



Campus Curricula Committee Meeting Agenda

September 8, 2014

2:30-4:00 pm, Room 110H Bertelsmeyer Hall

Review of submitted Degree Change forms:

File #237 PROPOSED: Biomedical Engineering Minor

Review of submitted Course Change forms:

File #174.1 Chemical Engineering 5315 : Corrosion And Its Prevention

File # 1903.1 Metallurgical Engineering 3220 : Introduction To Extractive Metallurgy

File #1918.1 SP&M S 3283: Business and Professional Communication

File #2488.1 Theatre 3243: Entertainment Design

Review of submitted Experimental Course forms:

File #4101 Metallurgical Engineering 2001: Ferrous Microstructures

BS Curriculum Standard – Dr. Tom Schuman reporting

Program Change Request**New Program Proposal**

Date Submitted: 08/13/14 1:58 pm

Viewing: **PROPOSED : Biomedical Engineering Minor**

File: 237

Last edit: 08/13/14 1:58 pm

Changes proposed by: rahaman

Start Term	Fall 2015
Program Code	PROPOSED
Department	Materials Science & Engineering
Title	Biomedical Engineering Minor

In Workflow

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

Program Requirements and Description

We are submitting a proposal to start a Minor Degree Program in Biomedical Engineering (BME).

1. The proposed BME Minor does not require any additional resources.
2. Except for a new core course titled "Introduction to Biomedical Engineering", all the courses required to start the BME Minor program are available on campus. The courses are listed below (BME Minor Curriculum) and in the attached document.

The new core course, at the junior undergraduate level (3000 level) will be a team-taught course to provide students with the requisite background related to the field of Biomedical Engineering. Approval for the new course will follow the standard DC process.

3. The BME Minor will be an interdisciplinary program available to all science and engineering undergraduates.
4. Materials Science and Engineering will serve as the home department for the BME Minor but the program will be run by a Coordinating Committee composed of 6 faculty members from a variety of science and engineering departments. The members of the Coordinating Committee are listed in the attached proposal. The Coordinating Committee will report to the Chair of the Materials Science and Engineering.
5. Appendices A, B and C in the proposal provide information about the courses in the program and their pre-requisites, examples of courses that can be taken by science and engineering students to satisfy the requirements for the BME Minor, and faculty members at Missouri S&T who are participating in Biomedical Engineering research and education.

BME MINOR CURRICULUM

Minimum number of credit hours: 15 hours, consisting of 1 required course, plus at least 4 courses from an approved list. At least 2 of the elective courses will be at or above the 4000 level. Courses used for a student's major degree cannot be used for the minor degree program in BME.

One required course (3000 level): Introduction to Biomedical Engineering (new team-taught course; approval of this new course will follow the standard DC process).

Elective courses:

Cell Biology (Bio Sci 2213; 3h)

Cell Biology Lab (Bio Sci 2219; 1h)

General Genetics (Bio Sci 2223; 3h)

Microbiology (Bio Sci 3313; 3h)

Microbiology Lab (Bio Sci 3319; 1h)

Human Anatomy & Physiology I (Bio Sci 3333; 3h)

Human Anatomy & Physiology I Lab (Bio Sci 3339; 1h)

Human Anatomy & Physiology II (Bio Sci 3343; 3h)

Human Anatomy & Physiology II Lab (Bio Sci 3349; 1h)

Biomedical Problems (Bio Sci 3483; 3h)

Biochemical Reactors (Chem Eng 4210; 3h)

Approval Path

1. 08/13/14 3:53 pm
huebner: Approved for RMATSENG Chair
2. 08/13/14 4:03 pm
kleb6b: Approved for CCC Secretary
3. 08/14/14 10:06 am
srafer: Approved for Engineering DSCC Chair

Molecular Genetics (Bio Sci 4323; 3h)

Cancer Cell Biology (Bio Sci 4353; 3h)

Toxicology (Bio Sci 4383; 3h)

General Biochemistry (Chem 4610; 3h)

Metabolism (Chem 4620; 3h)

Advanced Nanobiotechnology (Bio Sci 5001; 2h)

Biomaterials I (Cer Eng 5210; Met Eng 5210; Bio Sci 5210; Chem Eng 5200; 3 h)

Tissue Engineering I (MSE 5210; Bio Sci 5210; 3 h)

Introduction to Nanomaterials (Chem Eng 5320; 3h)

Bioinformatics (Bio Sci 5323; 3 h)

Introduction to Biostatistics (Stat 5425; Lec 3h; Lab 1h)

Technical Entrepreneurship (Eng Mgt 5511; 3h)

Undergraduate Research (4099; 3 h)

Justification for request See attached document.

Supporting Documents [Biomedical Engineering Minor Proposal 07-08-2014 \(2\).docx](#)

Course Reviewer Comments **sraper (08/12/14 9:21 am):** Rollback: Please submit form with 4 digit class numbers.
kleb6b (08/13/14 1:42 pm): Rollback: Edit to 4 digit numbers

Key: 237

Course Inventory Change Request

Date Submitted: 05/15/14 3:50 pm

Viewing: **CHEM ENG 5315 : Corrosion And Its Prevention**

File: 174.1

Last edit: 06/13/14 10:56 am

Changes proposed by: mes

Requested **Spring 2015-Fall 2014**
 Effective Change
 Date
 Department Chemical and Biochemical Engineering
 Discipline Chemical Engineering (CHEM ENG)
 Course Number 5315
 Title Corrosion And Its Prevention
 Abbreviated Course Title Corrosion&Its Prevention

Catalog Description A study of the theories of corrosion and its application to corrosion and its prevention.

Prerequisites "C" or better grade in either **Cer Eng 3230, or Chem Eng 2110 and Chem Eng 2300. 3430 or Cer Eng 3230-**

Field Trip Statement

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

Required for Majors **No**

Elective for Majors **Yes**

Justification for change: More appropriate prerequisites for Chemical Engineering students.

Semesters previously offered as an experimental course

Co-Listed Courses: **MET-ENG-4220 - Course Not Found**
MET ENG 4230-- Corrosion And Its Prevention

Course Reviewer
 Comments

In Workflow

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

Approval Path

1. 05/22/14 3:56 pm aldahhanm: Approved for RCHEMENG Chair
2. 05/23/14 7:46 am kleb6b: Approved for CCC Secretary
3. 06/13/14 10:09 am sraper: Approved for Engineering DSCC Chair
4. 08/13/14 3:53 pm huebner: Approved for RMATSENG Chair

Course Inventory Change Request

Date Submitted: 08/04/14 10:33 am

Viewing: **MET ENG 3220 : Introduction To Extractive Metallurgy**

File: 1903.1

Last edit: 08/12/14 4:13 pm

Changes proposed by: smiller

Programs referencing this course	MT ENG-BS: Metallurgical Engineering BS				
Other Courses referencing this course	In The Prerequisites: MET ENG 3225 : Extractive Metallurgy Laboratory				
Requested Effective Change Date	Spring 2015 - Fall 2014				
Department	Materials Science & Engineering				
Discipline	Metallurgical Engineering (MET ENG)				
Course Number	3220				
Title	Introduction To Extractive Metallurgy				
Abbreviated Course Title	Intro Extractive Met				
Catalog Description	Production and refining of metals by pyrometallurgy, hydrometallurgy, and electrometallurgy. Emphasis on heat and mass balance calculations for the unit processes of metals extraction. Introduction to the principles of combustion, heat utilization and recovery.				
Prerequisites	"C" or better grade in Met Eng 1210. Preceded or accompanied by Met Eng 3330 or Cer Eng 3240 or Chem Eng 2210.				
Field Trip Statement					
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Total: 3
Required for Majors	Yes				
Elective for Majors	No				
Justification for change:	Assure that students are prepared for the thermodynamic calculations required for the course.				
Semesters previously					

In Workflow

1. **RMATSENG Chair**
2. **CCC Secretary**
3. **Engineering DSCC Chair**
4. **Pending CCC Agenda post**
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9. Registrar
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Approval Path

1. 08/05/14 10:45 am
huebner: Approved for RMATSENG Chair
2. 08/05/14 4:11 pm
kleb6b: Approved for CCC Secretary
3. 08/12/14 9:18 am
sraper: Rollback to RMATSENG Chair for Engineering DSCC Chair
4. 08/13/14 8:35 am
huebner: Approved for RMATSENG Chair
5. 08/13/14 8:38 am
kleb6b: Approved for CCC Secretary
6. 08/14/14 10:07 am
sraper: Approved for Engineering

offered as an
experimental
course

DSCC Chair

Co-Listed
Courses:

Course Reviewer **sraper (08/12/14 9:18 am):** Rollback: Effective Date cannot be Fall 2014. Required
Comments for Majors and Elective for majors cannot both be No.

Key: 1903

Course Inventory Change Request

Date Submitted: 08/14/14 2:38 pm

Viewing: **SP&M S 3283 ~~3282~~: Business And Professional Communication**

File: 1918.1

Last edit: 08/27/14 10:57 am

Changes proposed by: denises

Requested **Spring 2015** ~~Fall 2014~~
 Effective Change
 Date
 Department Arts, Languages, & Philosophy
 Discipline Speech & Media Studies (SP&M S)
 Course Number **3283** ~~3282~~
 Title Business And Professional Communication
 Abbreviated Course Title Bus & Professional Com

Catalog Description Examines culture and communication in the workplace from theoretical and practical perspectives. Topics include: group communication, interviewing, networking, planning and presenting material to technical and general audiences interpersonal communication and leadership in the workplace context.

Prerequisites Sp&M S 1999, 2181 or permission of instructor.

Field Trip Statement

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

Required for Majors **No**

Elective for Majors **No**

Justification for change: Changing just the number to be symmetrical (correcting a typo). Old number was SP&M 283 and new number should be SP&M 3283.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments

In Workflow

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

Approval Path

1. 08/15/14 12:25 am
lance: Approved for RPHILOSO Chair
2. 08/15/14 8:57 am
kleb6b: Approved for CCC Secretary
3. 08/15/14 9:39 am
ivliyeva:
Approved for Arts & Humanities DSCC Chair

Course Inventory Change Request

Date Submitted: 08/19/14 9:14 am

Viewing: **THEATRE 3243 ~~3242~~: Entertainment Design**

File: 2488.1

Last edit: 08/27/14 10:57 am

Changes proposed by: denises

Requested **Spring 2015-Fall 2014**

Effective Change

Date

Department Arts, Languages, & Philosophy

Discipline Theatre (THEATRE)

Course Number **3243 ~~3242~~**

Title Entertainment Design

Abbreviated Course Title Entertainment Design

Catalog Description Students will learn the fundamentals of design for live theatre, film, theme parks, clubs, concerts, and dance events.

Prerequisites

Field Trip Statement

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

Required for Majors **Yes**

Elective for Majors **No**

Justification for change: Changing just the number to be symmetrical. The old number was Theatre 243 and the new number should be Theatre 3243

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer **kleb6b (08/15/14 8:58 am)**: Rollback: Needs to have either "Required for Majors" or "Elective for Majors" box checked

In Workflow

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

Approval Path

1. 08/19/14 10:06 am
lance: Approved for RPHILOSO Chair
2. 08/19/14 3:52 pm
kleb6b: Approved for CCC Secretary
3. 08/19/14 5:31 pm
ivliyeva: Approved for Arts & Humanities DSCC Chair

Key: 2488

Course Inventory Change Request

New Experimental Course Proposal

Date Submitted: 08/05/14 4:16 pm

Viewing: **MET ENG 2001.TBD : Ferrous Microstructures**

File: 4101

Last edit: 08/05/14 4:16 pm

Changes proposed by: dcva

Requested Spring 2015

Effective Change

Date

Department Materials Science & Engineering

Discipline Metallurgical Engineering (MET ENG)

Course Number 2001

Topic ID TBD

Experimental Ferrous Microstructures

Title

Experimental

Abbreviated

Course Title

Instructors David C. Van Aken

Experimental Catalog Description The ferrous microstructures course provides an in-depth explanation of microstructural development during solidification, thermo-mechanical processing, and heat treatment of steel and cast iron. The course includes the following topics: optical microscopy, quantitative metallography, the Fe-C phase diagram, solidification and banding, homogenization, grain size control, formation of austenite, annealing, normalization, quench and tempering, carburizing, and the cast.

Prerequisites Met Eng 2110.

Field Trip Statement

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

Justification for new course: Over 50% of our graduates enter a ferrous related industry upon graduation. This course will help prepare them for employment.

Semester(s) previously taught This was taught as a special problems course during Spring 2014

Co-Listed Courses:

Course Reviewer **kleb6b (08/05/14 4:10 pm):** Rollback: Correct Field Trip Statement
Comments

In Workflow

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

Approval Path

1. 08/05/14 4:41 pm huebner: Approved for RMATSENG Chair
2. 08/06/14 1:13 pm kleb6b: Approved for CCC Secretary
3. 08/12/14 9:17 am sraper: Approved for Engineering DSCC Chair
4. 08/27/14 10:39 am kleb6b: Approved for Pending CCC Agenda post

