Minutes of the Campus Curricula Committee Meeting

May 5, 2026
8:15 am, Fulton Hall 120
(For Faculty Senate Meeting of June 18, 2026)

Attendees: Cecil Eng Huang Chua, Katie Shannon, Michael Davis, Theresa Swift, Cihan Dagli, Kyle Perry, Alejandra Sobrado, Crystal Wilson, and Hannah Johnson.

The following curriculum forms were discussed and approved:

Course Change forms:

File: 1552 GEOLOGY 5513 : Petroleum Geology
File: 10404 NUC ENG 5002 : Cooperative Training
File: 10368 NUC ENG 5085 : Internship
File: 9182 PET ENG 2510 : Properties of Hydrocarbon Fluids

Program Change forms:

File: 186 BUS AD-MBA : Business Administration MBA
File: 382 ENV SCI-BS : Environmental Science BS
File: 367 ETHICS-CTU : Professional Ethics and Moral Reasoning CTU ~~UCT-PROFESSIONAL ETHICS AND MORAL REASONING~~
File: 68 GEOT-ME : Geotechnics ME
File: 73 IS&T-MS : Info Science & Tech MS
File: 252 LATINST-MI : Latin American Studies for Technical Applications Minor
File: 366 LOGIC-CTU : Logic and the Philosophical Foundations of STEM CTU
File: 104 NU ENG-BS : Nuclear Engineering BS
File: 105 NU ENG-MI : Nuclear Engineering Minor
File: 368 TP&E-CTU : Technology, Philosophy, and Ethical Futures CTU

Experimental Course forms:

File: 560 GEOLOGY 5001.021 : Limnogeology

New Business:

Cecil Eng Huang Chua was selected to remain the CCC Chair.
As of May 2026, the CCC committee members remain the same unless notified otherwise.

The meeting adjourned at 8:26 am.

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Dr. Cecil Eng Huang Chua, Chair
Missouri S&T Campus Curricula Committee

Course Change Request

Date Submitted: 03/17/26 2:57 pm

Viewing: GEOLOGY 5513 : Petroleum Geology

Formerly known as: GEOLOGY 4511

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

Last edit: 03/20/26 9:58 am

Changes proposed by: jonathan Obrist Farner (johfb)

Programs referencing this course

GEOLOGY 5513:

PE ENG-BS: Petroleum Engineering BS
PE ENG-MI: Petroleum Engineering Minor
PET SYS-CT: Petroleum Systems CT
CM ENG-CT: Carbon Management Engineering CT
CES-MI: Computational Earth Sciences Minor
GL&GPH-BS: Geology and Geophysics BS

Other Courses referencing this course

In The Catalog Prerequisites:

GEOLOGY 5513:

GEOLOGY 6511 : Advanced Petroleum Geology

Requested Effective Date	Fall 2026
Department	Earth Sciences and Engineering (RGEOSENG)
Discipline	Geology (GEOLOGY)
Course Number	5513
Title	

In Workflow

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

Approval Path

1. 03/17/26 3:06 pm Stephen Gao (sgao): Approved for RGEOSENG Chair
2. 03/23/26 11:13 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 03/30/26 4:18 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved

Petroleum Geology

Abbreviated Course Title: Petroleum Geology

Co-Listed Course:

Catalog Description

for Pending CCC Agenda post
5. 05/05/26 8:50 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
6. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. May 4, 2015 by yangwa

Principles of origin, migration, and accumulation of oil and gas. The laboratory introduces the procedures used for exploration, and development of hydrocarbon resources.

Prerequisite(s):

Geology 1110 or Geo Eng 1150; accompanied or preceded by both Geology 3310 and Geology 3620. Petroleum Engineering majors have an exception for the pre-requisite of Geology 3620.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	2
Laboratory	1

Total: 3

Required for Majors: No

Elective for Majors: Yes

Communication Intensive	No
Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

Justification

Petroleum Engineering majors no longer require to take Geology 3620.

Semesters Previously Offered

Term(s) Offered as experimental

Is this a MOTR Course?

Reviewer Comments

Hannah Johnson (hjh9x) (03/19/26 10:12 am): Selected no for CI and CE.

Hannah Johnson (hjh9x) (03/20/26 9:58 am): Added period after the prereq.

Key: 1552

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 03/30/26 2:53 pm

Viewing: NUC ENG 5002 : Cooperative Training

Last edit: 04/03/26 9:01 am

Changes proposed by: Joshua Schlegel (schlegelj)

Requested Effective Date	Fall 2026
Department	Nuclear Eng & Radiation Sci (RNUCLENG)
Discipline	Nuclear Engineering (NUC ENG)
Course Number	5002
Title	Cooperative Training
Abbreviated Course Title	Cooperative Training
Co-Listed Course	

Catalog Description

In Workflow

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

Approval Path

1. 03/17/26 4:51 pm Joseph Newkirk (jnewkirk): Approved for NUC ENG Chair
2. 03/26/26 9:12 am Crystal Wilson (wilsoncry): Rollback to Initiator
3. 03/30/26 3:14 pm Joseph Newkirk (jnewkirk): Approved for NUC ENG Chair
4. 04/03/26 9:02 am Crystal Wilson (wilsoncry):

Approved for CCC Secretary
5. 04/10/26 7:45 am Theresa Swift (thswift): Approved for Engineering DSCC Chair
6. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
7. 05/05/26 8:51 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
8. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

On the job training gained through cooperative education with industry, with credit arranged through departmental cooperative advisor. Grade received depends on quality of reports submitted and work supervisor's evaluation. This course is not an acceptable Nuclear Engineering Elective for the B.S. program in Nuclear Engineering.

Prerequisite(s):

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Independent Study	1-6

Total:	1-6

Required for Majors	No
Elective for Majors	No
Communication Intensive	No
Communication Emphasized	No
Grading Basis	Satisfactory/Unsatisfactory
Repeatable	Yes

Justification

To provide an option for continuous enrollment in academic programs, especially for international students who have such a requirement for their visa status.

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

Hannah Johnson (hjh9x) (03/19/26 10:26 am): Selected satisfactory/unsatisfactory for the grading bases per catalog description.

Crystal Wilson (wilsoncry) (03/23/26 8:43 am): Capitalized the word 'This' in the second sentence.

Crystal Wilson (wilsoncry) (03/26/26 9:09 am): Marked repeatable per department request.

Crystal Wilson (wilsoncry) (03/26/26 9:12 am): Rollback: Roll back per department request.

Crystal Wilson (wilsoncry) (04/03/26 9:01 am): Catalog description was updated from what was originally submitted. Grading basis is still S/U per department.

Course Change Request

New Course Proposal

Date Submitted: 03/30/26 2:53 pm

Viewing: NUC ENG 5085 : Internship

Last edit: 03/30/26 2:53 pm

Changes proposed by: Joshua Schlegel (schlegelj)

Requested Effective Date	Spring 2027
Department	Nuclear Eng & Radiation Sci (RNUCLENG)
Discipline	Nuclear Engineering (NUC ENG)
Course Number	5085
Title	Internship
Abbreviated Course Title	Internship
Co-Listed Course	

Catalog Description

In Workflow

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

Approval Path

1. 03/02/26 1:51 pm Joseph Newkirk (jnewkirk): Approved for NUC ENG Chair
2. 03/03/26 12:06 pm Hannah Johnson (hjh9x): Rollback to Initiator
3. 03/16/26 2:17 pm Joseph Newkirk (jnewkirk): Approved for NUC ENG Chair
4. 03/26/26 9:33 am Crystal Wilson (wilsoncry):

Approved for CCC Secretary
5. 03/30/26 2:53 pm Crystal Wilson (wilsoncry): Rollback to Initiator
6. 03/30/26 3:14 pm Joseph Newkirk (jnewkirk): Approved for NUC ENG Chair
7. 04/03/26 9:02 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
8. 04/10/26 7:45 am Theresa Swift (thswift): Approved for Engineering DSCC Chair
9. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
10. 05/05/26 8:51 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
11. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

Students may select an appropriate internship opportunity as part of their degree program.
This must include a high-level engineering experience consistent with the intent of the degree

program. Assessment will be Satisfactory or Unsatisfactory based on the quality of reports summarizing the outcomes of the activity to the course instructor. This course is not an acceptable Nuclear Engineering Elective for the B.S. program in Nuclear Engineering.

Prerequisite(s):

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Independent Study	1-6

Total: 1-6

Required for Majors: No

Elective for Majors: No

Communication Intensive: No

Communication Emphasized: No

Grading Basis: Satisfactory/Unsatisfactory

Repeatable: Yes

Justification

To provide an option for continuous enrollment in academic programs, especially for international students who have such a requirement for their visa status.

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR
Course?

Reviewer
Comments

Hannah Johnson (hjh9x) (03/03/26 12:06 pm): Rollback: Course title is incorrectly listed. Should be either an internship with course ID as x085 OR a co-op with course ID as x002.

Hannah Johnson (hjh9x) (03/16/26 3:22 pm): Selected satisfactory/unsatisfactory per email from Joshua Schlegel.

Hannah Johnson (hjh9x) (03/19/26 4:04 pm): Capitalized the T in this in the description.

Crystal Wilson (wilsoncry) (03/26/26 9:08 am): Marked repeatable per department request.

Crystal Wilson (wilsoncry) (03/30/26 2:53 pm): Rollback: Rollback per department request.

Key: 10368

Preview Bridge

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 04/06/26 11:52 am

Viewing: PET ENG 2510 : Properties of Hydrocarbon Fluids

Last approved: 06/28/25 6:04 am

Last edit: 04/09/26 1:21 pm

Changes proposed by: Mingzhen Wei (weim)

Other Courses referencing this course

In The Catalog Prerequisites:

PET ENG 3520 : Petroleum Reservoir Engineering

PET ENG 4531 : Natural Gas Engineering

Justification for this inactivation request

In Workflow

1. **RGEOSENG 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. 04/06/26 11:56 am Stephen Gao (sgao): Approved for RGEOSENG Chair
2. 04/09/26 1:22 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 04/14/26 10:52 am Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson

(hjh9x): Approved for Pending CCC Agenda post
5. 05/05/26 8:51 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
6. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Mar 5, 2025 by Mingzhen Wei (weim)
2. Jun 28, 2025 by Jade McCain (jm558v)

The course content will be combined into PE3320, eliminating the overlap content.

Requested Effective Date	Fall 2026
Department	Earth Sciences and Engineering (RGEOSENG)
Discipline	Petroleum Engineering (PET ENG)
Course Number	2510
Title	Properties of Hydrocarbon Fluids
Abbreviated Course Title	Prop Of Hydrocar Fluid
Co-Listed Course	

Catalog Description

Physical properties of petroleum fluids; chemical components of petroleum fluids. Elementary phase behavior; calculations of the physical properties of gases, liquids, and gas-liquid mixtures in equilibrium.

Prerequisite(s):
Chem 1310.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors: Yes

Elective for Majors: No

Communication Intensive: No

Communication Emphasized: No

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) (04/09/26 1:21 pm): Allowing this course to be inactivated for fall 2026 because it is being combined with PET ENG 3320 fall 2026 to eliminate the overlap content between the courses.

Key: 9182

Preview Bridge

Program Change Request

Date Submitted: 03/19/26 10:04 am

Viewing: BUS AD-MBA : Business Administration MBA

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

Last edit: 04/21/26 2:44 pm

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	Master of Business Administration
Academic Level	Graduate
Program Code	BUS AD-MBA
Department	Jaggi School of Business
Discipline	Business
Title	

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. 03/10/26 10:18 am Cassie Elrod (cassa): Approved for RINFSCTE Chair
2. 03/10/26 10:25 am Crystal Wilson (wilsoncry): Rollback to RINFSCTE Chair for CCC Secretary
3. 03/10/26 10:37 am Cassie Elrod (cassa): Approved for RINFSCTE Chair
4. 03/18/26 10:13 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
5. 03/18/26 12:25 pm

Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

6. 03/19/26 8:05 am Crystal Wilson (wilsoncry): Rollback to Initiator
7. 03/27/26 3:18 pm Cassie Elrod (cassa): Approved for RBUS&IT Chair
8. 04/03/26 8:19 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
9. 04/03/26 8:54 am Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
10. 04/20/26 2:02 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
11. 05/05/26 8:51 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
12. 05/05/26 9:25 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Apr 28, 2014 by barryf
2. Aug 15, 2014 by pantaleoa
3. Sep 30, 2014 by pantaleoa
4. Jun 18, 2015 by pantaleoa
5. Jul 22, 2015 by pantaleoa
6. May 16, 2016 by pantaleoa
7. Jun 18, 2018 by barryf
8. Sep 20, 2024 by Cecil Eng Huang Chua (cchua)

Business Administration MBA

CIP Code

Program Requirements and Description

Degree Requirements

In today's business environment, management requires the ability to leverage information across business functions and knowledge across internal and external boundaries. Students work in teams on comprehensive business cases, live simulations and real company assigned projects throughout the MBA program.
The Missouri S&T MBA requires a total of 30 graduate credit hours (5000-level and above). At least 9 credit hours must comprise 6000 level coursework. At least 12 credit hours must be completed from the Jaggi School of Business ~~BIT~~ curriculum, i.e., be courses from BUS, IS&T, ERP, MKT, or FINANCE. In addition, courses must comprise of: ~~comprise:~~
3 credits from a Management Area Course (from Jaggi School of Business) ~~BIT),~~
3 credits from a Marketing Area Course (from Jaggi School of Business) ~~BIT),~~
3 credits from a Finance/Accounting Area Course (from Jaggi School of Business) ~~BIT),~~
3 credits from a Technology Area Course (from Jaggi School of Business) ~~BIT),~~
3 credits from a Psychology Area Course ~~Course,~~
3 credits from a Technology Communications Area Course ~~Course,~~
12 elective credits (If ~~credits. If~~ these 12 elective credits ~~credits~~ are taken outside of Jaggi School of Business, ~~BIT,~~ they must be used to complete a graduate certificate.) ~~certificate.~~

All students will be required to complete an assessment exam during their final semester of enrollment prior to graduation.

Justification for request

AACSB accreditation requires us to assess student capabilities prior to graduation. This text addition to the catalog will allow Graduate Education/Registrar's to add a requirement to track this on the degree requirements. This has been verified by the Interim Registrar and Graduate Education staff.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents ~~MDHE Approval Letter_S&T_April 2024-mba.pdf~~ ~~MBA Changes.pdf~~

Reviewer Comments

Crystal Wilson (wilsoncry) (03/10/26 10:25 am): Rollback: Roll back per department request.

Hannah Johnson (hjh9x) (03/11/26 2:52 pm): Hyperlinked BUS 6100.

Crystal Wilson (wilsoncry) (03/19/26 8:05 am): Rollback: Please update BUS 6100 to BUS 6010. BUS 6100 cannot be used for assessment for a S/U course. The CC will need to be submitted as BUS 6010.

Hannah Johnson (hjh9x) (04/21/26 2:32 pm): Replaced BIT with Jaggi School of Business per email from Evie Sherlock.

Key: 186

Program Change Request

Date Submitted: 04/01/26 7:19 pm

Viewing: ENV SCI-BS : Environmental Science BS

Last approved: 03/26/26 8:33 am

Last edit: 05/04/26 4:15 pm

Changes proposed by: Robin Verble (verbler)

Catalog Pages Using this Program

Environmental Science

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. 04/01/26 3:02 pm Hannah Johnson (hjh9x): Rollback to Initiator
2. 04/01/26 4:00 pm Hannah Johnson (hjh9x): Rollback to Initiator
3. 04/02/26 12:08 pm Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
4. 04/02/26 2:38 pm Hannah Johnson (hjh9x): Approved for CCC Secretary
5. 04/17/26 2:11 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair

6. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
7. 05/05/26 8:51 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
8. 05/05/26 9:25 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

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

Rationale for Inactivation

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)
14. Mar 24, 2026 by Katie Shannon (shannonk)
15. Mar 26, 2026 by Hannah Johnson (hjh9x)

Supporting Documents

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Bachelor of Science
CIM Prospectus	
Academic Level	Undergraduate
Program Code	ENV SCI-BS
Department	Biological Sciences
Discipline	Environmental ~~Biological~~ Sciences
Offered by	

Title

Environmental Science BS

CIP Code	03.0104 - Environmental Science.

Purpose

Intended Audience

Program-Specific Admission

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	BIO SCI 1223	3
CHEM 1100	1	BIO SCI 1229	1
CHEM 1310	4	CHEM 1320 or GEOLOGY 3410	3
CHEM 1319	1	ECON 1100	3
~~ECON 1100~~	~~3~~	ENGLISH 1160	3
ENGLISH 1120	3	~~MATH 1212, or 1211, or 1214~~	~~4~~
ENV SCI 1110	1	~~Free Elective~~	~~1~~
GEOLOGY 1110	3		
	16		13

Sophomore Year

First Semester	Credits	Second Semester	Credits
~~ECON 4440 or MIN ENG 4523~~	~~3~~	BIO SCI 2263	3
ENV ENG 2601 or CIV ENG 2601	3	CIV ENG 5640 or ENV ENG 5640	3
~~GEOLOGY 1110~~	~~3~~	ECON 4440	3
HISTORY 1300 or 1310	3	ECON 4540	3
MATH 1212	4	ENV ENG 2602 or CIV ENG 2602	3
PHYSICS 1145 or 1135	4	~~GEO ENG 3148~~	~~3~~
POL SCI 1200	3	~~POL SCI 4320~~	~~3~~
	17		15

Junior Year

First Semester	Credits	Second Semester	Credits
BIO SCI 4313	3	BIO SCI 2223	3
~~ECON 4540 or MIN ENG 4524~~	~~3~~	ENGLISH 2250	3
~~Free Elective~~	~~1~~	GEOLOGY 2611, or 2917, or 4721, or 4711	3
GEO ENG 3148	3	HISTORY 4470, or 2510, or 3530, or 3510	3
GEO ENG 5331	3	PHILOS 4350	3
PHILOS 4665 or 3277	3	~~STAT 3425 or GEO ENG 4115~~	~~3-4~~
UPPER DIVISION ELECTIVES[1]	3		
	15		15

Senior Year

First Semester	Credits	Second Semester	Credits
ENV ENG 5642 or CIV ENG 5642	3	ENV SCI 4028	3
~~GEOLOGY 2611 or GEO ENG 2536~~	~~3~~	~~HUMANITIES AND FINE ARTS ELECTIVE~~	~~3~~

GEOLOGY 4310, or GEO ENG 5144, or GEOLOGY 4321	3	UPPER DIVISION ELECTIVES[1]	10
STAT 3425	4		
UPPER DIVISION ELECTIVES[1]	6		
	16		13

Total Credits: 120

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 3363	Ecophysiology	3
BIO SCI 3383	Plant Physiology	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
BIO SCI 5453	Forest Insect Diversity & Ecology	2
BIO SCI 5523	Ichthyology	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 3512	Mining Industry Economics	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
ECON 5658	Building Sustainability and Environmental, Social and Governance (ESG)	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
ENV SCI 3213	One Health Basics	3
ENV SCI 4010	Seminar	1
ENV SCI 4099	Undergraduate Research	0-6
ENV SCI 5425	Environmental Conservation	3

GEO ENG 2536	Basic Weather	3
GEO ENG 4099	Undergraduate Research	0-6
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 5233	Risk Assessment In Environmental Studies	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 2610	Mineralogy And Crystallography	4
GEOLOGY 2611	Physical Mineralogy And Petrology	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 4321	Drone Mapping and Photogrammetry	3
GEOLOGY 4411	Hydrogeology	3
GEOLOGY 4431	Methods Of Karst Hydrogeology	3
GEOLOGY 4630	Systematic Paleontology	3
GEOLOGY 4711	Paleoclimatology and Paleoecology	3
GEOLOGY 4721	Climate Change and Society	3
GEOLOGY 4821	Applications Of Geographic Information Systems	3
GEOLOGY 4841	Geological Field Studies	3
GEOLOGY 5681	Lidar Principles and Application	3
GEOLOGY 5741	Micropaleontology	3

HISTORY 2110	World Regional Geography	3
MIN ENG 5742	Sustainability in Mining	3
PHILOS 3277	Wilderness and Its Critics	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

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 127-128 ~~127~~ credit hours. The required courses are provided below.

Humanities: 15 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~~
ENGLISH 2250	American Short Story	3
PHILOS 3277	Wilderness and Its Critics	3
PHILOS 4350	Environmental Ethics and Justice	3
Social Sciences: 18 semester hours		
ECON 1100	Principles Of Microeconomics	3
ECON 4440	Environmental And Natural Resource Economics	3
HISTORY 1310	American History Since 1877	3

HISTORY 2510	History of Technology	3
or HISTORY 3510	Twentieth Century Technology And Society	
or HISTORY 3530	History of Science	
PSYCH 1101	General Psychology	3
PSYCH 3310	Developmental Psychology	3
Mathematics/Statistics/Physical Science: 15-16 semester hours		
~~MATH 1214~~	~~Calculus I~~	~~4-9~~
~~or MATH 1210 & MATH 1211~~	~~Calculus I-A and Calculus I-B~~	
MATH 1212	Survey of Calculus	4
or MATH 1214	Calculus I	
PHYSICS 1145	College Physics I	4
or PHYSICS 1135	Engineering Physics I	
PHYSICS 1505 & PHYSICS 1509	Introductory Astronomy and Astronomy Laboratory	4
STAT 3425	Introduction to Biostatistics	3-4
or STAT 3113	Applied Engineering Statistics	
or STAT 3115	Engineering Statistics	
Biological Sciences: 10 semester hours		
BIO SCI 1223	Biodiversity	3
~~BIO SCI 1173~~	~~Introduction to Environmental Sciences~~	~~3~~
BIO SCI 1229	Biodiversity Lab	1
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

or GEOLOGY 3410	Introduction To Geochemistry	
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: 4 semester hour		
ENV SCI 1110	Environmental Science Freshman Seminar	1
~~**Geological Sciences/Geological and Petroleum Engineering: 12 semester hours**~~		
ENV SCI 1173	Introduction to Environmental Sciences	3
Geological Sciences/Geological and Petroleum Engineering: 9 semester hours		
GEO ENG 2536	Basic Weather	3
or GEOLOGY 4721	Climate Change and Society	
or GEOLOGY 2917	Climate Change and Society	
GEO ENG 3148	Fundamentals Of Geographic Information Systems	3
or GEOLOGY 4310	Remote Sensing Technology	
or GEOLOGY 4321	Drone Mapping and Photogrammetry	
GEOLOGY 1110	Physical and Environmental Geology	3
~~GEOLOGY 2611~~	~~Physical Mineralogy And Petrology~~	~~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	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

added art course, rearranged courses for correct sequencing by offerings.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Department Approval for DC Gen Ed Changes.pdf

Reviewer Comments

Hannah Johnson (hjh9x) (04/01/26 3:02 pm): Rollback: Rolling back for prereqs, and gen eds that are incorrect - see email.

Hannah Johnson (hjh9x) (04/01/26 4:00 pm): Rollback: Rolling back - see email about emphasis area.

Hannah Johnson (hjh9x) (04/02/26 1:29 pm): Hyperlinked Math 1214 in the emphasis area listing.

Hannah Johnson (hjh9x) (04/20/26 1:53 pm): Alphabetized course listing.

Hannah Johnson (hjh9x) (05/04/26 8:25 am): Changed credit hours of BIO SCI 1223 from 4 to 3 due to the separation of the lab (1 cr. hr.).

Hannah Johnson (hjh9x) (05/04/26 8:39 am): In the Secondary Education Emphasis Area, I corrected the heading of Mathematics/Statistics/Physical Science to say 15-16 cr hrs, and the heading Geological Sciences/Geological and Petroleum Engineering to say 9 cr. hrs. Changed the total credit hours from 130 to 127-128 in the Secondary Education Emphasis Area.

Hannah Johnson (hjh9x) (05/04/26 4:15 pm): Alphabetized course listings.

Program Change Request

Date Submitted: 03/25/26 3:29 pm

Viewing: ETHICS-CTU : Professional Ethics and Moral Reasoning ~~UCT - PROFESSIONAL ETHICS AND MORAL REASONING~~

Last approved: 02/04/25 11:12 am

Last edit: 04/20/26 2:11 pm

Changes proposed by: Irina Ivliyeva (ivliyeva)

Catalog Pages Using this Program

Philosophy

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

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. 03/25/26 3:44 pm Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 04/02/26 2:43 pm Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 04/02/26 2:49 pm Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
5. 05/05/26 8:51 am

Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
6. 05/05/26 9:25 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Feb 3, 2021 by Patrick Gamez (gamezp)
2. Mar 9, 2021 by Crystal Wilson (wilsoncry)
3. Feb 4, 2025 by Christina Harrison (charrison)

Professional Ethics and Moral Reasoning CTU ~~UCT - PROFESSIONAL ETHICS AND MORAL REASONING~~

CIP Code

Intended Audience

Main Campus Students

Progra

Program Requirements and Description

Professional Ethics and Moral Reasoning

This certificate signifies a commitment to moral leadership.

Professionals are granted a great deal of autonomy, respect, and power in their workplaces as compared to other sorts of employees. And, as we all know, with great power comes great responsibility. With these sorts of privileges, professionals often find themselves in a position of having to make difficult decisions on their own, as well as for others, whether directly or through policy. And while many professionals will find themselves armed

with corporate guidelines or professional codes of conduct to guide one, these alone are not sufficient. Because some – if not all – decisions are ethical, or have an ethical dimension.
Pursuing this certificate will help one understand how to answer the question "What should I do?" in an ethical manner. Required courses in professional or "applied" ethics will familiarize students with the types of cases of ethical decision-making that they will likely encounter in professional life, and courses in normative or moral theory will strengthen their skills in moral reasoning, allowing them to adapt to new and changing situations.

REQUIREMENTS:		
PHILOS 1130	How Should I Live? An Introduction to Ethics	3
3 further credits from:		
PHILOS 3223	Bioethics	3
PHILOS 3225	Engineering Ethics	3
PHILOS 3235	Business Ethics	3
6 further credits (excluding courses taken to meet above requirements) from:		
PHILOS 3223	Bioethics	3
PHILOS 3225	Engineering Ethics	3
PHILOS 3235	Business Ethics	3
PHILOS 3277	Wilderness and Its Critics	3
~~PHILOS 4340~~	~~From Activism to Zoos: Issues in Social Ethics~~	~~3~~
PHILOS 4350	Environmental Ethics and Justice	3
PHILOS 4360	Who Should Rule and Why? Debates in Political Philosophy	3
PHILOS 4368	Law and Ethics in E-Commerce	3
PHILOS 4665	Creating Future Cities	3

Justification for request

Remove PHIL 4340 (no faculty to teach this course); add PHIL 4665 which is in high demand.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer

Comments

Hannah Johnson (hjh9x) (03/26/26 10:47 am): Alphabetized the course listing.

Hannah Johnson (hjh9x) (03/31/26 2:10 pm): Put title of CT into 'first letter, uppercase, following letters, lowercase' format.

Hannah Johnson (hjh9x) (04/20/26 8:25 am): Edited title to say CTU rather than UCT.

Hannah Johnson (hjh9x) (04/20/26 2:11 pm): Moved CTU to the end of the title.

Key: 367

Program Change Request

Date Submitted: 03/12/26 5:08 pm

Viewing: GEOT-ME : Geotechnics ME

Last approved: 04/26/21 9:57 am

Last edit: 03/24/26 9:24 am

Changes proposed by: Katherine Grote (grotekr)

Catalog Pages Using this Program

Geotechnics

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Master of Engineering
Academic Level	Graduate
Program Code	GEOT-ME
Department	Earth Sciences and Engineering
Discipline	Geological Engineering
Title	

In Workflow

1. **RGEOSENG 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. 03/17/26 3:07 pm Stephen Gao (sgao): Approved for RGEOSENG Chair
2. 03/24/26 9:47 am Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 03/30/26 4:18 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
5. 05/05/26 8:51 am Hannah Johnson

(hjh9x): Approved for CCC Meeting Agenda
6. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Jul 23, 2015 by pantaleoa
2. Apr 25, 2016 by Norbert Maerz (norbert)
3. Jul 1, 2020 by Leslie Gertsch (gertschl)
4. Apr 26, 2021 by Crystal Wilson (wilsoncry)

Geotechnics ME

CIP Code

Program Requirements and Description

Course Requirements

This web-based degree is designed for working professionals whose upward mobility requires an advanced degree, but who do not wish to take an extended leave of absence to physically attend college. It requires 30 credit hours of graduate credit in 4000, 5000, and 6000 level courses, and a practice-oriented report instead of a research project. The following five core courses/areas ~~courses~~ (15 credit hours) are mandatory:

~~GEO ENG 5381~~	~~Intermediate Subsurface Hydrology And Contaminant Transport Mechs~~	~~3~~
GEO ENG 5441	Engineering Geology And Geotechnics	3
~~GEO ENG 5471~~	~~Rock Engineering~~	~~3~~
GEO ENG 6400	Practice Oriented Project	3

~~CIV ENG 5715~~	~~Intermediate Soil Mechanics~~	~~3~~
Soil Mechanics requirement [1]		3
Rock Engineering requirement [2]		3
Subsurface Hydrology requirement [3]		3

Of the additional 15 credit hours of course work, up to 9 credit hours of graduate credit (minimum grade B) can be transferred from another university with advisor approval if not used toward another degree. The balance of the credit hours must be Missouri S&T graduate courses. At least 15 credit hours must be geological engineering courses, and at least 9 credit hours must be from 6000-level courses.

1 = To be selected from GEO ENG 5415 or CIV ENG 5715

2 = To selected from GEO ENG 5471 or GEO ENG 6477

3 = To be selected from GEO ENG 5331 or GEO ENG 5381

Justification for request

Program requirements are being changed to provide students more choices that are relevant to their particular field of study. These changes preserve the focus of previously required courses while enabling students to choose the course most helpful to their careers. Offering additional options also improves scheduling flexibility, leading to faster graduation rates.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer Comments

Hannah Johnson (hjh9x) (03/20/26 2:05 pm): Changed effective date to Fall 2026.

Hannah Johnson (hjh9x) (03/24/26 9:01 am): Per email from Stephen Raper and Sharon Matson, this is approved and does not require any supporting documents.

Hannah Johnson (hjh9x) (03/24/26 9:24 am): Removed the comma at the end of footnote 1.

Program Change Request

Date Submitted: 03/19/26 10:06 am

Viewing: IS&T-MS : Info Science & Tech MS

Last approved: 02/04/25 11:12 am

Last edit: 04/21/26 2:34 pm

Changes proposed by: Cecil Eng Huang Chua (cecq8z)

Catalog Pages Using this Program

Information Science and Technology

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Master of Science
Academic Level	Graduate
Program Code	IS&T-MS
Department	Jaggi School of Business
Discipline	Info Science & Technology
Title	

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. 03/10/26 10:38 am Cassie Elrod (cassa): Approved for RINFSCTE Chair
2. 03/18/26 10:13 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 03/18/26 12:25 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 03/19/26 8:06 am Crystal Wilson (wilsoncry): Rollback to Initiator
5. 03/27/26 3:22 pm Cassie Elrod (cassa):

Approved for RBUS&IT Chair
6. 04/03/26 8:19 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
7. 04/03/26 8:55 am Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
8. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
9. 05/05/26 8:51 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
10. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Apr 28, 2014 by barryf
2. Jun 16, 2015 by pantaleoa
3. Jul 23, 2015 by pantaleoa
4. Feb 3, 2021 by Cecil Eng Huang Chua (cchua)
5. Jun 10, 2021 by

Cecil Eng Huang Chua (cchua)

6. Feb 4, 2025 by Cecil Eng Huang Chua (cchua)

Info Science & Tech MS

CIP Code

Program Requirements and Description

Degree Requirements

M.S. with thesis: ~~thesis:~~ The M.S. degree with thesis requires the completion of 24 hours of graduate course work (5000-level or above), 6 hours of research, and the successful completion and defense of a research thesis. Courses below the 5000-level will not count toward the M.S. degree, even if they are taken to fulfill prerequisites. 9 credit hours of graduate work (including research) must be at the 6000-level. A minimum of 12 credit hours must be in either IST or ERP courses. Up to 6 credit hours may be taken outside the department with advisor approval if courses are not counted towards a graduate certificate. Up to 12 credit hours may be taken outside the department with advisor approval if courses are counted towards a graduate certificate. A placement examination will be given. See footnote 1 with regard to the placement exam.
All students will be required to complete an assessment exam during their final semester of enrollment prior to graduation.

M.S. without thesis: ~~thesis:~~ The M.S. degree without thesis requires the completion of 30 hours of graduate course work (5000-level and above). Courses below the 5000-level will not count toward the M.S. degree, even if they are taken to fulfill prerequisites. 9 credit hours of graduate course work must be at the 6000-level. A minimum of 12 credit hours must be in either IST or ERP courses. Up to 6 credit hours may be taken outside the department with advisor approval if courses are not counted towards a graduate certificate. Up to 12 credit hours may be taken outside the department with advisor approval if courses are counted towards a graduate certificate. A placement examination will be given. See footnote 1 with regard to the placement exam.
All students will be required to complete an assessment exam during their final semester of enrollment prior to graduation.

Core Courses	
IS&T 5420	Business Analytics and Data Science [1]
IS&T 5423	Foundations of Data Management [1]
IS&T 5551	Foundations of Computing and Programming for Data Science [1]
IS&T 6150	Strategic Management Information Systems

IS&T 6336 Internet Computing and the Internet of Things [1]

1. Student will be skills tested before enrollment. If test is passed, student can replace with any 5000 level and above course in the Jaggi School of Business. ~~BIT.~~

Students often have difficulty deciding what electives to take. The following sets of courses have been identified as useful for students seeking specialization in particular fields of IST. Note there is no specific recognition of tracks in the degree.

Project Management, Management, and Leadership Track (choose 5 courses):

BUS 5115: Introduction to Individual and Group Dynamics in Business
BUS 5150: Customer Focus and Satisfaction
BUS 6121: Leadership
BUS 6425: Supply Chain and Project Management
ENG MGT 5320: Project Management
ENG MGT 6322: Case Studies in Project Management
ENG MGT 6323: Global Project Management
ERP 5310: Supply Chain Management Systems in an ERP Environment
IS&T 5251: Management and Leadership of Technological Innovation
IS&T 6251: Technological Innovation, Entrepreneurship, and Economic Development
IS&T 6261: Advanced Information Systems Project Management

Enterprise Resource Planning Track (choose 5 courses):

ERP 5110: Enterprise Resource Planning Systems Design and Implementation
ERP 5130: ERP in Small & Mid-Size Enterprises
ERP 5310: Supply Chain Management Systems in an ERP Environment
ERP 5410: Use of Business Intelligence
ERP 6120: Enterprise Resource Planning: Systems Config and Integration
ERP 6220: Data Modeling & Visualization Prototyping for Enterprise Decision Dashboard

Analytics, Artificial Intelligence, and Machine Learning Track (choose 5 courses):

ERP 5410: Use of Business Intelligence
IS&T 5450: ~~IS&T 5450:~~ Introduction to Information Visualization
IS&T 5520: Data Science and Machine Learning with Python
IS&T 5535: Machine Learning Algorithms and Applications
IS&T 5725: Fundamentals of Cybersecurity Analytics
IS&T 6443: Information Retrieval and Analysis
~~ERP 5410:Use of Business Intelligence~~ IS&T 6444: Essentials of Data Warehouses
MKT 5762: Marketing Revolution with Machine Learning

General Information Science & Technology Track (choose 5 courses):

Choose 5 courses not counted as required courses to satisfy overall degree requirements.

Justification for request

AACSB accreditation requires us to assess student capabilities prior to graduation. This text

addition to the catalog will allow Graduate Education/Registrar's to add a requirement to track this on the degree requirements. This has been verified by the Interim Registrar and Graduate Education staff.

Attach Budget

System Approval Letter	~~MS IST Change Email Sept 2024 - Raper.pdf~~
MDHE Approval	~~MDHE Approval Letter_IST_July 2024.pdf~~
Supporting Documents	~~IS&T MS approval email.pdf~~

Reviewer Comments

Crystal Wilson (wilsoncry) (03/19/26 8:06 am): Rollback: Please update IS&T 6100 to IS&T 6010. IS&T 6100 cannot be used for assessment for a S/U course. The CC will need to be submitted as IS&T 6010.

Crystal Wilson (wilsoncry) (04/02/26 1:55 pm): Alphabetized courses.

Hannah Johnson (hjh9x) (04/21/26 2:34 pm): Replaced BIT with Jaggi School of Business in footnote 1 per email from Evie Sherlock.

Program Change Request

Date Submitted: 03/24/26 11:57 am

Viewing: LATINST-MI : Latin American Studies for Technical Applications Minor

Last approved: 03/23/26 8:36 am

Last edit: 05/04/26 8:16 am

Changes proposed by: Irina Ivliyeva (ivliyeva)

Catalog Pages Using this Program

Latin American Studies for Technical Applications Minor

Rationale for Supporting

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

Title

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. 03/24/26 11:59 am Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 04/02/26 2:40 pm Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 04/02/26 2:49 pm Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
5. 05/05/26 8:51 am

Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda

6. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Jun 28, 2017 by Audra Merfeld-Langston (audram)
2. Jul 13, 2017 by Crystal Wilson (wilsoncry)
3. Jul 13, 2017 by Crystal Wilson (wilsoncry)
4. Mar 18, 2026 by Hannah Johnson (hjh9x)
5. Mar 18, 2026 by Hannah Johnson (hjh9x)
6. Mar 19, 2026 by Hannah Johnson (hjh9x)
7. Mar 23, 2026 by Hannah Johnson (hjh9x)
8. Mar 23, 2026 by Hannah Johnson (hjh9x)

Latin American Studies for Technical Applications Minor

CIP Code

Intended Audience

Program-Specific Admission

Program Requirements and Description

Minor In Latin American Studies for Technical Application

The minor in Latin American Studies for Technical Applications is an interdisciplinary minor that allows students to develop deeper understanding of the cultures and languages of Latin America while simultaneously honing and implementing the technical skills they are acquiring in the courses needed for their majors. This minor aims to include students of all levels of Spanish language, including heritage and native speakers.

The minor requires 12 credit hours from an approved list of courses, with 6 credit hours taken ~~courses and~~ at the 3xxx level or higher. ~~least two weeks (14 days) of experience in a Latin American country as part of an S&T-approved program.~~ At least two weeks (14 days) of documented experience in a Latin American country as part of an S&T-approved program is required. The lists for Areas 2 and 3 will grow as other faculty on campus develop courses as part of the minor. The minor also aims for breadth of knowledge. Therefore, courses from one area cannot count twice.

Area 1: Spanish Proficiency. To fulfill this, students must complete 6 hours of Spanish at the level of 1180 (Intermediate Spanish) or above. Courses that count towards this area include:

SPANISH 1180	Intermediate Spanish	4
SPANISH 2000	Special Problems	0-6
SPANISH 2001	Special Topics	3
SPANISH 2110	Basic Spanish Conversation	3
SPANISH 2160	Hispanic Culture	3
~~SPANISH 2161~~	~~Contemporary Latin America~~	~~3~~
SPANISH 2170	Masterpieces Of Hispanic Literature	3
SPANISH 2180	Intermediate Spanish Composition	3
SPANISH 3000	Special Problems	0-6
SPANISH 3001	Special Topics	3
SPANISH 3100	Spanish Translation for Technical Applications	3

SPANISH 4000	Special Problems	0-6
SPANISH 4001	Special Topics	3
SPANISH 4302	Phonetics and Phonology of Spanish	3
SPANISH 4311	Advanced Spanish Conversation	3
~~SPANISH 4370~~	~~Survey Of Spanish Literature~~	~~3~~
~~SPANISH 4377~~	~~Spanish-American Novel And Short Story~~	~~3~~
SPANISH 4330	Professional Spanish	3
SPANISH 4350	Spanish Literature, Science, and Technology	3
Area 2: Technical Applications in Latin America. Students must take one of the following courses, for a total of 3 credits. Other courses will be added to Area 2 as they are developed.		
CHEM ENG 5001 Special Topics TBD		
GEO ENG 2407	Geology and Engineering of Ancient and Modern Peru	1
~~GEO ENG 5092~~	~~Course GEO ENG 5092 Not Found~~	~~3~~
GEO ENG 5556	Renewable Energy Systems (When the course is focused on Latin America)	3
SPANISH 3100	Spanish Translation for Technical Applications	3
SP&M S 3235	Intercultural Communication (When the course is focused on Latin America)	3
Area 3: General Latin American Studies. Students must take one of the following, for a total of 3 credits. Other courses will be added at Area 3 as they are developed.		
ENGLISH 3001/ TCH COM 3001	Special Topics (Costa Rica in Text)	3
HISTORY 3001	Special Topics (History of Science & Technology in Latin America)	3
SPANISH 2160	Hispanic Culture	3
~~SPANISH 2161~~	~~Contemporary Latin America~~	~~3~~

Area 4: Experience abroad in Latin America. Students must spend at least 14 days in a Latin American country as part of an S&T-approved program, such as faculty-led study abroad, a semester- or year-long program at partner institutions, an internship, or Engineers Without Borders (EWB). ~~EWB.~~ This may be fulfilled via multiple trips to multiple locations within Latin America.

Justification for request

Area 1. Add Spanish 4330 Professional Spanish (relevant skills).

Area 2. Removing GEO ENG 5092 from this minor DC; this course was approved at the most recent faculty senate meeting for inactivation.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer Comments

Hannah Johnson (hjh9x) (03/25/26 3:47 pm): Edited the first two sentences of the second paragraph to account for the 6 credit hours at 3xxx level or higher and made adjustments based off Dr. Irina Lvliyeva's suggestion.

Hannah Johnson (hjh9x) (03/26/26 2:45 pm): Per email from Irina Ivliyeva, I corrected Spanish 2110 and 4311 to reflect their current credit hours (3). I removed Spanish 2161 from area 1 and 3, I removed Spanish 4370 from area 1. I removed Spanish 4377 and replaced it with Spanish 4350 in area 1.

Hannah Johnson (hjh9x) (04/20/26 8:42 am): Alphabetized section two.

Hannah Johnson (hjh9x) (05/04/26 8:16 am): Corrected if to is in the comment of GEO ENG 5556.

Program Change Request

Date Submitted: 03/25/26 3:20 pm

Viewing: LOGIC-CTU : ~~UCT –~~ Logic and the Philosophical Foundations of STEM CTU

Last approved: 03/17/25 9:05 am

Last edit: 04/20/26 2:10 pm

Changes proposed by: Irina Ivliyeva (ivliyeva)

Catalog Pages Using this Program

Philosophy

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

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. 03/25/26 3:49 pm Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 04/02/26 2:43 pm Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 04/02/26 2:50 pm Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
5. 05/05/26 8:51 am

Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda

6. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Feb 3, 2021 by Patrick Gamez (gamezp)
2. Mar 9, 2021 by Crystal Wilson (wilsoncry)
3. Mar 17, 2025 by Irina Ivliyeva (ivliyeva)

~~UCT -~~ Logic and the Philosophical Foundations of STEM CTU

CIP Code

Intended Audience

Main Campus Students

Program Requirements and Description

Logic and the Philosophical Foundations of STEM

How can we tell what makes a scientific theory *true*? How do experimental results and observations serve as evidence for a theory or law? Indeed, what *are* theories and laws? While it's easy to make appeals to something called "the scientific method," the reality is much more complex. The certificate in Logic and the Philosophical Foundations of STEM will provide students with a working grasp of the basic intellectual framework of modern science, mathematics, and engineering. For those who want to learn more about the very nature of the modern scientific enterprise, this program provides a chance to understand their conceptual, historical, and epistemological foundations.

Students may elect to not only develop their formal skills in the logic and reasoning that allow for the development of scientific theories, but also to go beyond the formal dimensions of science and interrogate the ways in which science has developed historically, and what that tells us about its structure.
The abilities and base of knowledge provided by this certificate can serve as a fascinating supplement to the study of the natural and human sciences, and signal to potential employers not only advanced reasoning skills but a curiosity and intellectual energy that can be applied in a wide variety of areas.

REQUIRED COURSES:		
PHILOS 1115	Logic and Reasoning: An Introduction	3
PHILOS 3254	Symbolic Logic in Argumentation	3
A further six (6) credits can be chosen from:		
HISTORY 3530	History of Science	3
PHILOS 3225	Engineering Ethics	3
PHILOS 4320	Minds And Machines	3
PHILOS 4325	Who Knows What? Knowledge, Truth, and Justification	3
PHILOS 4345	Philosophy Of Science	3
PHILOS 4884	Rationality	3

Justification for request

Adding Engineering Ethics 3225 to 1) expand availability of courses at 3XXX level and 2) balance the course list by adding ethical component.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer Comments

Hannah Johnson (hjh9x) (04/20/26 8:44 am): Edited title to say CTU instead of UCT.

Hannah Johnson (hjh9x) (04/20/26 8:44 am): Alphabetized course listing.

Hannah Johnson (hjh9x) (04/20/26 2:10 pm): Moved CTU to the end of the title.

Program Change Request

Date Submitted: 04/09/26 10:45 am

Viewing: NU ENG-BS : Nuclear Engineering BS

Last approved: 02/23/26 12:27 pm

Last edit: 04/20/26 8:47 am

Changes proposed by: Joshua Schlegel (schlegelj)

Catalog Pages Using this Program

Nuclear Engineering

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Bachelor of Science
Academic Level	Undergraduate
Program Code	NU ENG-BS
Department	Nuclear Eng & Radiation Sci
Discipline	Nuclear Engineering
Title	

In Workflow

1. **NUC ENG 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. 04/09/26 5:16 pm Joseph Newkirk (jnewkirk): Approved for NUC ENG Chair
2. 04/10/26 9:47 am Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 04/14/26 10:52 am Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
5. 05/05/26 8:51 am

Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda

6. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Aug 6, 2014 by Lahne Black (lahne)
2. Jul 21, 2015 by pantaleoa
3. Mar 27, 2017 by Hyoung-Koo Lee (leehk)
4. Jul 6, 2020 by ershenb
5. Jun 11, 2021 by Joshua Schlegel (schlegelj)
6. Nov 18, 2021 by Joshua Schlegel (schlegelj)
7. May 2, 2022 by Joshua Schlegel (schlegelj)
8. Feb 6, 2025 by Joshua Schlegel (schlegelj)
9. Mar 18, 2025 by Jade McCain (jm558v)
10. Jul 1, 2025 by Joshua Schlegel (schlegelj)
11. Dec 24, 2025 by

Crystal Wilson (wilsoncry)
12. Feb 18, 2026 by Crystal Wilson (wilsoncry)
13. Feb 23, 2026 by Hannah Johnson (hjh9x)

Nuclear Engineering BS

CIP Code

Program Requirements and Description

Bachelor of Science
Nuclear Engineering

The nuclear engineering program at Missouri S&T is characterized by its focus on the scientific basics of engineering and its innovative application. 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.

For the bachelor of science degree in nuclear engineering a minimum of 129 credit hours is required. These requirements are in addition to credit received for algebra, trigonometry, and basic ROTC courses. A student must maintain an average of at least two grade points overall and for all courses taken in nuclear engineering. All Nuclear Engineering students must meet the Missouri S&T general education requirements as stated in the catalog.

Freshman Year

First Semester	Credits	Second Semester	Credits
CHEM 1100	1	General Education Elective[1]	3
~~CHEM 1310~~	~~4~~	HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3
CHEM 1305 or 1310	4	MATH 1215	4
CHEM 1319	1	MECH ENG 1720	3
ENGLISH 1120	3	PHYSICS 1135	4
FR ENG 1100	1		
MATH 1214 or 1211	4		
NUC ENG 1105[2]	1		
	15		17

Sophomore Year

First Semester	Credits	Second Semester	Credits
CIV ENG 2200	3	CIV ENG 2210	3
COMP SCI 1972 & COMP SCI 1982	3	ECON 1100 or 1200	3
OR		MATH 3304	3
COMP SCI 1970 & COMP SCI 1980		MECH ENG 2519	3
OR		NUC ENG 2406	1
COMP SCI 1971 & COMP SCI 1981		NUC ENG 3103, or PHYSICS 2305, or PHYSICS 2311	3
MATH 2222	4		
NUC ENG 2105	2		
PHYSICS 2135	4		
	16		16

Junior Year

First Semester	Credits	Second Semester	Credits
COMP SCI 3200 (OR 3000 Level MATH, 5000 Level STAT)	3	ENGLISH 1160, or 3560, or SPM S 1185	3
ELEC ENG 2800	3	NUC ENG 3223	3
MET ENG 2110	3	NUC ENG 4203 or 5203	3
NUC ENG 3205	3	NUC ENG 4312 or 5312	3
NUC ENG 3221	3	NUC ENG 5010	0.5
		STAT 3113 or 3117	3
	15		15.5

Senior Year

First Semester	Credits	Second Semester	Credits
General Education Elective[1]	3	General Education Elective[1]	3
NUC ENG 4207 or 5207	3	NUC ENG 4438 or 5438	2
NUC ENG 4241 or 5241	3	NUC ENG 4497	3
NUC ENG 4428 or 5428	3	Nuclear Engineering Elective[3]	3
NUC ENG 4496	2	Technical Elective[4]	3
NUC ENG 5010	0.5	Technical Elective[4]	3
Nuclear Engineering Elective[3]	3		
	17.5		17

Total Credits: 129

Note: Minimum credit hours for graduation is 129.

1

General Education Electives must satisfy Missouri S&T's general education requirements in the catalog.

2

Nuclear Engineering students are expected to take Nuclear Technology Applications (NUC ENG 1105) during their

Freshman year. However, transfer students are exempt. Students who attend the Nuclear Engineering Summer Camp as high school students may have this requirement waived.

3

Any Nuclear Engineering course 4000 level or higher.

4

Technical Electives can be any Math, Science, or Engineering courses. One elective must be taken at the 3000 level or above. The other must be taken at the 4000 level or above.

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

Justification for request

To include CHEM 1305 as an option for the degree program.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer Comments

Hannah Johnson (hjh9x) (04/20/26 8:47 am): Alphabetized course listings.

Key: 104

Program Change Request

Date Submitted: 03/16/26 1:57 pm

Viewing: NU ENG-MI : Nuclear Engineering Minor

Last approved: 07/21/15 12:12 pm

Last edit: 03/16/26 1:57 pm

Changes proposed by: Joshua Schlegel (schlegelj)

Catalog Pages Using this Program

Nuclear Engineering

Effective Catalog Edition	FS2026-SP2027
Start Term	Fall 2026
Program Type	Minor
Academic Level	Undergraduate
Program Code	NU ENG-MI
Department	Nuclear Eng ~~Mining~~ & Radiation Sci ~~Nuclear Engineering~~
Discipline	Nuclear Engineering
Title	

In Workflow

1. **NUC ENG 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

Approval Path

1. 03/30/26 3:14 pm Joseph Newkirk (jnewkirk): Approved for NUC ENG Chair
2. 04/03/26 9:03 am Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 04/10/26 7:45 am Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post

5. 05/05/26 8:52 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
6. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Jul 23, 2014 by Lahne Black (lahne)
2. Jul 21, 2015 by pantaleoa

Nuclear Engineering Minor

CIP Code

Program Requirements and Description

Nuclear Engineering Minor Curriculum

A nuclear engineering minor enhances the academic credentials of a student and broadens his/her employment choices. A minimum of 15 hours is required for a minor in nuclear engineering.
Before the courses listed below can be taken, the student should have completed MATH 3304 ~~MATH 3304~~ (or equivalent) and PHYSICS 2305 ~~PHYSICS 2305~~ (or NUC ENG 3103 or equivalent). Required courses are:

NUC ENG 3205	Fundamentals of Nuclear Engineering	3
~~NUC ENG 3223~~	~~Reactor Heat Transfer~~	~~3~~
NUC ENG 4312	Nuclear Radiation Measurements and Spectroscopy	3

The other 9 ~~6~~ hours should be selected from nuclear engineering 3000 or higher ~~4000~~ level courses.

Justification for request

To improve flexibility for students to focus their minor on various specialties in nuclear engineering, and to prepare for/align with possible UM System collaborations.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer Comments

Key: 105

Program Change Request

Date Submitted: 03/25/26 4:03 pm

Viewing: TP&E-CTU : Technology, Philosophy, and Ethical Futures CTU

Last approved: 02/04/25 11:13 am

Last edit: 04/03/26 9:05 am

Changes proposed by: Irina Ivliyeva (ivliyeva)

Catalog Pages Using this Program

Philosophy

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

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. 03/25/26 4:10 pm Irina Ivliyeva (ivliyeva): Approved for RPHILOSO Chair
2. 04/03/26 9:06 am Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 04/03/26 11:34 am Alejandra Sobrado (asgx4): Approved for Arts & Humanities DSCC Chair
4. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
5. 05/05/26 8:52 am

Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda

6. 05/05/26 9:26 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair

History

1. Feb 3, 2021 by Patrick Gamez (gamezp)
2. Aug 3, 2021 by Crystal Wilson (wilsoncry)
3. Apr 30, 2024 by Christina Harrison (charrison)
4. Feb 4, 2025 by Christina Harrison (charrison)

Technology, Philosophy, and Ethical Futures CTU

CIP Code

Intended Audience

Main Campus Students

Program Requirements and Description

Technology, Philosophy, and Ethical Futures

This certificate is designed to help make one an informed citizen, a reflective human being, and a potential difference-maker.

We live in a technological world, with rapid developments in emerging nano-, bio-, and information and communications technology taking place every day. But the very speed of these change can make it difficult to

see how we are affected by them. How do new technologies impact our environments, our economies, our lived experiences, and our very selves? How can we, as users, cope with them? Perhaps even more importantly, what sorts of obligations and responsibilities do engineers and technicians, as makers, have to make sure they are safe, healthy, or liberating? Finally, how do we, as persons, understand ourselves as users, makers, and human beings? These are precisely the sorts of questions that the Certificate in Technology, Philosophy, and Ethical Futures will help one address. Pursuing this course of study will familiarize students not only with the dilemmas, challenges, and opportunities that new technologies present but with the conceptual tools to navigate them, which will serve them well both in industry and in personal life.

REQUIREMENTS:

Required Capstone Course:		
PHILOS 4554	Technology, Energy, and Ethics	3
3 credits from:		
PHILOS 1105	Self and World: Introduction To Philosophy	3
PHILOS 1130	How Should I Live? An Introduction to Ethics	3
6 credits from:		
HISTORY 3510	Twentieth Century Technology And Society	3
~~POL SCI 4320~~	~~The Politics of Innovation~~	~~3~~
PHILOS 3223	Bioethics	3
PHILOS 3225	Engineering Ethics	3
PHILOS 3277	Wilderness and Its Critics	3
PHILOS 4320	Minds And Machines	3
PHILOS 4350	Environmental Ethics and Justice	3
~~PHILOS 4665~~	~~Creating Future Cities~~	~~3~~
PHILOS 4665	Creating Future Cities	3
POL SCI 4320	The Politics of Innovation	3
PSYCH 4710	Human Factors	3
PSYCH 4720	Psychology of Social Technology	3

Justification for request

Adding Bio Ethics 3223 to list to balance the 3XXX offerings;

Reordering/ listing the courses in the more appropriate manner

PHIL 4665 and Poly Sc 4320 - not a change but re- listed with hyperlinks

Attach Budget

System Approval
Letter

MDHE Approval

Supporting
Documents

Reviewer
Comments

Hannah Johnson (hjh9x) (04/03/26 9:05 am): Alphabetized the course lists.

Key: 368

Experimental Change Request

New Proposal

Date Submitted: 04/07/26 12:43 am

Viewing: GEOLOGY 5001.021: Limnogeology

Last edit: 04/20/26 8:58 am

Changes proposed by: jonathan Obrist Farner (johfb)

Requested Effective Date	Spring 2027
Department	Earth Sciences and Engineering (RGEOSENG)
Discipline	Geology (GEOLOGY)
Course Number	5001
Topic ID	021
Experimental Title	

In Workflow

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

Approval Path

1. 04/04/26 10:31 am Stephen Gao (sgao): Approved for RGEOSENG Chair
2. 04/06/26 7:43 am Crystal Wilson (wilsoncry): Rollback to Initiator
3. 04/07/26 8:44 am Stephen Gao (sgao): Approved for RGEOSENG Chair
4. 04/07/26 3:18 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary
5. 04/14/26 10:52 am Theresa Swift (thswift): Approved

for Engineering DSCC Chair
6. 04/20/26 2:03 pm Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post
7. 05/05/26 8:52 am Hannah Johnson (hjh9x): Approved for CCC Meeting Agenda
8. 05/05/26 9:25 am Cecil Eng Huang Chua (cchua): Approved for Campus Curricula Committee Chair
9. 05/05/26 9:31 am Evie Sherlock (esdk3): Approved for CAT entry

Limnogeology

Experimental Abbreviated Course Title: Limnogeology

Co-Listed Course

Instructors

Jonathan Obrist Farner

Experimental Catalog Description

An introduction to the geological study of lakes and their sedimentary records. Topics include the origin and classification of lake basins, the physical, chemical, and biological processes that govern lacustrine sedimentation, and the methods used to extract and interpret environmental information from lake sediments. Students will be introduced to field and laboratory techniques including seismic reflection imaging, sediment coring, and core chronology using radiometric and stratigraphic dating methods. Analytical methods for sediment core

description and interpretation are surveyed, encompassing sedimentological, geochemical, and biological approaches. Emphasis is placed on the application of lacustrine archives to reconstruct paleoclimate, paleoenvironmental change, and geologic hazards such as earthquakes and volcanic eruptions.

Prerequisite(s)

Geology 3620.

Corequisite(s)

Field Trip Statement

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors: No

Elective for Majors: Yes

Grading Basis: Graded

Repeatable: No

Justification for experimental course:

Limnogeology is an increasingly important subdiscipline at the intersection of sedimentology, geochemistry, paleoclimatology, and geologic hazards research. This course addresses a clear gap in the program by equipping students with both conceptual frameworks and practical methodological skills that are directly applicable to graduate research and careers in the geosciences broadly.

Reviewer Comments

Crystal Wilson (wilsoncry) (04/06/26 7:43 am): Rollback: Rollback per department request.

Crystal Wilson (wilsoncry) (04/07/26 3:18 pm): Added graded for grading basis.

Theresa Swift (thswift) (04/13/26 6:29 pm): Prerequisite course added at department request.

Hannah Johnson (hjh9x) (04/14/26 2:03 pm): Edited prereqs to format correctly as Geology

3620 rather than GEOLOGY 3620 - Stratigraphy And Sedimentation.

Hannah Johnson (hjh9x) (04/20/26 8:58 am): Assigned 021 as the topic ID.

Key: 560