Campus Curricula Committee Meeting Agenda
December 4, 2013
10:00 am
Room 106B Parker Hall

Revist erroneously approved CC forms:

CC File #8385   Ceramic Engineering 261 – Materials Senior Design I

CC File #8445   Metallurgical Engineering 261 – Materials Senior Design I

CC File #8446   Metallurgical Engineering 262 – Materials Senior Design II

CC File #8447   Ceramic Engineering 262 – Materials Senior Design II

Review of submitted Degree Change forms:

File #7.2   Mathematics and Statistics – Applied Mathematics MS

File #28.1   Computer Science – Computer Science BS

File #29.1   Computer Science – Computer Science Minor

File #30.1   Biological Sciences – Applied and Environmental Biology MS

File #84.1   Mathematics and Statistics – Mathematics MST

File #116.1   Physics – Physics Minor

File #132.1   English and Technical Communication – Technical Communication BS

File #143.4   Civil, Architectural, and Environmental Engineering – Architectural Engineering BS

File #144.1   Arts, Languages, and Philosophy – Art Minor

File #145.1   Biological Sciences – Bioinformatics Minor

File #148.1   Business and Information Technology – Business and Management Systems BS

File #167.1   Materials Science and Engineering – Materials Science and Engineering MS

File #173.1   Mechanical and Aerospace Engineering – Manufacturing Engineering MS

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 #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
File #223.1   Mathematics and Statistics – Mathematics Minor

Review of Tabled Items:
DC File #48.1   English and Technical Communication – English BA
DC File #141.1   Mechanical and Aerospace Engineering – Aerospace Engineering BS
CC File #8475   Mining Engineering 407 – Theory of High Explosives
CC File #8476   Economics 350 – Ethical Problems in a Global Environment
CC File #8477   Explosives Engineering 305 – Explosives Handling and Safety
CC File #8478   Materials Science and Engineering 325 – Materials Selection in Mechanical Design
CC File #8479   Environmental Engineering 265 – Water and Wastewater Engineering
CC File #8480   Philosophy 201 – Symbolic Logic in Argumentation

2014

CC File # 8385-2013-CER ENG-261-31

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

Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐   Course Deletion ☐   Credit Hours ☒   Prerequisites ☒

Course Title ☐   Catalog Description ☐   Course Number ☐   Co-listing ☐

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

1. Department: **Materials Science & Engineering**

2. Discipline and Course Number: Present: **Cer Eng 261**   Proposed:

3. Course Title: Present: **Materials Senior Design I**

   Proposed:

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

4. Catalog Description (360 character spaces or less.)
   Present: **Students working in groups will be assigned a capstone design project related to a specific materials technology. This course will focus on project plan and all aspects of product and process design.** ~~Prerequisite: Senior standing. (Co-listed with Met Eng 261)~~
   Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture *0*   Lab **1**   Total **1**

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

7. Prerequisites:
   Present:

   Proposed:

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

9. Justification: *Increased hours needed to expand course content & expectations.*

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

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.
    1) **Met 261**   3)   5)
    2) *Eng*   4)   6)

Recommended by Department _____*Wayne Huebner*_____   Date: *2/22/13*
(Chair signature)

Recommended by DSCC _____   Date: *3-11-13*
(Chair signature)

Approved by Curricula Committee:_____*Daniel Forth*_____   Date: *8/26/2013*
(Chair signature)

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

2014

CC File # 8445-2013-MET ENG-261-31

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

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐   Course Deletion ☐   Credit Hours ☒   Prerequisites ☒

Course Title ☐   Catalog Description ☒   Course Number ☐   Co-listing ☐

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

1. Department: **Materials Science & Engineering**

2. Discipline and Course Number: Present: **Met 261** *ENG*   Proposed:

3. Course Title: Present: **Materials Senior Design I**

   Proposed:

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

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

   Present: **Students working in groups will be assigned a capstone design project related to a specific materials technology. This course will focus on project plan and all aspects of product and process design. ~~Prerequisite: Senior standing. (Co-listed with Cer Eng 261)~~**

   Proposed: **Overview of the methods, approaches, and techniques required to execute materials related capstone senior design projects. Formation of teams, assignment of projects, review of department curriculum concepts and topics, and comprehensive project management skills needed to complete projects will be used as means to learn the design process. ~~Prerequisite:~~**

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture *0*   Lab **1**   Total **1**

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

7. Prerequisites:

   Present: **Senior Standing**

   Proposed: **Met 216** *ENG* **and Met 218** *ENG*, **or Cer 231** *ENG* **with a "C" or better**

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

9. Justification: **Increased hours needed to expand course content & expectations; prerequisite grade of "C" new dept. standard** to improve student success

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

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

    1) **Cer 261** *ENG*   3)   5)

    2)   4)   6)

Recommended by Department ___*Wayne Huebner*___   Date: _2/22/13_
                           (Chair signature)

Recommended by DSCC ___*Jeph LaRock*___   Date: _3-13-13_
                     (Chair signature)

Approved by Curricula Committee: ___*Daniel Funk*___   Date: _8/26/2013_
                                 (Chair signature)

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

CC File # 8446-2013-MET ENG-262-31

Effective Year: ~~2013~~ *2014*   Effective Term: **Summer** ☐ **Fall** ☒ **Spring** ☐

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐   Course Deletion ☐   Credit Hours ☒   Prerequisites ☒

Course Title ☐   Catalog Description ☐   Course Number ☐   Co-listing ☐

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

1. Department: **Materials Science & Engineering**

2. Discipline and Course Number: Present: **Met** ~~262~~ *ENG*   Proposed:

3. Course Title: Present: **Materials Senior Design II**

    Proposed:

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

4. Catalog Description (360 character spaces or less.)
    Present: **A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics.** ~~Prerequisite: Cer Eng 261 or Met Eng 261. (Co-listed with Cer Eng 262)~~
    Proposed: **A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics.** ~~Prerequisite: Cer Eng 261 or Met Eng 261 with "C" or better. (Co-listed with Cer Eng 262)~~

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture *0*   Lab **2**   Total **2**
                     Proposed: Lecture *0*   Lab **3**   Total **3**

7. Prerequisites:
    Present: Cer 261 or Met *ENG* 261
    Proposed: ~~Cer 261 or Met 261 with~~ "C" or better *in either CER ENG 261 or MET ENG 261*

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

9. Justification: **Increased hours needed to expand course content & expectations; Prerequisite grade requirement -** new dept. standard to improve student success

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

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.
    1) **Cer** *ENG* **262**   3)   5)
    2)   4)   6)

Recommended by Department _____*Wayne Huebner*_____   Date: *2/20/13*
                          (Chair signature)

Recommended by DSCC _____   Date: *3-11-13*
                    (Chair signature)

Approved by Curricula Committee:_____   Date: *8/26/2013*
                               (Chair signature)

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

2014

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

CC File # 8447-2013-CER ENG-262-31

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐   Course Deletion ☐   Credit Hours ☒   Prerequisites ☒

Course Title ☐   Catalog Description ☒   Course Number ☐   Co-listing ☐

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

1. Department: **Materials Science & Engineering**

2. Discipline and Course Number: Present: **Cer ~~262~~** *ENG*   Proposed:

3. Course Title: Present: **Materials Senior Design II**

   Proposed:

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

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

   Present: **A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics.** ~~Prerequisite: Cer Eng 261 or Met Eng 261. (Co-listed with Met Eng 262)~~

   Proposed: **Overview of the methods, approaches, and techniques required to execute materials related capstone senior design projects. Formation of teams, assignment of projects, review of department curriculum concepts and topics, and comprehensive project management skills needed to complete projects will be used as means to learn the design process.** ~~Prerequisites: Cer 261 or Met 261 with "C" or better.~~

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture *0*   Lab **2**   Total **2**

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

7. Prerequisites: *ENG*   *ENG*
   Present: **Cer 261 or Met 261**

   Proposed: ~~Cer 261 or Met 261~~ *ENG* *ENG* with **"C" or better** *in either CER ENG-261 or MET ENG-261*

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

9. Justification: **Increased prerequisite grade - new department standard to improve student success; increased credit hours**

10. Semesters previously offered as an experimental course (101, 201, 301, 401):   needed to expand course content & expectations.

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

   1) **Met 262** *ENG*   3)   5)

   2)   4)   6)

Recommended by Department _____ *Wayne Huebner* _____   Date: *2/22/13*
                          (Chair signature)

Recommended by DSCC _____ *Stephen Raper* _____   Date: *3-1-13*
                          (Chair signature)

Approved by Curricula Committee: _____ *Daniel Forciniti* _____   Date: *8/26/2013*
                          (Chair signature)

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

From:	Miller, F. Scott
Sent:	Tuesday, October 29, 2013 9:18 PM
To:	Black, Lahne
Subject:	FW: senior design catalog issues
Attachments:	MetECerE 261 and 262 Senior Design issues.docx

Lahne,

I received no objections to my email below, so please make the changes listed below to bring the MetE and CerE 261 and 262 descriptions into alignment with each other.

Let me know if you have any questions.

Dr. F. Scott Miller
Teaching Professor and Associate Chair for Undergraduates
Materials Science & Engineering
Missouri S&T
223 McNutt Hall
Rolla, MO 65409-0330 USA
fax: 573 341 6934
voice: 573 341 4727

From: <Miller>, Scott Miller <smiller@mst.edu>
Date: Thursday, October 24, 2013 at 7:42 PM
To: "'mse-fac-grp@mst.edu'" <mse-fac-grp@mst.edu>
Subject: senior design catalog issues

The Registrars office has discovered some issues regarding our co-listed senior design courses, when they were entering the curriculum changes into the Fall 2014 catalog.

Because the courses are co-listed, the course descriptions, credit hours and prerequisites must be the same, but somehow, when we submitted the CC forms, they were not (see attached).

I propose the following to reconcile the differences in the two courses:

Copy the description and prereqs for Met 261 to Cer 261, and change the credit hours for Cer 361 to 3 hours of lec, to match Met 261.

Change the course description of Cer 262 to match the one for Met 262.

Please review these proposed changes and let me know if 1) they are acceptable, or 2) you propose alternate solutions. I would like to get back to the Registrars office by Monday afternoon with our response, so please send me your feedback as soon as possible.

Dr. F. Scott Miller
Teaching Professor and Associate Chair for Undergraduates
Materials Science & Engineering
Missouri S&T
223 McNutt Hall
Rolla, MO 65409-0330 USA

	Cer 261	**Met 261**
Description	none	Overview of the methods, approaches, and techniques required to execute materials related capstone senior design projects. Formation of teams, assignment of projects, review of department curriculum concepts and topics, and comprehensive project management skills needed to complete projects will be used as means to learn the design process
Credit Hours	3 lab	3 lec
Prerequisites	none	Met Engr 216 and Met Eng 218, or Cer Engr 231 with "C" or better
	Cer 262	**Met 262**
Description	Overview of the methods, approaches, and techniques required to execute materials related capstone senior design projects. Formation of teams, assignment of projects, review of department curriculum concepts and topics, and comprehensive project management skills needed to complete projects will be used as means to learn the design process	A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics.
Credit Hours	3 lab	3 lab
Prerequisites	"C" or better in either Cer Eng 261 or Met Eng 261	"C" or better in either Cer Eng 261 or Met Eng 261

Program Change Request

Date Submitted: 09/25/13 4:16 pm

Viewing: **AP MATH-MS : Applied Mathematics MS**

File: 7.2

Last approved: 09/12/13 2:39 pm

Last edit: 09/25/13 10:14 pm

Changes proposed by: imorgan

Catalog Pages Using this Program	Mathematics and Statistics
Start Term	Fall **2014** 2013
Program Code	AP MATH-MS
Department	Mathematics & Statistics
Title	Applied Mathematics MS

Program Requirements and Description

The program for the M.S. degree without a thesis must include at least 33 hours of graduate credit, nine hours of which must be lecture courses at the **6000-level.** 400-level. For the M.S. degree with thesis, the program must include at least 30 hours of graduate credit, at least six hours of which must be lecture courses at the **6000-level** 400-level and six or more hours of which must be Graduate Research, MATH 490 or STAT 490. Candidates in a non-thesis program must pass a final comprehensive examination while candidates in a thesis program must pass an oral thesis defense. All M.S. candidates are encouraged to include in their program courses in engineering and science which are closely related to their research in Mathematics or Statistics. For those intending to terminate study at the M.S. level, specializations supporting specific career goals are possible.

Justification for request	The intention is to maintain the current requirements under the new numbering system.
Supporting Documents	
Course Reviewer Comments	

Key: 7

Program Change Request

Date Submitted: 09/26/13 1:54 pm

Viewing: **CMP SC-BS : Computer Science BS**

File: 28.1

Last edit: 11/01/13 11:01 am

Changes proposed by: tauritzd

Catalog Pages Using this Program	Computer Science
Start Term	**Fall 2014**
Program Code	CMP SC-BS
Department	Computer Science
Title	Computer Science BS

Program Requirements and Description

Bachelor of Science
Computer Science

A minimum of 128 credit hours is required for a Bachelor of Science degree in Computer Science and an average of at least two grade points per credit hour must be obtained. These requirements for the B.S. degree are in addition to credit received for algebra, trigonometry, and basic ROTC.

The Computer Science curriculum requires twelve semester hours in humanities, exclusive of foreign language, and must include ENGLISH 60 or ENGLISH 160. A minimum of nine semester hours is required in social sciences, including either HISTORY 175, **HISTORY 176,** HISTORY 176, HISTORY 112, or **POL SCI 90.** Specific requirements for the bachelor degree are outlined in the sample program listed below.

All computer science majors must earn a "C" or better grade in all COMP SCI courses used to fulfill a B.S. in Computer Science degree requirements as well as in COMP ENG 111, COMP ENG 213, and the required ethics elective.

Sample Course of Study

Freshman Year

First Semester	Credits	Second Semester	Credits
COMP SCI 114	1	COMP SCI 153	3
COMP SCI 53	3	COMP SCI 128	3
COMP SCI 54	1	MATH 2115	5
ENGLISH 20	3	Laboratory science course(s)15	
MATH 815	5		
Humanities Elective5	3		
	16		16

Sophomore Year

First Semester	Credits	Second Semester	Credits
COMP SCI 253	3	COMP SCI 238	3
Social Science Elective2	3	COMP ENG 11112	3
Literature Elective5	3	MATH 2087	3
Physics Elective3	4	Physics Elective3	4
SP&M S 854	3	STAT 2156	3

		16		16

Junior Year

First Semester	Credits	Second Semester	Credits
History Elective2	3	COMP SCI 256	3
COMP SCI 284	3	Social Science Elective2	3
COMP ENG 21312	3	COMP SCI 228	3
COMP SCI 220	3	ENGLISH 6013	3
Free Elective8	3	COMP SCI 206	3
	15		15

Senior Year

First Semester	Credits	Second Semester	Credits
Cmp Sc Electives9	9	Cmp Sc Electives9	6
Eng/Science Electives10	6	Eng/Science Elective10	3
COMP SCI 397	3	Ethics Elective11	3
		Free Elective8	4
	18		16

Total Credits: 128

1 Any science lecture-laboratory course or course pair totaling at least four hours credit. The laboratory is mandatory in all cases. These course(s) may be selected from: CHEM 1 and CHEM 2; CHEM 5; BIO SCI 110 and BIO SCI 112; PHYSICS 9 and PHYSICS 10; GEOLOGY 51 and GEOLOGY 53; GEOLOGY 52 and GEOLOGY 54; BIO SCI 113 and BIO SCI 114; BIO SCI 115 and BIO SCI 116.

2 Any nine credit hours of social science courses approved on the list maintained on the Computer Science web page. One course must satisfy the Missouri and U.S. Constitution requirement.

3 Either PHYSICS 23 and PHYSICS 24 or both PHYSICS 21-PHYSICS 22 and PHYSICS 25-PHYSICS 26.

4 SP&M S 85 or SP&M S 283.

5 One literature and one humanities course approved on the list maintained on the Computer Science web page.

6 STAT 213, STAT 215, STAT 217 or STAT 343.

7 MATH 203 or MATH 208.

8 Courses chosen from any field so that 128 hours are completed. These and only these courses may be taken pass/fail and only one course may be taken pass/fail each semester. Some courses such as algebra, trigonometry, MATH 14, MATH 15, MATH 21, PHYSICS 21, PHYSICS 22, PHYSICS 23, PHYSICS 24, PHYSICS 25, PHYSICS 26, PHYSICS 31, PHYSICS 35 and the first two years of ROTC do not count toward the free electives.

9 Fifteen hours of elective Comp Sci courses excluding COMP SCI 202, COMP SCI 317, and Comp Sci x9xx courses. At least nine hours must be 5000-level or higher. At least nine hours must be lecture courses.

10 Any nine hours chosen from departments that offer a degree associated with either the Discipline Specific Curricula Committee for Sciences or the Discipline Specific Curricula Committee for Engineering, excluding computer science.These may not be MATH 8, MATH 14, MATH 15, MATH 21, PHYSICS 21, PHYSICS 22, PHYSICS 23, PHYSICS 24, PHYSICS 25, PHYSICS 26, PHYSICS 31, or PHYSICS 35.

11 PHILOS 225 or PHILOS 235 or PHILOS 340 or PHILOS 368.

12 Laboratory not required.

13 Or ENGLISH 160 Technical Writing.

14 Or BIO SCI 102 CHEM 11, PHYSICS 1, MATH 1, or FR ENG 10.

15 MATH 14 may be taken instead of MATH 8; MATH 15 may be taken instead of MATH 21

Justification for request	Updates the BS in CS degree program to be consistent with the new numbering system, removes/replaces all inactive courses, and updates the specific degree requirements.
Supporting Documents	
Course Reviewer Comments	

Key: 28

Program Change Request

Date Submitted: 09/26/13 1:56 pm

Viewing: **CMP SC-MI : Computer Science Minor**

File: 29.1

Last edit: 09/26/13 1:56 pm

Changes proposed by: tauritzd

Catalog Pages Using this Program	Computer Science
Start Term	**Fall 2014**
Program Code	CMP SC-MI
Department	Computer Science
Title	Computer Science Minor

In Workflow

1. **RCOMPSCI Chair**
2. **CCC Secretary**
3. **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 2:17 pm sdas: Approved for RCOMPSCI Chair
2. 09/27/13 2:41 pm lahne: Approved for CCC Secretary
3. 10/28/13 7:14 pm tauritzd: Approved for Sciences DSCC Chair

Program Requirements and Description

Computer Science Minor Curriculum

A student with a minor in computer science must meet the following requirements:

A "C" or better grade in at least 18 credit hours of Comp Sci courses, excluding x9xx courses.

A "C" or better grade in at least 9 credit hours of Comp Sci courses at the 2000 or higher level.

A "C" or better grade in two of the following courses: COMP SCI 206, COMP SCI 220, COMP SCI 228, COMP SCI 238, COMP SCI 253, COMP SCI 256 and COMP SCI 284.

~~COMP SCI 153 and 12 elective hours in computer science beyond COMP SCI 53, COMP SCI 54, COMP SCI 73 & COMP SCI 77 or COMP SCI 74 & COMP SCI 78.~~ A member of the computer science faculty will serve as the student's minor advisor. The student and his/her minor advisor will plan a course of study to meet the specific interests and needs of the student. ~~Students pursuing a minor in computer science must earn a "C" or better, in COMP SCI 53, COMP SCI 54, COMP SCI 153, COMP SCI 128, and COMP SCI 253 if any of these courses are taken for the minor.~~

Justification for request	Updates the minor to be consistent with the new course numbering as well as with the increased grade requirements for CS course prereqs and CS degree programs.
Supporting Documents	
Course Reviewer Comments	

Key: 29

Program Change Request

Date Submitted: 09/30/13 2:32 pm

Viewing: **A&E BIO-MS : Applied and Environ Biology MS**

File: 30.1

Last edit: 11/01/13 2:35 pm

Changes proposed by: shannonk

Catalog Pages Using this Program	Biological Sciences
Start Term	**Fall 2014**
Program Code	A&E BIO-MS
Department	Biological Sciences
Title	Applied and Environ Biology MS

Program Requirements and Description

Degree Requirements M.S. - with thesis

Approval Path

1. 09/30/13 7:22 pm aronstam: Approved for RBIOLSCI Chair
2. 10/08/13 10:53 am lahne: Approved for CCC Secretary
3. 10/28/13 7:13 pm tauritzd: Approved for Sciences DSCC Chair

BIO SCI 402	Problems In Applied And Environmental Biology
BIO SCI 410	Graduate Seminar
BIO SCI 475	Techniques In Applied And Environmental Biology
BIO SCI 490	Graduate Research

Degree Requirements M.S. - without thesis

BIO SCI 402	Problems In Applied And Environmental Biology
BIO SCI 410	Graduate Seminar

Elective courses are chosen with guidance from the advisor and advisory committee. Out-of-department courses comprise at least 6 hours of credit. A minimum of 30 credit hours is required for a MS degree. Up to 6 credit hours may be taken at the **3000-level** 200 level in courses offered by other departments. Candidates for the MS degree with thesis conduct original research that is defended in a final oral examination. Non-thesis MS degree candidates take a comprehensive written final examination.

Justification for request	Change 200 to 3000 level to reflect course renumbering efforts
Supporting Documents	
Course Reviewer Comments	

Program Change Request

Date Submitted: 09/25/13 4:26 pm

Viewing: **MATH-MST : Mathematics MST**

File: 84.1

Last edit: 11/01/13 11:25 am

Changes proposed by: imorgan

Catalog Pages Using this Program	[Mathematics and Statistics](#)
Start Term	**Fall 2014**
Program Code	MATH-MST
Department	Mathematics & Statistics
Title	Mathematics MST

In Workflow

1. **RMATHEMA Chair**
2. **CCC Secretary**
3. **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 10:20 pm sclark: Approved for RMATHEMA Chair
2. 09/27/13 2:47 pm lahne: Approved for CCC Secretary
3. 10/28/13 7:14 pm tauritzd: Approved for Sciences DSCC Chair

Program Requirements and Description

The Master of Science for Teachers program is primarily designed for secondary school teachers in the Physical Sciences and Mathematics. The program of study must include at least 32 hours of courses numbered above **2000** 200 in Science and Mathematics, three hours of which must be at the **6000-level.** 400-level. **No more than six hours may be at the 2000-level; any such courses must be from departments other than Mathematics and Statistics and are subject to the approval of the student's master's committee.**
Candidates must pass a final comprehensive examination.

Justification for request	The intention is to maintain current requirements under the new numbering system. There are valuable courses at the 2000-level we would like the students to be able to count for their degree.
Supporting Documents	
Course Reviewer Comments	

Key: 84

Program Change Request

Date Submitted: 09/18/13 3:51 pm

Viewing: **PHYSIC-MI : Physics Minor**

File: 116.1

Last edit: 11/01/13 11:42 am

Changes proposed by: waddill

Catalog Pages Using this Program	Physics
Start Term	**Fall 2014**
Program Code	PHYSIC-MI
Department	Physics
Title	Physics Minor

Program Requirements and Description

Approval Path

1. 09/18/13 3:53 pm waddill: Approved for RPHYSICS Chair
2. 09/25/13 10:00 am lahne: Approved for CCC Secretary
3. 10/28/13 7:13 pm tauritzd: Approved for Sciences DSCC Chair

Physics Minor Curriculum

The minor in Physics is a flexible program whose goal is to increase the breadth and competency of science and engineering students in modern or classical Physics. Science students pursuing the Physics minor will be interested in a deeper understanding of fundamental physical processes. Engineering students who intend to work in research or advanced development may use a Physics minor to acquire a thorough knowledge of atomic, condensed matter, and environmental physics.

The physics minor consists of PHYSICS 107 or PHYSICS 207 and 12 additional hours of physics courses at **the 2000-level** ~~the 200 level~~ or above. The program will be designed to conform to the individual's interests and needs.

Justification for request	To update according to new course renumbering scheme.
Supporting Documents	
Course Reviewer Comments	

Key: 116

Program Change Request

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

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

File: 132.1

Last edit: 11/01/13 3:24 pm

Changes proposed by: kswenson

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

Approval Path

1. 09/16/13 2:16 pm kswenson: Approved for RENGLISH Chair
2. 10/10/13 3:43 pm lahne: Approved for CCC Secretary
3. 10/14/13 6:11 pm ivliyeva: Approved for Arts & Humanities DSCC Chair

Program Requirements and Description

Bachelor of Science

Technical Communication

The Technical Communication degree requires 33 credit hours of core courses: ENGLISH 281, TCH COM 240, TCH COM 260, TCH COM 302, TCH COM 340, TCH COM 385, and five additional courses from the following list: ENGLISH 160, ENGLISH 305, TCH COM 301, TCH COM 310, TCH COM 331, TCH COM 333, TCH COM 361, TCH COM 380. It also requires 42 hours of general education courses, 36 hours of interdisciplinary courses (see Note below), and 15 hours of free electives, for a total of 126 hours. Specific requirements for the bachelor's degree are outlined in the sample program listed below.

Freshman Year

First Semester	Credits	Second Semester	Credits
ENGLISH 20	3	TCH COM 65	3
MATH 4	3	BIO SCI 110, or 231, or 235, or 251	3
PSYCH 50	3	HISTORY 175, or 176, or 111, or 112	3
Interdisciplinary Course1	3	Interdisciplinary Course1	3
Humanities, Art, Music, Theater	3	ECON 121	3
	15		15

Sophomore Year

First Semester	Credits	Second Semester	Credits
SP&M S 85	3	Humanities, Art, Music, Theater	3
English Literature	3	POL SCI 90	3
TCH COM 240	3	TCH COM 260	3
ENGLISH 281	3	TCH COM Elective	3
Interdisciplinary Course1	3	Chemistry, Geology, Physics	3
		Interdisciplinary Course1	3
	15		18

Junior Year

First Semester	Credits	Second Semester	Credits
Math/Statistics	3	TCH COM 302	3
TCH COM 340	3	TCH COM Elective	3
Interdisciplinary Course1	3	TCH COM Elective	3

First Semester	Credits	Second Semester	Credits
Interdisciplinary Course1	3	Interdisciplinary Course1	3
Interdisciplinary Course1	3	Interdisciplinary Course1	3
		Free Elective	3
	15		18

Senior Year

First Semester	Credits	Second Semester	Credits
TCH COM Elective	3	TCH COM 385	3
Interdisciplinary Course1	3	TCH COM Elective	3
Interdisciplinary Course1	3	Interdisciplinary Course1	3
Free Elective	3	Free Elective	3
Free Elective	3	Free Elective	3
	15		15

Total Credits: 126

1In consultation with his or her advisor, the student will select 36 hours of Interdisciplinary Courses from only two of the areas listed below, with no fewer than 15 credit hours per area: biological sciences, business, chemistry, computer science, economics, education, engineering management, English, finance, one foreign language, geology, history, information science and technology, management and information systems, mathematics, philosophy, physics, political science, psychology, speech and media studies, statistics, any area of engineering.

At least 12 of the 36 hours must come from courses numbered 2000-level or above. The student's course selections must be approved by the Department of English and Technical Communication's technical communication committee.

Justification for request

Supporting Documents

Course Reviewer Comments

Key: 132

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: 11/01/13 2:43 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

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** ~~or~~ HISTORY 176. The economics course may be either ECON 121 **or** ~~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-level** ~~the 100 level~~ or above and must be selected from **"The Approved List of Humanities and Social Science Courses for Engineering Degrees" maintained by the Office of Undergraduate Studies.** ~~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 10[2]	1	MATH 15	4
CHEM 1	5	PHYSICS 23	4
& CHEM 2			
MATH 14	4	General Ed Elective[1]	3
ENGLISH 20	3		
General Ed Elective[1]	3		
	17		14

Sophomore Year

First Semester	Credits	Second Semester	Credits
CIV ENG 1[2]	3	IDE 150	2
CIV ENG 50[2]	3	STAT 213	3
MATH 22	4	CIV ENG 110[2]	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 217[2]	3	ARCH ENG 205	3
CIV ENG 230[2]	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 Elective[3,4]	3
ARCH ENG 248	3	CIV ENG 229	3
HISTORY 375	3	General Education Elective[1]	3
ARCH ENG Technical Elective[3,4]	3	Free Elective[5]	3
ENG MGT 137	2		
	15		15

Total Credits: 128

[1]All 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.

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

[3]A 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.

4Choose 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.

5Each 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	Introduction To Computer Engineering	4
& COMP ENG 112	and Computer Engineering Laboratory	

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

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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
Title	Art Minor

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

Course Reviewer
Comments

Program Change Request

Date Submitted: 09/30/13 2:36 pm

Catalog Pages Using this Program	Bioinformatics Minor Curriculum
Start Term	**Fall 2014**
Program Code	BIOINFO-MI
Department	**Biological Sciences**
Title	Bioinformatics Minor

Program Requirements and Description

Bioinformatics is the rapidly-developing field that applies computational methods to address biological questions, and includes new advances in computer science, mathematics, and biology. Students entering the field of bioinformatics should have some training in each of these fields.

The minor is designed for students pursuing a BS who would have the necessary prerequisites for the required courses. Students pursuing a BA may participate if the prerequisites for the required courses are fulfilled. Each department (Biological Sciences, Computer Science, Mathematics) will designate a minor advisor. The student's minor advisor will be chosen from outside of their major area of study.

Required courses:

BIO SCI 110	General Biology	3
BIO SCI 211	Cell Biology	3
or BIO SCI 231	General Genetics	
BIO SCI 331	Molecular Genetics	3
COMP SCI 53	Introduction To Programming	4
& COMP SCI 54	and Introduction To Programming Laboratory	
COMP SCI 153	Data Structures	3
COMP SCI 238	File Structures And Introduction To Database Systems	3
BIO SCI/COMP SCI 311	Bioinformatics (It is strongly recommended that this course be taken after the other Bio Sc and Cmp Sc requirements.)	3
STAT 301	Special Topics	0-6
or STAT 346	Regression Analysis	
or STAT 353	Statistical Data Analysis	

~~One additional course, 200 or above in Math, or 300 or above in Bio Sc or Cmp Sc, outside of the major area of study, and as agreed upon by the minor advisor (3+ hrs)~~

One additional course, either at the 2000-level or above in MATH or COMP SCI, or at the 3000-level or above in BIO SCI, outside of the major area of study, and as agreed upon by the minor advisor.   **3+**

Justification for request	Change requirements for one additional course to 2000 or above in Math or Comp Sci, or 3000 or above in Bio Sci to conform to renumbering.
Supporting Documents	
Course Reviewer Comments	Key: 145

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: 11/01/13 2:48 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
Title	Business and Mgmt Systems BS

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 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 396 1	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-level** 300 level courses in business, economics, finance, enterprise resource planning, or information science & technology. A "C" or better grade is required in all twelve credit hours. If the student chooses to designate an area of concentration for these courses, focusing at least 3 courses (9 credits) in one area, he or she may do so. Students are not required to choose a concentration area. Areas of concentration are:

E-Commerce

IS&T 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 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: 09/25/13 3:22 pm

Viewing: **MAT S E-MS : Materials Science and Engr MS**

File: 167.1

Last edit: 11/01/13 11:22 am

Changes proposed by: smiller

Catalog Pages Using this Program	Materials Science and Engineering
Start Term	**Fall 2014**
Program Code	MAT S E-MS
Department	Materials Science & Engineering
Title	Materials Science and Engr MS

Program Requirements and Description

Approval Path

1. 09/25/13 3:40 pm huebner: Approved for RMATSENG Chair
2. 10/10/13 3:49 pm lahne: Approved for CCC Secretary
3. 10/22/13 11:26 am sraper: Approved for Engineering DSCC Chair

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 M.S. in Materials Science and Engineering is 30. The M.S. with thesis is oriented toward the completion of a research project and the degree requirements are 18 hours of course work and 12 hours of research. It is recommended that the student complete the core courses offered by the department including **MS&E 421**, **MS&E 422**, ~~MS&E 421 , MS&E 422~~ and **MS&E 423** **which** ~~MS&E 423 , which~~ are graduate level crystallography, thermodynamics and kinetics. At least 6 hours of course work must be **6000-level** ~~400 level~~ courses. It is recommended that six additional hours be completed outside of the department. The other courses are chosen with the approval of the advisor.

For the non-thesis M.S. degree in Materials Science and Engineering, 30 hours of course work must be completed with a minimum of 12 hours at the **6000-level.** ~~400 level.~~

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 421**, **MS&E 422**, ~~MS&E 421 , MS&E 422 ,~~ and **MS&E 423. To advance to Ph.D.** ~~MS&E 423 . 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.

Justification for request	Course renumbering
Supporting Documents	
Course Reviewer Comments	

Key: 167

Program Change Request

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

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

File: 173.1

Last edit: 11/01/13 3:14 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 MS program requires 30 credit hours and a thesis:

12 credit hours from the Manufacturing Core Areas

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

6 to 9 credit hours for thesis research

3 to 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-level** 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
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: 11/01/13 2:59 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
Title	Literature and Film 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 2:43 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

Program Requirements and Description

Literature and Film The minor requires 12 hours, including the **core course, ENGLISH 177** 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	

Key: 178

Program Change Request

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

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

File: 179.1

Last edit: 11/01/13 3:01 pm

Changes proposed by: kswenson

Catalog Pages Using this Program	English
Start Term	**Fall 2014**
Program Code	LIT-MI
Department	English and Technical Communication
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-level.** 300 level.

Justification for request

Supporting Documents

Course Reviewer Comments

Key: 179

Program Change Request

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

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

File: 181.1

Last edit: 11/01/13 11:50 am

Changes proposed by: kswenson

Catalog Pages Using this Program	English
Start Term	**Fall 2014**
Program Code	TCH COM-MI
Department	English and Technical Communication
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-level or above** ~~300 level~~ technical communication courses.

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

Key: 181

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
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: 11/01/13 2:53 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
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-level** ~~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-level** ~~200 level~~ lecture credit may be accepted.

Justification for request

Supporting Documents

Course Reviewer Comments

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
Title	Ceramic Engineering PhD

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

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

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: 09/25/13 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
Title	Philosophy Minor

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

Key: 187

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

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
Title	Philosophy of Technology Minor

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: 11/01/13 3:10 pm

Changes proposed by: smiller

Start Term	**Fall 2014**
Program Code	MAT SE-PHD
Department	Materials Science & Engineering
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 421, MS&E 422, and MS&E 423. 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

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

Key: 204

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
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.

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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 3:41 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

Key: 209

Program Change Request

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

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

File: 217.1

Last edit: 11/01/13 11:16 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

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-level.** ~~300 level.~~

Justification for request

Supporting Documents

Course Reviewer Comments

Key: 217

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 1:33 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

Program Change Request

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

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

File: 218.1

Last edit: 11/01/13 11:16 am

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

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

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-level** ~~the 100 level~~ or higher, with at least two of the courses at the **4000-level.** ~~300 level.~~

Justification for request

Supporting Documents

Course Reviewer Comments

Key: 218

Program Change Request

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

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

File: 219.1

Last edit: 11/01/13 11:46 am

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

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-level** ~~100 level~~ or higher, with at least two of the courses at the **4000-level.** ~~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: 11/01/13 11:47 am

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

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

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-level** 100 level or higher, with at least two of the courses at the **4000-level.** 300 level.

Justification for request	
Supporting Documents	
Course Reviewer Comments	

Key: 220

Program Change Request

Date Submitted: 09/25/13 3:59 pm

Viewing: **MATH-MI : Mathematics Minor**

File: 223.1

Last edit: 09/25/13 3:59 pm

Changes proposed by: imorgan

Catalog Pages Using this Program	Mathematics
Start Term	**Fall 2014**
Program Code	MATH-MI
Department	Mathematics & Statistics
Title	Mathematics Minor

Program Requirements and Description

Math Minor Curriculum

The minor will consist of at least 12 hours of mathematics/statistics courses at the **3000** 200 * or higher level, 9 hours of which must be completed in residence at Missouri S&T and 3 hours of which must be at the **4000** 300 or higher level, and passing all of them with at least a grade of "C". Further, MATH 204 and MATH 229 cannot both be counted, MATH 229 and MATH 208 cannot both be counted, and at most one of STAT 211, STAT 213, STAT 215 and STAT 217 may be counted. Finally, the specific choice of courses is subject to the approval of the minor advisor.

* COMP SCI 228 Introduction To Numerical Methods may be substituted for one of these courses.

Justification for request	The intent is to keep the requirement the same as it is currently.
Supporting Documents	
Course Reviewer Comments	

Key: 223

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
Title	English BA

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: 09/27/13 2:52 pm

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

File: 141.1

Last edit: 11/01/13 1:01 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
Title	Aerospace Engineering BS

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-level** 100 level or above and must be selected from **"The Approved List of Humanities and Social Science Courses for Engineering Degrees" maintained by** the **Office of Undergraduate Studies.** 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 15[4]	4
& CHEM 2			
& CHEM 4[1]			
ENGLISH 20	3	PHYSICS 23[4]	4
MATH 14[4]	4	H/SS Economics elective[3]	3
H/SS History Elective[2]	3		
	17		14

Sophomore Year

First Semester	Credits	Second Semester	Credits
COMP SCI 73 or 74[10]	2	AERO ENG 180	2
COMP SCI 77 or 78[10]	1	AERO ENG 160[4]	3
CIV ENG 50[4]	3	MECH ENG 219[4]	3
MATH 22[4]	4	MATH 204[4]	3
PHYSICS 24[4]	4	CIV ENG 110[4]	3
AERO ENG 161[4]	3	Elective/Literature	3
	17		17

Junior Year

First Semester	Credits	Second Semester	Credits
AERO ENG 213[4]	3	AERO ENG 251[4]	3
AERO ENG 231[4]	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 Sc[5]	3	Elective/Ethics[11]	3
		Elective/Communications[7]	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-Technical[6]	3
AERO ENG 280 or 380	2	Electives-Technical[6]	3
AERO ENG 283	2	AERO ENG 285	1
Electives-Technical[7]	3	Electives Free[9]	2
Elective upper level/Hum/Soc Sci[8]	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 105, MIL ARMY 106, MIL ARMY 207, and MIL ARMY 208; or MIL AIR 350, MIL AIR 351, MIL AIR 380 and MIL AIR 381).

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 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

CC File # *8475-2013 - Min Eng - 407-32*

Effective Year: **2014**   Effective Term: **Summer** ☐   **Fall** ☒   **Spring** ☐

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

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

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

1. Department: **Mining and Nuclear Engineering** *Min Eng*

2. Discipline and Course Number: Present: **~~MinE~~ 407** *Min Eng*   Proposed:

3. Course Title: Present: **Theory of High Explosives**

    Proposed:

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

4. Catalog Description (360 character spaces or less.)
    Present:
    Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture **3.0** Lab *0*   Total *3. 0*

                    Proposed: Lecture   Lab   Total

7. Prerequisites:

    Present: **Successful background check and Graduate Standing. ~~(Co-listed with Exp Eng 407)~~**

    Proposed: **Graduate Standing. ~~Co-listed with Exp Eng 407~~**

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

9. Justification: **Background check not required for this class. No explosives will be handled**

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

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

    1) *Exp Eng 407*   3)   5)
    2)   4)   6)

Recommended by Department _____ Date: _06/06/13_
                          (Chair signature)

Recommended by DSCC _____ Date: _6/26/13_
                    (Chair signature)

Approved by Curricula Committee: _____ Date: _____
                                 (Chair signature)

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

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

CC File # *8476-2013-Econ-350-10*

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐   **Course Deletion** ☐   **Credit Hours** ☐   **Prerequisites** ☐

Course Title ☒   **Catalog Description** ☒   **Course Number** ☒   **Co-listing** ☐

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

1. **Department:** Economics

2. **Discipline and Course Number:**   **Present :**   **Proposed:** Econ ~~345~~ *350*

3. **Course Title:**   **Present:**
   Proposed: Ethical Problems in a Global Environment
   Abbreviated Course Title: Ethical Probs Global Env
         (24 Spaces or Less. Only needed for New Courses or Title Changes.)

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

   Proposed: Focuses on the international dimension of ethics including corporate responsibility from economic, social, and environmental perspectives. It address the ethical challenges of decision making, stakeholder engagement, and governance at micro- (personal), meso- (org), and macro levels (systems).

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

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

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

7. **Prerequisites:**
   Present:

   Proposed: Senior or graduate standing.

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

9. **Justification:** Taught as BUS 301-International Ethical Problems in International Business, SS 12 (6 Distance and 15 in-class students)/ECON 301-Ethical Problems in a Global Environment, SS 13 (3 Distance and 13 in-class students). This course was also taught last summer as part of a study abroad experience in Chin, is an elective for a minor (Global Sustainable Economics) and a graduate certificate.

10. **Semesters previously offered as an experimental course (101, 201, 301, 401):** SS 12, SS 13

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

1)   2)   3)

4)   5)   6)

Recommended by Department _____ Date: 6/14/13
                         (Chair Signature)

Recommended by Discipline Specific Curricula Committee *Barry Flachsbart* -JB Date: 7/17/13
                         (Chair signature)

Approved by Curricula Committee: _____ Date: _____
                         (Chair signature)

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

CC File # *8477-2013-Exp Eng - 305-32*

Effective Year: **2014**   Effective Term: **Summer** ☐ **Fall** ☒ **Spring** ☐

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐   Course Deletion ☐   Credit Hours ☐   Prerequisites ☒

Course Title ☐   Catalog Description ☐   Course Number ☐   Co-listing ☐

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

1. Department: **Mining and Nuclear Engineering** *Exp Eng*

2. Discipline and Course Number: Present: **ExpE 305**   Proposed:

3. Course Title: Present: **Explosives Handling and Safety**

            Proposed:

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

4. Catalog Description (360 character spaces or less.)
   Present:
   Proposed:

5. If course requires field trip check box: ☐

6. Credit Hours: Present: Lecture *3.0*   Lab *0*   Total *3*

                  Proposed: Lecture   Lab   Total

7. Prerequisites:

   Present: **Min Eng 151, Min Eng 307, Successful background check. ~~(Co-listed with Min Eng 305)~~**

   Proposed: ~~Co-listed with Min Eng 305~~ *Min Eng 307*

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

9. Justification: **Background check not required for this class. No explosives will be handled**

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

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

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

Recommended by Department _____   Date: *06/06/13*
                        (Chair signature)

Recommended by DSCC _____   Date: *6/26/13*
                        (Chair signature)

Approved by Curricula Committee:_____   Date:_____
                        (Chair signature)

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

CC File # *8478-2013-MSEE-325-32*

Effective Year: 2014   **Effective Term: Summer ☐ Fall ☐ Spring ☒**

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐   Course Deletion ☐   Credit Hours ☐   Prerequisites ☒

Course Title ☒   Catalog Description ☒   Course Number ☐   Co-listing ☐

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

1. Department: **Materials Science and Engineering**
   MSEE
2. Discipline and Course Number: Present: ~~MSE~~ **325**   Proposed:
3. Course Title: Present: **Materials Selection in Mechanical Design**

   Proposed: **Integrated Computational Materials Engineering**

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

4. Catalog Description (360 character spaces or less.)
   Present: **This course will introduce the basics of materials selection in mechanical design. It will also introduce the benefits of computational materials and process selection. The students will also learn to use a commercially available materials selection software.**
   Proposed: **Introduction to different computational tools for studying materials at different length scales. Several atomistic, mesoscale and continuum models will be introduced and bridging between different modeling scales will be discussed. This course includes computer lab sessions to build models for solidification, solid state phase transformation, etc.**

5. If course requires field trip check box: ☐

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

   Proposed: Lecture   Lab   Total

7. Prerequisites:
   Present: ~~Mt eng 217, Mt Eng 218~~ *Met Eng 121*
   met
   Proposed: **Mt Eng 217, Math 204**

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

9. Justification:

10. Semesters previously offered as an experimental course (101, 201, 301, 401): **1**

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

   1)   3)   5)

   2)   4)   6)

Recommended by Department _____*Wayne Hudun*_____   Date: *6/6/13*
                              (Chair signature)

Recommended by DSCC _____*Subha Rafer*_____   Date: *7-18-13*
                              (Chair signature)

Approved by Curricula Committee:_____   Date:_____
                              (Chair signature)

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

Effective Year: 2014
Term: Summer ☐   Fall ☒   Spring ☐

CC File # *8479-2013 - EnvEng-265-32*

Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

New Course ☐   Course Deletion ☐   Credit Hours ☐   Prerequisites ☒

Course Title ☐   Catalog Description ☐   Course Number ☐   Co-listing ☐

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

1. **Department:** Civil, Arch., Env.

2. **Discipline and Course Number:** Present : EnvE 265 *NG*   Proposed:

3. **Course Title:** Present: Water And Wastewater Engineering
        Proposed:

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

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

Present: A study of the engineering design principles dealing with the quantity, quality and treatment of water, and the quantity, characteristics, treatment and disposal of wastewater.

Proposed:

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

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

7. **Prerequisites:**
   Present: Civ Eng 230 with grade of "C" or better, Civ Eng 261

   Proposed: Civ Eng 261   .

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

9. **Justification:**   Fluids and piping (CE 230 content) are not a significant portion of CE 265.

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

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

1) CE 265   2)   3)

4)   5)   6)

Recommended by Department _____   Date: 5/15/13
                (Chair signature)

Recommended by Discipline Specific Curricula Committee _____   Date: 5/25/13
                (Chair signature)

Approved by Curricula Committee: _____   Date: _____

                (Chair signature)

Approved by Faculty Senate: _____   Date: _____

                (Chair signature)

(Revised 1/29/09)

Effective Year: 2014   CC File # *8480-2013 - Philos -*
Term: Summer ☐   **Fall** ☐   **Spring** x   *254-10*

Course Change Form (CC)
This form is for creating or modifying permanent courses.

Course Changes (Check all changes.)

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

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

1. **Department:** Arts, Languages, and Philosophy
2. **Discipline and Course Number:**   **Present :** Philosophy 201   **Proposed:** Philosophy 254
3. **Course Title:**   **Present:**   Symbolic Logic in Argumentation
                        Proposed:
    Abbreviated Course Title: Symbolic Logic
                    (24 Spaces or Less. Only needed for New Courses or Title Changes.)
4. **Catalog Description** (300 Character Spaces or Less.)
    Present: An Introduction to sentential and predicate logic with an emphasis on the latter. It will
                    include metatheoretic discussions of both syntax and semantics with a focus on various
                    techniques used to examine logical relationships within an artificial language.

    Proposed:

5. **If course requires field trip check box:** ☐
6. **Credit Hours:**   **Present:**   Lecture: 3   **Lab:**   **Total:** 3
                              Proposed: Lecture: **Lab:**   **Total:**
7. **Prerequisites:**
    Present: None

    Proposed: Any introductory (below 100) philosophy course. (Philosophy 15 is recommended.)

8. **Required for Majors:** ☐   **Elective for Majors:** x
9. **Justification:**   Students in this course will: (1) acquire an understanding of an artificial language that
                        is governed with mathematically precise rules, (2) learn many important logical
                        concepts, including meta-theoretical ones, and (3) learn various methods of exposing
                        logical relationships between sentences, including truth tables, models, and proofs.

10. **Semesters previously offered as an experimental course (101, 201, 301, 401):** Spring 2012, Spring 2013
11. **List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.**

1)   2)   3)

4)   5)   6)

Recommended by Department ....   Date: 6/27/2013
                                    (Chair Signature)
Recommended by Discipline Specific Curricula Committee   Date: 6/27/20
                                    (Chair signature)
Approved by Curricula Committee: Date:
                                    (Chair signature)
Approved by Faculty Senate: Date:
                                    (Chair signature)

(Revised 1/28/09)