval Path

1. 09/25/13 7:09 pm siauk: Approved for RINFSCTE Chair
2. 09/30/13 1:28 pm lahne: Approved for CCC Secretary
3. 10/09/13 4:32 pm barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Bachelor of Science

Business and Management Systems

In Business and Management Systems, the Bachelor of Science degree consists of 120 credit hours. First, all undergraduate students in Business and Management Systems are required to complete a prescribed General Education Requirements Core that corresponds to the recommendations of the Missouri State Coordinating Board for Higher Education and consists of 54 credit hours in the areas of Natural Systems, Human Institutions, Quantitative Skills, and Communication Skills. In addition, all undergraduate students are required to complete a 27 credit hour core consisting of courses in Information Technology, Management, and Entrepreneurship. A minimum grade of "C" is required for courses in these areas. Finally, the degree includes 12 credit hours of free electives.

The remaining 27 credit hours of the required 120 credit hours for the Business and Management Systems degree are divided into a prescribed 18 credit hour degree core **and 9** ~~and 9~~ credit hours of degree specific electives. A minimum grade of "C" is required in these courses. The electives for this degree are then chosen from business-related upper-level courses.

Freshman Year

First Semester	Credits	Second Semester	Credits
PSYCH 50	3	MATH 4	3
BUS 101	1	IS&T 50	3
BUS 110	3	ENGLISH 65 or TCH COM 65	3
ENGLISH 20	3	ECON 122	3
Science Elective3	3	Science Elective3	3
Laboratory w/ Science Elective3	1		
	14		15

Sophomore Year

First Semester	Credits	Second Semester	Credits
BUS 120	3	History Elective	3
MATH 12	4	FINANCE 250	3
IS&T 51	3	IS&T 151	3
ECON 121	3	ERP 246	3
SP&M S 85	3	POL SCI 90	3
	16		15

Junior Year

First Semester	Credits	Second Semester	Credits
Business Elective	3	ECON 211	3
Speech or Tech Com Elective	3	BUS 380	3
MKT 311	3	ENGLISH 260 or TCH COM 260	3
STAT 211	3	Business Elective	3
BUS 320	3	Free Elective	3
	15		15

Senior Year

First Semester	Credits	Second Semester	Credits
Free Elective	3	Business Elective	3
BUS 230	3	BUS 3961	3
BUS 360	3	BUS 375	3
Fine Art, Social Science, or Humanities Electives2	3	Fine Art, Social Science, or Humanities Elective2	3
Business Elective	3	Free Electives	3
	15		15

Total Credits: 120

A grade of "C" or better is required in the following courses for graduation; , , , , ~~BUS 396, IS&T 50, IS&T 51,~~ IS&T 151, ERP 246, BUS 110, BUS 120, , ~~BUS 230,~~ ECON 121, ECON 122, MKT 311, FINANCE 250, BUS 375,BUS 360, BUS 320, BUS 380, and ECON 211.

1Writing Intensive Course

2Any 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.

3Any 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,** ~~200~~ or **5000** ~~300~~ level courses in business, economics, finance, enterprise resource planning, or information science & technology. A "C" or better **grade is** ~~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 352	Advanced Web Development	3
IS&T 241	Electronic and Mobile Commerce	3
IS&T 286	Web and Digital Media Development	3
~~IS&T 336~~	~~Course IS&T 336 Not Found~~	
IS&T 342	E-Commerce Architecture	3
IS&T 357	Network Economy	3
IS&T 368	Law and Ethics in E-Commerce	3

Enterprise ~~Enterprise~~ Resource Planning

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

Finance

FINANCE 350	Corporate Finance II	3
~~FINANCE 260~~	~~Course FINANCE 260 Not Found~~	
FINANCE 360	Investments I	3
ECON 323	**International Finance**	**3**

Any other Finance course at the 3000 level or above.

~~ECON 323,~~ ECON 330, **and ECON 337** ~~ECON 337, or~~ FINANCE 330 cannot be used toward this **concentration.** ~~specialization.~~

Human-Computer Interaction

IS&T 354	Advanced Web and Digital Media Development	3
IS&T 385	Human Computer Interaction	3
IS&T 386	Human-Computer Interaction Prototyping	3
IS&T 387	Human-Computer Interaction Evaluation	3

Management

BUS 311	Business Negotiations	3
BUS 315	Introduction to Teambuilding and Leadership	3
BUS 370	Human Resource Management	3

IS&T 351	Technological Innovation Management and Leadership	3
Marketing		
MKT 321	Consumer Behavior	3
MKT 331	Digital Marketing and Promotions	3
MKT 350	Customer Focus and Satisfaction	3
MKT 380	Marketing Strategy	3
ERP 342	Customer Relationship Management in ERP Environment	3

Justification for request	Correct for renumbering, remove incorrect course references, correct Finance area of concentration.
Supporting Documents	
Course Reviewer Comments	

Key: 148

Program Change Request

Date Submitted: 09/27/13 3:25 pm

Viewing: **MF ENG-MS : Manufacturing Engineering MS**

File: 173.1

Last edit: 09/27/13 3:25 pm

Changes proposed by: nisbett

Catalog Pages Using this Program	Manufacturing Engineering
Start Term	**Fall 2014**
Program Code	MF ENG-MS
Department	**Mechanical & Aerospace Engineering**
Title	Manufacturing Engineering MS

In Workflow

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

Approval Path

1. 09/27/13 3:47 pm drallmei: Approved for RMECHENG Chair
2. 10/08/13 10:55 am lahne: Approved for CCC Secretary
3. 10/10/13 3:09 pm sraper: Approved for Engineering DSCC Chair

Program Requirements and Description

The MS program is a research-oriented degree where the courses supplement the thesis research. The ME program is designed such that the course selection is flexible and the student is allowed to take courses pertaining to his or her area of interest. A practice-orientated project is required by the ME program, which provides an opportunity for the student to participate in a practical project related to a manufacturing process. The ME program is structured so that individuals, such as working engineers, who wish to improve their knowledge and skills can complete their degree in one year.

The basic admission requirements include 1) B.S. degree in an ABET accredited engineering program; and 2) Ranked in upper third of undergraduate class OR a GPA greater than 3.0/4.0. The following test scores are required:

A minimum GRE quantitative score of 155; minimum verbal plus quantitative score of 302; and a minimum analytical score of 3.5.

For those not speaking English as their native language, a TOEFL score of 88 internet-based, 230 computer based or 570 paper based.

The ~~The~~ MS program requires 30 credit hours and a thesis:

12 credit hours from the Manufacturing Core Areas

6 credit hours of **6000** ~~400~~ level courses in Manufacturing

6 **to 9 credit** ~~to 9 credit~~ hours for thesis research

3 to **6 credit** ~~6 credit~~ hours of graduate courses in Manufacturing as approved by the academic advisor

The ME Program requires 30 credit hours and a practice-oriented project. The course requirements include 12 credit hours from the Manufacturing Core Areas, 6 credit hours of **6000** ~~400~~ level courses in Manufacturing; 3 credit hours of approved Mathematics/Computer Science or any suggested Manufacturing courses, 3 credit hours for work related to the practice-oriented project, and 6 credit hours of graduate courses in Manufacturing.

The practice-orientated project is defined by the student and academic advisor. At the end of the project experience, the student should demonstrate not only the proficiency of operating certain manufacturing processes, but also the capability to improve the process. At the end of the ME program, a presentation and a report documenting the practice oriented projects are required. For both programs, at most 6 credit hours of two hundred level classes can be completed in the degree.

For both programs, each student must take at least one course from each of the core areas in Manufacturing Engineering during his or her first two semesters of graduate work. The core requirements may be deemed satisfied if a student has already taken a core course as a technical elective in his or her undergraduate program, thus allowing more freedom in the selection of other courses. The related courses in Manufacturing Core Areas are selected and offered from various departments.

The Manufacturing Core Areas include:

Materials and Manufacturing Processes

Process, Assembly and Product Engineering

Manufacturing Competitiveness
Manufacturing System Design
The graduate committee for each student in the interdisciplinary Master of Science degree program will consist of three faculty of which at least two must be from the Manufacturing Education Committee (MEC). The major advisor should also be a member of the Manufacturing Education Committee. The Master of Engineering student does not need a committee, but the advisor should be from MEC. MEC is formed by over 40 faculty members from various departments, such as Ceramic Engineering, Chemical Engineering, Computer Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Metallurgical Engineering, Mining Engineering, and Business Administration. For details regarding the application, curriculum, courses in Manufacturing Core Areas, and MEC faculty, you may also wish to explore the program's web page at: http://mfge.mst.edu. Some examples of research areas in which you can specialize include:
Design for Manufacturing/Assembly
CAD/CAM/CIM
Product/Process Development
Manufacturing Management
Manufacturing Processes
Manufacturing Materials
Lean Manufacturing
Rapid Product Realization
Programmable Controllers
Assembly & Automation
Manufacturing Plant Layout
Jig, Fixture & Tool Design
CNC machining
Environmentally Friendly Manufacturing
Product Quality Control
This is a truly interdisciplinary program, which will provide you with a variety of options in manufacturing. The existing laboratories which can be used in this proposed program include Computer Integrated Manufacturing Lab (CIM lab), Agile Manufacturing and Automated Inspection Lab (AMAIL), Rapid Prototyping Lab, Laser Aided Manufacturing Processes (LAMP) Lab, Augmented Reality Lab, High Pressure Waterjet Lab, Sustainable Design Lab, Laser Welding Lab, Composite Manufacturing Lab, Computer Vision Lab, Lab for Industrial Automation and Flexible Machining, Automated PC Board Milling Machine, Foundry to Melt and Cast Ferrous and Non-ferrous Alloys, Intelligent Control of Machining Lab and Digital Image and Signal Processing **Lab.** ~~Lab.~~

Justification for request	This is to specify four-digit course numbering for all references in the curriculum that are not covered by the renumbering cross-walk tables
Supporting Documents	
Course Reviewer Comments	

Key: 173

Program Change Request

Date Submitted: 09/16/13 10:06 am

Viewing: **CRTVWR-MI : Creative Writing Minor**

File: 177.1

Last edit: 09/16/13 10:06 am

Changes proposed by: kswenson

Catalog Pages Using this Program	English
Start Term	**Fall 2014**
Program Code	CRTVWR-MI
Department	**English and Technical Communication** ~~ENGLISH~~
Title	Creative Writing Minor

Program Requirements and Description

Creative Writing The minor requires 12 hours including ENGLISH 70 Creative Writing. Students are required to take an advanced writing workshop either ENGLISH 205 Fiction Writing or ENGLISH 208 Creative Nonfiction Writing. In consultation with the minor advisor, students will select two additional courses, one of which must be at the **3000-level** ~~300 level~~ or higher that emphasize literary craft. Suggested Electives: ENGLISH 205, ENGLISH 208, ENGLISH 245, ENGLISH 362, ENGLISH 372, ENGLISH 376, ENGLISH 380, ENGLISH 382.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Key: 177

In Workflow

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

Approval Path

1. 09/16/13 10:08 am kswenson: Approved for RENGLISH Chair
2. 09/25/13 9:04 am lahne: Approved for CCC Secretary
3. 09/25/13 9:12 am lahne: Rollback to CCC Secretary for Col DSCC Chair
4. 09/25/13 9:15 am lahne: Approved for CCC Secretary
5. 09/25/13 9:33 am lahne: Rollback to CCC Secretary for Humanities DSCC Chair
6. 09/25/13 9:35 am lahne: Approved for CCC Secretary
7. 09/25/13 10:39 am ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Change Request

Date Submitted: 09/16/13 2:42 pm

Viewing: **LIT&FIL-MI : Literature and Film Minor**

File: 178.1

Last edit: 09/16/13 2:42 pm

Changes proposed by: kswenson

Catalog Pages Using this Program	English
Start Term	**Fall 2014**
Program Code	LIT&FIL-MI
Department	**English and Technical Communication** ~~ENGLISH~~
Title	Literature and Film Minor

Program Requirements and Description

Literature and Film The minor requires 12 hours, including the **core course, ENGLISH 2240 Literature and Film.** ~~following required courses: and the core course, ENGLISH 177 Literature And Film (3 hours) .~~ In addition, students will take **9** ~~6~~ hours of electives in the field of literature and film studies. These electives can include but are not limited **to ENGLISH 278 Thematic Studies In Literature And Film (3 hours), ART 250 Thematic Studies In Film & Literature (3 hours),** ~~to ART 255 Course ART 255 Not Found (hours); ENGLISH 278 Thematic Studies In Literature And Film (3 hours); ENGLISH 279 Course ENGLISH 279 Not Found; ART 250 Thematic Studies In Film & Literature (3 hours);~~ and **other film courses at the Art 2000 level or above.** ~~ART 251 Course ART 251 Not Found (hours).~~

Justification for request	Eliminating defunct courses.
Supporting Documents	
Course Reviewer Comments	

In Workflow

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

Approval Path

1. 09/16/13 2:43 pm kswenson: Approved for RENGLISH Chair
2. 09/25/13 9:58 am lahne: Approved for CCC Secretary
3. 09/25/13 10:40 am ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 178

Program Change Request

Date Submitted: 09/16/13 10:04 am

Viewing: **LIT-MI : Literature Minor**

File: 179.1

Last edit: 09/16/13 10:04 am

Changes proposed by: kswenson

Catalog Pages Using this Program	English
Start Term	**Fall 2014**
Program Code	LIT-MI
Department	**English and Technical Communication** ~~ENGLISH~~
Title	Literature Minor

Program Requirements and Description

Literature To complete this minor, students must take 12 hours of Literature courses offered by the English Department; at least 9 hours of these must be at the **2000** ~~200~~ or **3000** ~~300~~ level.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Key: 179

In Workflow

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

Approval Path

1. 09/16/13 10:08 am kswenson: Approved for RENGLISH Chair
2. 09/25/13 9:57 am lahne: Approved for CCC Secretary
3. 09/25/13 10:41 am ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Change Request

Date Submitted: 09/15/13 11:36 am

Viewing: **TCH COM-MI : Technical Communication Minor**

File: 181.1

Last edit: 09/25/13 12:44 pm

Changes proposed by: kswenson

Catalog Pages Using this Program	English
Start Term	**Fall 2014**
Program Code	TCH COM-MI
Department	**English and Technical Communication** ~~ENGLISH~~
Title	Technical Communication Minor

Program Requirements and Description

Technical Communication To complete this minor students must take **TCH COM 65**, **TCH COM 240**, **and TCH COM 260 plus** ~~TCH COM 65, TCH COM 240, AND TCH COM 260 plus~~ six additional hours elected from the **3000** ~~300~~ level **or above** technical communication courses.

Justification for request	Updating in keeping with course renumbering.
Supporting Documents	
Course Reviewer Comments	

Key: 181

In Workflow

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

Approval Path

1. 09/15/13 11:39 am kswenson: Approved for RENGLISH Chair
2. 09/25/13 12:46 pm lahne: Approved for CCC Secretary
3. 09/25/13 3:38 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Change Request

Date Submitted: 09/15/13 12:38 pm

Viewing: **PSYCH-MI : Psychology Minor**

File: 183.1

Last edit: 09/15/13 12:38 pm

Changes proposed by: nstone

Catalog Pages Using this Program	Psychology
Start Term	**Fall 2014**
Program Code	PSYCH-MI
Department	**Psychological Science** ~~PSYCH~~
Title	Psychology Minor

Program Requirements and Description

General Psychology Minor requirements require 15 hours of courses in Psychology. At least nine of these hours must be at the **3000-level** ~~200-level~~ or above.

Justification for request	Needs to be in line with course re-numbering (no longer 200-level and above. Needs to be 3000-level and above.
Supporting Documents	
Course Reviewer Comments	

Key: 183

In Workflow

1. **RPSYCHOL Chair**
2. **CCC Secretary**
3. **Social Sciences DSCC Chair**
4. **CCC Meeting Agenda**
5. Campus Curricula Committee Chair
6. FS Meeting Agenda
7. Faculty Senate Chair
8. Registrar
9. Peoplesoft

Approval Path

1. 09/15/13 12:46 pm nstone: Approved for RPSYCHOL Chair
2. 09/25/13 9:21 am lahne: Approved for CCC Secretary
3. 09/26/13 8:54 am barryf: Approved for Social Sciences DSCC Chair

Program Change Request

Date Submitted: 09/25/13 3:21 pm

Viewing: **CR ENG-MS : Ceramic Engineering MS**

File: 184.1

Last edit: 09/25/13 3:21 pm

Changes proposed by: smiller

Catalog Pages Using this Program	Ceramic Engineering
Start Term	**Fall 2014**
Program Code	CR ENG-MS
Department	**Materials Science & Engineering** ~~CER ENG~~
Title	Ceramic Engineering MS

Program Requirements and Description

M.S. and Ph.D. degrees are offered in Ceramic Engineering. The total number of hours required for the M.S. in Ceramic Engineering is 30. A minimum of 6 hours of **6000** ~~400~~ level lectures and a minimum of 11 hours of graduate research on the Missouri S&T campus are required. A maximum of 6 hours of **4000** ~~200~~ level lecture credit may be accepted.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

In Workflow

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

Approval Path

1. 09/25/13 3:40 pm huebner: Approved for RMATSENG Chair
2. 09/27/13 2:33 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:53 pm sraper: Approved for Engineering DSCC Chair

Key: 184

Program Change Request

Date Submitted: 09/25/13 3:21 pm

Viewing: **CR ENG-PHD : Ceramic Engineering PhD**

File: 185.1

Last edit: 09/25/13 3:21 pm

Changes proposed by: smiller

Catalog Pages Using this Program	Ceramic Engineering
Start Term	**Fall 2014**
Program Code	CR ENG-PHD
Department	**Materials Science & Engineering** ~~CER ENG~~
Title	Ceramic Engineering PhD

Program Requirements and Description

The minimum number of hours (beyond the bachelor's degree) required for the Ph.D. in Ceramic Engineering is 72. At least 12 hours of course work outside of Ceramic Engineering is recommended, a minimum of 24 hours will be dissertation research, and a minimum of 24 hours must be course work. Students will also be required to take and pass qualifying and comprehensive exams in accordance with Missouri S&T rules.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

In Workflow

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

Approval Path

1. 09/25/13 3:40 pm huebner: Approved for RMATSENG Chair
2. 09/27/13 2:32 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:53 pm sraper: Approved for Engineering DSCC Chair

Key: 185

Program Change Request

Date Submitted: 09/24/13 6:09 pm

Viewing: **BUS AD-MBA : Business Administration MBA**

File: 186.1

Last edit: 09/24/13 6:09 pm

Changes proposed by: barryf

Catalog Pages Using this Program	Business Administration
Start Term	**Fall 2014**
Program Code	BUS AD-MBA
Department	**Business and Information Technology** ~~BUS~~
Title	Business Administration MBA

In Workflow

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

Approval Path

1. 09/25/13 7:09 pm siauk: Approved for RINFSCTE Chair
2. 09/27/13 3:35 pm lahne: Approved for CCC Secretary
3. 09/30/13 10:09 am barryf: Approved for Social Sciences DSCC Chair

Program Requirements and Description

Degree Requirements

In today's business environment, management requires the ability to leverage information across business functions and knowledge across internal and external boundaries. Students work in teams on comprehensive business cases, live simulations and real company assigned projects throughout the MBA Program. ~~Degree Requirements~~

The Missouri S&T MBA requires a total of 36 **graduate** credit hours **(5000** and **above) and** is offered in two (2) parts: the MBA Core (21 credits) and electives (15 credits). ~~Please note that the MBA Program does not accept transfer credits from other institutions.~~The MBA core classes include Teambuilding and Leadership, International Marketing, **Corporate Information Systems Management,** ~~MIS and Databases,~~ Managerial Accounting **and Control, Supply Chain** ~~for Monitoring~~ and **Project Management, Integration of Business Areas,** ~~Control, Operations, Managerial Finance~~ and **Managerial Finance.** ~~Strategy.~~ **Core courses may not be waived or substituted for other courses under any circumstances. Courses below the 5000 level will not count toward the MBA degree, even if they are taken to fulfill prerequisites. A maximum of 6 credit hours may be taken outside the Business and Information Technology department, except where one of the approved Graduate Certificates listed below require otherwise.**

~~Core courses may not be waived or substituted for other courses under any circumstances.In today's business environment, management requires the ability to leverage information across business functions and knowledge across internal and external boundaries.Students work in teams on comprehensive business cases, live simulations and real company assigned projects throughout the MBA Program.~~**To fulfill the 15 credits hours of electives, students** ~~Students~~ may choose **to complete** ~~either~~ a **Graduate Certificate from the list below for** ~~certificate track or a specialization area which is comprised of~~ 12 **credit hours of the electives:** ~~hours of electives.~~

Digital Media

Digital Supply Chain Management ~~**(Specialization Area)**~~

Electronic and Social Commerce

~~Students may choose from the following options:~~Enterprise Resource Planning ~~(Certificate)~~

Entrepreneurship and Technological Innovation

Human-Computer Interaction ~~(Certificate)~~

Management and Leadership

Mobile Business and Technology

Project Management (Information ~~Information~~ Systems - **Offered by Business and Information Technology)** ~~Project Management (Certificate)~~

Project Management (Offered by Engineering Management program)

Military Construction Management (Offered by Engineering Management program)

Military Geological Engineering (Offered by Geological Sciences and Engineering program)

~~Management (Specialization Area) Management for Sustainable Business (Certificate) Marketing (Specialization Area) Supply Chain Management (Specialization Area)~~

Justification for request	Corrections relative to renumbering, clarification that only graduate courses are accepted, provide updated list of Graduate Certificates, update titles of core courses (changed via CC Forms last year).
Supporting Documents	
Course Reviewer Comments	

Key: 186

Program Change Request

Date Submitted: 09/25/13 12:20 pm

Viewing: **PHIL-MI : Philosophy Minor**

File: 187.1

Last edit: 09/25/13 12:20 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Philosophy
Start Term	**Fall 2014**
Program Code	PHIL-MI
Department	**Arts, Languages, & Philosophy** ~~PHILOS~~
Title	Philosophy Minor

In Workflow

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

Program Requirements and Description

Philosophy Minor

A student with a minor in Philosophy must meet the following requirements:
Twelve hours in Philosophy course beyond **PHILOS 5** ~~PHILOS 5~~ Introduction To Philosophy (**PHILOS 5** ~~PHILOS 5~~ is a prerequisite to a minor in philosophy).
Six of the twelve hours must be completed in Philosophy courses **numbered 4000** ~~numbered 300~~ or above.
A student should declare his or her intention to minor in Philosophy by his or her junior year.
A member of the Philosophy staff will act as the student's minor advisor. The student and his or her minor advisor will plan a course of study to meet the specific interests and needs of the student.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Approval Path

1. 09/26/13 10:33 am lance: Approved for RPHILOSO Chair
2. 09/27/13 2:29 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:30 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 187

Program Change Request

Date Submitted: 09/25/13 12:26 pm

Viewing: **PHILTCH-MI : Philosophy of Technology Minor**

File: 188.1

Last edit: 09/25/13 12:25 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Philosophy
Start Term	**Fall 2014**
Program Code	PHILTCH-MI
Department	**Arts, Languages, & Philosophy** ~~PHILOS~~
Title	Philosophy of Technology Minor

In Workflow

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

Approval Path

1. 09/26/13 10:33 am lance: Approved for RPHILOSO Chair
2. 09/27/13 2:38 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:30 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Requirements and Description

Philosophy of Technology Minor

To qualify, all students must take 15 hours of course work in the following areas of philosophy, political science and history. Nine or more of these hours will need to be in philosophy.

Mandatory:		
PHILOS 15	Introduction To Logic	3
At least two of the following, one of which must be a philosophy class:		
PHILOS 345	Philosophy Of Science	3
PHILOS 320	Minds And Machines	3
HISTORY 375	Architecture, Technology and Society; 1750 to Present	3
~~POL SCI 325~~	~~Course POL SCI 325 Not Found~~	
Additional courses from:		
PHILOS 5	Introduction To Philosophy	3
BIO SCI 150	Biotechnology in Film	3
PHILOS 223	Bioethics	3
HISTORY 270	History of Technology	3
HISTORY 271	Twentieth Century Technology And Society	3

Justification for request

Supporting Documents

Course Reviewer Comments

Key: 188

Program Change Request

Date Submitted: 09/25/13 3:25 pm

Viewing: **MAT SE-PHD : Materials Science and Engr PhD**

File: 204.1

Last edit: 09/25/13 3:25 pm

Changes proposed by: smiller

Start Term	**Fall 2014**
Program Code	MAT SE-PHD
Department	**Materials Science & Engineering** ~~PSYCH~~
Title	Materials Science and Engr PhD

Program Requirements and Description

Degree Requirements

M.S. and Ph.D. degrees are offered in Materials Science and Engineering. Students may apply for either degree and may be admitted directly to the Ph.D. program upon approval (i.e., there is no M.S. requirement). Depending upon their intended career path, students may be encouraged to pursue one of the MSE graduate degrees or other degree programs noted above. The total number of hours required for the Ph.D. degree in Materials Science and Engineering is 72. Ph.D. students are required to complete the three core courses, MS&E 6110 , MS&E 6120 and MS&E 6130. To advance to Ph.D. candidacy, the student must take and pass a qualifying exam. This must be completed prior to the beginning of the fifth semester after entering the graduate program. Students must also take and pass the comprehensive exam in accordance with Missouri S&T rules.

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Justification for request	
Supporting Documents	
Course Reviewer Comments	

Key: 204

In Workflow

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

Approval Path

1. 09/25/13 3:40 pm huebner: Approved for RMATSENG Chair
2. 09/30/13 11:04 am lahne: Approved for CCC Secretary
3. 10/10/13 2:54 pm sraper: Approved for Engineering DSCC Chair

Program Change Request

Date Submitted: 09/25/13 3:26 pm

Viewing: **MT ENG-PHD : Metallurgical Engineering PhD**

File: 209.1

Last edit: 09/25/13 3:26 pm

Changes proposed by: smiller

Start Term	**Fall 2014**
Program Code	MT ENG-PHD
Department	**Materials Science & Engineering** ~~PSYCH~~
Title	Metallurgical Engineering PhD

Program Requirements and Description

Degree Requirements

M.S. and Ph.D. degrees are offered in Metallurgical Engineering.
The minimum number of hours (beyond the bachelor's degree) required for the Ph.D. in Metallurgical Engineering is 72. At least 12 hours of course work outside metallurgy is recommended, a minimum of 24 hours will be dissertation research, and a minimum of 24 hours must be course work. Students will also be required to take and pass qualifying and comprehensive exams in accordance with Missouri S&T rules.

-

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Key: 209

In Workflow

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

Approval Path

1. 09/25/13 3:41 pm huebner: Approved for RMATSENG Chair
2. 09/27/13 2:36 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:57 pm sraper: Approved for Engineering DSCC Chair

Program Change Request

Date Submitted: 09/25/13 11:58 am

Viewing: **FRENCH-MI : French Minor**

File: 217.1

Last edit: 09/25/13 11:58 am

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Foreign Languages
Start Term	**Fall 2014**
Program Code	FRENCH-MI
Department	**Arts, Languages, & Philosophy**
Title	French Minor

In Workflow

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

Program Requirements and Description

French Minor

A French minor will consist of nine hours beyond the 12 hours B.A. foreign language requirement selected in consultation with a faculty advisor.
The additional nine hours must be at **the 2000 level** ~~the 100 level~~ or higher, with at least two of the courses at the **4000** ~~300~~ level.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Approval Path

1. 09/25/13 1:33 pm lance: Approved for RPHILOSO Chair
2. 09/27/13 2:30 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:29 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 217

Program Change Request

Date Submitted: 09/25/13 12:04 pm

Viewing: **GERMAN-MI : German Minor**

File: 218.1

Last edit: 09/25/13 12:04 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Foreign Languages
Start Term	**Fall 2014**
Program Code	GERMAN-MI
Department	**Arts, Languages, & Philosophy**
Title	German Minor

In Workflow

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

Program Requirements and Description

German Minor

A German minor will consist of nine hours beyond the 12 hours B.A. foreign language requirement selected in consultation with a faculty advisor.
The additional nine hours must be at **the 2000** ~~the 100~~ level or higher, with at least two of the courses at the **4000** ~~300~~ level.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Approval Path

1. 09/25/13 1:33 pm lance: Approved for RPHILOSO Chair
2. 09/27/13 2:31 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:29 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 218

Program Change Request

Date Submitted: 09/25/13 12:27 pm

Viewing: **RUSS-MI : Russian Minor**

File: 219.1

Last edit: 09/25/13 12:27 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Foreign Languages
Start Term	**Fall 2014**
Program Code	RUSS-MI
Department	**Arts, Languages, & Philosophy**
Title	Russian Minor

In Workflow

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

Program Requirements and Description

Russian Minor

A Russian minor will consist of nine hours beyond the 12 hours B.A. foreign language requirement selected in consultation with a faculty advisor.
The additional nine hours must be at the **2000** ~~100~~ level or higher, with at least two of the courses at the **4000** ~~300~~ level.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Approval Path

1. 09/26/13 10:34 am lance: Approved for RPHILOSO Chair
2. 09/27/13 2:26 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:31 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 219

Program Change Request

Date Submitted: 09/25/13 12:28 pm

Viewing: **SPAN-MI : Spanish Minor**

File: 220.1

Last edit: 09/25/13 12:28 pm

Changes proposed by: ivliyeva

Catalog Pages Using this Program	Foreign Languages
Start Term	**Fall 2014**
Program Code	SPAN-MI
Department	**Arts, Languages, & Philosophy**
Title	Spanish Minor

In Workflow

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

Program Requirements and Description

Spanish Minor

A Spanish minor will consist of nine hours beyond the 12 hours B.A. foreign language requirement selected in consultation with a faculty advisor.
The additional nine hours must be at the **2000** ~~100~~ level or higher, with at least two of the courses at the **4000** ~~300~~ level.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Approval Path

1. 09/26/13 10:34 am lance: Approved for RPHILOSO Chair
2. 09/27/13 2:26 pm lahne: Approved for CCC Secretary
3. 09/30/13 2:31 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 220

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/16/13 2:58 pm

Viewing: **MIN ENG 401.TBD : Managing Social and Environmental Risks in Mining**

File: 4000

Last edit: 09/25/13 11:34 am

Changes proposed by: jrussell

Requested Effective Change Date	Spring 2014
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	401
Topic ID	TBD
Title	

Managing Social and Environmental Risks in Mining

In Workflow

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

Approval Path

1. 09/16/13 3:02 pm frimpong: Approved for RMINNUCL Chair
2. 09/25/13 11:35 am lahne: Approved for CCC Secretary
3. 10/10/13 2:56 pm sraper: Approved for Engineering DSCC Chair

Abbreviated Course Title	Soc & Enviro Risk Mining
Instructors	Michelle Jarvie Eggart, PhD, PE
Catalog Description	This course is an introduction to responsible mining. It focuses on industry and NGO programs around sustainability and reporting in mining, financial community response, community of interest engagement and participation, and safety and crisis response and management.
Prerequisites	Min Eng 376 or Equivalent
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	
Co-Listed Courses:	
Course Reviewer Comments	

Key: 4000

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/16/13 3:01 pm

Viewing: **MIN ENG 401.TBD : Biodiversity, Closure, and Compliance**

File: 4001

Last edit: 09/25/13 11:33 am

Changes proposed by: jrussell

Requested Effective Change Date	Spring 2014

Department

Mining & Nuclear Engineering

Discipline

Mining Engineering (MIN ENG)

Course Number	401
Topic ID	TBD

Title

Biodiversity, Closure, and Compliance

In Workflow

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

Approval Path

1. 09/16/13 3:02 pm frimpong: Approved for RMINNUCL Chair
2. 09/25/13 11:35 am lahne: Approved for CCC Secretary
3. 10/10/13 2:55 pm sraper: Approved for Engineering DSCC Chair

Abbreviated Course Title	Biodivers closure & comp
Instructors	Michelle Jarvie Eggart, PhD, PE

Catalog Description

This course focuses on biodiversity baseline methods, services, offsets & management.It also includes mine closure & reclamation planning & practices for new uses of post-mining land and community engagement.Environmental monitoring & compliance will also be addressed using baseline studies, zero-liquid discharges and citizen-science & monitoring partnership

Prerequisites

Min Eng 376 or Equivalent

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

Co-Listed Courses:

Course Reviewer Comments

Key: 4001

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/16/13 3:03 pm

Viewing: **MIN ENG 401.TBD : Energy, Tailings, and Water Management**

File: 4002

Last edit: 10/10/13 2:56 pm

Changes proposed by: jrussell

Requested Effective Change Date	Spring 2014
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	401
Topic ID	TBD
Title	

Energy, Tailings, and Water Management

In Workflow

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

Approval Path

1. 09/16/13 3:04 pm frimpong: Approved for RMINNUCL Chair
2. 09/25/13 11:35 am lahne: Approved for CCC Secretary
3. 10/10/13 2:56 pm sraper: Approved for Engineering DSCC Chair

Abbreviated Course Title	Energy Tail/Water Mngt
Instructors	Michelle Jarvie Eggart, PhD, PE

Catalog Description

This course focuses on energy management efforts and greenhouse gases reductions and offsets. It also deals with tailings management, consolidation and waste rock stockpile management. It will also address mine sites water conservation or recycling including surrounding water resources, storm water runoff and effluent quality improvements.

Prerequisites

Min Eng 376 or Equivalent

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

Co-Listed Courses:

Course Reviewer Comments

Key: 4002

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/16/13 4:02 pm

Viewing: **ECON 301.TBD : Mining Industry Economics II**

File: 4008

Last edit: 09/16/13 4:02 pm

Changes proposed by: marcys

Requested Effective Change Date	Spring 2014
Department	Economics
Discipline	Economics (ECON)
Course Number	301
Topic ID	TBD
Title	Mining Industry Economics II
Abbreviated Course Title	Min Ind Economics II
Instructors	Stewart Gillies
Catalog Description	Mining industry & national economies. Social & economic significance of mined commodities. Marketing of mined commodities. Mine financing, project loans, leasing & innovative approaches to min financing. Mining feasibility studies, gov't influence & policy, mining indus foreign inv, investment strategies, mining taxation & cost prediction. Case studies.
Prerequisites	Econ 121 or Econ 122
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Justification for new course:	This course was approved at the December 5, 2012 curriculum committee meeting as Min Eng 301 but the Econ co-list that should have been on that form was inadvertently left off. This form is to correct that error.
Semester(s) previously taught	
Co-Listed Courses:	MIN ENG 301 - Special Topics
Course Reviewer Comments	

Key: 4008

In Workflow

1. **RECONOMI Chair**
2. **CCC Secretary**
3. **Social Sciences DSCC Chair**
4. **CCC Meeting Agenda**
5. Campus Curricula Committee Chair
6. Registrar
7. Peoplesoft

Approval Path

1. 09/17/13 2:16 pm gelles: Approved for RECONOMI Chair
2. 09/25/13 9:16 am lahne: Approved for CCC Secretary
3. 09/26/13 8:54 am barryf: Approved for Social Sciences DSCC Chair

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 09/25/13 2:38 pm

Viewing: **MIN ENG 401.TBD : Advanced Mine Ventilation**

File: 4009

Last edit: 09/27/13 2:40 pm

Changes proposed by: jrussell

Requested Effective Change Date	Spring 2014
Department	Mining & Nuclear Engineering
Discipline	Mining Engineering (MIN ENG)
Course Number	401
Topic ID	TBD
Title	

Advanced Mine Ventilation

Advanced Mine Vent

In Workflow

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

Approval Path

1. 09/25/13 3:22 pm frimpong: Approved for RMINNUCL Chair
2. 09/27/13 2:40 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:55 pm sraper: Approved for Engineering DSCC Chair

Abbreviated Course Title

Instructors Dr. Stewart Gillies

Catalog Description

Effects of fires on the mine ventilation system including the principle of combustion, source of ignition underground, the simulation of mine fires with modern software and use of inertizations systems. Booster fans, diesel particulate matter, mine dusts, Mine vetilation planning.

Prerequisites

MIN ENG 318

Field Trip Statement

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

Total: 3

Justification for new course:

Department request.

Semester(s) previously taught

Co-Listed Courses:

Course Reviewer Comments

Key: 4009

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 10/09/13 4:39 pm

Viewing: **IS&T 301.TBD : Introduction to Big Data Analytics**

File: 4010

Last edit: 10/09/13 4:39 pm

Changes proposed by: barryf

Requested Effective Change Date	Spring 2014
Department	Business and Information Technology
Discipline	Info Science & Technology (IS&T)
Course Number	301
Topic ID	TBD
Title	Introduction to Big Data Analytics
Abbreviated Course Title	Intro Big Data Analytics
Instructors	Dr. Michael Hilgers
Catalog Description	This course addresses the foundations of using predictive statistics on big data sets to impact decision-making. Focus is applied examples using realistic data. Models implemented include regression (parametric/nonparametric), classification, decision trees, and clustering with analytical estimation accomplished using popular software.
Prerequisites	Calculus, Statistics knowledge
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Justification for new course:	Plan to make this a requirement for new Graduate Certificates.
Semester(s) previously taught	None
Co-Listed Courses:	
Course Reviewer Comments	

Key: 4010

In Workflow

1. **RINFSCTE Chair**
2. **CCC Secretary**
3. **Social Sciences DSCC Chair**
4. **CCC Meeting Agenda**
5. Campus Curricula Committee Chair
6. Registrar
7. Peoplesoft

Approval Path

1. 10/09/13 4:44 pm siauk: Approved for RINFSCTE Chair
2. 10/10/13 1:38 pm lahne: Approved for CCC Secretary
3. 10/10/13 1:45 pm barryf: Approved for Social Sciences DSCC Chair

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 10/08/13 10:30 am

Viewing: **MECH ENG 401.TBD : Iterative Learning and Repetitive Process Control**

File: 4012

Last edit: 10/08/13 3:16 pm

Changes proposed by: nisbett

Requested Effective Change Date	Spring 2014
Department	Mechanical & Aerospace Engineering
Discipline	Mechanical Engineering (MECH ENG)
Course Number	401
Topic ID	TBD
Title	Iterative Learning and Repetitive Process Control
Abbreviated Course Title	Iter & Rep Proc Control
Instructors	Dr. Doug Bristow
Catalog Description	Fundamentals of control system analysis and design for systems with periodic references/disturbances with and without resetting. Internal model principle, stability, robustness, and performance analysis. Frequency and time domain design of repetitive control and iterative learning control. Repetitive processes, 2-D stability analysis, and 2-D LQR.
Prerequisites	MECH ENG 381 or ELEC ENG 431
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Justification for new course:	This is an important area of research in controls.
Semester(s) previously taught	None
Co-Listed Courses:	AERO ENG 401 - Special Topics
Course Reviewer Comments	

In Workflow

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

Approval Path

1. 10/08/13 2:08 pm drallmei: Approved for RMECHENG Chair
2. 10/08/13 3:16 pm lahne: Approved for CCC Secretary
3. 10/10/13 2:57 pm sraper: Approved for Engineering DSCC Chair

Key: 4012