Campus Curricula Committee Meeting Agenda
April 4, 2018
2:00-3:30 p.m., 216 Parker Hall
(For Faculty Senate Meeting of April 26, 2018)

Review of submitted Course Change forms:

File: 611.9	CHEM 4819: Polymer Science Laboratory
File: 577.7	CHEM 5819: Polymer Synthesis and Characterization Lab
File: 4515	CHEM 6320: Solid State Chemistry
File: 1040.9	CHEM ENG 2100: Chemical Engineering Material & Energy Balances
File: 466.4	CHEM ENG 2300: Chemical Process Materials
File: 4281.6	CHEM ENG 3141: Process Operations in Chemical and Biochemical Engineering
File: 4530	ENGLISH 3303: The Grammatical Structure of English
File: 4531	ENGLISH 3304: Language in Society
File: 4525	GEOLOGY 6097: Advanced Geologic Field Methods

Review of submitted Degree Change forms:

File: 150.51	CH ENG-BS: Chemical Engineering BS
File: 16.26	CHEM-BS: Chemistry BS
File: 86.37	MC ENG-BS: Mechanical Engineering BS
File: 93.8	MIL SC-MI: Adaptive Leadership Minor
File: 260	PROPOSED: Linguistics Minor

Review of submitted Experimental Course forms:

File: 4534	CHEM ENG 4001.002: Renewable Energy Technologies and Policies in the Argentinean Republic
File: 4528	TCH COM 3001.001: Sustainability as Trope and Theme in Latin America
File: 4529	TCH COM 5001.002: Sustainability as Trope and Theme in Latin America

Course Change Request

Date Submitted: 03/07/18 1:41 pm

Viewing: **CHEM 4819 : Polymer Science Laboratory**

File: 611.9

Last approved: 03/06/17 3:15 am

Last edit: 03/08/18 3:49 pm

Changes proposed by: tschuman

Programs referencing this course	CHEM-BA: Chemistry BA CHEM-BS: Chemistry BS
Requested Effective Change Date	Fall **2018** ~~2017~~
Department	Chemistry
Discipline	Chemistry (CHEM)
Course Number	4819
Title	Polymer Science Laboratory
Abbreviated Course Title	Polymer Science Lab
Catalog Description	Lectures and laboratory experiments dealing with polymerization reactions, solution properties and bulk or solid properties will be presented. Each student will prepare polymers and carry out ~~all~~ characterization experiments on actual samples.
Prerequisites	Chem 4810 or MS&E 4810 and preceded or accompanied by Chem 1100.
Field Trip Statement	
Credit Hours	LEC: **0** ~~1~~ LAB: **1** ~~2~~ IND: 0 RSD: 0 Total: **1** ~~3~~
Required for Majors	No
Elective for Majors	Yes
Justification for change:	Changing the polymer lab to make it much less rigorous and easier to teach due to conflicts of lab equipment and access. This course is required for the polymer emphasis degree.
Semesters previously offered as an experimental course	
Co-Listed Courses:	MS&E 4819 - Polymer Science Laboratory
Course Reviewer Comments	

Key: 611

In Workflow

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

Approval Path

1. 03/08/18 9:43 am Philip Whitefield (pwhite): Approved for RCHEMIST Chair
2. 03/08/18 3:50 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 10:30 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 03/20/18 10:59 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Apr 25, 2014 by lahne (611.1)
2. Mar 6, 2017 by tschuman (611.4)

Course Change Request

Date Submitted: 03/07/18 1:42 pm

Viewing: **CHEM 5819 : Polymer Synthesis and Characterization Lab**

File: 577.7

Last approved: 03/06/17 3:15 am

Last edit: 03/08/18 3:47 pm

Changes proposed by: tschuman

Requested Effective Change Date	Fall **2018** ~~2017~~
Department	Chemistry
Discipline	Chemistry (CHEM)
Course Number	5819
Title	Polymer Synthesis and Characterization Lab
Abbreviated Course Title	**Poly** ~~Polymer~~ Synth **and Char** ~~& Charact~~ Lab
Catalog Description	Laboratory experiments dealing with polymerization syntheses and solution, bulk and solid properties will be presented. Each student will prepare polymers and carry out all characterization experiments on actual samples. Credit may not be given for both Chem 5819 and Chem 4819.
Prerequisites	Chem 4810 or MS&E 4810 or Chem 5810 or MS&E 5810 or Chem Eng 5310, preceded or accompanied by Chem 1100 or Chem 5100 or an equivalent training program approved by S&T.
Field Trip Statement	
Credit Hours	LEC: **0** ~~1~~ LAB: **1** ~~2~~ IND: 0 RSD: 0 Total: **1** ~~3~~
Required for Majors	No
Elective for Majors	Yes
Justification for change:	Changes are desired to make the lab much less rigorous and easier to teach due to conflicts with lab equipment and facility access.
Semesters previously offered as an experimental course	
Co-Listed Courses:	MS&E 5819 - Polymer Synthesis and Characterization Lab
Course Reviewer Comments	

Key: 577

In Workflow

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

Approval Path

1. 03/08/18 9:43 am Philip Whitefield (pwhite): Approved for RCHEMIST Chair
2. 03/08/18 3:47 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 10:30 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 03/20/18 11:35 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Mar 6, 2017 by tschuman (577.1)

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 01/25/18 10:37 am

Viewing: **CHEM 6320 : Solid State Chemistry**

File: 4515

Last edit: 03/20/18 11:37 am

Changes proposed by: balcht

Requested Effective Change Date	Fall 2018
Department	Chemistry
Discipline	Chemistry (CHEM)
Course Number	6320
Title	Solid State Chemistry
Abbreviated Course Title	Solid State Chemistry

Catalog Description

The aim of this course is to build a comprehensive understanding of the chemistry of solids and its application to the materials world. Emphasis will be given on the synthesis, crystal structure and various properties of solids including electrical, optical and magnetic. Students will gain knowledge about how to correlate a property with structure.

Prerequisites

Chem 2310, Chem 2320, and Chem 3410.

Field Trip Statement

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

Justification for new course:

In this course main emphasis is given on the synthesis of solids, their crystal structures and properties. The objective of this course is to correlate the structure

In Workflow

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

Approval Path

1. 01/31/18 8:54 am Philip Whitefield (pwhite): Approved for RCHEMIST Chair
2. 01/31/18 9:49 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 10:31 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 03/20/18 11:37 am Brittany Parnell (ershenb):

with the properties. This course complements Dr. Switzer's CHEM 6380 - Inorganic Materials Chemistry in many ways. For example, bonding is covered in CHEM 6380, while in the proposed CHEM 6320 it will be taught how different types of bonding leads to different magnetic properties. Defects in solids and their impact on properties will be taught in detail, which is not covered in detail any course in the campus. More importantly students are given hands-on training on how to use softwares to understand structural features in various solids and draw structures of interest using atomic coordinates. This course has been successfully taught in SP2016, SP2014 and SP2013 and fits within the realm of inorganic chemistry curriculum. Since number of faculty and graduate students working in solid state and materials chemistry has increased recently, this course will strengthen the knowledge base of solid chemistry within the graduate students in the campus.

Approved for Pending CCC Agenda post

Semesters previously offered as an experimental course	SP2016, SP2014, SP2013 Sp 2016 enrollment- 4 Sp 2014 enrollment- 8 Sp 2013 enrollment- 1
Co-Listed Courses:	

Course Reviewer Comments

Key: 4515

Preview Bridge

Course Change Request

Date Submitted: 03/11/18 5:10 pm

Viewing: **CHEM ENG 2100 : Chemical Engineering Material & Energy Balances**

File: 1040.9

Last approved: 10/21/16 3:02 pm

Last edit: 03/13/18 3:07 pm

Changes proposed by: forcinit

Programs referencing this course	AP MATH-BS: Applied Mathematics BS EV ENG-BS: Environmental Engineering BS CH ENG-BS: Chemical Engineering BS
Other Courses referencing this course	In The Prerequisites: CHEM ENG 2110 : Chemical Engineering Thermodynamics I CHEM ENG 3100 : Chemical Engineering Fluid Flow CHEM ENG 3120 : Chemical Engineering Thermodynamics II
Requested Effective Change Date	Spring **2019** ~~2017~~
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	2100
Title	Chemical Engineering Material & Energy Balances
Abbreviated Course Title	Chem Eng Mat **and E Bal** ~~&~~ ~~Energy Balances~~
Catalog Description	The application of mathematics, physics and chemistry to industrial chemical processes. The use of equations of state, chemical reaction stoichiometry, and the conservation of mass and energy to solve chemical engineering problems.
Prerequisites	Chem 1320 or Geology 3410; Math 1215 or Math 1221; preceded or accompanied by Physics 1135.
Field Trip Statement	
Credit Hours	LEC: **4** ~~2~~ LAB: **0** ~~1~~ IND: 0 RSD: 0 Total: **4** ~~3~~
Required for Majors	Yes
Elective for Majors	No
Justification for change:	We have decreased the number of credit hours of CheEng 2300 from 3 to 1 to increase the number of credit hours of this class from 3 to 4 (the other extra hour will go to ChE 3141). A few years ago we changed this class from 3 cr hr lec to 2 cr hr lec and 1 hr lab. The Department concluded that that means of delivery does not apply anymore to a class that is not taught in a CLC anymore.
Semesters previously offered as an	

In Workflow

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

Approval Path

1. 03/12/18 2:00 pm Muthanna Al-Dahhan (aldahhanm): Approved for RCHEMENG Chair
2. 03/13/18 2:27 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 11:16 am sraper: Approved for Engineering DSCC Chair
4. 03/20/18 12:15 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. May 4, 2015 by luksc (1040.1)
2. Oct 21, 2016 by forcinit (1040.4)

experimental course	
Co-Listed Courses:	
Course Reviewer Comments	**ershenb (03/13/18 2:27 pm):** changed the total credit hours from "3" to "4." **ershenb (03/13/18 3:07 pm):** updated Start term to Spring 2019

Key: 1040

Preview Bridge

Course Change Request

Date Submitted: 03/11/18 5:10 pm

Viewing: **CHEM ENG 2300 : Chemical Process Materials**

File: 466.4

Last approved: 05/04/15 3:20 am

Last edit: 03/13/18 3:08 pm

Changes proposed by: forcinit

Programs referencing this course	CH ENG-BS: Chemical Engineering BS
Other Courses referencing this course	In The Prerequisites: CHEM ENG 5320 : Introduction to Nanomaterials
Requested Effective Change Date	**Spring 2019** ~~Fall 2015~~
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	2300
Title	Chemical Process Materials
Abbreviated Course Title	Materials

Catalog Description

~~Fundamentals of the chemistry of materials.Classification, properties, selection, and processing of engineering materials.~~**Seminar** ~~Introduction~~ to **highlight the classification, properties, selection,** ~~polymers, electronic materials, biomaterials,~~ and **processing of engineering materials that may include polymers, electronic materials, biomaterials, and** nanomaterials. **Students will research related topics for presentation and discussion.**

Prerequisites

Physics 1135.

Field Trip Statement

Credit Hours	LEC: **1** ~~3~~	LAB: 0	IND: 0	RSD: 0	Total: **1** ~~3~~

In Workflow

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

Approval Path

1. 03/12/18 2:00 pm Muthanna Al-Dahhan (aldahhanm): Approved for RCHEMENG Chair
2. 03/13/18 3:08 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 11:16 am sraper: Approved for Engineering DSCC Chair
4. 03/20/18 12:15 pm Brittany Parnell (ershenb): Approved for

Required for Majors	Yes
Elective for Majors	No

Pending CCC Agenda post

History

1. May 4, 2015 by luksc (466.1)

Justification for change:

We propose to decrease the number of credit hours of this course from 3 to 1 and offer it as a seminar class. The Department reconsidered this class because some of the material is covered in other classes and some other will now be available to the students as tech. electives (for example, corrosion).

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments **ershenb (03/13/18 3:08 pm):** updated Start Term to Spring 2019

Key: 466

Preview Bridge

Course Change Request

Date Submitted: 03/11/18 5:15 pm

Viewing: **CHEM ENG 3141 : Process Operations in Chemical and Biochemical Engineering**

File: 4281.6

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

Last edit: 03/13/18 3:08 pm

Changes proposed by: forcinit

Programs referencing this course	CH ENG-BS: Chemical Engineering BS
Other Courses referencing this course	In The Prerequisites: CHEM ENG 4091 : Chemical Process Design I CHEM ENG 4101 : Chemical Engineering Laboratory I CHEM ENG 4110 : Chemical Engineering Process Dynamics And Control CHEM ENG 4130 : Chemical Engineering Laboratory II CHEM ENG 5250 : Isolation and Purification of Biologicals
Requested Effective Change Date	**Spring 2019** ~~Fall 2016~~
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	3141
Title	Process Operations in Chemical and Biochemical Engineering
Abbreviated Course Title	Process Operations
Catalog Description	Design and selection of pumps, fans, compressors, valves, and ejectors. Design and selection of heat exchangers, condensers and reboilers. Design of mixing equipment, sterilizers, sedimentation vessels, centrifuges, and filtration and ultrafiltration units.
Prerequisites	Chem Eng 3101 and Chem Eng 3120. Admitted to the Chemical Engineering Program.
Field Trip Statement	
Credit Hours	LEC: **3** ~~2~~ LAB: 0 IND: 0 RSD: 0 Total: **3** ~~2~~
Required for Majors	Yes
Elective for Majors	No
Justification for change:	The Department voted to increase the number of credit hours of this course from 2 to 3. The total number of credit hours for the BS in Chem Eng. remains unchanged because the the extra hour is coming from a reduction in cr hr of ChE 2300. This is a

In Workflow

1. **RCHEMENG Chair**
2. **CCC Secretary**
3. **Engineering 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. CAT entry
11. Peoplesoft

Approval Path

1. 03/12/18 2:01 pm Muthanna Al-Dahhan (aldahhanm): Approved for RCHEMENG Chair
2. 03/13/18 3:09 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 11:16 am sraper: Approved for Engineering DSCC Chair
4. 03/20/18 12:15 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

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

	new class that will be offered for first time in Spring 2019. As the class is being prepared it is evident that 3 cr hr are needed to cover all the material.
Semesters previously offered as an experimental course	
Co-Listed Courses:	
Course Reviewer Comments	**ershenb (03/13/18 2:30 pm):** Changed the Total Credit Hours from "2" to "3." **ershenb (03/13/18 3:08 pm):** updated Start Term to Spring 2019

Key: 4281

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 03/01/18 1:16 pm

Viewing: **ENGLISH 3303 : The Grammatical Structure of English**

File: 4530

Last edit: 03/01/18 1:56 pm

Changes proposed by: kswenson

Requested Effective Change Date	Fall 2018
Department	English and Technical Communication
Discipline	English (ENGLISH)
Course Number	3303
Title	The Grammatical Structure of English
Abbreviated Course Title	Grammatical Structure

Catalog Description

The Grammatical Structure of English takes a linguistic approach to the study of the structure of present day English with a focus on morphology (the formation of words) and syntax (sentence structure). The course centers on form and function at the level of the word, phrase, and clause, using tree diagramming as the central mode of inquiry and analysis.

Prerequisites

English 1120 or equivalent.

Field Trip Statement

N/A

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

Justification for new course:

Required course for linguistics minor. English education majors can use this to fulfill their state-mandated linguistics requirement of 6 hrs.

In Workflow

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

Approval Path

1. 03/01/18 1:21 pm Kristine Swenson (kswenson): Approved for RENGLISH Chair
2. 03/01/18 1:56 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/01/18 4:06 pm Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 03/16/18 3:07 pm Brittany Parnell (ershenb): Approved for

Semesters previously offered as an experimental course	SP17, SS18 Spring 17 enrollment - 10	Pending CCC Agenda post
Co-Listed Courses:		
Course Reviewer Comments	**ershenb (03/01/18 1:56 pm):** provided Spring 17 enrollment	

Key: 4530

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 03/01/18 1:20 pm

Viewing: **ENGLISH 3304 : Language in Society**

File: 4531

Last edit: 03/01/18 1:59 pm

Changes proposed by: kswenson

Requested Effective Change Date	Fall 2018
Department	English and Technical Communication
Discipline	English (ENGLISH)
Course Number	3304
Title	Language in Society
Abbreviated Course Title	Language in Society
Catalog Description	Language in Society takes a sociolinguistic approach to the investigation of language variation and change in society, including: intersections of language and identity, race, gender, class, and other social factors; language ideologies; multilingualism; language standardization; pragmatics; and language policy and planning.
Prerequisites	English 1120 or equivalent.
Field Trip Statement	N/A
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	Yes
Justification for new course:	Required for linguistics minor. English education majors can use to fulfill their state-mandated linguistics requirement of 6 hrs.
Semesters previously offered as an experimental course	SP18 Current SP 18 enrollment: 10
Co-Listed Courses:	
Course Reviewer Comments	**ershenb (03/01/18 1:59 pm):** provided Spring 18 enrollment

In Workflow

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

Approval Path

1. 03/01/18 1:21 pm Kristine Swenson (kswenson): Approved for RENGLISH Chair
2. 03/01/18 1:59 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/01/18 4:07 pm Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 03/16/18 3:07 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 4531

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 02/10/18 1:33 pm

Viewing: **GEOLOGY 6097 : Advanced Geologic Field Methods**

File: 4525

Last edit: 02/12/18 11:23 am

Changes proposed by: jhogan

Requested Effective Change Date	Summer 2018
Department	Geosciences and Geological and Petroleum Engineering
Discipline	Geology (GEOLOGY)
Course Number	6097
Title	Advanced Geologic Field Methods
Abbreviated Course Title	Adv Geo Field Methods
Catalog Description	Advanced instruction in planning and implementation of geologic field campaigns, development of an appropriate scientific plan, including logistics, safety, and supervision of field personnel in a manner consistent with professional practices. Emphasis placed upon reflection on projects outcomes supervised with faculty oversight. Field Trip fee required.
Prerequisites	Geology 4097 or equivalent.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Required for Majors	No
Elective for Majors	Yes
Justification for new course:	This is not actually a "new course" but the addition of a graduate level section to Geology 4097 which is taken by our undergraduate students as a required course. The graduate level section of this course will be offered concurrently with the undergraduate courses off-campus in Utah. There is both interest and a need for MS and Ph.D. graduate students to receive this additional training to prepare them to be able to independently conduct their own field research. Therefore, I am requesting that this course be considered as a minor modification (adding a graduate level section) to a course that has been taught/co-taught by me for more than 15 consecutive years rather than being considered a new course.
Semesters previously offered as an experimental course	

In Workflow

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

Approval Path

1. 02/11/18 6:21 am David Borrok (borrokd): Approved for RGEOSENG Chair
2. 02/12/18 11:24 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 10:35 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 03/20/18 1:55 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Co-Listed Courses:	
Course Reviewer Comments	**ershenb (02/12/18 11:23 am):** Removed "Students will be charged a fee to cover cost of field trip expenses" from Field Trip Statement section and replaced with "Field Trip fee required." in the Catalog Description (not enough characters remaining to replace original FT statement into the description).

Key: 4525

Preview Bridge

Program Change Request

Date Submitted: 03/15/18 6:46 pm

Viewing: CH ENG-BS : Chemical Engineering BS

File: 150.51

Last approved: 03/27/17 2:47 pm

Last edit: 03/15/18 6:46 pm

Changes proposed by: forcinit

Catalog Pages Using this Program

Chemical & Biochemical Engineering

Start Term

Spring 2019 ~~Fall 2017~~

Program Code

CH ENG-BS

Department

Chemical and Biochemical Engineering

Title

Chemical Engineering BS

Program Requirements and Description

In Workflow

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

Approval Path

1. 03/16/18 11:05 am Muthanna Al-Dahhan (aldahhanm): Approved for RCHEMENG Chair
2. 03/16/18 3:06 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 11:16 am sraper: Approved for Engineering DSCC Chair
4. 03/20/18 11:24 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Mar 18, 2014 by Lahne Black (lahne)
2. May 2, 2014 by Lahne Black (lahne)
3. Jan 30, 2015 by kleb6b
4. Jul 15, 2015 by pantaleoa
5. Jul 15, 2015 by pantaleoa
6. Nov 18, 2015 by marlene
7. Mar 7, 2016 by Daniel Forciniti (forcinit)
8. Mar 27, 2017 by Daniel Forciniti (forcinit)

Bachelor of Science
Chemical Engineering

Entering freshmen desiring to study chemical engineering will be admitted to the Freshman Engineering Program. They will be permitted, if they wish, to state a chemical engineering preference, which will be used as a consideration for available freshman departmental scholarships. The focus of the Freshman Engineering Program is on enhanced advising and career counseling, with the goal of providing to the student the information necessary to make an informed decision regarding the choice of a major.

For the bachelor of science degree in chemical engineering a minimum of 129 credit hours is required. These requirements are in addition to credit received for algebra, trigonometry and basic ROTC courses. An average of at least two grade points per credit hour must be attained. At least two grade points per credit hour must also be attained in all courses taken in chemical engineering.

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

1. All students are required to take one American history course, one economics course, one humanities course, and ENGLISH 1120. The history course is to be selected from HISTORY 1200, HISTORY 1300, HISTORY 1310, or POL SCI 1200. The economics course may be either ECON 1100 or ECON 1200. The humanities course must be selected from the approved lists for art, English, foreign languages, music, philosophy, speech and media studies, or theater.
2. Depth requirement. Three credit hours must be taken in humanities or social sciences at the 1000 level or above and must be selected from the approved list. This course must have as a prerequisite one of the humanities or social sciences courses already taken. Foreign language courses numbered 1180 will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 3000 level or above. All courses taken to satisfy the depth requirement must be taken after graduating from high school.
3. The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to ENGLISH 1120.
4. Any specific departmental requirements in the general studies area must be satisfied.
5. Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chairman.

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

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
FR ENG 1100	1	MECH ENG 1720	3
CHEM 1310	4	CHEM ENG 1100, or COMP SCI 1972 ***and*** COMP SCI 1982, or COMP SCI 1971 ***and*** COMP SCI 1981	3
CHEM 1319	1	CHEM 1320	3
ENGLISH 1120	3	MATH 1215	4
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	PHYSICS 1135	4
MATH 1214	4		
CHEM 1100	1		
	17		17
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM ENG 2100[1]	3	CHEM ENG 2310[2]	1
CHEM 2210	4	CHEM ENG 2110[1]	3
MATH 2222	4	Humanities and Social Sciences Elective[4]	3
PHYSICS 2135	4	Humanities and Social Sciences Elective[4]	3
CHEM ENG 2300	3	MATH 3304	3
		Science Elective[5]	4
	18		17
Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM ENG 3120[1]	3	CHEM ENG 3141 (We are proposing to increase the # of cr. hrs. of this class from 2 to 3.)	3
CHEM ENG 3101	4	CHEM ENG 3131	3
CHEM ENG 3111	3	CHEM ENG 3150	3
ECON 1100 or 1200	3	STAT 3113	3

Upper level Humanities or Social Science Elective[4]	3	ENGLISH 1160 or 3560	3
	16		15

Senior Year[3]

First Semester	Credits	Second Semester	Credits
CHEM ENG 4110	3	CHEM ENG 4097[2]	3
CHEM ENG 5XXX-Chem Eng Elective[6]	3	CHEM ENG 5XXX-Chem Eng Elective[6]	3
CHEM ENG 4101[2]	3	CHEM ENG 4130[2]	3
CHEM ENG 4140	3	Chem Eng 5xxx --Chem Eng Elective[6]	3
CHEM ENG 4091	3	Chem Eng 5xxx -Chem Eng Elective[6]	3
	15		15
Total Credits: 130			

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

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

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

Chemical Engineering
Biochemical Engineering Emphasis

Freshman Year

First Semester	Credits	Second Semester	Credits
FR ENG 1100	1	MECH ENG 1720	3
CHEM 1310	4	CHEM ENG 1100, or COMP SCI 1972 ***and*** COMP SCI 1982, or COMP SCI 1971 ***and*** COMP SCI 1981	3
CHEM 1319	1	CHEM 1320	3
ENGLISH 1120	3	MATH 1215	4
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	PHYSICS 1135	4
MATH 1214	4		
CHEM 1100	1		
	17		17

Sophomore Year

First Semester	Credits	Second Semester	Credits
CHEM ENG 2100 (We are proposing to increase # of credit hrs for this class)[1]	4	CHEM ENG 2110[1]	3
CHEM 2210	4	STAT 3113	3
MATH 2222	4	CHEM ENG 2310[2]	1
PHYSICS 2135	4	Science Elective[5]	4
CHEM ENG 2300 (We are proposing to decrease the # of cr. hr. from 3 to 1 for this class)	1	MATH 3304	3
	17		14

Junior Year

First Semester	Credits	Second Semester	Credits

CHEM ENG 3120[1]	3	ECON 1100 or 1200	3
CHEM ENG 3101	4	Science Elective[5]	4
Humanities or Social Sciences Elective[4]	3	CHEM ENG 3141 (We are proposing to increase the # of cr. hrs. for this class from 2 to 3.)	3
Science Elective[5]	4	CHEM ENG 3131	3
CHEM ENG 3111	3	ENGLISH 1160 (or English 3560)	3
		CHEM ENG 3150	3
	17		19
Senior Year[3]			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM ENG 4110	3	CHEM ENG 4210	3
Upper Levrel Humanities or Social Sciences Elective[4]	3	CHEM ENG 4097[2]	3
CHEM ENG 4091	3	Humanities or Social Science Elective[4]	3
CHEM ENG 4220[2]	3	CHEM ENG 4201[2]	3
CHEM ENG 5250	3	CHEM ENG 4241	3
	15		15
Total Credits: 131			

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

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

1	A grade of "C" or better is required in Chem Eng 2100 & Chem Eng 2110 in order to enroll in Chem Eng 3120.
2	Communications emphasized course (See bachelor of science degree, general education communications requirement).
3	Chemical engineering majors are encouraged to take the fundamentals of engineering exam prior to graduation. It is the first step toward becoming a registered professional engineer.
4	From approved list published on the website of Undergraduate Studies. The prerequisites for the upper level course must be completed with a passing grade.
5	A minimum of 12 credit hours in Science Electives are required. Select three courses from Chem 2220, Chem 4610, Chem 4620, BioSci 2213, BioSci 3313, and BioSci 4323; and a minimum of two laboratory courses from Chem 2229 or Chem 2289, Chem 4619, BioSci 2219, BioSci 3319, and BioSci 4329.

Justification for request

We are increasing the number of cr. hr. of 2100 from 3 to 4 and of ChE 3141 from 2 to 3 while simultaneously reducing the number of cr hrs of ChE 2300 from 3 to 1. Therefore, the total number of cr hr is not changed and the new distribution of cr. hr. is consistent with the needs and purposes of the three courses affected.

Supporting Documents

Course Reviewer Comments

Key: 150

Program Change Request

Date Submitted: 03/08/18 5:22 pm

Viewing: CHEM-BS : Chemistry BS

File: 16.26

Last approved: 06/28/17 10:11 am

Last edit: 03/09/18 8:22 am

Changes proposed by: tschuman

Catalog Pages Using this Program
Chemistry

Start Term
Fall **2018** ~~2017~~
Program Code
CHEM-BS
Department
Chemistry
Title
Chemistry BS

Program Requirements and Description

In Workflow

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

Approval Path

1. 03/08/18 9:43 am Philip Whitefield (pwhite): Rollback to Initiator
2. 03/09/18 7:44 am Philip Whitefield (pwhite): Approved for RCHEMIST Chair
3. 03/09/18 8:22 am Brittany Parnell (ershenb): Approved for CCC Secretary
4. 03/20/18 10:34 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
5. 03/20/18 1:55 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Apr 28, 2014 by Thomas Schuman (tschuman)
2. Jun 19, 2015 by woelk (woelkk)
3. Jun 28, 2017 by Thomas Schuman (tschuman)

Bachelor of Science
Chemistry

A minimum of 127 credit hours is required for a Bachelor of Science degree in Chemistry 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 Chemistry science curriculum requires nine semester hours in humanities and must include ENGLISH 1160 or ENGLISH 3560 . A minimum of nine semester hours is required in social sciences, including either HISTORY 1300 , HISTORY 1310 , HISTORY 1200 , or POL SCI 1200 . Specific requirements for the bachelor degree are outlined in the sample program listed below.

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 1310	4	CHEM 1320	3
CHEM 1319	1	CHEM 1510	2
CHEM 1100	1	MATH 1215	4

CHEM 1110	1	Electives	6
MATH 1214	4		
ENGLISH 1120	3		
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
	17		15
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 2210	4	CHEM 2220	4
CHEM 2219	1	CHEM 2229	1
MATH 2222	4	CHEM 3410	3
Electives	3	PHYSICS 2135	4
PHYSICS 1135	4	Select one of the following sequences:	3
		COMP SCI 1971 & COMP SCI 1981	
		COMP SCI 1972 & COMP SCI 1982	
		COMP SCI 1570 & COMP SCI 1580	
	16		15
Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 2310	3	CHEM 2319	1
CHEM 2510	4	CHEM 2320	3
CHEM 3430	3	CHEM 3420	3
STAT 3113 or 3115	3	CHEM 3459	2
ENGLISH 1160 or 3560	3	Electives	6
	16		15
Senior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 3510	4	CHEM 4010 or 4099	1
CHEM 4010 or 4099	1	CHEM 4297	3
CHEM 4610	3	Electives	12
CHEM 4810	3		
Electives	6		
	17		16
Total Credits: 127			

Notes:

Grade Requirements: A minimum grade of "C" is required for each chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore year, but does not count towards the degree.

Electives: There are thirty-three (33) hours of electives, not to include Math courses that are prerequisite to calculus. Twelve (12) hours must be 2xxx, 3xxx, 4xxx (or 5xxx or higher with permission) level in chemistry or another technical area with permission of department. Six (6) elective hours must be completed in the social sciences. Six (6) elective hours are required in the humanities. Three (3) of the humanities hours must be literature.

Chemistry
Biochemistry Emphasis Area

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 1310	4	CHEM 1320	3
CHEM 1319	1	CHEM 1510	2
CHEM 1100	1	MATH 1215	4
CHEM 1110	1	BIO SCI 2213	3
ENGLISH 1120	3	BIO SCI 2219	1
MATH 1214	4	Electives	3
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
	17		16
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 2210	4	CHEM 2220	4

CHEM 2219	1	CHEM 2229	1
MATH 2222	4	CHEM 3410	3
PHYSICS 1135	4	PHYSICS 2135	4
Electives	3	Select one of the following sequences:	3
		COMP SCI 1971 & COMP SCI 1981	
		COMP SCI 1972 & COMP SCI 1982	
		COMP SCI 1570 & COMP SCI 1580	
	16		15

Junior Year

First Semester	Credits	Second Semester	Credits
CHEM 2310	3	CHEM 2319	1
CHEM 3430	3	CHEM 2320	3
CHEM 4610	3	CHEM 2510	4
CHEM 4619	2	CHEM 3420	3
STAT 3113 or 3115	3	CHEM 3459	2
ENGLISH 1160 or 3560	3	CHEM 4620	3
	17		16

Senior Year

First Semester	Credits	Second Semester	Credits
CHEM 3510	4	CHEM 4010 or 4099	1
CHEM 4010 or 4099	1	CHEM 4297	3
CHEM 4810	3	Electives	12
~~BIO SCI 4323~~	~~3~~		
CHEM 4630	**3**		
Electives	3		
	14		16
Total Credits: 127			

Notes:

Grade Requirements: A minimum grade of "C" is required for each chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore years, but does not count towards the degree.

Electives: There are twenty-one (21) hours of electives, not to include Math courses that are prerequisite to calculus. Six (6) elective hours must be completed in the social sciences. Six (6) elective hours are required in the humanities. Three (3) of the humanities hours must be literature.

Polymer & Coatings Science Emphasis Area

Freshman Year

First Semester	Credits	Second Semester	Credits
CHEM 1310	4	CHEM 1320	3
CHEM 1319	1	CHEM 1510	2
CHEM 1100	1	MATH 1215	4
CHEM 1110	1	Electives	6
MATH 1214	4		
ENGLISH 1120	3		
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
	17		15

Sophomore Year

First Semester	Credits	Second Semester	Credits
CHEM 2210	4	CHEM 2220	4
CHEM 2219	1	CHEM 2229	1
MATH 2222	4	CHEM 3410	3
PHYSICS 1135	4	PHYSICS 2135	4
Electives	3	Select one of the following sequences:	3
		COMP SCI 1971 & COMP SCI 1981	
		COMP SCI 1972 & COMP SCI 1982	

		COMP SCI 1570 & COMP SCI 1580	
	16		15
Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 2510	4	CHEM 3420	3
CHEM 3430	3	CHEM 3459	2
CHEM 4810	3	CHEM 4099	3
STAT 3113 or 3115	3	CHEM 4819	1
ENGLISH 1160 or 3560	3	CHEM 4850	3
		Elective	**3**
	16		15
Senior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 2310	3	CHEM 2319	1
CHEM 3510	4	CHEM 2320	3
CHEM 4610	3	CHEM 4297	3
PHYSICS 4523	3	Electives	9
Electives	4		
	17		16
Total Credits: 127			

Notes:

Grade Requirements: A minimum grade of "C" is required for each chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore years, but does not count towards the degree.

Undergraduate Research: The undergraduate research CHEM 4099 must be done in Polymers and Coatings Science.

Electives: There are twenty-three (23) hours of electives, not to include Math courses that are prerequisite to calculus. Six (6) elective hours must be completed in the social sciences. Six (6) elective hours are required in the humanities. Three (3) of the humanities hours must be literature.

Pre-medicine Emphasis Area

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 1310	4	CHEM 1320	3
CHEM 1319	1	CHEM 1510	2
CHEM 1100	1	MATH 1215	4
CHEM 1110	1	BIO SCI 1113	3
MATH 1214	4	BIO SCI 1219	2
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	ENGLISH 1120	3
	14		17
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 2210	4	CHEM 2220	4
CHEM 2219	1	CHEM 2229	1
MATH 2222	4	CHEM 3410	3
PHYSICS 1135	4	PHYSICS 2135	4
BIO SCI 2213	3	Select one of the following sequences:	3
BIO SCI 2219	1	COMP SCI 1971 & COMP SCI 1981	
		COMP SCI 1972 & COMP SCI 1982	
		COMP SCI 1570 & COMP SCI 1580	
	17		15
Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 3430	3	CHEM 2510	4
CHEM 4610	3	CHEM 3420	3
CHEM 4619	2	CHEM 4620	3
CHEM 4010 or 4099	1	STAT 3113 or 3115	3

BIO SCI 3333	3	BIO SCI 3343	3
BIO SCI 3339	1	BIO SCI 3349	1
ENGLISH 1160 or 3560	3		
	16		17
Senior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
CHEM 2310	3	CHEM 2319	1
CHEM 3510	4	CHEM 2320	3
CHEM 3459	2	CHEM 4297	3
CHEM 4010 or 4099	1	Electives	8
CHEM 4810	3		
Electives	3		
	16		15
Total Credits: 127			

Notes:

Grade Requirements: A minimum grade of "C" is required for each chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore years, but does not count towards the degree.

Electives: There are eleven (11) hours of electives, not to include Math courses that are prerequisite to calculus. Three (3) elective hours must be completed in the social sciences. Three (3) elective hours are required in the humanities, which must be literature.

Justification for request

The biochemistry emphasis is changing its genetics requirement from biology, that has an additional prerequisite, to a chemistry course that provides the genetics but no addition prerequisite. There is no change in total degree hours.

For the polymer and coatings emphasis, the polymer lab course is being changed to a one hour lab, with a rearranging of electives to maintain the same number of total degree hours.

Supporting Documents

Course Reviewer Comments

pwhite (03/08/18 9:43 am): Rollback: As requested for Biochem changes

ershenb (03/09/18 8:22 am): updated Start Term to Fall 2018

Key: 16

Program Change Request

Date Submitted: 03/02/18 2:25 pm

Viewing: MC ENG-BS : Mechanical Engineering BS

File: 86.37

Last approved: 07/21/15 11:03 am

Last edit: 03/05/18 9:09 am

Changes proposed by: nisbett

Catalog Pages Using this Program
Mechanical Engineering

Start Term
Fall **2018** ~~2015~~
Program Code
MC ENG-BS
Department
Mechanical & Aerospace Engineering
Title
Mechanical Engineering BS

Program Requirements and Description

In Workflow

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

Approval Path

1. 03/02/18 2:30 pm James Drallmeier (drallmei): Approved for RMECHENG Chair
2. 03/05/18 9:20 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 11:15 am sraper: Approved for Engineering DSCC Chair
4. 03/20/18 1:56 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Feb 24, 2014 by nisbett
2. Aug 6, 2014 by nisbett
3. Jul 21, 2015 by pantaleoa

Bachelor of Science
Mechanical Engineering

Entering freshmen desiring to study mechanical engineering will be admitted to the Freshman Engineering Program. They will, however, be permitted, if they wish, to state a mechanical engineering preference, which will be used as a consideration for available freshman departmental scholarships. The focus of the Freshman Engineering program is on enhanced advising and career counseling, with the goal of providing to the student the information necessary to make an informed decision regarding the choice of a major.

For the bachelor of science degree in mechanical engineering a minimum of 128 credit hours is required. These requirements are in addition to credit received for algebra, trigonometry, and basic ROTC courses. An average of at least two grade points per credit hour must be attained. An average of at least two grade points per credit hour must also be attained in all courses taken in mechanical engineering.

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

1. ENGLISH 1120

2. HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SC 1200

3. ECON 1100 or ECON 1200

4. ENGL 1160 or ENGL 3560 or SP&MS 1185

5. A literature elective

6. A humanity or social science elective*

~~All students are required to take one history course, one economics course, one humanities course, and ENGLISH 1120.The history course is to be selected from HISTORY 1200, HISTORY 1300, HISTORY 1310, or POL SCI 1200.The economics course may be either ECON 1100 or ECON 1200.The humanities course must be selected from "The Approved List of Humanities and Social Science Courses for Engineering Degrees" maintained by the Office of Undergraduate Studies.Depth requirement.Three credit hours must be taken in humanities or social sciences at the 2000 level or above and must be selected from the approved list.~~ **7. A humanity** ~~This course must have as a prerequisite one of the humanities~~ or social **science elective* that has, as a prerequisite, a humanity or social science course** ~~sciences courses~~ already taken.

*** Humanity and** ~~Three credit hours must be taken in humanities or~~ **social science electives must be** ~~sciences~~ **at least 3 credit hours of lecture designation, and also meet the requirements as specified under "Engineering Degree Requirements" published in** ~~2000 level or above and must be selected from~~ **the current undergraduate catalog.** ~~**approved list.**~~

~~Foreign language courses numbered 1180 will be considered to satisfy this requirement.Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 4000 level.All courses taken to satisfy the depth requirement must be taken after graduating from high school.The remaining two courses are to be chosen from the list of approved humanities/social sciences courses and may include one communications course in addition to ENGLISH 1120 .Special topics and special problems and honors seminars are allowed only by petition to and approval by the student's department chair.~~ The mechanical engineering program at Missouri S&T is characterized by its focus on the scientific basics of engineering and its innovative application; indeed, the underlying theme of this educational program is the application of the scientific basics to engineering practice through attention to problems and needs of the public. The necessary interrelations among the various topics, the engineering disciplines, and the other professions as they naturally come together in the solution of real world problems are emphasized as research, analysis, synthesis, and design are presented and discussed through classroom and laboratory instruction.

Freshman Year			
First Semester	**Credits**	**Second Semester**	**Credits**
FR ENG 1100	1	ECON 1100 or 1200	3
CHEM 1310[a]	4	MECH ENG 1720	3
ENGLISH 1120	3	PHYSICS 1135[a]	4
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	MATH 1215[a, b]	4
CHEM 1319	1	Elective-Hum or Soc Sci[f]	3
MATH 1214[a, b]	4		
	16		17
Sophomore Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MATH 2222[a]	4	MECH ENG 2761	3
Programming Elective[a, c]	3	MECH ENG 2519[a]	3
CIV ENG 2200[a]	3	MECH ENG 2360[a]	3
PHYSICS 2135[a]	4	MATH 3304[a]	3
MECH ENG 2653	3	MET ENG 2110[a]	3
	17		15
Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MECH ENG 3313	3	MECH ENG 3411[a]	3
MECH ENG 3521	3	MECH ENG 3131	3
ELEC ENG 2800	3	MECH ENG 4840	2
CIV ENG 2210[a]	3	Elective-Communications[d]	3
CIV ENG 2211	1	MECH ENG 3708	3
Elective-Advanced Math/Stat or Comp Sci[e]	3	MECH ENG 3525	3
	16		17

Senior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MECH ENG 4842	2	ENG MGT 1100	1
MECH ENG 4479	3	ENG MGT 1210	2
MECH ENG technical elective[g]	3	MECH ENG 4761	3
Literature elective[f]	3	MECH ENG 4480	1
Technical elective[h]	3	MECH ENG 5000-level technical elective[g]	3
Elective-Advanced Hum or Soc Sci[f]	3	Breadth elective[i]	3
	17		13
Total Credits: 128			

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

a	A grade of "C" or better is required in CHEM 1310, MATH 1214, MATH 1215, MATH 2222, MATH 3304, PHYSICS 1135, PHYSICS 2135, programming elective, MET ENG 2110, CIV ENG 2200, CIV ENG 2210, MECH ENG 2519, MECH ENG 2360, and MECH ENG 3411, both as prerequisite for follow-up courses in the curriculum and for graduation.
b	MATH 1208 and MATH 1221 may be substituted for MATH 1214 and MATH 1215, respectively.
c	The programming elective consists of a lecture and lab combination, and may be selected from COMP SCI 1970/COMP SCI 1980, COMP SCI 1971/COMP SCI 1981, or COMP SCI 1972/COMP SCI 1982, or COMP SCI 1570/COMP SCI 1580. Note that COMP SCI 1570/COMP SCI 1580 requires one more credit hour than the other options.
d	This course must be selected from the following: ENGLISH 1160, ENGLISH 3560 or SP&M S 1185, or the complete four course sequence in Advanced ROTC (MIL ARMY 3250, MIL ARMY 3500, MIL ARMY 4250, and MIL ARMY 4500; or MIL AIR 3110, MIL AIR 3120, MIL AIR 4110 and MIL AIR 4120).
e	This course must be selected from the following: COMP SCI 3200, MATH 3103, MATH 3108, STAT 3113, STAT 3115 or any 5000-level math or computer science course approved by the student's advisor.
f	All electives must be approved by the student's advisor. Humanity and social science electives must be at least 3 credit hours of lecture designation, and also meet requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog.
g	Six hours of technical electives, subject to approval by the student's advisor, must be in the department of mechanical and aerospace engineering. At least three of these technical elective hours must be at the 5000 level. This elective may not include co-op, special problems, or research credits, such as as 3002, 4000, or 4099. Honors students have special requirements for technical electives.
h	This elective must be a three credit hour course, subject to approval by the student's advisor, from any of the following areas: math, statistics, science, engineering, or computer science. The course must be at the 3000 or higher level, or have a prerequisite that is part of the required mechanical engineering curriculum. Exceptions to the course level may be approved by the student's advisor. The elective may not include co-op, special problems, or research credits, such as 3002, 4000, or 4099.
i	This elective consists of three credit hours, subject to approval by the student's advisor, and may be satisfied by any of the following: (1) A three credit hour course from any of the following areas: math, statistics, science, engineering, computer science, business, or IST. The course must be at the 3000 or higher level, or have a prerequisite that is part of the required mechanical engineering curriculum. Exceptions to the course level may be approved by the student's advisor; (2) Any three credit hour course in the list of approved courses for the global studies minor; or (3) Any combination of three credit hours from co-op (3002), special problems (3000, 4000, or 5000), research (4099), or design team credit (ENG MGT 2011, 2012, or 2013).
j	All mechanical engineering students must take the Fundamentals of Engineering Examination prior to graduation. A passing grade on this examination is not required to earn a B.S. degree. However, it is the first step toward becoming a registered professional engineer. This requirement is part of the Missouri S&T assessment process as described in assessment requirements found elsewhere in this catalog.

Energy Conversion Emphasis Area for Mechanical Engineering

Students desiring to obtain a bachelor of science degree in mechanical engineering with an emphasis area in energy conversion must satisfy all the requirements of the bachelor of science degree in mechanical engineering, with the additional stipulation that four courses must be taken as follows:

a. Two courses from the following list:		6
MECH ENG 5527	Combustion Processes	3
or AERO ENG 5527	Combustion Processes	
MECH ENG 5533	Internal Combustion Engines	3
MECH ENG 5566	Solar Energy Technology	3
MECH ENG 5567	Heat Pump And Refrigeration Systems	3
MECH ENG 5571	Environmental Controls	3
MECH ENG 5575	Mechanical Systems For Environmental Control	3

AERO ENG 5169	Introduction to Hypersonic Flow	3
AERO ENG 5535	Aerospace Propulsion Systems	3
b. One course from the following list:		3
MECH ENG 5519	Advanced Thermodynamics	3
or AERO ENG 5519	Advanced Thermodynamics	
MECH ENG 5525	Intermediate Heat Transfer	3
or AERO ENG 5525	Intermediate Heat Transfer	
MECH ENG 5131	Intermediate Thermofluid Mechanics	3
or AERO ENG 5131	Intermediate Thermofluid Mechanics	
MECH ENG 5139	Computational Fluid Dynamics	3
or AERO ENG 5139	Computational Fluid Dynamics	
c. One additional course from either list “a” or list “b”, or from the following list:		3
ECON 4540	Energy Economics	3
ELEC ENG 5150	Photovoltaic Systems Engineering	3
ENV ENG 5660	Introduction To Air Pollution	3
NUC ENG 4257	Two-phase Flow in Energy Systems - I	3

Note: By using the breadth elective and technical electives to satisfy the above requirements, this emphasis area requires the same total number of credit hours as the BSME degree. A change of major form should be submitted to designate the energy conversion emphasis area.

Manufacturing Processes Emphasis Area for Mechanical Engineering

Students desiring to obtain a bachelor of science in mechanical engineering with an emphasis area in manufacturing processes must satisfy all requirements of the bachelor of science in mechanical engineering with the additional stipulation that four courses must be taken as follows:

a. The following course:		3
MECH ENG 3653	Manufacturing	3
b. One course from the following Manufacturing/Automation courses:		3
MECH ENG 5653	Computer Numerical Control of Manufacturing Processes	3
MECH ENG 5655	Manufacturing Equipment Automation	3
MECH ENG 5449	Robotic Manipulators and Mechanisms	3
MECH ENG 5606	Material Processing By High-Pressure Water Jet	3
c. One course from the following Design courses:		3
MECH ENG 5763	Principles And Practice Of Computer Aided Design	3
MECH ENG 5656	Design For Manufacture	3
MECH ENG 5702	Synthesis Of Mechanisms	3
d. One course from the following list:		3
MECH ENG 5708	Rapid Product Design And Optimization	3
MECH ENG 5758	Integrated Product Development	3
e. The Math/Stat elective must be one of the following:		3
STAT 3113	Applied Engineering Statistics	3
STAT 3115	Engineering Statistics	3

A suggested sequence for the junior and senior years is given below. Note that by using the breadth elective and technical electives to satisfy the above requirements, this emphasis area requires the same total number of credit hours as the BSME degree. A change of major form should be submitted to designate the manufacturing processes emphasis area.

Junior Year			
First Semester	**Credits**	**Second Semester**	**Credits**
MECH ENG 3313	3	MECH ENG 3411[a]	3
ELEC ENG 2800	3	MECH ENG 3131	3
MECH ENG 3521	3	MECH ENG 3525	3
CIV ENG 2210[a]	3	MECH ENG 4840	2

CIV ENG 2211	1	MECH ENG 3653	3
STAT 3113 or 3115	3	Elective-Communications[d]	3
	16		17

Senior Year

First Semester	Credits	Second Semester	Credits
MECH ENG 4842	2	ENG MGT 1100	1
MECH ENG 4479	3	ENG MGT 1210	2
MECH ENG 3708	3	MECH ENG 4761	3
Manufacturing Technical Elective[f]	3	MECH ENG 4480	1
Manufacturing Technical Elective[f]	3	Manufacturing Technical Elective[f]	3
Elective Literature[e]	3	Electives-Hum or Soc Sci[e]	3
	17		13
Total Credits: 63			

a A grade of "C" or better is required in CHEM 1310, MATH 1214, MATH 1215, MATH 2222, MATH 3304, PHYSICS 1135, PHYSICS 2135, programming elective, MET ENG 2110, CIV ENG 2200, CIV ENG 2210, MECH ENG 2519, MECH ENG 2360 and MECH ENG 3411, both as prerequisite for follow-up courses in the curriculum and for graduation.

b MATH 1208 and MATH 1221 may be substituted for MATH 1214 and MATH 1215, respectively.

c The programming elective consists of a lecture and lab combination, and may be selected from COMP SCI 1970/COMP SCI 1980, COMP SCI 1971/COMP SCI 1981, COMP SCI 1972/COMP SCI 1982, or COMP SCI 1570/COMP SCI 1580. Note that COMP SCI 1570/COMP SCI 1580 requires one more credit hour than the other options.

d This course must be selected from the following: ENGLISH 1160, ENGLISH 3560 or SP&M S 1185, or the complete four course sequence in Advanced ROTC (MIL ARMY 3250, MIL ARMY 3500, MIL ARMY 4250, and MIL ARMY 4500; or MIL AIR 3110, MIL AIR 3120, MIL AIR 4110 and MIL AIR 4120).

e All electives must be approved by the student's advisor. Humanity and social science electives must be at least 3 credit hours of lecture designation, and also meet requirements as specified under "Engineering Degree Requirements" published in the current undergraduate catalog.

f The nine hours of manufacturing technical elective must be selected as follows:
One course from the following manufacturing/automation courses: MECH ENG 5653, MECH ENG 5655, MECH ENG 5449, MECH ENG 5606.
One of the following design courses: MECH ENG 5763, MECH ENG 5656, MECH ENG 5702.
One course from the following list: MECH ENG 5708, MECH ENG 5758.

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

Mechanical Design and Analysis Emphasis Area

Students desiring to obtain a bachelor of science in mechanical engineering with an emphasis area in mechanical design and analysis must satisfy all requirements of the bachelor of science in mechanical engineering, with the additional stipulation that four courses must be taken as follows:

a. One design course from the following list:		3
MECH ENG 5709	Machine Design II	3
MECH ENG 5702	Synthesis Of Mechanisms	3
MECH ENG 5704	Compliant Mechanism Design	3
MECH ENG 5708	Rapid Product Design And Optimization	3
MECH ENG 5715	Concurrent Engineering	3
MECH ENG 5656	Design For Manufacture	3
MECH ENG 5757	Integrated Product And Process Design	3
MECH ENG 5760	Probabilistic Engineering Design	3
MECH ENG 5763	Principles And Practice Of Computer Aided Design	3
MECH ENG 5761	Engineering Design Methodology	3
b. One analysis course from the following list:		3
MECH ENG 5307	Vibrations I	3
MECH ENG 5211	Introduction To Continuum Mechanics	3
MECH ENG 5212	Introduction to Finite Element Analysis	3

MECH ENG 5234	**Stability of Engineering Structures**	**3**
MECH ENG 5236	**Fracture Mechanics**	**3**
MECH ENG 5313	Intermediate Dynamics Of Mechanical And Aerospace Systems	3
MECH ENG 5222	Introduction To Solid Mechanics	3
MECH ENG 5238	Fatigue Analysis	3
MECH ENG 5449	Robotic Manipulators and Mechanisms	3
MECH ENG 5478	Mechatronics	3
c. Two additional courses from either of the previous lists.		6

Note that by using the breadth elective and technical electives to satisfy the above requirements, this emphasis area requires the same total number of credit hours as the BSME degree A change of major form should be submitted to designate the mechanical design and analysis emphasis area.

Justification for request

1. Changes to the H/SS requirement and footnotes to clarify the program requirements and to be compatible with the new Engineering Degree Requirements for H/SS electives.
2. Removal of requirement for the release form for FE exam, as the release form is no longer needed.
3. Addition of two appropriate electives to the list for the Mechanical Design and Analysis Emphasis Area.

Supporting Documents

Course Reviewer Comments

ershenb (03/05/18 9:09 am): added commas to general education requirement #7.

Key: 86

Program Change Request

Date Submitted: 03/06/18 3:34 pm

Viewing: MIL SC-MI : Adaptive Leadership Minor

File: 93.8

Last approved: 07/21/15 11:13 am

Last edit: 03/21/18 9:39 am

Changes proposed by: bakervi

Catalog Pages Using this Program
Military Science

Start Term
Fall **2018** ~~2015~~
Program Code
MIL SC-MI
Department
Military Science - Army ROTC
Title
Adaptive Leadership Minor

Program Requirements and Description

In Workflow

1. **RMILARMY Chair**
2. **CCC Secretary**
3. **Krista Chambers**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Kristy Giacomelli

Approval Path

1. 03/21/18 8:48 am Brittany Parnell (ershenb): Approved for RMILARMY Chair
2. 03/21/18 8:51 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/21/18 8:52 am Brittany Parnell (ershenb): Approved for Pending CCC Agenda post
4. 03/21/18 9:39 am Brittany Parnell (ershenb): Rollback to CCC Secretary for CCC Meeting Agenda
5. 03/21/18 10:12 am Brittany Parnell (ershenb): Approved for CCC Secretary
6. 03/21/18 12:24 pm Krista Chambers (krista): Approved for krista
7. 03/21/18 12:27 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

History

1. Mar 20, 2015 by Lahne Black (lahne)
2. Jul 21, 2015 by pantaleoa

Adaptive Leadership Minor Curriculum

The minor in adaptive leadership provides students the opportunity to learn how to analyze, identify key elements and risk, ethically solve, package, communicate and lead the solution to a variety of problems as an individual and as part of a group. Students will progressively improve leadership skill through knowledge and practice of small group leadership, versatility and critical thinking through changing conditions/environments, interpersonal skills in depth and leadership capacity, ability to affect others' skills in depth and leadership capacity, and understanding of how to develop group solutions in a complex and changing world. Feedback throughout the military science portions of the minor is provided both via the academic process and an after-action review process where successes and failures are defined using the U.S. Army's leadership attributes (as described in the U.S. Army Doctrinal Publication 6-22). The goal of the minor is to develop and provide lifelong learning tools to build confidence, leadership skills and character to, as a leader, provide a team with the purpose, direction and motivation needed to ethically solve future challenges.

The minor consists of 18 credit hours.

Required courses:

MIL ARMY 3250	Adaptive Tactical Leadership	3
MIL ARMY 3500	Leadership in Changing Environments	3
MIL ARMY 4250	Developing Adaptive Leaders	3
MIL ARMY 4500	Leadership in a Complex World	3

Elective courses:

History	(select one course)	3
HISTORY 2440	Course HISTORY 2440 Not Found	
HISTORY 3240	Contemporary Europe	
HISTORY 3440	20th Century Americans In Combat	
HISTORY 3443	**The American Military Experience**	**3**
HISTORY 3762	American Foreign Policy Since 1945	
Human Behavior	(select one course)	3
PSYCH 1101	General Psychology	
PHILOS 1115	Introduction To Logic	
PHILOS 1110	Practical Reasoning	

Justification for request
To replace History 2440 which is not found
Supporting Documents
Course Reviewer Comments
ershenb (03/06/18 3:50 pm): updated start term to Fall 18
ershenb (03/21/18 8:48 am): Approving for LTC Otis Register per his email-3/20/18 (technical issues).
ershenb (03/21/18 9:39 am): Rollback: Must be approved by the Office of the Provost.

Key: 93

Program Change Request

New Program Proposal

Date Submitted: 03/01/18 1:02 pm

Viewing: PROPOSED : Linguistics Minor

File: 260

Last edit: 03/01/18 1:02 pm

Changes proposed by: kswenson
Start Term
Fall 2018
Program Code
PROPOSED
Department
English and Technical Communication
Title
Linguistics Minor

Program Requirements and Description

In Workflow

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

Approval Path

1. 03/01/18 1:03 pm Kristine Swenson (kswenson): Approved for RENGLISH Chair
2. 03/01/18 1:54 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/01/18 4:06 pm Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 03/16/18 3:07 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

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The field of linguistics provides a view of language that students are often not exposed to during their K-12 education. Linguists are interested in the systematic study of language with particular interest in how people use language to establish their identities and situate themselves in the world. Being exposed to this view of language opens up new modes of thinking for students. In particular, by taking courses in linguistics, students gain an understanding of not only the basic prescriptive rules for correctness that are expected in certain written and spoken genres but also the patterns and features that comprise actual, real-world linguistic usage in a number of different speech communities—patterns that sometimes violate the prescriptive rules. Such an approach cultivates students' ability to use prescriptively correct language in their speech and writing, which benefits them in future situations in which such correctness is required. Moreover, and perhaps even more importantly, students also gain an increased awareness of the systematic ways in which individual speakers and particular speech communities deviate from the prescriptive norms, using language to foster cultural and social connections and to establish their identities. Such awareness provides students with a new lens through which to view variation and diversity, which can contribute to greater tolerance and acceptance for linguistic—and thus human—difference. Furthermore, with an understanding of linguistic variation as rooted in the principles of multilingualism and intercultural contexts, students can develop specific skills in cross-cultural communication and linguistic accommodation, which will benefit them in future interactions with culturally and linguistically diverse speakers in their jobs and in their everyday lives—situations which are very likely to arise for our students in this increasingly globalized world in which transnational companies and multicultural communities are the norm.

Four required courses:

1. English 3301: A Linguistic Study of Modern English

(This course is well established at the university and is currently offered annually.)

2. English 3302: History and Structure of the English Language

(This course is well established at the university and is currently offered annually.)

3. English 3303: The Grammatical Structure of English

(This course has already been designed and offered during the spring 2017 semester as a successful iteration of English 3001: Special Topics, which is the course number used to test a new course within the department. It is scheduled to be offered for a second time in summer 2018 as a fully online course—course-shared with UMKC—and the development of the course has been supported through an eFellows grant and a Course Sharing grant. The course would need to be established as a permanent course offering with a new course number: 3303.)

Course Description: The Grammatical Structure of English takes a linguistic approach to the study of the structure of present day English with a focus on morphology (the formation of words) and syntax (sentence structure). The course centers on form and function at the level of the word, phrase, and clause, using tree diagramming as the central mode of inquiry and analysis.

4. English 3304: Language in Society

(This course has already been designed and is currently being offered in spring 2018 as an iteration of English 3001: Special Topics, which is the course number used to test a new course within the department. The course will be evaluated using a mid-semester evaluation, administered by Educational Technology, end-of-semester evaluations, and informal in-class evaluations, and, using this feedback, the course will be modified as necessary for subsequent offerings. The course would need to be established as a permanent course offering with a new course number: 3304.)

Course Description: Language in Society takes a sociolinguistic approach to the investigation of language variation and change in society, including: intersections of language and identity, race, gender, class, and other social factors; language ideologies; multilingualism; language standardization; pragmatics; and language policy and planning.

No new faculty would be required to offer these four courses in a regular rotation.

See attachment for more information.

Justification for request

1. As there are already two established courses in linguistics in the Department of English and Technical Communication, and as each of the other two courses has been run once, current student interest in linguistics (both within and outside the department) is already quite high. There are at least five students, currently or recently enrolled in a linguistics course at the university, who have explicitly expressed interest in a minor in linguistics.

2. Students who seek to earn certification in English education are required by the state to take two courses in linguistics, so a number of those students would likely take advantage of the opportunity to earn the linguistics minor by taking the two additional courses, especially as all four of these courses are extremely relevant to teachers and the field of education.

See attachment for more information.

Supporting Documents

Linguistics Minor Proposal 2018.doc

Course Reviewer Comments

Key: 260

NEW MINOR PROPOSAL

(No more than 4 pages + attachments)

CAMPUS	*Missouri University of Science and Technology*
PROPOSED MINOR	*Linguistics*

PURPOSE *[overall goals and objectives]*

Student learning objectives include:

1. Develop a scientific perspective toward language as systematic and rule-governed
2. Develop basic competency in all levels of analysis in linguistics: phonetics, phonology, morphology, syntax, semantics, and pragmatics
3. Study language, particularly the English language, through the lenses of language change and language variation
4. Study language, particularly the English language, from both prescriptive and descriptive perspectives
5. Explore connections between language use and social factors, including examining societal language attitudes
6. Explore multilingualism and intercultural contexts, developing skills in cross-cultural communication

CURRICULUM [*Any new courses? | Any new faculty?]*

Four required courses:

1. English 3301: A Linguistic Study of Modern English
(This course is well established at the university and is currently offered annually.)

2. English 3302: History and Structure of the English Language
(This course is well established at the university and is currently offered annually.)

3. English 3303: The Grammatical Structure of English
(This course has already been designed and offered during the spring 2017 semester as a successful iteration of English 3001: Special Topics, which is the course number used to test a new course within the department. It is scheduled to be offered for a second time in summer 2018 as a fully online course—course-shared with UMKC—and the development of the course has been supported through an eFellows grant and a Course Sharing grant. The course would need to be established as a permanent course offering with a new course number: 3303.)

Course Description: The Grammatical Structure of English takes a linguistic approach to the study of the structure of present day English with a focus on morphology (the formation of words) and syntax (sentence structure). The course centers on form and function at the level of the word, phrase, and clause, using tree diagramming as the central mode of inquiry and analysis.

4. English 3304: Language in Society
(This course has already been designed and is currently being offered in spring 2018 as an iteration of English 3001: Special Topics, which is the course number used to test a new course within the department. The course will be evaluated using a mid-semester evaluation, administered by Educational Technology, end-of-semester evaluations, and informal in-class evaluations, and, using this feedback, the course will be modified as necessary for subsequent offerings. The course would need to be established as a permanent course offering with a new course number: 3304.)

Course Description: Language in Society takes a sociolinguistic approach to the investigation of language variation and change in society, including: intersections of language and identity, race, gender, class, and other social factors; language ideologies; multilingualism; language standardization; pragmatics; and language policy and planning.

No new faculty would be required to offer these four courses in a regular rotation.

NEED *[Please provide a brief bulleted summary]*

1. Student Demand
2. National, state or local market demand

1. As there are already two established courses in linguistics in the Department of English and Technical Communication, and as each of the other two courses has been run once, current student interest in linguistics (both within and outside the department) is already quite high. There are at least five students, currently or recently enrolled in a linguistics course at the university, who have explicitly expressed interest in a minor in linguistics.

2. Students who seek to earn certification in English education are required by the state to take two courses in linguistics, so a number of those students would likely take advantage of the opportunity to earn the linguistics minor by taking the two additional courses, especially as all four of these courses are extremely relevant to teachers and the field of education.

3. Linguistics is defined as the scientific study of language; as such, linguists take a disciplined approach to the study of language using the scientific method. This kind of approach is familiar and important to many of our students who major in engineering and the sciences; thus, students in those programs may be particularly attracted to this minor, which has humanistic, societal, cultural, and communicative implications but is approached through a scientific lens and analytical inquiry.

4. Linguistics is a well-established and yet extremely broad field with sub-disciplines in cognitive linguistics, forensic linguistics, first and second language acquisition, historical linguistics, applied linguistics, and sociolinguistics, among others. As such, linguists are involved in many facets of society, including a number of both academic and professional settings. A minor in linguistics would make students in virtually any field more marketable, as these students will gain expertise in analyzing, producing, and interpreting the impact of both spoken and written communication—skills that are essential in any workplace environment.

IMPACT

The field of linguistics provides a view of language that students are often not exposed to during their K-12 education. Linguists are interested in the systematic study of language with particular interest in how people use language to establish their identities and situate themselves in the world. Being exposed to this view of language opens up new modes of thinking for students. In particular, by taking courses in linguistics, students gain an understanding of not only the basic prescriptive rules for correctness that are expected in certain written and spoken genres but also the patterns and features that comprise actual, real-world linguistic usage in a number of different speech communities—patterns that sometimes violate the prescriptive rules. Such an approach cultivates students' ability to use prescriptively correct language in their speech and writing, which benefits them in future situations in which such correctness is required. Moreover, and perhaps even more importantly, students also gain an increased awareness of the systematic ways in which individual speakers and particular speech communities deviate from the prescriptive norms, using language to foster cultural and social connections and to establish their identities. Such awareness provides students with a new lens through which to view variation and diversity, which can contribute to greater tolerance and acceptance for linguistic—and thus human—difference. Furthermore, with an understanding of linguistic variation as rooted in the principles of multilingualism and intercultural contexts, students can develop specific skills in cross-cultural communication and linguistic accommodation, which will benefit them in future interactions with culturally and linguistically diverse speakers in their jobs and in their everyday lives—situations which are very likely to arise for our students in this increasingly globalized world in which transnational companies and multicultural communities are the norm.

ALIGNMENT WITH CAMPUS AND DEPARTMENT PRIORITIES AND GOALS

1. Courses in linguistics—specifically through their emphasis on cultural and linguistic diversity, language variation, and positive language attitudes—address the S&T value of inclusion, as outlined in the Strategic Plan, by promoting "a creative learning environment marked by openness, understanding and valuing all people and perspectives."

2. With their emphasis on the development of cross-cultural and cross-linguistic communication strategies, linguistics courses support theme 3.4 of the S&T Strategic Plan to "promote inclusion . . . to remain relevant and competitive in a global environment."

3. Further developing the Grammatical Structure of English course, in particular, a requirement for the minor, into a fully online course supports theme 4.3 of the S&T Strategic Plan to "enhance innovative use of technologies to improve and facilitate access." These initiatives may also further develop into additional opportunities for inter-campus course sharing within the UM system.

4. In the Chair's message on the website for the Department of English and Technical Communication, Kristine Swenson writes: "Beyond the question of jobs, recent events have reinforced for me the vital need for citizens who are trained as humanists and communicators. We need, more than ever, people in our communities, our institutions, and in our government who can think critically and carefully about complex problems, who consider the value of opposing viewpoints and can live with paradox, who communicate with precision and sympathy." A minor in linguistics supports all of these goals, promoting students' growth as effective and flexible communicators, analytical and creative thinkers, and inclusive and empathetic citizens.

POTENTIAL DUPLICATION

[Does this minor, or one similar, exist on the campus? If so, what is the rationale for this minor?]

There is currently no linguistics minor being offered on campus.

COSTS *[Indicate revenue stream and how it will be paid]*

There is no cost associated with the establishment of this minor.

MARKETING STRATEGIES/APPROACHES *[Please provide brief bulleted summary]*

1. With the assistance of Educational Technology, members from the department can create a short promotional video to announce the establishment of the minor and to highlight its benefits for students both within and outside the department, which can be shared through various means to students. Fliers can also be made and distributed/posted on campus.

2. The new minor and its description will be included on the English and Technical Communication website with information about requirements and benefits.

3. Through collaboration with faculty and staff in other departments, the establishment of the minor can be shared with students across campus in various disciplines, in particular, students studying foreign languages, computer science/programming languages, engineering management, history, business and management systems, education, information science and technology, philosophy, and psychology, among others, as this minor may be of particular interest to students in these fields.

SUPPORT BY ACADEMIC UNIT(S)

The Department of English and Technical Communication will be the primary support unit.

ATTACHMENTS

No attachments are provided. However, course syllabi and/or other materials can be provided upon request.

Course Change Request

New Experimental Course Proposal

Date Submitted: 03/11/18 5:41 pm

Viewing: **CHEM ENG 4001.002 : Renewable Energy Technologies and Policies in the Argentinean Republic**

File: 4534

Last edit: 03/20/18 1:52 pm

Changes proposed by: forcinit

Requested Effective Change Date	Fall 2018
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	4001
Topic ID	002
Experimental Title	Renewable Energy Technologies and Policies in the Argentinean Republic
Experimental Abbreviated Course Title	Renewable Energy
Instructors	Daniel Forciniti

Experimental Catalog Description

This course will cover all the renewable energy technologies (hydroelectric, eolic, solar, bioenergy) that are used in Argentina as well as aspects of energy policy and regulations and how they compare and contrast with policies and regulations in the U.S.A. This is a bilingual course (English and Spanish) and it requires a minimum of two weeks study abroad.

Prerequisites

Senior standing and a minimum of two semesters of Spanish.

Field Trip Statement

The students are required to spend a minimum of two weeks in Argentina either taking short courses in Spanish or participating in energy-related activities in the community. At this moment the location is Buenos Aires, Argentina but we expect to

In Workflow

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

Approval Path

1. 03/12/18 2:01 pm Muthanna Al-Dahhan (aldahhanm): Approved for RCHEMENG Chair
2. 03/13/18 3:10 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 03/20/18 11:16 am sraper: Approved for Engineering DSCC Chair
4. 03/20/18 1:53 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

reach other provinces too. Airfare is about $1,400 and cost of leaving is estimated as $1,000 per two weeks. Tuition for short courses are being negotiated.

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

Justification for new course:	This course will be become a tech elective for Chemical Engineering Majors and an elective for those students enrolled in the LASTA minor. The course will consist of a content part and a linguistic portion. The content part will be taught in English twice a week and then the same content will be taught in Spanish (blended). The students are expected to gain enough vocabulary to participate in "energy related conversations" with Spanish speakers. It is expected that organizations like Engineers without Borders borders will benefit from this class. The class will help inserting our graduates in a global economy.
Semester(s) previously taught	
Co-Listed Courses:	
Course Reviewer Comments	**ershenb (03/13/18 3:10 pm):** Changed "status" to "standing" in prerequisites.

Key: 4534

Preview Bridge

Course Change Request

New Experimental Course Proposal

Date Submitted: 02/24/18 9:23 am

Viewing: **TCH COM 3001.001 : Sustainability as Trope and Theme in Latin America**

File: 4528

Last edit: 02/28/18 9:34 am

Changes proposed by: kswenson

Requested Effective Change Date	Summer 2018
Department	English and Technical Communication
Discipline	Technical Communication (TCH COM)
Course Number	3001
Topic ID	001
Experimental Title	Sustainability as Trope and Theme in Latin America
Experimental Abbreviated Course Title	Sustainability as Trope
Instructors	Kathryn Northcut
Experimental Catalog Description	Students will critically think and write about current humanitarian engineering issues and projects, examining language and action from the perspectives of multiple stakeholders. Assessment is based on written and multi-modal projects. Optional study abroad opportunities will be integrated.
Prerequisites	English 1120 or equivalent.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Justification for new course:	This course is part of the NEH funded program, Cultural Bridges: Humanities and Engineering in Latin America.
Semester(s) previously taught	N/A
Co-Listed Courses:	
Course Reviewer Comments	

In Workflow

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

Approval Path

1. 02/24/18 9:26 am Kristine Swenson (kswenson): Approved for RENGLISH Chair
2. 02/27/18 11:57 am Brittany Parnell (ershenb): Approved for CCC Secretary
3. 02/28/18 9:10 am Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 03/16/18 3:07 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 4528

Preview Bridge

Course Change Request

New Experimental Course Proposal

Date Submitted: 02/24/18 9:25 am

Viewing: **TCH COM 5001.002 : Sustainability as Trope and Theme in Latin America**

File: 4529

Last edit: 02/28/18 9:35 am

Changes proposed by: kswenson

Requested Effective Change Date	Summer 2018
Department	English and Technical Communication
Discipline	Technical Communication (TCH COM)
Course Number	5001
Topic ID	002
Experimental Title	Sustainability as Trope and Theme in Latin America
Experimental Abbreviated Course Title	Sustainability as Trope
Instructors	Kathryn Northcut
Experimental Catalog Description	Students will critically think and write about current humanitarian engineering issues and projects, examining language and action from the perspectives of multiple stakeholders. Assessment is based on written and multi-modal projects. Optional study abroad opportunities will be integrated. Additional coursework appropriate for graduate level.
Prerequisites	Graduate standing.
Field Trip Statement	
Credit Hours	LEC: 3 LAB: 0 IND: 0 RSD: 0 Total: 3
Justification for new course:	This course is part of the NEH funded program, Cultural Bridges: Humanities and Engineering in Latin America
Semester(s) previously taught	NA
Co-Listed Courses:	
Course Reviewer Comments	

In Workflow

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

Approval Path

1. 02/24/18 9:26 am Kristine Swenson (kswenson): Approved for RENGLISH Chair
2. 02/27/18 12:00 pm Brittany Parnell (ershenb): Approved for CCC Secretary
3. 02/28/18 9:11 am Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair
4. 03/16/18 3:07 pm Brittany Parnell (ershenb): Approved for Pending CCC Agenda post

Key: 4529

Preview Bridge