Campus Curricula Committee Meeting Agenda

February 17, 2026
8:15am - 9:30am, Fulton Hall 120
(For Faculty Senate Meeting of March 19, 2026)

Review of submitted Course Change forms:

File: 5712 CER ENG 4510 : International Engineering and Design
File: 5755 CHEM 4000 : Special Problems
File: 5761 CHEM 4310 : Selected Topics In Inorganic Chemistry
File: 2518 CHEM 4410 : Chemical Thermodynamics II
File: 1492 CHEM 4420 : Chemical Kinetics II
File: 688 CHEM 4510 : Instrumental Methods Of Chemical Analysis
File: 5766 CHEM 5000 : Special Problems
File: 5769 CHEM 5310 : Introduction to Inorganic Chemistry
File: 1467 CHEM 5410 : Advanced Chemical Thermodynamics
File: 2436 CHEM 5430 : Advanced Chemical Kinetics
File: 398 CHEM 5630 : Biochemical Nanotechnology
File: 235 CHEM 6450 : Spectroscopy
File: 2328 EDUC 5370 : ~~Teachers Academy~~ : Effective Instructional Strategies
File: 164 ENG MGT 4907 : Engineering Management Senior Design
File: 10366 MATH 5670 : Scientific Programming with Python
File: 4866 MATH 5680 : Mathematics of Machine Learning
File: 8943 MET ENG 3330 : Metallurgical Thermodynamics I
File: 1290 MET ENG 4450 : Steelmaking
File: 8968 MET ENG 5220 : Recent Advances In Extractive Metallurgy
File: 1455 MET ENG 5450 : Advanced Steelmaking
File: 2193 MUSIC 1150 : Music ~~Understanding And~~ Appreciation

Review of submitted Program Change forms:

File: 141 AE ENG-BS : Aerospace Engineering BS
File: 146 BIO SC-BA : Biological Sciences BA
File: 372 CHEMPRO-CT : Chemical Process Engineering CT
File: 45 ENG MGT-MI : Engineering Management Minor
File: 288 ENT&TEC-CT : Entrepreneur & Tech Innovat CT
File: 382 ENV SCI-BS : Environmental Science BS
File: 388 INTRCU-CTU : Intercultural Studies CTU
File: 377 MED LAB : Biological Sciences BS with Emphasis area in Medical Laboratory Scientist
File: 291 MGTLEAD-CT : Management and Leadership
File: 430 PROPOSED : Entertainment Technologies and Theatre (ET&T) CTU
File: 130 STU ART-MI : Studio Art Minor
File: 378 TEACH-CTU : Teaching and Learning Undergraduate Certificate

Review of submitted Experimental Course forms:
File: 551 SPANISH 4001.007: Scientific Spanish

New Business:
FYI issues being discussed at Senate:
-How to resolve intensive writing for Gen Ed
-Minor wording changes to Gen Ed from Registrar
-Minimum AI competency

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 12/05/25 2:06 pm

Viewing: **CER ENG 4510 : International Engineering and Design**

Also listed as: **GEO ENG 5092 / MET ENG 4510**

Last edit: 12/05/25 2:06 pm

Changes proposed by: David Lipke (lipked)

Justification for this inactivation request

Course has not been offered in 10+ years with no plans to offer again.

Requested Effective Date	Fall 2026	
Department	Materials Science & Engineering (RMATSENG)	
Discipline	Ceramic Engineering (CER ENG)	
Course Number	4510	
Title	International Engineering and Design	
Abbreviated Course Title	International Engineer	
Co-Listed Course	GEO ENG 5092	Department: Earth Sciences and Engineering (RGEOSENG)
	MET ENG 4510	Department: Materials Science & Engineering (RMATSENG)

Catalog Description

A multi-disciplinary engineering course focused on sustainable design and technology transfer to developing countries. Course includes elements of traditional capstone design classes. Experiential learning through competitions and/or field work is a major component of the class.

Prerequisite(s):

Senior standing, instructor approval, Geo Eng 5211, Geo Eng 5247.

Corequisite(s):

Credit Hours

In Workflow

1. **RMATSENG Chair**
2. **CCC Secretary**
3. **RGEOSENG Chair**
4. **Engineering DSCC 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. CAT entry
12. Peoplesoft

Approval Path

1. 12/05/25 4:35 pm Michael Moats (moatsm): Approved for RMATSENG Chair
2. 12/08/25 9:25 am Jade McCain (jm558v): Approved for CCC Secretary
3. 01/15/26 9:03 am Stephen Gao (sgao): Approved for RGEOSENG Chair
4. 01/22/26 1:34 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
5. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors: No

Elective for Majors:

Communication Intensive:

Communication Emphasized:

Grading Basis: Graded

Repeatable: No

Justification:

Semesters Previously Offered

Term(s) Offered as experimental:

Previous Course Code:

Is this a MOTR Course?:

Reviewer Comments:

Key: 5712

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:10 pm

Viewing: CHEM 4000 : Special Problems

Last edit: 01/23/26 11:47 am

Changes proposed by: Klaus Woelk (woelkk)

Requested Effective Date	Fall 2026
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	4000
Title	Special Problems
Abbreviated Course Title	Special Problems
Co-Listed Course	

Catalog Description

Problems or readings on specific subjects or projects in the department.

Prerequisite(s):

~~Preceded or accompanied by Chem 1100 or an equivalent training program approved byS&T.~~Consent of instructor required.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Independent Study	0

Total: 0-6

Required for Majors	No
Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded or Satisfactory, Non-elective
Repeatable	Yes

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. 01/15/26 8:12 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 01/23/26 11:47 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:43 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Justification	Eliminate the prerequisite "Preceded or accompanied by Chem 1100 or an equivalent training program approved by S&T." because CHEM 4000 doesn't necessarily involve laboratory work.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/23/26 11:47 am):** Marked yes for elective for majors. Marked no for CI and CE.

Key: 5755

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:13 pm

Viewing: CHEM 4310 : Selected Topics In Inorganic Chemistry

Last edit: 01/21/26 8:53 am

Changes proposed by: Klaus Woelk (woelkk)

Programs referencing this course	CR ENG-BS: Ceramic Engineering BS
Other Courses referencing this course	In The Catalog Prerequisites: CHEM 6330 : Nanomaterials Synthesis, Properties and Applications CHEM 6380 : Inorganic Materials Chemistry

Requested Effective Date	Spring 2027
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	4310
Title	Selected Topics In Inorganic Chemistry
Abbreviated Course Title	Sel Topics In Inorg Chem
Co-Listed Course	

Catalog Description

A study of inorganic chemistry with emphasis on physical methods. General subjects covered include: molecular structure, bonding, complexes, spectroscopy, and reaction rates.

Prerequisite(s):

Chem 3310.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors No

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. 01/15/26 8:12 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 01/21/26 8:53 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:43 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No
Justification	A basic understanding of inorganic chemistry (taught in Chem 3310) is required for a 4xxx level inorganic chemistry course.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 8:53 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 5761

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:16 pm

Viewing: CHEM 4410 : Chemical Thermodynamics II

Last approved: 11/03/14 3:53 am

Last edit: 01/21/26 9:10 am

Changes proposed by: Klaus Woelk (woelkk)

Other Courses referencing this course	In The Catalog Description: CHEM 5410 : Advanced Chemical Thermodynamics

Requested Effective Date	Spring 2027
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	4410
Title	Chemical Thermodynamics II
Abbreviated Course Title	Chem. Thermodynamics II
Co-Listed Course	

Catalog Description

A study of the laws of thermodynamics with application to chemical systems. Emphasis is placed on partial molal functions.

Prerequisite(s):

Chem 2410. ~~3420.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	Yes
Communication	No

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. 04/18/24 9:11 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 04/29/24 11:01 am Jennifer Pohlsander (jpnfd): Rollback to Initiator
3. 01/15/26 8:12 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
4. 01/21/26 9:11 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
5. 01/30/26 1:43 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
6. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for

Intensive	
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

Pending CCC Agenda post

History

1. Nov 3, 2014 by Klaus Woelk (woelkk)

Justification

Degree plan changes require change of prerequisite to new course. Chem 3420 will no longer be offered; the new course in the Chemistry BS and BA degree plans is Chem 2410.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Jennifer Pohlsander (jpnfd) (04/29/24 11:01 am):** Rollback: Please update effective date to Spring 2025 or Fall 2025. **Crystal Wilson (wilsoncry) (01/21/26 9:10 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 2518

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:19 pm

Viewing: CHEM 4420 : Chemical Kinetics II

Formerly known as: **CHEM 4430**

Last approved: 07/31/24 6:04 am

Last edit: 01/21/26 8:51 am

Changes proposed by: Klaus Woelk (woelkk)

Requested Effective Date	Spring 2027
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	4420
Title	Chemical Kinetics II
Abbreviated Course Title	Chemical Kinetics II
Co-Listed Course	

Catalog Description

Advanced treatments of topics in physical chemistry including statistical mechanics and kinetics.

Prerequisite(s):

Chem 2420. ~~3420.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No

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. 01/15/26 8:12 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 01/21/26 8:51 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:43 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Nov 3, 2014 by Klaus Woelk (woelkk)
2. Jul 31, 2024 by Evie

Grading Basis	Graded
Repeatable	No

Sherlock (esdk3)

Justification	Degree plan changes require change of prerequisite to new course. Chem 3420 will no longer be offered; the new course in the Chemistry BS and BA degree plans is Chem 2420.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 8:51 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 1492

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:20 pm

Viewing: CHEM 4510 : Instrumental Methods Of Chemical Analysis

Last approved: 04/25/14 3:06 pm

Last edit: 01/23/26 12:04 pm

Changes proposed by: Klaus Woelk (woelkk)

Programs referencing this course	M CHEM-CTU: Undergraduate Certificate in Medicinal Chemistry CTU EV ENG-BS: Environmental Engineering BS
Other Courses referencing this course	In The Catalog Prerequisites: CHEM 6510 : Separations CHEM 6550 : Chemical Spectroscopy CHEM 6555 : Principles And Applications Of Mass Spectrometry In The Catalog Description: CHEM 5510 : Introduction to Chemical Analysis

Requested Effective Date	Fall 2026
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	4510
Title	Instrumental Methods Of Chemical Analysis
Abbreviated Course Title	Instr Mthds-Chem Analys
Co-Listed Course	

Catalog Description

Principles and analytical applications of molecular spectroscopy, chromatographic separations, mass spectrometry, and radiochemistry. A brief overview of instrument electronics, signal generation and processing, and automated analysis is also provided.

Prerequisite(s):

Chem 3510. ~~3510 and Chem 3430.~~

Corequisite(s):

Credit Hours

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. 01/15/26 8:12 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 01/23/26 12:04 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:44 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Apr 25, 2014 by Lahne Black (lahne)

Credit Hours

Credit Type	Credit Hours
Lecture	3
Laboratory	1

Total: 4

Required for Majors: No ~~Yes~~

Elective for Majors: Yes ~~No~~

Communication Intensive: No

Communication Emphasized: No

Grading Basis: Graded

Repeatable: No

Justification: Eliminate prerequisite Chem 3430 because it will no longer be offered.

Semesters Previously Offered

Term(s) Offered as experimental

Is this a MOTR Course?

Reviewer Comments

Crystal Wilson (wilsoncry) (01/23/26 12:00 pm): Placed period at end of pre-req.

Crystal Wilson (wilsoncry) (01/23/26 12:04 pm): Answered no for required for majors as it is not required for the chem bs degree, it's an elective for the degree.

Key: 688

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:24 pm

Viewing: CHEM 5000 : Special Problems

Last edit: 01/23/26 12:06 pm

Changes proposed by: Klaus Woelk (woelkk)

Requested Effective Date	Fall 2026
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	5000
Title	Special Problems
Abbreviated Course Title	Special Problems
Co-Listed Course	

Catalog Description

Problems or readings on specific subjects or projects in the department.

Prerequisite(s):

~~Preceded or accompanied by Chem 1100 or an equivalent training program approved by S&T.~~Consent of instructor required. ~~required~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Independent Study	0

Total: 0-6

Required for Majors	No
Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	Yes

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. 01/15/26 8:12 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 01/23/26 12:06 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:44 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Justification	Eliminate the prerequisite "Preceded or accompanied by Chem 1100 or an equivalent training program approved by S&T." because CHEM 5000 doesn't necessarily involve laboratory work.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/23/26 12:06 pm):** Placed period at the end of pre-req.

Key: 5766

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:27 pm

Viewing: CHEM 5310 : Introduction to Inorganic Chemistry

Last edit: 01/21/26 8:56 am

Changes proposed by: Klaus Woelk (woelkk)

Requested Effective Date	Spring 2027
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	5310
Title	Introduction to Inorganic Chemistry
Abbreviated Course Title	Intro to Inorganic Chemistry
Co-Listed Course	

Catalog Description

A study of inorganic chemistry with emphasis on physical methods. General subjects covered include: molecular structure, bonding, complexes, spectroscopy, and reaction rates. Graduate students are required to demonstrate a higher level of proficiency during assessments.

Prerequisite(s):

Chem 3310.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

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. 01/15/26 8:12 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 01/21/26 8:56 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:44 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Justification	A basic understanding of inorganic chemistry (taught in Chem 3310) is required for a 5xxx level inorganic chemistry course.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 8:56 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 5769

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:30 pm

Viewing: CHEM 5410 : Advanced Chemical Thermodynamics

Last approved: 11/03/14 3:53 am

Last edit: 01/21/26 8:57 am

Changes proposed by: Klaus Woelk (woelkk)

Requested Effective Date	Spring 2027
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	5410
Title	Advanced Chemical Thermodynamics
Abbreviated Course Title	Adv. Chem Thermodynamics
Co-Listed Course	

Catalog Description

A study of the laws of thermodynamics with application to chemical systems. Emphasis is placed on partial molal functions. Credit will not given for both Chem 5410 and Chem 4410.

Prerequisite(s):

Chem 2410. ~~3420.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

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. 01/15/26 8:12 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 01/21/26 8:57 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:44 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Nov 3, 2014 by Klaus Woelk (woelkk)

Justification	Degree plan changes require change of prerequisite to new course. Chem 3420 will no longer be offered; a basic understanding of chemical thermodynamic (now taught in Chem 2410) is required to be successful in Chem 5410.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 8:57 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 1467

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:33 pm

Viewing: CHEM 5430 : Advanced Chemical Kinetics

Formerly known as: **CHEM 5420**

Last approved: 04/01/15 3:50 am

Last edit: 01/21/26 9:08 am

Changes proposed by: Klaus Woelk (woelkk)

Requested Effective Date	Spring 2027
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	5430
Title	Advanced Chemical Kinetics
Abbreviated Course Title	Adv. Chemical Kinetics
Co-Listed Course	

Catalog Description

Introductory graduate treatment of special topics of physical chemistry including statistical mechanics and kinetics.

Prerequisite(s):

Chem 2420. ~~3430.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No

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. 04/18/24 9:11 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 04/29/24 11:01 am Jennifer Pohlsander (jpnfd): Rollback to Initiator
3. 01/15/26 8:13 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
4. 01/21/26 9:08 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
5. 01/30/26 1:44 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
6. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for

Grading Basis	Graded
Repeatable	No

Pending CCC Agenda post

Justification

Degree plan changes require change of prerequisite to new course. Chem 3430 will no longer be offered; a basic understanding of chemical kinetics and quantum chemistry (now taught in Chem 2420) is required to be successful in Chem 5430.

History

1. Apr 1, 2015 by Klaus Woelk (woelkk)

Semesters Previously Offered

Term(s) Offered as experimental

Is this a MOTR Course?

Reviewer Comments

Jennifer Pohlsander (jpnfd) (04/29/24 11:01 am): Rollback: Please update effective date to Spring 2025 or Fall 2025.

Crystal Wilson (wilsoncry) (01/21/26 9:08 am): Changed effective term to spring 2027 per CCC deadlines.

Key: 2436

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:40 pm

Viewing: CHEM 5630 : Biochemical Nanotechnology

Last approved: 05/08/17 3:15 am

Last edit: 01/21/26 9:13 am

Changes proposed by: Klaus Woelk (woelkk)

Programs referencing this course	BIOENG-PHD: Bioengineering PhD

Requested Effective Date	Spring 2027
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	5630
Title	Biochemical Nanotechnology
Abbreviated Course Title	Bio-Nanotechnology
Co-Listed Course	

Catalog Description

This course will educate on the interdisciplinary areas of bio-nanotechnology. Student will investigate the potential of nanoscience in advanced applications including DNA/protein nanotechnology, drug delivery, environmental biosensor and emerging biotechnology industries. Credit may not be given for both Chem 5630 and Chem 4630.

Prerequisite(s):

Chem 2220 ~~At least junior standing.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	Yes

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. 01/15/26 8:13 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 01/21/26 9:13 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:47 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. May 8, 2017 by Risheng Wang (wangri)

Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

Justification	Adjusting prerequisites to those of Chem 4630 because Chem 4630 and 5630 are taught together as one course. In addition, the former prerequisite, i.e., "At least junior standing", bears no indication of academic progress.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 9:13 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 398

Preview Bridge

Course Change Request

Date Submitted: 12/30/25 8:46 pm

Viewing: CHEM 6450 : Spectroscopy

Last edit: 01/21/26 9:02 am

Changes proposed by: Klaus Woelk (woelkk)

Requested Effective Date	Spring 2027
Department	Chemistry (RCHEMIST)
Discipline	Chemistry (CHEM)
Course Number	6450
Title	Spectroscopy
Abbreviated Course Title	Spectroscopy
Co-Listed Course	

Catalog Description

Introduction to the interaction of electromagnetic radiation with matter. Emphasis on the ultraviolet, visible, and radio portions of the spectrum.

Prerequisite(s):

Chem 2420. ~~Chem 3420 or equivalent.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	No
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

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. 04/18/24 9:10 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 04/29/24 11:01 am Jennifer Pohlsander (jpnfd): Rollback to Initiator
3. 01/15/26 8:13 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
4. 01/21/26 9:02 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
5. 01/30/26 1:47 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
6. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for

Justification	Pending CCC Agenda post
Degree plan changes require change of prerequisite to new course	

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Jennifer Pohlsander (jpnfd) (04/29/24 11:01 am):** Rollback: Please update effective date to Spring 2025 or Fall 2025. **Crystal Wilson (wilsoncry) (01/21/26 9:02 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 235

Preview Bridge

Course Change Request

Date Submitted: 01/09/26 10:28 am

Viewing: EDUC 5370 : ~~TeachersAcademy:~~Effective Instructional Strategies

Formerly known as: **EDUC 4370**

Last approved: 01/26/19 4:56 am

Last edit: 01/21/26 10:25 am

Changes proposed by: Beth Kania-Gosche (bakm75)

Requested Effective Date	Fall 2026
Department	Education (REDUCATION)
Discipline	Education (EDUC)
Course Number	5370
Title	~~TeachersAcademy:~~Effective Instructional Strategies
Abbreviated Course Title	Effective Strategies ~~Teachers Academy~~
Co-Listed Course	

Catalog Description

Participants will develop an understanding of research-based instruction and the ability to implement the instructional strategies in their classrooms. The course ~~In addition to effective instructional practices, the teachers' academy~~ will focus on leadership, empowerment, ~~collaboration~~ and collaboration. ~~renewal.~~

Prerequisite(s):

Graduate standing.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	Yes
Communication	No

In Workflow

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

Approval Path

1. 01/10/26 10:00 am Beth Kania-Gosche (bakm75): Approved for REDUCATION Chair
2. 01/21/26 10:25 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/21/26 12:45 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Mar 26, 2018 by Kelly Carter (carterke)

Intensive	
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

2. Jan 26, 2019 by ershenb

Justification	This course has not been used for over seven years. It was originally titled Teachers' Academy so teachers in professional development programs could enroll in the course, but there was little interest. We are changing the title slightly so the course can be taught for forthcoming graduate certificates and a master's degree. It will no longer be aligned with the Teachers' Academy taught at the Regional Professional Development Center.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	

Key: 2328

Preview Bridge

Course Change Request

Date Submitted: 01/18/26 4:21 pm

Viewing: ENG MGT 4907 : Engineering Management Senior Design

Last approved: 02/09/15 3:18 am

Last edit: 01/21/26 11:01 am

Changes proposed by: Joan Schuman (schumanj)

Programs referencing this course	ENG MG-BS: Engineering Management BS

Requested Effective Date	Spring 2027
Department	Engineering Mgt & Sys Engr (RENGMNGT)
Discipline	Engineering Management (ENG MGT)
Course Number	4907
Title	Engineering Management Senior Design
Abbreviated Course Title	Eng Mgt Senior Design
Co-Listed Course	

Catalog Description

Open-ended design projects will be addressed with small teams. The emphasis will be on solving industry-based projects that are broad in nature and which will require the students to incorporate the knowledge and skills acquired in earlier course work in the solution of the problems.

Prerequisite(s):

Eng Mgt 3320; Preceded or accompanied by Eng Mgt ~~Eng Mgt~~ 4110.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

In Workflow

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

Approval Path

1. 01/18/26 4:33 pm Amaury Lendasse (altmg): Approved for RENGMNGT Chair
2. 01/21/26 11:01 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/22/26 1:34 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Required for Majors	Yes
Elective for Majors	No
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

History

1. Feb 9, 2015 by Stephen Raper (sraper)

Justification	To improve student success into the senior design class (Eng Mgt 4907) students also need to have project management knowledge prior.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 11:01 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 164

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 01/15/26 4:37 pm

Viewing: MATH 5670 : Scientific Programming with Python

Last edit: 01/28/26 9:01 am

Changes proposed by: John Singler (singlerj)

Programs referencing this course	PROPOSED: Data Science BS PROPOSED: Data Science MS

Requested Effective Date	Fall 2026
Department	Mathematics & Statistics (RMATHEMA)
Discipline	Mathematics (MATH)
Course Number	5670
Title	Scientific Programming with Python
Abbreviated Course Title	Python Scientific Prog.
Co-Listed Course	

Catalog Description

This course introduces scientific programming using Python and its associated libraries. Students develop computational skills to formulate, implement, and solve a variety of mathematical problems, as well as to create clear reports and informative visualizations. No prior knowledge of Python is required.

Prerequisite(s):

Math 3108.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors No

In Workflow

1. **RMATHEMA 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. 01/15/26 4:38 pm John Singler (singlerj): Approved for RMATHEMA Chair
2. 01/28/26 9:01 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:50 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

Justification	This course is an elective for the proposed BS and MS data science degrees (the DC forms will be submitted soon). This course was run experimentally as Math 5001 in Fall 2025 with 48 students (total in two sections) and Fall 2024 with 48 students (total in two sections).

Semesters Previously Offered

Term(s) Offered as experimental	
Previous Course Code	
Is this a MOTR Course?	

Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 3:54 pm):** Placed period at end of pre-req. Answered 'No' to CI and CE per department request. **Crystal Wilson (wilsoncry) (01/28/26 9:01 am):** Confirm course was taught as Math 5001 fall 2024 with 48 enrolled for two sections and fall 2025 with 48 enrolled for two sections.

Key: 10366

Preview Bridge

Course Change Request

Date Submitted: 01/20/26 9:26 am

Viewing: MATH 5680 : Mathematics of Machine Learning

Last approved: 05/04/22 6:01 am

Last edit: 01/28/26 8:52 am

Changes proposed by: John Singler (singlerj)

Programs referencing this course	AP MATH-BS: Applied Mathematics BS PROPOSED: Data Science BS PROPOSED: Data Science MS

Requested Effective Date	Spring 2027
Department	Mathematics & Statistics (RMATHEMA)
Discipline	Mathematics (MATH)
Course Number	5680
Title	Mathematics of Machine Learning
Abbreviated Course Title	Math of Machine Learning
Co-Listed Course	

Catalog Description

This course introduces machine learning from a mathematical and computational perspective, with an emphasis on the mathematical principles underlying learning algorithms. Topics include data representation and preprocessing, supervised and unsupervised learning methods, model evaluation, and visualization techniques. Students will implement core algorithms using Python and standard scientific computing libraries. Upon completion, students will be able to design, implement, and assess machine learning models for data-driven decision making. ~~Mathematics, programming, data analysis, and graphics associated with machine learning.Probability, Naïve Bayes classifier, stochastic gradient descent, self-organizing maps, decision trees and other tree-based methods, perception, reinforcement learning, keras, and neural networks.These topics will be treated from a mathematical viewpoint.~~

Prerequisite(s):

A grade of "C" or better in Math 5670. ~~2222; programming competency.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours

In Workflow

1. **RMATHEMA 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. 01/20/26 9:27 am John Singler (singlerj): Approved for RMATHEMA Chair
2. 01/20/26 9:47 am Crystal Wilson (wilsoncry): Rollback to RMATHEMA Chair for CCC Secretary
3. 01/20/26 9:51 am John Singler (singlerj): Approved for RMATHEMA Chair
4. 01/28/26 8:53 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
5. 01/30/26 1:51 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
6. 01/30/26 4:11 pm Crystal Wilson

Credit Type	Credit Hours
Lecture	3

Total: 3

(wilsoncry): Approved for Pending CCC Agenda post

History

1. May 4, 2022 by Paul Runnion (prunnion)

Required for Majors	No
Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

Justification	The changes to the course description and the prerequisite are proposed due to instructor experience teaching the course multiple times. Note that MATH 5670 is proposed and has been offered as MATH 5001 multiple times. The instructor partly designed MATH 5670 specifically to better prepare students for MATH 5680.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	

Reviewer Comments	**Crystal Wilson (wilsoncry) (01/20/26 9:47 am):** Rollback: Rollback per department request to update pre-reqs. **Crystal Wilson (wilsoncry) (01/28/26 8:41 am):** Adding a comment from the department as to why this is not a >50% change. Per Dr. Singler, "There is no massive change. The current description on Joe'ss is too broad and vague, and I made the current one more precise." **Crystal Wilson (wilsoncry) (01/28/26 8:52 am):** Changed effective term to spring 2027 per CCC deadlines.

Key: 4866

Preview Bridge

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 12/05/25 1:58 pm

Viewing: MET ENG 3330 : Metallurgical Thermodynamics I

Last edit: 02/02/26 3:16 pm

Changes proposed by: David Lipke (lipked)

Justification for this inactivation request

Replaced with Met Eng 3230

Requested Effective Date	Spring 2027
Department	Materials Science & Engineering (RMATSENG)
Discipline	Metallurgical Engineering (MET ENG)
Course Number	3330
Title	Metallurgical Thermodynamics I
Abbreviated Course Title	Metallurgical Thermo I
Co-Listed Course	

Catalog Description

Thermodynamic laws and thermodynamic functions and their relation to problems of metallurgical interest, thermochemistry, thermophysics, and chemical or phase equilibria.

Prerequisite(s):

Met Eng 1210 or Chem 1320.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors: No

Elective for Majors

Communication Intensive

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

Approval Path

1. 12/05/25 4:35 pm Michael Moats (moatsm): Approved for RMATSENG Chair
2. 12/24/25 10:17 am Jade McCain (jm558v): Approved for CCC Secretary
3. 01/22/26 1:34 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Communication Emphasized	
Grading Basis	Graded
Repeatable	No

Justification

Semesters Previously Offered

Term(s) Offered as experimental	
Previous Course Code	
Is this a MOTR Course?	
Reviewer Comments	**Crystal Wilson (wilsoncry) (02/02/26 3:16 pm):** Changed end term to spring 2027 per CCC deadlines as this is an affecting change.

Key: 8943

Preview Bridge

Course Change Request

Date Submitted: 12/23/25 2:06 pm

Viewing: MET ENG 4450 : Steelmaking

Last approved: 10/19/15 3:34 am

Last edit: 02/02/26 3:17 pm

Changes proposed by: David Lipke (lipked)

Programs referencing this course	MT ENG-BS: Metallurgical Engineering BS

Requested Effective Date	Spring 2027
Department	Materials Science & Engineering (RMATSENG)
Discipline	Metallurgical Engineering (MET ENG)
Course Number	4450
Title	Steelmaking
Abbreviated Course Title	Steelmaking
Co-Listed Course	

Catalog Description

Introduction to the fundamentals and unit processes used to turn impure iron and scrap into steel. Includes desulfurization, BOF and electric furnace operations, ladle metallurgy, casting, and stainless steel manufacture.

Prerequisite(s):

Grade of "C" or better in Cer Eng 3230 or Met Eng 3230. ~~3330.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors	No
Elective for Majors	Yes

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

Approval Path

1. 12/23/25 2:40 pm Michael Moats (moatsm): Approved for RMATSENG Chair
2. 12/24/25 10:18 am Jade McCain (jm558v): Approved for CCC Secretary
3. 01/22/26 1:34 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Oct 19, 2015 by F. Scott Miller (smiller)

Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

Justification	Updating pre-requisite course number due to planned course inactivation.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	

Reviewer Comments	**Jade McCain (jm558v) (12/24/25 10:15 am):** Selected "no" for communication emphasized and communication intensive. **Crystal Wilson (wilsoncry) (02/02/26 3:17 pm):** Changed effective date to spring 2027 per CCC deadlines as this is an affecting change.

Key: 1290

Preview Bridge

Course Change Request

Date Submitted: 12/05/25 4:38 pm

Viewing: MET ENG 5220 : Recent Advances In Extractive Metallurgy

Last edit: 02/02/26 3:17 pm

Changes proposed by: David Lipke (lipked)

Requested Effective Date	Spring 2027
Department	Materials Science & Engineering (RMATSENG)
Discipline	Metallurgical Engineering (MET ENG)
Course Number	5220
Title	Recent Advances In Extractive Metallurgy
Abbreviated Course Title	Rec Advances Extract Met
Co-Listed Course	

Catalog Description

A survey of extractive processes recently developed in the light of modern requirements with respect to raw materials, product quality, environmental impact, energy consumption, capital cost and process control.

Prerequisite(s):

Met Eng 3230. ~~4350.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3 ~~2~~

Total: 3 ~~2~~

Required for Majors	No
Elective for Majors	Yes
Communication Intensive	No
Communication Emphasized	No

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

Approval Path

1. 12/05/25 4:36 pm Michael Moats (moatsm): Rollback to Initiator
2. 12/23/25 2:40 pm Michael Moats (moatsm): Approved for RMATSENG Chair
3. 12/24/25 10:18 am Jade McCain (jm558v): Approved for CCC Secretary
4. 01/22/26 1:34 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
5. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Grading Basis	Graded
Repeatable	No
Justification	Given the emergence of critical minerals, this course is currently planned to be offered in even years (opposite Refining of Metals in odd years) as a 3-credit hour Met Eng elective. The pre-requisite has been updated to Met Eng 3230 (Thermodynamics of Materials) based on instructor feedback.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Michael Moats (moatsm) (12/05/25 4:36 pm):** Rollback: Pre-req needs to be different **Crystal Wilson (wilsoncry) (02/02/26 3:17 pm):** Changed effective date to spring 2027 per CCC deadlines as this is an affecting change.

Key: 8968

Preview Bridge

Course Change Request

Date Submitted: 12/23/25 2:07 pm

Viewing: MET ENG 5450 : Advanced Steelmaking

Last approved: 10/19/15 3:34 am

Last edit: 02/02/26 3:17 pm

Changes proposed by: David Lipke (lipked)

Programs referencing this course	IRON-CT: Iron and Steel Metallurgy Certificate

Requested Effective Date	Spring 2027
Department	Materials Science & Engineering (RMATSENG)
Discipline	Metallurgical Engineering (MET ENG)
Course Number	5450
Title	Advanced Steelmaking
Abbreviated Course Title	Advanced Steelmaking
Co-Listed Course	

Catalog Description

This course is designed to provide students with an enhanced understanding of the chemistry and physics of ironmaking, steelmaking and casting, to apply these concepts to a wide range of problems in modern steelmaking and casting operations, and to perform advanced design and operational calculations associated with refining and continuous casting processes.

Prerequisite(s):

Grade of "C" or better in Cer Eng 3230 or Met Eng 3230. ~~3330.~~

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors: No

Elective for Majors: Yes ~~No~~

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

Approval Path

1. 12/23/25 2:40 pm Michael Moats (moatsm): Approved for RMATSENG Chair
2. 12/24/25 10:18 am Jade McCain (jm558v): Approved for CCC Secretary
3. 01/22/26 1:34 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Oct 19, 2015 by F. Scott Miller (smiller)

Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No
Justification	Updating pre-requisite course number due to planned course inactivation.

Semesters Previously Offered

Term(s) Offered as experimental	
Is this a MOTR Course?	
Reviewer Comments	**Jade McCain (jm558v) (12/24/25 10:17 am):** Selected "no" for communication emphasized and communication intensive, selected "yes" for elective for major. **Crystal Wilson (wilsoncry) (02/02/26 3:17 pm):** Changed effective date to spring 2027 per CCC deadlines as this is an affecting change.

Key: 1455

Preview Bridge

Course Change Request

Date Submitted: 12/18/25 10:33 am

Viewing: MUSIC 1150 : Music ~~Understanding And~~ Appreciation

Last edit: 12/23/25 1:27 pm

Changes proposed by: Irina Ivliyeva (ivliyeva)

Programs referencing this course	AP MATH-BS: Applied Mathematics BS CHEM-BA: Chemistry BA MUSIC-MI: Music Minor PSYCH-BA: Psychological Science BA ECON-BA: Economics BA ECON-BS: Economics BS PROPOSED: Data Science BS
Other Courses referencing this course	In The Catalog Prerequisites: HISTORY 3722 : Kings, Queens, and Guillotines: History of Music in the Enlightenment and Beyond MUSIC 3251 : From the Church to the Palace: Music of the Middle Ages and Renaissance MUSIC 3252 : Kings, Queens, and Guillotines: History of Music in the Enlightenment and Beyond

Requested Effective Date	Fall 2026
Department	Arts, Languages & Philosophy (RPHILOSO)
Discipline	Music (MUSIC)
Course Number	1150
Title	Music ~~Understanding And~~ Appreciation
Abbreviated Course Title	Music Appreciation ~~Mus Undrstandng & Apprec~~
Co-Listed Course	

Catalog Description

A study of the development of music with emphasis on understanding music forms and the role music has played in the various historical periods.

Prerequisite(s):

Corequisite(s):

Credit Hours

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. CAT entry
11. Peoplesoft

Approval Path

1. 10/18/18 1:22 pm Audra Merfeld-Langston (audram): Rollback to Initiator
2. 12/18/25 10:38 am Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
3. 12/23/25 1:29 pm Jade McCain (jm558v): Approved for CCC Secretary
4. 01/29/26 1:18 pm Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
5. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Credit Hours	Credit Type	Credit Hours
	Lecture	3
Total:	3	

Required for Majors: No

Elective for Majors: Yes ~~No~~

Communication Intensive: No

Communication Emphasized: No

Grading Basis: Graded

Repeatable: No

Justification: MUSIC 1150 - MOTR MUSC 100: Music Appreciation is listed in the current catalogue. Correcting the filing errors in course title and description (from 2018 and 2020) to align with the current listing in the catalogue.

Music 1151 is a separate course, titled Music of Latin America, which is also listed in the catalogue: MUSIC 1151 Music of Latin America (LEC 3.0)
Music of Latin America will have an emphasis on music as a universal language. Students will gain an understanding that all cultures have a musical tradition, and recognizing this tradition contributes to the appreciation of each culture. Course will include discussions of Latin American influences on classical and Latino popular music.
these are separate courses.

Semesters Previously Offered

Term(s) Offered as experimental

Is this a MOTR Course?

Reviewer Comments: **Audra Merfeld-Langston (audram) (10/18/18 1:22 pm):** Rollback: Music Appreciation: Music of Latin America is a separate class and requires an EC form, not a CC form.
Jade McCain (jm558v) (12/23/25 1:27 pm): Selected "yes" for elective for majors and selected "no" for communication emphasized and communication intensive.
Jade McCain (jm558v) (12/23/25 1:27 pm): Changed requested effective date to Fall 2026 per CCC deadlines.

Key: 2193

Preview Bridge

Program Change Request

Date Submitted: 01/16/26 12:16 pm

Viewing: AE ENG-BS : Aerospace Engineering BS

Last approved: 12/24/25 9:33 am

Last edit: 01/20/26 9:50 am

Changes proposed by: Nishant Kumar (nkwtb)

Catalog Pages Using this Program

Aerospace Engineering

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Bachelor of Science
Academic Level	Undergraduate
Program Code	AE ENG-BS
Department	Mechanical & Aerospace Engineering
Discipline	Aerospace Engineering

Title

Aerospace Engineering BS

CIP Code

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

Approval Path

1. 01/16/26 12:33 pm David Bayless (djbkqf): Approved for RMECHENG Chair
2. 01/20/26 9:51 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/22/26 1:34 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Apr 28, 2014 by J. Keith Nisbett (nisbett)
2. Aug 1, 2014 by pantaleoa

3. Jul 14, 2015 by pantaleoa
4. Mar 27, 2017 by Shauntae Ellis (smetg6)
5. Nov 2, 2018 by Kakkattukuzhy Isaac (isaac)
6. Jun 14, 2019 by ershenb
7. Mar 3, 2020 by ershenb
8. Oct 28, 2021 by J. Keith Nisbett (nisbett)
9. May 2, 2022 by J. Keith Nisbett (nisbett)
10. Apr 30, 2024 by J. Keith Nisbett (nisbett)
11. Jul 1, 2025 by Nishant Kumar (nkwtb)
12. Jul 1, 2025 by Jade McCain (jm558v)
13. Dec 24, 2025 by Nishant Kumar (nkwtb)

Bachelor of Science
Aerospace Engineering

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

Students must comply with the requirements specified in the current online catalog published by the registrar. For the bachelor of science degree in aerospace engineering a minimum of 128 credit hours is required. These requirements are in addition to credit received for algebra, trigonometry, and basic ROTC courses. An average of at least two grade points per credit hour must be attained. At least two grade points per credit hour must also be attained in all courses taken in aerospace engineering.

Freshman Year

First Semester	Credits	Second Semester	Credits
FR ENG 1100	1	MECH ENG 1720	3
CHEM 1305[4]	4	MATH 1215[4]	4
CHEM 1319	1	PHYSICS 1135[4]	4

ENGLISH 1120	3	Gen. Ed. Elective[2]	3
MATH 1214 or 1211[4]	4		
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
	16		14
Sophomore Year			
First Semester	Credits	Second Semester	Credits
CIV ENG 2200[4]	3	AERO ENG 2780	2
MATH 2222[4]	4	AERO ENG 2360[4]	3
PHYSICS 2135[4]	4	MECH ENG 2519[4]	3
AERO ENG 2861[4]	3	MATH 3304[4]	3
Programming elective[1]	3	CIV ENG 2210[4]	3
		AERO ENG 2790	2
	17		16
Junior Year			
First Semester	Credits	Second Semester	Credits
AERO ENG 3613[4]	3	AERO ENG 3251[4]	3
AERO ENG 3131[4]	3	AERO ENG 3361	3
ELEC ENG 2800	3	AERO ENG 3171	3
MET ENG 2110	3	AERO ENG 4882	2
Electives-Advanced Math/Stat[5]	3	General Elective - Ethics[3]	3
		ENGLISH 1160, or 3560, or SPM S 1185	3
	15		17
Senior Year			
First Semester	Credits	Second Semester	Credits
AERO ENG 4535	3	AERO ENG 4781 or 4791	3
AERO ENG 4253	3	Electives-Technical[6]	3
AERO ENG 4780 or 4790	3	Electives-Technical[6]	3
AERO ENG 4883	2	AERO ENG 4885	1
Electives-Technical[6]	3	Gen. Ed. Elective[2]	3
Gen. Ed. Elective[2]	3	Gen. Ed. Elective[2]	3
	17		16

Total Credits: 128

1

The programming elective consists of a lecture and lab combination, and may be selected from 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.

2

Gen. Ed. Elective must fulfill the Missouri S&T general education requirements applicable to the student's catalog year.

3

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

4

A grade of "C" or better in CHEM 1305, MATH 1214 or MATH 1211, MATH 1215, MATH 2222, MATH 3304, PHYSICS 1135, PHYSICS 2135, CIV ENG 2200, CIV ENG 2210, and computer programming elective, AERO ENG 2360, AERO ENG 2861, and MECH ENG 2519, as prerequisite for follow-up courses in the curriculum and for graduation.

5

Must be one of the following: MATH 3108, STAT 3113, or any 5000-level math/stat course approved by the student's advisor.

6

Electives must be approved by the student's advisor. Nine hours of technical electives must be in mechanical and aerospace engineering. Three hours of departmental technical electives must be at the 5000-level. AERO ENG 3877 and the 5000-level Asteroid Mining course co-listed with geological engineering are not to be used for 5000-level technical elective.

Justification for request	The change reflects the decision of our AE technical committee to treat this as an advanced math/stat elective course with no option for students to select an AE or Comp Sci engineering course to satisfy the requirement of this course.
Attach Budget	
System Approval Letter	
MDHE Approval	
Supporting Documents	
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/20/26 9:50 am):** Updated start term to fall 2026. Removed stat 3115 from footnote 5 as this course will no longer be offered.

Key: 141

Program Change Request

Date Submitted: 01/13/26 12:05 pm

Viewing: BIO SC-BA : Biological Sciences BA

Last approved: 12/24/25 9:34 am

Last edit: 01/13/26 12:05 pm

Changes proposed by: Katie Shannon (shannonk)

Catalog Pages Using this Program

Biological Sciences

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Bachelor of Arts
Academic Level	Undergraduate
Program Code	BIO SC-BA
Department	Biological Sciences
Discipline	Biological Sciences
Title	Biological Sciences BA
CIP Code	26.0101 - Biology/Biological Sciences, General.

Program Requirements and Description

In Workflow

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

Approval Path

1. 01/14/26 10:05 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
2. 01/20/26 9:35 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:42 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Aug 1, 2014 by Katie Shannon (shannonk)
2. Jul 14, 2015 by pantaleoa
3. Oct 7, 2016 by Katie Shannon

(shannonk)
4. Jun 28, 2017 by Katie Shannon (shannonk)
5. Nov 14, 2017 by Katie Shannon (shannonk)
6. Jun 18, 2018 by Katie Shannon (shannonk)
7. Jul 1, 2020 by Katie Shannon (shannonk)
8. Feb 3, 2021 by Katie Shannon (shannonk)
9. Jun 10, 2021 by Katie Shannon (shannonk)
10. Jun 14, 2022 by Katie Shannon (shannonk)
11. Jun 30, 2022 by Jennifer Pohlsander (jpnfd)
12. Jun 30, 2022 by Evie Sherlock (esdk3)
13. Jun 1, 2023 by Jennifer Pohlsander (jpnfd)
14. Jun 2, 2023 by Jennifer Pohlsander (jpnfd)
15. Jul 5, 2024 by Crystal Wilson (wilsoncry)
16. Oct 25, 2024 by Katie Shannon (shannonk)
17. Jul 1, 2025 by Crystal Wilson (wilsoncry)
18. Aug 27, 2025 by Crystal Wilson (wilsoncry)
19. Dec 24, 2025 by Crystal Wilson (wilsoncry)

Bachelor of Arts
Biological Sciences
Degree Requirements

Specific requirements for the B.A. degree in biological sciences include a minimum of 120 semester hours of credit, including 30 hours of biology core courses. A "C" or better is required for all Biological Science courses. General Requirements for the B.A. must fulfill the Missouri S&T general education requirements applicable to the student's catalog year.

Core Courses		
BIO SCI 1201	Biological Sciences First Year Seminar	1
BIO SCI 1113	General Biology	3
or BIO SCI 1213	Principles of Biology	
BIO SCI 1219	General Biology Lab	1
BIO SCI 1223	Biodiversity	3
BIO SCI 1229	Biodiversity Lab	1
BIO SCI 2213	Cell Biology	3
BIO SCI 2219	Cell Biology Laboratory	1
BIO SCI 2223	General Genetics	3
BIO SCI 2263	Ecology	3
BIO SCI 3233	Evolution	3
~~BIO SCI 4010~~	~~Seminar~~	~~1~~
Advanced courses, 2000 level or higher (at least one with laboratory and one 3000 or 4000 level)		9
BIO SCI 4020	Senior Service Project	1
Chemistry		
CHEM 1310	General Chemistry I	4
CHEM 1319	General Chemistry Laboratory	1
CHEM 1320	General Chemistry II	3
CHEM 1100	Introduction To Laboratory Safety & Hazardous Materials	1
CHEM 2210	Organic Chemistry I	3
CHEM 2220	Organic Chemistry II	3
Mathematics & Physical Science		
Various courses in mathematics, physics, and/or geology chosen in consultation with academic advisor. (Note: Proficiency in College Algebra must be demonstrated by a grade of "C" or better in a College Algebra course or by examination)		9
Computer Science/Statistics (Select one of the following:)		
COMP SCI 1570 & COMP SCI 1580	Introduction To C++ Programming and Introduction To Programming Laboratory	4

COMP SCI 1971 & COMP SCI 1981	Introduction To Programming Methodology and Programming Methodology Laboratory	3
STAT 3425	Introduction to Biostatistics	4
General Requirements for BA		
English Composition		
ENGLISH 1120	Exposition And Argumentation	3
One additional composition course		3
Western Civilizations		
HISTORY 1100	Early Western Civilization	3
HISTORY 1200	Modern Western Civilization	3
Foreign Language (three semesters of a foreign language)		12
Humanities (including one class in each of literature, philosophy, and fine arts)		12
Social Sciences (including classes in two of the following three subjects: economics, political science, psychology)		12

Elective credits: In consultation with his or her advisor, each student will elect sufficient additional courses to complete a minimum of 120 credit hours.

Bachelor of Arts

Biological Sciences

Pre-Medicine Emphasis Area

Degree Requirements

The student will fulfill the requirements for a bachelor of arts in biological sciences as outlined above. The following classes are also required:

CHEM 2219	Organic Chemistry I Lab	1
CHEM 2229	Organic Chemistry II Lab	1
2 semesters of Physics and labs:		
PHYSICS 1145	College Physics I	4
or PHYSICS 1135	Engineering Physics I	
PHYSICS 2145	College Physics II	4
or PHYSICS 2135	Engineering Physics II	

The following classes are highly recommended:

BIO SCI 3333	Human Anatomy and Physiology I	3
BIO SCI 3343	Human Anatomy and Physiology II	3
BIO SCI 3359	Physiology Lab	1
CHEM 4610	General Biochemistry	3
PREMED 3010	Communication Workshop for the Pre-Health Student	1

Bachelor of Arts
Biological Sciences
Secondary Education Emphasis Area
Degree Requirements

You may earn a B.A. degree in biological sciences from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with this emphasis area. This program can be completed in four academic years, and student teaching is arranged with public schools anywhere in the state.

Students interested in this emphasis area should consult with the advisor for biological sciences education majors in the biological sciences department.

In order to successfully complete this emphasis area, students must have an 3.0 education GPA. Students must also pass the appropriate content assessment. Students must attain at least a 2.5 GPA for all biology courses and professional education courses required by the Missouri Department of Elementary and Secondary Education for teacher certification. This program is approved by the Missouri Department of Elementary and Secondary Education. License reciprocity determinations outside of Missouri can be found at https://teaching.missouri.edu/student/state-authorization/mst/licensure. Students must also meet all requirements listed under the teacher education website including passing the state-required assessments.

A degree in this emphasis area requires 127 credit hours. The required courses are provided below. A minimum grade of "C" is required by the department in all biological sciences courses counted toward this degree. Humanities and Social Science courses for the B.A. must fulfill the Missouri S&T general education requirements applicable to the student's catalog year.

Humanities: 18 semester hours		
ENGLISH 1120	Exposition And Argumentation	3
ENGLISH 1160	Writing And Research	3
or ENGLISH 3560	Technical Writing	
SP&M S 1185	Principles Of Speech	3
At least one course in each of the following: Literature, Philosophy and Fine Arts		9
Social Sciences: 15 semester hours		
HISTORY 3530	History of Science	3
HISTORY 1100	Early Western Civilization	3
HISTORY 1200	Modern Western Civilization	3
POL SCI 1200	American Government	3
PSYCH 1101	General Psychology	3
Mathematics/Physical Science: 9 semester hours		
MATH 1103	Fundamentals Of Algebra [1]	3
PHYSICS 1145	College Physics I	3
or PHYSICS 1505	Introductory Astronomy	
GEOLOGY 1110	Physical and Environmental Geology	3
Computer Science/Statistics: 3 semester hours		
3 semester hours of Computer Science or Statistics		3

Chemistry: 15 semester hours		
CHEM 1310	General Chemistry I	4
CHEM 1319	General Chemistry Laboratory	1
CHEM 1320	General Chemistry II	3
CHEM 1100	Introduction To Laboratory Safety & Hazardous Materials	1
CHEM 2210	Organic Chemistry I	3
CHEM 2220	Organic Chemistry II	3
Biological Sciences: 26 semester hours		
BIO SCI 1201	Biological Sciences First Year Seminar	1
BIO SCI 1213	Principles of Biology	3
or BIO SCI 1113	General Biology	
BIO SCI 1219	General Biology Lab	1
BIO SCI 1223	Biodiversity	3
BIO SCI 1229	Biodiversity Lab	1
BIO SCI 1173	Introduction to Environmental Sciences	3
BIO SCI 2213	Cell Biology	3
BIO SCI 2219	Cell Biology Laboratory	1
BIO SCI 2223	General Genetics	3
BIO SCI 2263	Ecology	3
BIO SCI 3233	Evolution	3
~~BIO SCI 4010~~	~~Seminar~~	~~1~~
BIO SCI 4020	Senior Service Project	1
Education: 41 semester hours		
EDUC 1074	Foundations of Education in a Diverse Society	3
EDUC 1104	Teacher Field Experience I	1
EDUC 1164	Teacher Field Experience II	2
EDUC 2310	Education Of The Exceptional Child	3
EDUC 3170	Teaching Reading and Writing in Middle/High School	3
EDUC 3216	Instructional Literacy in the Content Area	3
EDUC 3280	Instructional Strategies in the Content Area	3
EDUC 3298	Teacher Field Experience III	1
EDUC 3340	Assessment of Student Learning	3
EDUC 4298	Student Teaching Seminar	1
EDUC 4299	Student Teaching	12

PSYCH 2300/ EDUC 2102	Educational Psychology	3
PSYCH 3310	Developmental Psychology	3

1

MATH 1103 does not count towards mathematics Gen. Ed. requirement.

Justification for request	Senior Seminar is being replaced with Senior Service Learning
Attach Budget	
System Approval Letter	
MDHE Approval	
Supporting Documents	
Reviewer Comments	

Key: 146

Program Change Request

Date Submitted: 01/15/26 4:59 pm

Viewing: CHEMPRO-CT : Chemical Process Engineering CT

Last approved: 11/14/22 9:48 am

Last edit: 01/23/26 2:51 pm

Changes proposed by: Jee C. Wang (jcwang)

Catalog Pages Using this Program

Chemical & Biochemical Engineering

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Certificate
Academic Level	Graduate
Program Code	CHEMPRO-CT
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering

Title

Chemical Process Engineering CT

CIP Code	14.0701 - Chemical Engineering.

Intended Audience

Main Campus Students

Program-Specific Admission

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

Approval Path

1. 12/09/25 12:46 pm Ryan Gilbert (rggnx): Approved for RCHEMENG Chair
2. 12/15/25 3:50 pm Jade McCain (jm558v): Approved for CCC Secretary
3. 12/16/25 8:11 am Jade McCain (jm558v): Rollback to RCHEMENG Chair for Engineering DSCC Chair
4. 01/13/26 7:42 am Crystal Wilson (wilsoncry): Rollback to Initiator
5. 01/16/26 1:25 pm Ryan Gilbert (rggnx): Approved for RCHEMENG Chair
6. 01/23/26 2:53 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary

7. 01/29/26 2:36 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
8. 01/30/26 4:10 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Feb 3, 2021 by Jee C. Wang (jcwang)
2. Nov 14, 2022 by Jee C. Wang (jcwang)

The graduate certificate in Chemical Process Engineering allows working professionals to add to skills relevant to their career while developing a deeper understanding of chemical engineering fundamentals.

The graduate certificate program is open to all individuals holding a bachelor's degree in chemical engineering or a closely allied discipline with an overall GPA of 3.0 or those holding a bachelor's degree in chemical engineering or a closely allied discipline with an overall GPA of 2.75 and having a minimum of one year of work experience.

Students admitted to the certificate program will have non-degree graduate status, but will earn graduate credit for the courses they complete. In order to receive a Graduate Certificate, the student must have an average graduate cumulative grade point of 3.0 or better on a 4.0 scale in the certificate courses taken.

If the four-course sequence approved by the graduate advisor is completed with a grade of B or better in each of the courses taken, the student will, upon application, be admitted to the Master of Science in Chemical Engineering program. The certificate courses taken by students admitted to the program will count towards the M.S. in Chemical Engineering program.

Core Courses: Select two from the following courses		
CHEM ENG 5100	Intermediate Transport Phenomena	3
CHEM ENG 5110	Intermediate Chemical Reactor Design	3
CHEM ENG 5150	Intermediate Process Computing	3
CHEM ENG 5220	Intermediate Engineering Thermodynamics	3
Elective Courses: Select two additional 3-credit Chem Eng courses at the 5000 or 6000-level		
CHEM ENG 5120	Interfacial Phenomena In Chemical Engineering	3
CHEM ENG 5130	Risk Assessment and Reduction	3
CHEM ENG 5161	Intermediate Molecular Engineering	3
CHEM ENG 5170	Physical Property Estimation	3
CHEM ENG 5190	Plantwide Process Control	3
CHEM ENG 5200	Advanced Thermal Properties of Ceramics	3
CHEM ENG 5210	Intermediate Biochemical Reactors	3

CHEM ENG 5242	Intermediate Chemical Process Safety	3
CHEM ENG 5250	Isolation and Purification of Biologicals	3
CHEM ENG 5300	Principles Of Engineering Materials	3
CHEM ENG 5305	Hazardous Materials Management	3
CHEM ENG 5310	Structure and Properties of Polymers	3
CHEM ENG 5315		3
CHEM ENG 5325	Carbon Capture Process Engineering	3
CHEM ENG 5320	Introduction to Nanomaterials	3
CHEM ENG 5330	Alternative Fuels	3
CHEM ENG 5335	Introduction to Process Intensification	3
CHEM ENG 5340	Principles of Environmental Monitoring	3
CHEM ENG 5350	Environmental Chemodynamics	3
CHEM ENG 6100	Advanced Chemical Engineering Thermodynamics	3
CHEM ENG 6110	Advanced Transport Phenomena	3
CHEM ENG 6120	Applied Mathematics In Chemical Engineering	3
CHEM ENG 6140	Applied Optimization In Chemical Engineering	3
CHEM ENG 6150	Molecular Modeling and Simulation	3
CHEM ENG 6180	Advanced Applications of Computational Fluid Dynamics	3
~~CHEM ENG 6241~~	~~Course CHEM ENG 6241 Not Found~~	~~3~~
CHEM ENG 6300	Biomaterials II	3
~~CHEM ENG 6310~~	~~Nanomaterials~~	~~3~~
CHEM ENG 6330	Physicochemical Operations In Environmental Engineering Systems	3

Justification for request	1) CHEM ENG 6310 is the co-listed course number of MS&EE 6230 Nanomaterials, which was inactivated by the MS&EE department. Part of this request is to replace it with a relevant and popular new technical elective course titled "CHEM ENG 5335 Introduction to Process Intensification" 2) CHEM ENG 6241 Intermediate Chemical Process Safety was changed by the department to CHEM ENG 5242 with the same course title. Part of this request is to make this replacement to reflect the course number change
Attach Budget	
System Approval Letter	
MDHE Approval	
Supporting Documents	Campus Approval for Chemical Processing Engineering graduate certificate DC form.pdf 12232025 Revised Chem Process Engineering (002).pdf

Reviewer Comments

Jade McCain (jm558v) (12/16/25 8:11 am): Rollback: Rollback per needs approval paperwork.

Crystal Wilson (wilsoncry) (01/13/26 7:42 am): Rollback: Rollback to Dr. Wang for updates.
Crystal Wilson (wilsoncry) (01/16/26 9:50 am): Attached approval memos.
Crystal Wilson (wilsoncry) (01/23/26 2:51 pm): Removed Chem Eng 5251 as it was not listed on the approved revised paperwork. Department was notified to submit approved revised paperwork if they are going to add the course.

Key: 372

Program Change Request

Date Submitted: 01/18/26 5:07 pm

Viewing: ENG MGT-MI : Engineering Management Minor

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

Last edit: 01/18/26 5:07 pm

Changes proposed by: Joan Schuman (schumanj)

In Workflow

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

Catalog Pages Using this Program

Engineering Management

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Minor
Academic Level	Undergraduate
Program Code	ENG MGT-MI
Department	Engineering Mgt & Sys Engr
Discipline	Engineering Management

Title

Engineering Management Minor

CIP Code

Program Requirements and Description

Approval Path

1. 01/18/26 3:11 pm Amaury Lendasse (altmg): Rollback to Initiator
2. 01/18/26 4:43 pm Amaury Lendasse (altmg): Rollback to Initiator
3. 01/18/26 5:23 pm Amaury Lendasse (altmg): Approved for RENGMNGT Chair
4. 01/27/26 1:34 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary
5. 01/29/26 2:39 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
6. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Apr 28, 2014 by Stephen Raper (sraper)
2. Jul 20, 2015 by pantaleoa
3. Jun 18, 2018 by Stephen Raper (sraper)

Minor in Engineering Management

A student who receives a bachelor of science degree in an accredited ~~engineering~~ program ~~or Computer Science~~ from Missouri S&T may receive a minor in engineering management by completing 14-15 ~~15~~ hours of the courses listed below. ~~below.~~

ENG MGT 1210	Economic Analysis of Engineering Projects	2
or ENG MGT XXXX NOT TO INCLUDE ENG MGT 1100	Course ENG MGT XXXX NOT TO INCLUDE ENG MGT 1100 Not Found	
ENG MGT 2211	Engineering Accounting and Finance	3
ENG MGT 3310	Operations and Production Management	3
~~Eng Mgt 3000, 4000, or 5000-level course work chosen in consultation with minor advisor.~~		~~6~~
ENG MGT 2110	Managing Engineering And Technology	3
or ENG MGT 5110	Managerial Decision Making	
ENG MGT 3320	Introduction to Project Management	3
or ENG MGT 5320	Project Management	
Total Credits		14

Justification for request	Several engineering departments require Eng Mgt 1210. With the current minor, these students need 17 credit hours to obtain a minor. Also, by allowing 5000-Level classes to be part of the minor, those classes can count toward the GTP and the minor. The requirement for "an accredited engineering program from S&T" was edited to "accredited program" was made to allow students from the Kummer College to also get a minor from our department.
Attach Budget	
System Approval Letter	
MDHE Approval	
Supporting Documents	
Reviewer Comments	**Amaury Lendasse (altmg) (01/18/26 3:11 pm):** Rollback: This has to be modified too: A student who receives a bachelor of science degree in an accredited engineering program or Computer Science from Missouri S&T may receive a minor in engineering management by completing 15 hours of the courses listed below. **Amaury Lendasse (altmg) (01/18/26 4:43 pm):** Rollback: you still should change to 14 hours

Key: 45

Program Change Request

Date Submitted: 01/14/26 12:23 pm

Viewing: ENT&TEC-CT : Entrepreneur & Tech Innovat CT

Last approved: 09/20/24 2:59 pm

Last edit: 01/21/26 9:41 am

Changes proposed by: Cecil Eng Huang Chua (cecq8z)

Catalog Pages Using this Program

Business Administration

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Certificate
Academic Level	Graduate
Program Code	ENT&TEC-CT
Department	Business and Information Tech
Discipline	Business
Title	Entrepreneur & Tech Innovat CT
CIP Code	52.9999 - Business, Management, Marketing, and Related Support Services, Other.

Intended Audience

Distance (online) Students

Main Campus Students

Program Requirements and Description

In Workflow

1. **RBUS&IT Chair**
2. **CCC Secretary**
3. **Social Sciences DSCC Chair**
4. **Pending CCC Agenda post**
5. **CCC Meeting Agenda**
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar

Approval Path

1. 01/14/26 1:14 pm Cassie Elrod (cassa): Approved for RBUS&IT Chair
2. 01/21/26 9:42 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/21/26 12:45 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Jun 12, 2019 by ershenb
2. Feb 3, 2021 by Cecil Eng Huang Chua (cchua)
3. Sep 20, 2024 by

Cecil Eng Huang Chua (cchua)

Entrepreneurship and Technological Innovation

Change and growth in Missouri and America require the training, nourishing, and flourishing of entrepreneurs. Many college students, however, do not yet recognize the entrepreneurial spirit in themselves. Recent entrepreneurship research indicates that many of the skills and much of the knowledge of successful entrepreneurs can be developed and taught in the classroom. The department of business and information technology has created this certificate to spark the entrepreneurial spirit in the students of Missouri S&T, and provide them with a solid foundation on which to build.

To that end, the program focuses on the following competencies:

Recognizing opportunity
Assessing opportunity
Planning under uncertainty
Fostering innovations
Mastering creativity
Building and managing networks
Leveraging resources
Mitigating and managing risk
Focus and adaptability
Design thinking
Implementing new ideas

A student admitted to this graduate certificate must complete four courses:

Required core courses:	
BUS 5810	Branding for Innovation
BUS 5980	Business Models for Entrepreneurship and Innovation
Two courses from the following list:	
MKT 5310	Digital Marketing and Promotions
~~BUS 5580~~	~~Strategic Management~~
BUS 5150	Customer Focus and Satisfaction
BUS 5510	Corporate Entrepreneurship and Ecosystem Strategy
IS&T 6251	Technological Innovation, Entrepreneurship, and Economic Development

Justification for request	To be more in line with the Kummer College's focus on entrepreneurship
Attach Budget	
System Approval Letter	Entrepreneurship and Technological Innovation Revised Grad Cert Cover letter.pdf Signed_Revision Proposal_Entre & Tech Innovation CT 10-23-25.pdf Revised Grad Certificate Proposal Template-2-2023-entinnov.docx
MDHE Approval	
Supporting	Revised-BIT-Entrepreneurship and Tech Inno GCT.pdf

Documents	Grad Ed Entrepreneurship and Tech Inno Degree Audit.pdf
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 9:41 am):** Attached degree audit from Grad Ed. Grad Ed is aware of the changes.

Key: 288

Program Change Request

Date Submitted: 11/18/25 4:04 pm

Viewing: ENV SCI-BS : Environmental Science BS

Last approved: 08/27/25 11:59 am

Last edit: 02/10/26 8:12 am

Changes proposed by: Katie Shannon (shannonk)

Catalog Pages Using this Program

Environmental Science

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Bachelor of Science
Academic Level	Undergraduate
Program Code	ENV SCI-BS
Department	Biological Sciences
Discipline	Biological Sciences
Title	

In Workflow

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

Approval Path

1. 10/20/25 1:44 pm Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
2. 10/28/25 1:52 pm Jade McCain (jm558v): Rollback to Initiator
3. 11/19/25 9:02 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
4. 12/05/25 2:23 pm Jade McCain (jm558v): Rollback to RBIOLSCI Chair for CCC Secretary
5. 12/10/25 4:08 pm Gina Yosten

(gyxmr): Approved for RBIOLSCI Chair
6. 12/15/25 4:28 pm Jade McCain (jm558v): Rollback to RBIOLSCI Chair for CCC Secretary
7. 12/16/25 8:54 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
8. 12/19/25 11:39 am Jade McCain (jm558v): Approved for CCC Secretary
9. 12/19/25 11:43 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
10. 12/19/25 11:48 am Jade McCain (jm558v): Approved for CCC Secretary
11. 01/30/26 1:50 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
12. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Jan 24, 2022 by Nancy Winterburg (nancym)
2. Jan 24, 2022 by Evie Sherlock (esdk3)

3. Jan 24, 2022 by Evie Sherlock (esdk3)
4. May 2, 2022 by Katie Shannon (shannonk)
5. Feb 17, 2023 by Robin Verble (verbler)
6. Jun 6, 2023 by Nancy Winterburg (nancym)
7. Jul 14, 2023 by Jennifer Pohlsander (jpnfd)
8. Apr 30, 2024 by Dev Niyogi (niyogid)
9. Jul 5, 2024 by Crystal Wilson (wilsoncry)
10. Mar 17, 2025 by Joel Burken (burken)
11. Jul 1, 2025 by Crystal Wilson (wilsoncry)
12. Jul 17, 2025 by Crystal Wilson (wilsoncry)
13. Aug 27, 2025 by Crystal Wilson (wilsoncry)

Environmental Science BS

CIP Code 03.0104 - Environmental Science.

Program Requirements and Description

Bachelor of Science in Environmental Science

An Environmental Science degree at Missouri S&T commences with a first-year seminar course that is taken concurrently with an introductory environmental science course, creating familiar student cohorts that can support

and motivate one another through the program. Throughout their four years in the program, students are trained in five core areas: economics, biology, geology, environmental engineering, and humanities. In addition, they build foundational skills in mathematics, physical science, and communications. As they progress through the program, students increasingly connect ideas from among and within core areas to build their understanding of the integrated multidisciplinary concepts in environmental science. During their junior and senior years, students will be able to customize their degrees by selecting from a diverse array of elective courses within core areas. The degree's flexible upper division elective choices also allow students to specialize and earn minors in core areas if they choose to do so.

Students apply the skills they learn in the classroom in hands-on laboratory and field courses. Students will finish their senior year with a capstone course that will be designed to engage them in professional development, connect them to career opportunities, hone their research and presentation skills through hands-on projects, and foster lifelong collegial relationships with their peers and instructors through intensive group work.

This curriculum benefits from a flexible design that allows students who may be transitioning from other programs on campus to complete the program in a timely manner. In addition, the degree creates opportunities for students to complete multiple minors within the degree, adding focus and strength to the interdisciplinary foundation. Students should choose free electives that, along with required courses, fulfill the general education requirements applicable to the student's catalog year.

Freshman Year

First Semester	Credits	Second Semester	Credits
BIO SCI 1173	3	ENGLISH 1160	3
ENV SCI 1110	1	CHEM 1320 or GEOLOGY 3410	3
CHEM 1310	4	BIO SCI 1223	3
CHEM 1100	1	BIO SCI 1229	1
CHEM 1319	1	MATH 1212, or 1211, or 1214	4
ECON 1100	3	Free Elective	1
ENGLISH 1120	3		
	16		15

Sophomore Year

First Semester	Credits	Second Semester	Credits
GEOLOGY 1110	3	BIO SCI 2263	3
ECON 4440 or MIN ENG 4523	3	~~HISTORY 1300 or 1310~~	~~3~~
ENV ENG 2601 or CIV ENG 2601	3	ENV ENG 2602 or CIV ENG 2602	3
PHYSICS 1145 or 1135	4	GEO ENG 3148	3
~~POL SCI 1200~~	~~3~~	CIV ENG 5640 or ENV ENG 5640	3
HISTORY 1300 or 1310	3	POL SCI 4320	3
	16		15

Junior Year

First Semester	Credits	Second Semester	Credits
~~PHILOS 1130~~	~~3~~	HISTORY 4470, or 2510, or 3530, or 3510	3
GEO ENG 5331	3	~~GEOLOGY 2611~~	~~3~~
PHILOS 4665	3	PHILOS 4350	3

ENV ENG 5642 or CIV ENG 5642	3	STAT 3425 or GEO ENG 4115	3-4
ECON 4540 or MIN ENG 4524	3	BIO SCI 2223	3
BIO SCI 4313	3		
Free Elective	1		
	16		12-13

Senior Year

First Semester	Credits	Second Semester	Credits
GEOLOGY 4310 or GEO ENG 5144	3	HUMANITIES AND FINE ARTS ELECTIVE	3
~~FREE ELECTIVES~~	~~2~~	ENV SCI 4028	3
UPPER DIVISION ELECTIVES[1]	9	UPPER DIVISION ELECTIVES[1]	9
GEOLOGY 2611 or GEO ENG 2536	3		
	15		15

Total Credits: 120-121

1 See Upper Division Elective Course List

Upper Division Elective Course List

BIO SCI 2242	Cave Biology	2
BIO SCI 2252	Vegetation of the Ozarks	2
BIO SCI 2264	Field Ecology	2
BIO SCI 2372	Issues in Public Health	3
BIO SCI 2383	Plant Biology	3
BIO SCI 2389	Plant Biology Laboratory	1
~~BIO SCI 3353~~	~~Comparative Vertebrate Anatomy~~	~~4~~
BIO SCI 3363	Ecophysiology	3
BIO SCI 4099	Undergraduate Research	1-3
BIO SCI 4316	Introduction to Geomicrobiology	3
BIO SCI 4363	Freshwater Ecology	3
BIO SCI 4369	Freshwater Ecology Laboratory	1
BIO SCI 4383	Toxicology	3
BIO SCI 4423	Introduction to Astrobiology	3
BIO SCI 4563	Global Ecology	3
BIO SCI 4663	Animal Behavior	3
BIO SCI 5423	Advanced Biodiversity	3
BIO SCI 5443	Population and Conservation Genetics	3

CHEM 4710	Principles Of Environmental Chemistry	3
CIV ENG 5605	Environmental Systems Modeling	3
CIV ENG 5630	Remediation of Contaminated Groundwater and Soil	3
CIV ENG 5635	Phytoremediation and Natural Treatment Systems: Science and Design	3
CIV ENG 5650	Public Health Engineering	3
CIV ENG 5660	Introduction To Air Pollution	3
CIV ENG 5662	Air Pollution Control Methods	3
CIV ENG 5665	Indoor Air Pollution	3
ECON 4085	Internship	0-6
ECON 4641	Foundations of Sustainability	3
ECON 4642	Introduction to Global Eco- and Social-preneurship and Innovation	3
ECON 4643	Ethical Problems in a Global Environment	3
ECON 5644	Creativity, Innovation, and Sustainability	3
ENV ENG 3615	Water And Wastewater Engineering	3
ENV ENG 4010	Senior Seminar: Engineering In A Global Society	1
ENV ENG 4099	Undergraduate Research	0-6
ENV ENG 4609	Research in Environmental Engineering	1
ENV ENG 5605	Environmental Systems Modeling	3
ENV ENG 5630	Remediation of Contaminated Groundwater And Soil	3
ENV ENG 5635	Phytoremediation and Natural Treatment Systems: Science and Design	3
ENV ENG 5650	Public Health Engineering	3
ENV ENG 5660	Introduction To Air Pollution	3
ENV ENG 5662	Air Pollution Control Methods	3
ENV ENG 5665	Indoor Air Pollution	3
GEO ENG 4099	Undergraduate Research	0-6
~~GEO ENG 4115~~	~~Statistical Methods in Geology and Engineering~~	~~3~~
GEO ENG 4276	Environmental Aspects Of Mining	3
GEO ENG 5085	Internship	0-15
GEO ENG 5146	Applications Of Geographic Information Systems	3

~~GEO ENG 5174~~	~~Geological Engineering Field Methods~~	~~3~~
GEO ENG 5233	Risk Assessment In Environmental Studies	3
BIO SCI 3383	Plant Physiology	3
BIO SCI 5453	Forest Insect Diversity & Ecology	2
BIO SCI 5523	Ichthyology	3
PHILOS 3277	Wilderness and Its Critics	3
ENV SCI 4099	Undergraduate Research	0-6
ENV SCI 3213	One Health Basics	3
ENV SCI 4010	Seminar	1
HISTORY 2110	World Regional Geography	3
ECON 3512	Mining Industry Economics	3
ECON 5658	Building Sustainability and Environmental, Social and Governance (ESG)	3
GEOLOGY 2610	Mineralogy And Crystallography	4
GEOLOGY 2611	Physical Mineralogy And Petrology	3
GEOLOGY 4321	Drone Mapping and Photogrammetry	3
GEOLOGY 4630	Systematic Paleontology	3
GEOLOGY 4821	Applications Of Geographic Information Systems	3
GEO ENG 2536	Basic Weather	3
GEO ENG 5239	Groundwater Remediation	3
GEO ENG 5276	Sustainability in Mining	3
GEO ENG 5320	Groundwater Modeling	3
GEO ENG 5332	Fundamentals of Groundwater Hydrology	3
GEO ENG 5556	Renewable Energy Systems	3
GEOLOGY 2096	Field Geology	3
GEOLOGY 2731	Introduction to Planetary Science	3
GEOLOGY 4085	Internship	3
GEOLOGY 4099	Undergraduate Research	0-6
GEOLOGY 4310	Remote Sensing Technology	3
GEOLOGY 4411	Hydrogeology	3

GEOLOGY 4431	Methods Of Karst Hydrogeology	3
GEOLOGY 4711	Paleoclimatology and Paleoecology	3
GEOLOGY 4721	Climate Change and Society	3
GEOLOGY 4841	Geological Field Studies	3
GEOLOGY 5681	Lidar Principles and Application	3
GEOLOGY 5741	Micropaleontology	3
MIN ENG 5742	Sustainability in Mining	3
POL SCI 3300	Principles Of Public Policy	3
POL SCI 4085	Political Science Internship	0-6
POL SCI 4320	The Politics of Innovation	3
ENV SCI 5425	Environmental Conservation	3

Secondary Education Emphasis Area

You may earn a BS degree in environmental science from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with this emphasis area. This program is approved by the Missouri Department of Elementary and Secondary Education. License reciprocity determinations outside of Missouri can be found at https://teaching.missouri.edu/student/state-authorization/mst/licensure. This program can be completed in four academic years, and student teaching is arranged with public schools anywhere in the state. Students interested in this emphasis area should consult with the advisor for environmental science.

In order to successfully complete the emphasis area, students must attain at least a 2.5 GPA for all environmental science courses and a 3.0 education GPA required by the Missouri Department of Elementary and Secondary Education for teacher certification. Courses must fulfill the Missouri S&T general education requirements applicable to the student's catalog year.

Students must also meet all requirements listed under the teacher education website including passing the state-required assessments.

A degree in the emphasis area requires a minimum of 127 credit hours. The required courses are provided below.

Humanities: 12 semester hours		
ENGLISH 1120	Exposition And Argumentation	3
ENGLISH 1160	Writing And Research	3
or ENGLISH 3560	Technical Writing	
PHILOS 1130	How Should I Live? An Introduction to Ethics	3
PHILOS 4350	Environmental Ethics and Justice	3
Social Sciences: 18 semester hours		
HISTORY 1310	American History Since 1877	3

PSYCH 1101	General Psychology	3
PSYCH 3310	Developmental Psychology	3
ECON 1100	Principles Of Microeconomics	3
ECON 4440	Environmental And Natural Resource Economics	3
HISTORY 2510	History of Technology	3
or HISTORY 3510	Twentieth Century Technology And Society	
or HISTORY 3530	History of Science	
Mathematics/Physical Science: 12 semester hours		
MATH 1214	Calculus I	4-9
or MATH 1210 & MATH 1211	Calculus I-A and Calculus I-B	
PHYSICS 1505 & PHYSICS 1509	Introductory Astronomy and Astronomy Laboratory	4
PHYSICS 1145	College Physics I	4
or PHYSICS 1135	Engineering Physics I	
Statistics: 3 semester hours		
STAT 3425	Introduction to Biostatistics	3-4
or STAT 3113	Applied Engineering Statistics	
Biological Sciences: 13 semester hours		
BIO SCI 1223 & BIO SCI 1229	Biodiversity and Biodiversity Lab	4
BIO SCI 1173	Introduction to Environmental Sciences	3
BIO SCI 2223	General Genetics	3
BIO SCI 2263	Ecology	3
Chemistry: 9 semester hours		
CHEM 1100	Introduction To Laboratory Safety & Hazardous Materials	1
CHEM 1310	General Chemistry I	4
CHEM 1319	General Chemistry Laboratory	1
CHEM 1320	General Chemistry II	3

Civil, Architectural and Environmental Engineering: 9 semester hours		
ENV ENG 2601	Fundamentals of Environmental Engineering and Science	3
ENV ENG 2602	Biological Fundamentals Of Environmental Engineering	3
ENV ENG 5640	Environmental Law And Regulations	3
or ENV ENG 5642	Sustainability, Population, Energy, Water, and Materials	
Environmental Science: 1 semester hour		
ENV SCI 1110	Environmental Science Freshman Seminar	1
Geological Sciences/Geological and Petroleum Engineering: 12 semester hours		
GEO ENG 2536	Basic Weather	3
GEOLOGY 1110	Physical and Environmental Geology	3
GEOLOGY 2611	Physical Mineralogy And Petrology	3
GEO ENG 3148	Fundamentals Of Geographic Information Systems	3
Education: 38 semester hours		
EDUC 1074	Foundations of Education in a Diverse Society	3
EDUC 1104	Teacher Field Experience I	1
EDUC 1164	Teacher Field Experience II	2
EDUC 3170	Teaching Reading and Writing in Middle/High School	3
EDUC 3216	Instructional Literacy in the Content Area	3
EDUC 3280	Instructional Strategies in the Content Area	3
EDUC 3298	Teacher Field Experience III	1
EDUC 3340	Assessment of Student Learning	3
EDUC 4298	Student Teaching Seminar	1
EDUC 4299	Student Teaching	12
PSYCH 2300	Educational Psychology	3
or EDUC 2102	Educational Psychology	
PSYCH 4310	Psychology Of The Exceptional Child	3
or EDUC 2310	Education Of The Exceptional Child	

Justification for request

Robin Verble requested changes

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents — Department Approval for DC Gen Ed Changes.pdf

Reviewer Comments

Jade McCain (jm558v) (10/28/25 1:52 pm): Rollback: Rollback per does not meet the required 120 credit hours.

Jade McCain (jm558v) (12/05/25 2:23 pm): Rollback: Rollback per the prerequisite for POL SCI 4320 must be listed in a prior semester on the plan of study grid.

Jade McCain (jm558v) (12/15/25 4:28 pm): Rollback: Rollback per History 1300 must be listed in a prior to Pol Sci 4320 on the plan of study grid.

Jade McCain (jm558v) (12/19/25 11:34 am): Moved Pol Sci 4320 to sophomore year second semester and History 1300 to sophomore year first semester due to History 1300 being a prerequisite for Pol Sci 4320, and corrected free elective formatting.

Crystal Wilson (wilsoncry) (02/10/26 8:12 am): Per department request, added 1 credit hour of free elective to freshman year, second semester, to ensure the degree program meets the required 120 credit hours needed.

Program Change Request

Date Submitted: 12/17/25 7:51 pm

Viewing: INTRCU-CTU : Intercultural Studies CTU

Last approved: 07/01/25 11:12 am

Last edit: 12/17/25 7:51 pm

Changes proposed by: Irina Ivliyeva (ivliyeva)

Catalog Pages Using this Program

Multidisciplinary Studies

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Certificate
Academic Level	Undergraduate
Program Code	INTRCU-CTU
Department	Arts, Languages & Philosophy
Discipline	Arts, Languages and Philosophy

Title

Intercultural Studies CTU

CIP Code

Intended Audience

Main Campus Students

Program Requirements and Description

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

Approval Path

1. 12/17/25 7:59 pm Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 12/23/25 1:29 pm Jade McCain (jm558v): Approved for CCC Secretary
3. 01/29/26 1:18 pm Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. May 2, 2022 by Monica Kasza (msp7h)
2. Jun 17, 2022 by Crystal Wilson (wilsoncry)

3. Aug 4, 2022 by Evie Sherlock (esdk3)
4. Mar 26, 2025 by Irina Ivliyeva (ivliyeva)
5. Jul 1, 2025 by Irina Ivliyeva (ivliyeva)

Intercultural Studies Certificate

This certificate program is for students from any major who wish to expand their knowledge of intercultural issues from a multidisciplinary perspective, and develop the knowledge, skills and aptitudes necessary to work successfully in today's global and interconnected world. Students select four courses from an approved list in consultation with their certificate advisor. Many of the courses also fulfill requirements for degree programs.

Students must meet regular Missouri S&T undergraduate admission requirements.

Certificate Requirements

Choose one:

HISTORY 1200	Modern Western Civilization	3
ENGLISH 1212	British Literature II 1800 To Present	3

Choose three additional courses:

MUSIC 1151	Music of Latin America	3
SP&M S 3235	Intercultural Communication	3
HISTORY 2110	World Regional Geography	3
HISTORY 2220	Making Of Modern Britain	3
HISTORY 2221	Making of Modern Germany	3
HISTORY 2222	The Making Of Modern France	3
HISTORY 2224	Making Of Modern Russia	3
HISTORY 3240	Contemporary Europe	3
HISTORY 3600	World History	3
HISTORY 3660	Modern East Asia	3
POL SCI 2500	International Relations	3
POL SCI 4500	Geopolitics and International Security	3
POL SCI 4510	The Politics of the Global South	3
ENGLISH 2002	Critical Approaches To Literature	3
ENGLISH 3219	The British Novel II	3
ENGLISH 3233	Contemporary British Literature	3
ENGLISH 3304	Language in Society	3
TCH COM 4450	International Dimensions of Technical Communication	3
ECON 4642	Introduction to Global Eco- and Social-preneurship and Innovation	3

ECON 4643	Ethical Problems in a Global Environment	3
PSYCH 4992	Cross-Cultural Psychology	3
RUSSIAN 4360	Russian Civilization	3
~~MUSIC 1150~~	~~Music Appreciation~~	~~3~~

Justification for request	The intended course on this certificate should be Music 1151 Music of Latin America. Last time the certificate was edited, the course Music 1150 Music Appreciation: Music of Latin America was selected in error because course titles somewhat overlap. We request to remove Music 1150 and insert Music 1151 instead.
Attach Budget	
System Approval Letter	
MDHE Approval	
Supporting Documents	
Reviewer Comments	

Key: 388

Program Change Request

Date Submitted: 01/13/26 12:06 pm

Viewing: MED LAB : Biological Sciences BS with Emphasis area in Medical Laboratory Scientist

Last approved: 07/17/25 11:52 am

Last edit: 01/13/26 12:06 pm

Changes proposed by: Katie Shannon (shannonk)

Catalog Pages Using this Program

Biological Sciences

Final Catalog FS2026-SP2027

Rationale for Supporting

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Bachelor of Science
CIM Prospectus	
Academic Level	Undergraduate
Program Code	MED LAB
Department	Biological Sciences
Discipline	Biological Sciences
Offered by	

Title

Biological Sciences BS with Emphasis area in Medical Laboratory Scientist

CIP Code

Purpose

Intended Audience

Program-Specific Admission

In Workflow

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

Approval Path

1. 01/14/26 10:05 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
2. 01/20/26 9:35 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/30/26 1:51 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Apr 13, 2021 by Katie Shannon (shannonk)
2. Apr 14, 2021 by Crystal Wilson (wilsoncry)
3. Apr 15, 2021 by

Program Requirements and Description

Crystal Wilson (wilsoncry)
4. Jun 14, 2022 by Katie Shannon (shannonk)
5. Mar 22, 2024 by Evie Sherlock (esdk3)
6. Mar 22, 2024 by Evie Sherlock (esdk3)
7. Oct 25, 2024 by Katie Shannon (shannonk)
8. Jul 1, 2025 by Katie Shannon (shannonk)
9. Jul 17, 2025 by Crystal Wilson (wilsoncry)

Bachelor of Science
Biological Sciences
Medical Laboratory Scientist Emphasis Area
Degree Requirements

The Medical Laboratory Scientist 3+1 emphasis area is designed for students who wish to earn a B.S. degree in Biological Sciences, and become board certified by the American Society of Clinical Pathologists as a Medical Laboratory Scientist. Students who pursue this emphasis area complete three years of course work at Missouri S&T. The fourth year of clinical/professional study takes place at an affiliated accredited school of medical technology. Students who wish to complete this emphasis area will apply to University affiliated clinical programs in their third year, and must be accepted into a clinical program in order to complete this emphasis area. Students who are interested in the MLS 3+1 emphasis area should seek advisement early in their degree program from the Biological Sciences MLS 3+1 emphasis area advisor in order to insure adherence to special program requirements.

The Biological Science B.S. degree in the MLS 3+1 emphasis area must include a minimum of 38 semester hours of biological sciences course work plus an additional minimum of 32 hours of clinical program coursework. Humanities and Social Science courses must fulfill the Missouri S&T general education requirements applicable to the student's catalog year.

Required biological sciences courses:		
BIO SCI 1201	Biological Sciences First Year Seminar	1
BIO SCI 1113	General Biology	3
or BIO SCI 1213	Principles of Biology	
BIO SCI 1219	General Biology Lab	1
BIO SCI 1223 & BIO SCI 1229	Biodiversity and Biodiversity Lab	4

BIO SCI 2213 & BIO SCI 2219	Cell Biology and Cell Biology Laboratory	4
BIO SCI 2223	General Genetics	3
BIO SCI 3233	Evolution	3
BIO SCI 3313 & BIO SCI 3319	Microbiology and Microbiology Lab	5
~~BIO SCI 4010~~	~~Seminar~~	~~1~~
BIO SCI 4020	Senior Service Project	1
Selection of ten hours of additional advanced biological sciences courses should be informed by the recommendations of specific clinical affiliate programs. Suggested electives:		
BIO SCI 3393	Introductory Immunology for Medical Laboratory Science	3
BIO SCI 1212	Orientation to Medical Laboratory Science	1
BIO SCI 5313	Pathogenic Microbiology	3
BIO SCI 5393	Immunology	3
BIO SCI 3359	Physiology Lab	1
BIO SCI 5493	General Virology	3
Clinical program coursework typically includes a total of 32 credit hours, but may include more, depending on clinical affiliate program. Courses are enrolled at Missouri S&T from the following options in consultation with the MLS 3+1 emphasis area advisor:		
BIO SCI 4900	Clinical Chemistry	5-10
BIO SCI 4901	Clinical Microscopy	1-3
BIO SCI 4902	Hematology and Coagulation	5-8
BIO SCI 4903	Serology Immunology	2-4
BIO SCI 4904	Clinical Microbiology	5-9
BIO SCI 4905	Blood Bank Immunohematology	2-4
BIO SCI 4906	Topics in Medical Technology	1-8
20 semester hours of chemistry to include:		
CHEM 1100	Introduction To Laboratory Safety & Hazardous Materials	1
CHEM 1310 & CHEM 1319	General Chemistry I and General Chemistry Laboratory	5
CHEM 1320	General Chemistry II	3
CHEM 2210 & CHEM 2219	Organic Chemistry I and Organic Chemistry I Lab	4
CHEM 2220 & CHEM 2229	Organic Chemistry II and Organic Chemistry II Lab	4
CHEM 4610	General Biochemistry	3
2 semesters of College (Engineering) Physics and labs		

PHYSICS 1145	College Physics I	4
or PHYSICS 1135	Engineering Physics I	
PHYSICS 2145	College Physics II	4
or PHYSICS 2135	Engineering Physics II	
Math and Statistics		
MATH 1120	College Algebra	5
STAT 3425	Introduction to Biostatistics	4
12 semester hours of humanities, excluding foreign language, and to include:		
ENGLISH 1120	Exposition And Argumentation	3
ENGLISH 1160	Writing And Research	3
9 hours of social sciences, to include:		
HISTORY 1200	Modern Western Civilization	3
or HISTORY 1300	American History To 1877	
or HISTORY 1310	American History Since 1877	
or POL SCI 1200	American Government	

Justification for request	removing Senior Seminar and adding Senior Service Learning
Attach Budget	
System Approval Letter	
MDHE Approval	
Supporting Documents	Department Email to Revise Med Lab.pdf
Reviewer Comments	

Key: 377

Program Change Request

Date Submitted: 01/14/26 12:19 pm

Viewing: MGTLEAD-CT : Management and Leadership

Last approved: 04/30/24 10:17 am

Last edit: 01/21/26 10:08 am

Changes proposed by: Cecil Eng Huang Chua (cecq8z)

Catalog Pages Using this Program

Business Administration

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Certificate
Academic Level	Graduate
Program Code	MGTLEAD-CT
Department	Business and Information ~~Science &~~ Tech
Discipline	Business

Title

Management and Leadership

CIP Code

Intended Audience

Distance (online) Students

Main Campus Students

Program Requirements and Description

In Workflow

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

Approval Path

1. 01/14/26 1:15 pm Cassie Elrod (cassa): Approved for RINFSCTE Chair
2. 01/21/26 10:08 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/21/26 12:45 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Jun 12, 2019 by ershenb
2. Jul 1, 2020 by Cecil Eng Huang Chua (cchua)
3. Mar 4, 2021 by Cecil

Eng Huang Chua (cchua)
4. Apr 30, 2024 by Cecil Eng Huang Chua (cchua)

Management and Leadership

This certificate is designed to prepare students to be the leaders of the future, by enabling them to manage through the use of technology. Understanding technology is becoming ever more critical in business as a tool used by efficient and effective managers. These leaders not only understand the managerial process and how to inspire others, but also know how to harness technology to expedite the process. The certificate incorporates management theories, technological savvy, and leadership skills to create a student who is ready for the challenges of a fast paced managerial position.
A student admitted to this graduate certificate must complete four courses:

Choose four courses from the following list:	
~~BUS 5580~~	~~Strategic Management~~
BUS 5111	Business Negotiations
BUS 5150	Customer Focus and Satisfaction
BUS 5510	Corporate Entrepreneurship and Ecosystem Strategy
BUS 6121	Leadership
BUS 6425	Supply Chain and Project Management
IS&T 5251	Management and Leadership of Technological Innovation
IS&T 6261	Advanced Information Systems Project Management
IS&T 6723	Artificial Intelligence, Robotics, and Digital Transformation
ENG MGT 5320	Project Management

Justification for request	Repositioned to be in line with Kummer College focus on entrepreneurship
Attach Budget	
System Approval Letter	Management and Leadership Revised Grad Cert Cover letter.pdf Signed_Revision Proposal_Mgt & Leadership CT 10-23-25.pdf Revised Grad Certificate Proposal Template-2-2023-mgtldr.docx
MDHE Approval	
Supporting Documents	Revised-Management and Leadership-BIT-approved.pdf Grad Ed Management and Leadership Degree Audit.pdf
Reviewer Comments	**Crystal Wilson (wilsoncry) (01/20/26 11:45 am):** Updated department to Business and Information Tech **Crystal Wilson (wilsoncry) (01/21/26 9:45 am):** Attached degree audit from Grad Ed. Grad Ed is aware of the change. Moved BUS 5150 up in the list to be in numerical order with BUS courses. **Crystal Wilson (wilsoncry) (01/21/26 9:48 am):** Moved IS&T 5251 up in list to place it in

numerical order with other IS&T courses.

Crystal Wilson (wilsoncry) (01/21/26 10:08 am): Per Dr. Raper, this is a minor change to go through the minor change process.

Key: 291

Program Change Request

New Program Proposal

Date Submitted: 12/17/25 2:52 pm

Viewing: **PROPOSED : Entertainment Technologies and Theatre (ET&T) CTU**

Last edit: 01/28/26 9:27 am

Changes proposed by: Irina Ivliyeva (ivliyeva)

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Certificate
CIM Prospectus	
Academic Level	Undergraduate
Program Code	PROPOSED
Department	Arts, Languages & Philosophy
Discipline	Theatre
Offered by	
Title	Entertainment Technologies and Theatre (ET&T) CTU
CIP Code	50.0502 - Technical Theatre/Theatre Design and Technology.

Purpose

This certificate is designed for majors in any field who wish to enhance their understanding of technologies used in the entertainment industry and in theatre. The College of Arts, Sciences, and Education offers this certificate through the Department of Arts, Languages, and Philosophy. Courses offered by this department are listed below. The program blends creative expression with technical expertise and will serve as a bridge between STEM disciplines and creative industries, reinforcing the importance of technological innovation in entertainment and theatre.

Intended Audience

Main Campus Students

Program-Specific Admission

Admission Requirements

A student must meet Missouri S&T's regular undergraduate admission requirements.

Certificate Requirements

Achieve at least a 2.75 grade point average in all certificate course work.

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. ProvostOffice
10. Registrar

Approval Path

1. 12/17/25 2:54 pm Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 01/27/26 1:36 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/29/26 1:18 pm Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Students must apply for the certificate by notifying the Theatre faculty advisor at least one full semester prior to graduation. Request a certificate from the Registrar's Office within two calendar years of completing the required certificate course work.

Program Requirements and Description

Entertainment Technologies and Theatre (ET&T) CTU

Certificate Requirements (12 Credit Hours)

Students must take 4 different courses including 2 required courses and 2 additional elective courses.

REQUIREMENTS: Must take the following (6 hours)

THEATRE 2200	History of Entertainment Design	3
THEATRE 3243	Entertainment Design	3

ELECTIVE COURSES: Must take 2 ADDITIONAL courses with at least 1 course at 4XXX level.

THEATRE 2000	Special Problems	3
THEATRE 2143	Stagecraft	3
THEATRE 2425	Principles of Stage Management	3
THEATRE 4243	Entertainment Design II	3
THEATRE 4341	Directing	3

OTHER PROGRAM INFORMATION

This list of courses is not exhaustive. Other courses with significant entertainment-related content may be substituted for those listed above upon approval of the Theatre advisor.

Justification for request

EXPECTED OUTCOMES

An expected outcome from offering the new Entertainment Technologies and Theatre (ET&T) undergraduate certificate is that students graduating from Missouri S&T with a STEM-focused degree who also have an interest in the entertainment industry will have an increased chance of getting a job in that sector.

The demand for entertainment technology expertise is steadily increasing due to the growing popularity of immersive and technologically advanced entertainment experiences. Entertainment technology represents an interdisciplinary domain that integrates principles and practices from audio and sound deployment, lighting design, special effects, virtual and augmented reality, among other related areas. Drawing upon both artistic creativity and technical expertise, the field bridges performance, design, and emerging digital media to create immersive audience experiences. It involves the application of technical concepts, computer technologies, and design methodologies to the development and execution of live performances, themed environments, and interactive installations. As industry continues to evolve, entertainment technology plays a vital role in shaping the future by redefining the boundaries between art, science, and innovation.

There are very few Entertainment Technologies undergraduate degree programs in the country (and none in the Midwest), thus any S&T student with the Entertainment Technologies and Theatre (ET&T) certificate would be standing out as they enter the job market.

Attach Budget

System Approval Letter

MDHE Approval	
Supporting Documents	ALP ET andT Certificate Proposal.pdf MDHEWD Entr Technologies FORM.pdf ET&T Certificate Approval Provost.pdf UG Cert Entertainment Technologies and Theatre Proposal.pdf
Reviewer Comments	**Jade McCain (jm558v) (12/22/25 11:40 am):** Corrected formatting and added "PROPOSED" to program code. **Crystal Wilson (wilsoncry) (01/20/26 11:17 am):** Corrected required course. Theatre 2000 was listed and it should have been Theatre 2200. Removed course list from DC as it should not be listed out. Added title of certificate to DC form. **Crystal Wilson (wilsoncry) (01/23/26 2:02 pm):** Placed courses in numerical order. **Crystal Wilson (wilsoncry) (01/28/26 9:27 am):** Attached supporting documents.

Key: 430

Program Change Request

Date Submitted: 01/16/26 9:51 pm

Viewing: STU ART-MI : Studio Art Minor

Last approved: 07/14/15 2:36 pm

Last edit: 01/16/26 9:51 pm

Changes proposed by: Irina Ivliyeva (ivliyeva)

Catalog Pages Using this Program

Art

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Minor
Academic Level	Undergraduate
Program Code	STU ART-MI
Department	Arts, Languages & Philosophy
Discipline	Art

Title

Studio Art Minor

CIP Code

Intended Audience

Program-Specific

Program Requirements and Description

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

Approval Path

1. 01/16/26 9:52 pm Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 01/20/26 11:22 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/29/26 1:18 pm Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. Jul 14, 2015 by pantaleoa

Studio Art Minor

The studio art minor offers students the opportunity to pursue an area of focus in painting, drawing, photography, etc.

Requirements:

The minor requires 15 hours, including ART 1180 Art Appreciation , which is a required course. Students may take additional 12 hours from these offerings:

ART 1120	Drawing I	3
ART 1140	Painting I	3
ART 1164	Sculpture	3
ART 1715	Popular Applied Arts	3
ART 2130	Advanced Drawing	3
ART 2150	Advanced Painting	3
ART 3203	Architectural Design I	3
ART 3221	Fundamentals in Photography	3

Justification for request	Adding Art 1715, approved with the permanent number by the CCC on May 13, 2025 to the list of courses -- to expand offerings and satisfy student demand.
Attach Budget	
System Approval Letter	
MDHE Approval	
Supporting Documents	
Reviewer Comments	

Key: 130

Program Change Request

Date Submitted: 01/09/26 9:54 am

Viewing: TEACH-CTU : Teaching and Learning Undergraduate Certificate

Last approved: 07/01/25 1:05 pm

Last edit: 01/23/26 2:08 pm

Changes proposed by: Beth Kania-Gosche (bakm75)

Catalog Pages Using this Program

Education

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Certificate
Academic Level	Undergraduate
Program Code	TEACH-CTU
Department	Education
Discipline	Education

Title

Teaching and Learning Undergraduate Certificate

CIP Code 13.1206 - Teacher Education, Multiple Levels.

Intended Audience

Main Campus Students

Program Requirements and Description

In Workflow

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

Approval Path

1. 01/10/26 10:00 am Beth Kania-Gosche (bakm75): Approved for REDUCATION Chair
2. 01/23/26 2:08 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 01/23/26 2:54 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

History

1. May 12, 2021 by Beth Kania-Gosche (bakm75)
2. Jun 14, 2021 by

Crystal Wilson (wilsoncry)

3. Jul 1, 2025 by Beth Kania-Gosche (bakm75)

Teaching and Learning Undergraduate Certificate

This certificate is designed to give students background in important educational concepts such as instructional design, learner engagement, assessment, diversity, and inclusion. This would be helpful for students who intend to work in higher education or nonprofit organizations as well as those who want to conduct industry training. The courses in this certificate may be used to meet some of the requirements for teacher certification programs. ~~programs.~~ This certificate aligns with the Missouri Department of Elementary and Secondary Education requirements for a Temporary Authorization Certificate.

~~Students must meet regular Missouri S&T undergraduate admission requirements.~~ Certificate Requirements

A student must complete ~~have completed~~ the following courses.

~~courses, totaling 12 hours.~~

EDUC 1074	Foundations of Education in a Diverse Society	3
EDUC 2310	Education Of The Exceptional Child	3
EDUC 3216	Instructional Literacy in the Content Area	3
EDUC 3340	Assessment of Student Learning	3

Students must choose six hours of electives from the following list. These courses should align with the students' intended certification area.

EDUC 2102	Educational Psychology	3
EDUC 3170	Teaching Reading and Writing in Middle/High School	3
EDUC 3215	Teaching Reading in Elementary and Early Childhood Settings	3
EDUC 3280	Instructional Strategies in the Content Area	3
EDUC 3335	Curriculum And Instruction Of The Middle School	3
EDUC 3430	Diverse Literature for Children	3

Justification for request	Certificates that are 18 credit hours are eligible for federal financial aid and other support if the program qualifies under certain criteria. If the certificate is aligned with a credential, a Temporary Authorization Certificate from the Missouri Department of Elementary and Secondary Education in this instance, then it can be used for Missouri Fast Track and other workforce development programs. The courses listed here are already taken by students in education degree and emphasis programs, so it will not add new courses. This change simply aligns the existing undergraduate certificate with the DESE Temporary Authorization Certificate requirements, allowing us to better track who is eligible.
Attach Budget	
System Approval Letter	
MDHE Approval	
Supporting	

Documents

Reviewer Comments	**Crystal Wilson (wilsoncry) (01/21/26 10:19 am):** Placed courses in numerical order. **Crystal Wilson (wilsoncry) (01/23/26 2:08 pm):** Per Dr. Raper, this can go through the campus curriculum process and does not need to go to system or MDHE because they are not changing the required core courses.

Key: 378

Experimental Change Request

New Proposal

Date Submitted: 12/21/25 1:48 pm

Viewing: SPANISH 4001.007: Scientific Spanish

Last edit: 01/30/26 8:58 am

Changes proposed by: Irina Ivliyeva (ivliyeva)

Requested Effective Date	Fall 2026
Department	Arts, Languages & Philosophy (RPHILOSO)
Discipline	Spanish (SPANISH)
Course Number	4001
Topic ID	007

Experimental Title

Scientific Spanish

Experimental Abbreviated Course Title: Scientific Spanish

Co-Listed Course

Instructors

Emilia Barbosa

Experimental Catalog Description

This course develops advanced proficiency in Spanish scientific language used across STEM disciplines. Students expand their scientific and technical vocabulary while building practical skills in processing scientific texts in Spanish at the Intermediate High to Advanced levels. Emphasis is placed on comprehension of discipline-specific terminology, accurate interpretation of complex concepts, and effective oral and written communication in professional and academic scientific contexts.

Prerequisite(s)

Spanish 1180 or above.

Corequisite(s)

Field Trip Statement

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors: No

In Workflow

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

Approval Path

1. 12/21/25 1:54 pm Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 12/22/25 10:31 am Jade McCain (jm558v): Approved for CCC Secretary
3. 01/29/26 1:18 pm Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
4. 01/30/26 4:11 pm Crystal Wilson (wilsoncry): Approved for Pending CCC Agenda post

Elective for Majors	Yes
Grading Basis	Graded
Repeatable	No
Justification for experimental course:	Expand upper-level options for students interested in STEM-based vocabulary and discipline-specific texts; promote enrollment; satisfy student interest in practical application of Spanish language skills (reading, writing, listening, speaking). The Canvas shell for course development has been created by instructor already.
Reviewer Comments	**Jade McCain (jm558v) (12/22/25 10:31 am):** Corrected perquisite formatting and added grading basis. **Crystal Wilson (wilsoncry) (01/30/26 8:58 am):** Assigned topic ID.

Key: 551