Campus Curricula Committee Meeting Agenda

September 22, 2026
8:15am - 9:30am, Parker Hall 203
(For Faculty Senate Meeting of October 22, 2026)

Review of submitted Course Change forms:

File: 5610 BIO SCI 3783 : Biological Design and Innovation I
File: 10485 EDUC 5060 : Advanced STEM Teaching Methods
File: 10486 EDUC 5070 : AI and Computer Science for Educators
File: 10357 ENV SCI 5779 : Environmental Safety
File: 10356 ENV SCI 6560 : Environmental Ecology and Management
File: 10355 ENV SCI 6667 : Disaster Management in Changing Climates
File: 10546 KC 5910 : Team Innovation Projects I
File: 10547 KC 5920 : Team Innovation Projects II
File: 974 MATH 5483 : Operational Calculus
File: 8798 MATH 5512 : Introduction To Differential Geometry

Review of submitted Program Change forms:

File: 25 CP ENG-MI : Computer Engineering Minor
File: 441 PROPOSED : STEM Education
File: 133 TCH CM-MIG : Technical Communication Minor

Review of submitted Experimental Course forms:

File: 571 PHYSICS 4001.006 : Introduction to Quantum Science and Technology

New Business:

- Consideration of a proposal for graduate-level adaptations of undergraduate courses, including discussion of the proposed approach and a vote on CCC support.
- Review and discussion of the committee bylaws.

Course Change Request

Date Submitted: 07/22/26 9:49 am

Viewing: BIO SCI 3783 : Biological Design and Innovation I

Last edit: 08/04/26 1:09 pm

Changes proposed by: Gina Yosten (gyxmr)

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
10. CAT entry
11. Peoplesoft

Programs referencing this course

BIOINV-CTU : BioInnovation CTU

BIOMED-BS: Biomedical Engineering BS

Requested Effective Date	Fall 2027
Department	Biological Sciences (RBIOLSCI)
Discipline	Biological Sciences (BIO SCI)
Course Number	3783
Title	Biological Design and Innovation I
Abbreviated Course Title	BioDesign I
Co-Listed Course	

Catalog Description

Approval Path

1. 07/22/26 9:49 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
2. 08/04/26 1:10 pm Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 09/04/26 10:06 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 09/08/26 8:20 am Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post

Students identify significant problems in biological/biomedical sciences, and then design and implement innovative solutions using advanced techniques. Students present and defend proposals and results.

Prerequisite(s):

At least two 2000 level or higher Biology courses.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture ~~Laboratory~~	3

Total: 3

Required for Majors No

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

Justification

This course was previously listed as a lab-based course, which was inaccurate.

Semesters Previously Offered

Term(s) Offered as experimental

Is this a MOTR Course?

Reviewer Comments

Hannah Johnson (hjh9x) (07/22/26 9:54 am): Selected yes for required for majors, selected no for elective for majors. Selected no for CI and CE.

Hannah Johnson (hjh9x) (08/04/26 11:31 am): Corrected required for majors to no, and elective for majors to yes due to this course not being listed as a required course on the BIO SCI BS.

Hannah Johnson (hjh9x) (08/04/26 1:09 pm): Changed effective date to Fall 2027 per CCC deadlines.

Key: 5610

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 06/05/26 2:08 pm

Viewing: EDUC 5060 : Advanced STEM Teaching Methods

Last edit: 06/08/26 9:44 am

Changes proposed by: Beth Kania-Gosche (bakm75)

Programs referencing this course	PROPOSED: STEM Education

Requested Effective Date	Fall 2027
Department	Education (REDUCATION)
Discipline	Education (EDUC)
Course Number	5060
Title	Advanced STEM Teaching Methods
Abbreviated Course Title	Adv STEM Methods
Co-Listed Course	

Catalog 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
11. Peoplesoft

Approval Path

1. 06/05/26 2:27 pm Beth Kania-Gosche (bakm75): Approved for REDUCATION Chair
2. 07/24/26 8:53 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 08/06/26 12:28 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 09/08/26 8:21 am Hannah Johnson

(hjh9x): Approved for Pending CCC Agenda post

Learners will examine the theoretical foundations of STEM learning and apply these frameworks to the design and implementation of effective instructional practices. The course also emphasizes situating learning in meaningful contexts that promote engagement, collaboration, and real-world problem solving. By the end of the course, learners will be able to critically evaluate and implement research-informed STEM teaching methods, bridging theory and practice to enhance learning outcomes across diverse educational settings.

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 Intensive: No

Communication Emphasized: No

Grading Basis: Graded

Repeatable: No

Justification

This course is part of the STEM Education graduate certificate being proposed.

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

Hannah Johnson (hjh9x) (06/08/26 9:43 am): Added a period after the prereq. Selected graded for grading basis.

Hannah Johnson (hjh9x) (06/08/26 9:44 am): Selected no for required for majors, and yes for elective for majors.

Key: 10485

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 06/05/26 2:11 pm

Viewing: EDUC 5070 : AI and Computer Science for Educators

Last edit: 07/24/26 8:52 am

Changes proposed by: Beth Kania-Gosche (bakm75)

Programs referencing this course	PROPOSED: STEM Education

Requested Effective Date	Fall 2027
Department	Education (REDUCATION)
Discipline	Education (EDUC)
Course Number	5070
Title	AI and Computer Science for Educators
Abbreviated Course Title	AI for Education
Co-Listed Course	

Catalog 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
11. Peoplesoft

Approval Path

1. 06/05/26 2:27 pm Beth Kania-Gosche (bakm75): Approved for REDUCATION Chair
2. 07/24/26 8:53 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 08/06/26 12:27 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 09/08/26 8:21 am Hannah Johnson

(hjh9x): Approved for Pending CCC Agenda post

This course integrates core concepts in computer science and related mathematical foundations with evidence-based instructional strategies to prepare K–12 educators for effective computer science teaching and ethical use of artificial intelligence in the classroom. Key topics include computational thinking, algorithms, data structures, coding, and foundational hardware concepts. Learners will engage in the design and implementation of standards-aligned, project-based instructional models, including the development of classroom-ready lessons and laboratory experiences. The course also emphasizes responsible and appropriate uses of AI for both teachers and students, with attention to ethical considerations and classroom applications.

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 Intensive: No

Communication Emphasized: No

Grading Basis: Graded

Repeatable: No

Justification

This course is part of the STEM Education graduate certificate being proposed.

This course will be proposed as an approved computer science training for practicing teachers from DESE. Some of the course description language is from those requirements. https://dese.mo.gov/media/pdf/computer-science-approved-trainings-and-courses

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

Hannah Johnson (hjh9x) (06/08/26 9:44 am): Added a period after the prereq, selected no for required for majors and yes for elective for majors, selected graded for grading basis.

Hannah Johnson (hjh9x) (06/08/26 10:55 am): Changed course number from 50700 to 5070.

Crystal Wilson (wilsoncry) (07/24/26 8:52 am): Fixed grammar.

Key: 10486

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 08/05/26 3:15 pm

Viewing: ENV SCI 5779 : Environmental Safety

Last edit: 08/06/26 9:02 am

Changes proposed by: Robin Verble (verbler)

Programs referencing this course

PROPOSED: Environmental Conservation CT 26.1307:
PROPOSED: Environmental Health & Safety CT

Requested Effective Date	Spring 2027
Department	Biological Sciences (RBIOLSCI)
Discipline	Environmental Sciences (ENV SCI)
Course Number	5779
Title	Environmental Safety
Abbreviated Course Title	Environ Safety
Co-Listed Course	

Catalog 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
10. CAT entry
11. Peoplesoft

Approval Path

1. 11/17/25 10:32 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
2. 12/03/25 12:01 pm jm558v: Rollback to Initiator
3. 08/05/26 9:05 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
4. 08/05/26 2:10 pm Hannah Johnson (hjh9x): Rollback to Initiator
5. 08/05/26 3:19 pm Gina Yosten (gyxmr): Approved

for RBIOLSCI Chair
6. 08/06/26 9:07 am Hannah Johnson (hjh9x): Approved for CCC Secretary
7. 09/04/26 10:06 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
8. 09/08/26 8:25 am Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post

An in-depth examination of the principles, practices, and regulatory frameworks that govern environmental safety in industrial, commercial, and community settings. Students explore methods for identifying and controlling environmental hazards, including chemical, physical, and biological risks, with an emphasis on prevention, compliance, and sustainable management. Through case studies, applied projects, and analysis of current regulations, the course prepares learners to evaluate environmental safety challenges, develop effective mitigation strategies, and support organizational risk-management goals. Course is delivered online asynchronous annually in the spring semester.

Prerequisite(s):

Admission to the course requires graduate standing or completion of at least 60 hours of undergraduate coursework.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3.0

Total: 3

Required for Majors No

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

Justification

This course is being created as part of an Env Sci graduate certificate (paperwork in process) designed for working professionals and Fort Leonard Wood students.

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

jm558v (12/03/25 12:01 pm): Rollback: Rollback per needs to be submitted with the DC form.

Hannah Johnson (hjh9x) (08/05/26 2:10 pm): Rollback: Correct effective term and format of prereq and co-reqs.

Hannah Johnson (hjh9x) (08/06/26 8:37 am): Selected graded for grading basis per email from Robin Verble.

Hannah Johnson (hjh9x) (08/06/26 9:02 am): Edited "Delivery: online asynchronous; Spring annually" in the catalog description to "Course is delivered online asynchronous annually in the spring semester."

Key: 10357

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 08/04/26 3:24 pm

Viewing: ENV SCI 6560 : Environmental Ecology and Management

Last edit: 08/06/26 8:38 am

Changes proposed by: Robin Verble (verbler)

Programs referencing this course

PROPOSED: Environmental Conservation CT 26.1307:
PROPOSED: Environmental Policy

Requested Effective Date	Spring 2027
Department	Biological Sciences (RBIOLSCI)
Discipline	Environmental Sciences (ENV SCI)
Course Number	6560
Title	Environmental Ecology and Management
Abbreviated Course Title	Env Ecol Mgmt
Co-Listed Course	

Catalog 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
10. CAT entry
11. Peoplesoft

Approval Path

1. 11/17/25 10:32 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
2. 12/03/25 12:01 pm jm558v: Rollback to Initiator
3. 08/04/26 12:30 pm Hannah Johnson (hjh9x): Rollback to Initiator
4. 08/05/26 9:05 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
5. 08/06/26 9:07 am Hannah Johnson (hjh9x): Approved

for CCC Secretary
6. 09/04/26 10:06 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
7. 09/08/26 8:26 am Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post

This course explores the ecological principles and management strategies essential for sustaining healthy natural systems in the face of environmental change. Students examine ecosystem structure and function, species interactions, biogeochemical cycles, and the drivers of ecological disturbance across diverse environments. Emphasis is placed on applying ecological science to real-world management challenges, including habitat conservation, invasive species control, biodiversity protection, and ecosystem restoration. Through case studies, field-based observations, and analytical projects, students learn to evaluate ecological data, assess environmental impacts, and develop evidence-based management plans. The course prepares students to integrate ecological knowledge into decision-making processes that support sustainable resource use and long-term ecosystem resilience.

Prerequisite(s):

Graduate standing or permission of instructor.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors No

Elective for Majors Yes

Communication No

Intensive

Communication Emphasized	No
Grading Basis	Graded
Repeatable	No

Justification

This course is part of a graduate certificate in Env Sci that was approved in Fall 2026.

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

jm558v (12/03/25 12:01 pm): Rollback: Rollback per needs to be submitted with the DC form.

Hannah Johnson (hjh9x) (08/04/26 12:30 pm): Rollback: Rolling back per request.

Hannah Johnson (hjh9x) (08/06/26 8:38 am): Added a period at the end of the prereq.
Selected graded for grading basis per email from Robin Verble.

Key: 10356

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 08/04/26 3:25 pm

Viewing: ENV SCI 6667 : Disaster Management in Changing Climates

Last edit: 08/06/26 9:00 am

Changes proposed by: Robin Verble (verbler)

Programs referencing this course	PROPOSED: Environmental Conservation CT 26.1307: PROPOSED: Disaster Management CT PROPOSED: Environmental Policy

Requested Effective Date	Spring 2027
Department	Biological Sciences (RBIOLSCI)
Discipline	Environmental Sciences (ENV SCI)
Course Number	6667
Title	Disaster Management in Changing Climates
Abbreviated Course Title	Disaster and Climate
Co-Listed Course	

Catalog 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
10. CAT entry
11. Peoplesoft

Approval Path

1. 11/17/25 10:32 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
2. 12/03/25 12:02 pm jm558v: Rollback to Initiator
3. 08/04/26 12:30 pm Hannah Johnson (hjh9x): Rollback to Initiator
4. 08/05/26 9:06 am Gina Yosten (gyxmr): Approved for RBIOLSCI Chair
5. 08/06/26 9:07 am Hannah Johnson (hjh9x): Approved

for CCC Secretary
6. 09/04/26 10:07 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
7. 09/08/26 8:28 am Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post

This course examines how evolving climate patterns are reshaping the frequency, intensity, and geographic distribution of disasters, and explores strategies for managing these emerging risks. Students analyze the scientific drivers of climate-related hazards—such as extreme weather events, sea-level rise, drought, and wildfires—and assess their impacts on communities, infrastructure, and public health. Emphasis is placed on integrating climate adaptation principles into emergency planning, mitigation, response, and recovery. Through case studies, scenario-based exercises, and applied research, students learn to design resilient systems, evaluate policy approaches, and develop evidence-informed strategies for managing disasters in a rapidly changing climate. Suitable for students and professionals in emergency management, public health, environmental planning, and related fields. Course is offered annually in the fall semester.

Prerequisite(s):

Graduate standing or permission of instructor.

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

Justification

This course is part of a graduate certificate that is being developed in environmental science for online and Fort Leonard Wood working professionals.

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

jm558v (12/03/25 12:02 pm): Rollback: Rollback per needs to be submitted with the DC form.

Hannah Johnson (hjh9x) (08/04/26 12:30 pm): Rollback: Rolling back per request.

Hannah Johnson (hjh9x) (08/06/26 8:40 am): Capitalized G in graduate for the prereq, and added a period. Selected graded for grading basis per email from Robin Verble.

Hannah Johnson (hjh9x) (08/06/26 9:00 am): Changed the last part of the catalog description "; fall annually" to "Course is offered annually in the fall semester. "

Key: 10355

Preview Bridge

Course Change Request

New Course Proposal

Date Submitted: 07/30/26 12:46 pm

Viewing: **KC 5910 : Team Innovation Projects I**

Also listed as: **ENG MGT 5910 / SYS ENG 5910**

Last edit: 08/06/26 11:29 am

Changes proposed by: David Enke (enke)

Requested Effective Date	Spring 2027	
Department	Kummer College (RKUMR)	
Discipline	Kummer College (KC)	
Course Number	5910	
Title	Team Innovation Projects I	
Abbreviated Course Title	TIP I	
Co-Listed Course	ENG MGT 5910	Department: Engineering Mgt & Sys Engr (RENGMNGT)
	SYS ENG 5910	Department: Engineering Mgt & Sys Engr (RENGMNGT)

Catalog Description

In Workflow

1. **RKUMR 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. 07/30/26 12:48 pm David Enke (enke): Approved for RKUMR Chair
2. 08/06/26 11:56 am Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 08/06/26 12:28 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 09/08/26 8:28 am Hannah Johnson (hjh9x): Approved for Pending CCC

This course provides students with an immersive, team-based experience in cross-disciplinary innovation through industry-sponsored projects. Working in diverse, interdisciplinary teams, students collaborate with faculty advisors and industry sponsors to develop innovative solutions and translate them into actionable business or societal impact. Drawing on principles of design thinking, systems innovation, artificial intelligence, information systems, and project management, teams address real-world challenges aligned with economic development, sustainability, or emerging technologies. Depending on the project, students may conduct stakeholder engagement, market and customer research, technology and competitive assessments, solution design, prototype development, or business case analysis while initiating project implementation.

Prerequisite(s):

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	1
Laboratory	2

Total: 3

Required for Majors No

Elective for Majors Yes

Communication Intensive No

Communication Emphasized No

Grading Basis Graded

Repeatable No

Justification

This course has been taught twice as an experimental course (ENG MGT 5001 - TIP I in fall 2025 and KC 5001 - TIP I in spring 2026 after the KC designation was created for spring 2026). The KC 5001 - TIP I experimental course is scheduled to be taught again during the fall 2026 semester. Enrollments and the number of company sponsored projects are growing, necessitating the need to offer this course each fall and spring semester. A permanent number is thereby requested.

Semesters Previously Offered

Term(s) Offered as experimental

KC 5001- TIP 1 : Spring 26 - Lecture/Lab total of 9 enrolled
KC 5001- TIP 1 : Fall 26 - Lecture/Lab total of 1 enrolled
KC 5001- TIP 1 : Fall 26 Lecture/Lab total of 0 enrolled
ENG MGT 5001 – TIP 1 : Fall 2025 – Lecture/Lab total of 7 enrolled

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

Hannah Johnson (hjh9x) (08/04/26 1:57 pm): Removed N/A from prereq and coreq. Selected graded for grading basis.

Hannah Johnson (hjh9x) (08/05/26 12:00 pm): Entered the Semesters previously offered information. The department has offered the KC 5001 designation course once, and the ENG MGT 5001 course designation once. Totaling two times, with plans to teach the course again in the Fall 2026, and Spring 2027.

Course Change Request

New Course Proposal

Date Submitted: 07/30/26 12:47 pm

Viewing: **KC 5920 : Team Innovation Projects II**

Also listed as: **ENG MGT 5920 / SYS ENG 5920**

Last edit: 08/06/26 11:30 am

Changes proposed by: David Enke (enke)

Requested Effective Date	Spring 2027	
Department	Kummer College (RKUMR)	
Discipline	Kummer College (KC)	
Course Number	5920	
Title	Team Innovation Projects II	
Abbreviated Course Title	TIP II	
Co-Listed Course	ENG MGT 5920	Department: Engineering Mgt & Sys Engr (RENGMNGT)
	SYS ENG 5920	Department: Engineering Mgt & Sys Engr (RENGMNGT)

Catalog Description

In Workflow

1. **RKUMR 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. 07/30/26 12:48 pm David Enke (enke): Approved for RKUMR Chair
2. 08/06/26 12:18 pm Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 08/06/26 12:29 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 09/08/26 8:28 am Hannah Johnson (hjh9x): Approved for Pending CCC

This course continues the interdisciplinary innovation experience through the execution and completion of industry-sponsored projects. Student teams refine, implement, validate, and communicate innovative solutions while translating technical, operational, or business outcomes into actionable organizational and societal impact. Building upon principles of design thinking, systems innovation, artificial intelligence, information systems, and project management, teams collaborate with industry sponsors to advance technical implementation, validate project outcomes, conduct market or operational analyses as appropriate, and develop recommendations for organizational adoption, commercialization, or future implementation.

Prerequisite(s):

Eng Mgt 5910, Kc 5910, or Sys Eng 5910.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	1
Laboratory	2

Total: 3

Required for Majors: No

Elective for Majors: Yes

Communication Intensive: No

Communication Emphasized: No

Grading Basis: Graded

Repeatable: No

Justification

This course has been taught once as an experimental course, KC 5001 - TIP II in spring 2026, and is scheduled to be taught again during the fall 2026 semester. Enrollments and the number

of company sponsored projects are growing, including the number of projects that stretch over two semesters, necessitating the need to offer this follow-on course each fall and spring semester. A permanent number is thereby requested.

Semesters Previously Offered

Term(s) Offered as experimental

KC 5001- TIP 2 : Spring 26 - Lecture/Lab total of 6 enrolled

KC 5001- TIP 2 : Fall 26 - Lecture/Lab total of 2 enrolled

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

Hannah Johnson (hjh9x) (08/04/26 1:54 pm): Selected Graded for grading basis, alphabetized the prereq list and corrected formatting. Added a period to the end of the prereq, and removed N/A from the coreq.

Hannah Johnson (hjh9x) (08/05/26 12:03 pm): Entered information into the semesters previously offered box. This course was taught once as an EC, and is planned to be taught for Fall 2026, and Spring 2027.

Key: 10547

Preview Bridge

Course Change Request

A deleted record cannot be edited

Course Inactivation Proposal

Date Submitted: 07/16/26 2:38 pm

Viewing: MATH 5483 : Operational Calculus

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

Last edit: 07/16/26 2:38 pm

Changes proposed by: John Singler (singlerj)

Justification for this inactivation request

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. 07/16/26 2:43 pm John Singler (singlerj): Approved for RMATHEMA Chair
2. 08/21/26 9:23 am Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 09/04/26 10:07 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 09/08/26 8:30 am Hannah Johnson (hjh9x): Approved

for Pending CCC Agenda post

History

1. Feb 21, 2022 by Paul Runnion (prunnion)
2. Jul 31, 2024 by esdk3

We have not offered this course in a long time. Due to faculty changes - and substantial reductions to our faculty - we do not plan to offer this course again.

Requested Effective Date	Fall 2027
Department	Mathematics & Statistics (RMATHEMA)
Discipline	Mathematics (MATH)
Course Number	5483
Title	Operational Calculus
Abbreviated Course Title	Operational Calculus
Co-Listed Course	

Catalog Description

The Laplace transformation, properties of the transformation, various applications to ordinary and partial differential equations, systems with step and Dirac functions as driving forces, various non-elementary functions and their transforms, problems in heat conduction and wave motion, Fourier transforms and their operational properties.

Prerequisite(s):

A grade of "C" or better in Math 2222 and Math 3304.

Corequisite(s):

Credit Hours

Credit Hours

Credit Type	Credit Hours
Lecture	3

Total: 3

Required for Majors No

Elective for Majors Yes

Communication Intensive

Communication Emphasized

Grading Basis Graded

Repeatable Yes

Justification

Semesters Previously Offered

Term(s) Offered as experimental

Previous Course Code

Is this a MOTR Course?

Reviewer Comments

Key: 974

Preview Bridge

Course Change Request

Date Submitted: 07/28/26 1:30 pm

Viewing: MATH 5512 : Introduction To Differential Geometry

Last edit: 07/29/26 1:22 pm

Changes proposed by: John Singler (singlerj)

Programs referencing this course

AP MATH-BS: Applied Mathematics BS

Requested Effective Date	Spring 2027
Department	Mathematics & Statistics (RMATHEMA)
Discipline	Mathematics (MATH)
Course Number	5512
Title	Introduction To Differential Geometry
Abbreviated Course Title	Introd To Diff Geometry
Co-Listed Course	

Catalog Description

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. 07/28/26 1:30 pm John Singler (singlerj): Approved for RMATHEMA Chair
2. 07/30/26 2:00 pm Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 09/04/26 10:07 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 09/08/26 8:30 am Hannah Johnson (hjh9x): Approved for Pending CCC

Elements of the geometry of curves and surfaces in Euclidean three-space using methods of advanced calculus and vectors.

Prerequisite(s):

Math 4209. ~~4209 or Math 5222.~~

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

Justification

Based on the course description, advanced calculus (MATH 4209) is needed for this course. MATH 5222 does not provide advanced calculus background and therefore should be removed as an option for the prerequisite.

Semesters Previously Offered

Term(s) Offered as experimental

Is this a MOTR Course?

Reviewer Comments

Hannah Johnson (hjh9x) (07/29/26 1:22 pm): Added a period for the prereq. Changed start term to Spring 2027, per CCC deadlines. Selected yes to elective for majors, and no for both CI and CE.

Key: 8798

Preview Bridge

Program Change Request

Date Submitted: 08/21/26 10:00 am

Viewing: CP ENG-MI : Computer Engineering Minor

Last approved: 06/02/26 8:08 am

Last edit: 08/25/26 2:55 pm

Changes proposed by: R.Joe Stanley (stanleyj)

Catalog Pages Using this Program

Computer Engineering

In Workflow

1. RELECENG 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

Effective Catalog Edition	FS2027-SP2028
Start Term	Fall 2027
Program Type	Minor
Academic Level	Undergraduate
Program Code	CP ENG-MI
Department	Electrical & Computer Engr
Discipline	Computer Engineering
Title	

Approval Path

1. 08/21/26 10:06 am Jonathan Kimball (kimballjw): Approved for RELECENG Chair
2. 08/25/26 2:56 pm Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 08/27/26 12:04 pm Theresa Swift (thswift): Approved for Engineering DSCC Chair
4. 09/08/26 8:21 am Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post

History

1. Jul 23, 2014 by watkins
2. Aug 13, 2014 by pantaleoa
3. Jun 23, 2015 by pantaleoa
4. Jul 15, 2015 by pantaleoa
5. Jun 2, 2026 by R.Joe Stanley (stanleyj)

Computer Engineering Minor

CIP Code

Program Requirements and Description

Minor Curriculum

A minor in computer engineering will require the following:

A "C" or better in the following courses:

COMP ENG 2210	Introduction to Digital Logic	3
COMP ENG 3110	Computer Organization and Design	3
COMP ENG 3150	Introduction to Microcontrollers and Embedded System Design	3
COMP ENG 5410	Introduction to Computer Communication Networks	3
or COMP SCI 5600	Advanced Computer Networks	
ELEC ENG 2100	Circuits I	3
~~ELEC ENG 2120~~	~~Circuits II~~	

Pass 3 hours of additional 4XXX-level or above COMP ENG or COMP SCI or ELEC ENG coursework with a "C" or better, excluding senior design, special problems, and undergraduate research. Transfer courses cannot be used to satisfy this requirement. The course choice for this requirement is subject to the approval of the minor advisor.

Justification for request

In the justification for removing the requirement that students must pass the advancement exams for Elec Eng 2100, Comp Eng 2210, Elec Eng 2120, and Elec Eng 2200 (core sophomore level courses) was changed to requiring students earn a C or better grade without the mandate of a C or better grade on the respective final exams, somehow Elec Eng 2120 replaced Comp Eng 2210 in the Cp Eng - Minor program. This was not the intended Cp Eng-Minor program change. Comp Eng 2210 needs to be re-added to the Cp Eng-Minor program and Elec Eng 2120 needs to be removed.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents

Reviewer

Comments

Hannah Johnson (hjh9x) (08/21/26 11:45 am): Changed the effective date to Fall 2027 per CCC deadlines. Formatted the course listing to be the same throughout. Alphabetized the options (COMP ENG, COMP SCI, ELEC ENG) in the "Pass 3 hours..." requirement.

Crystal Wilson (wilsoncry) (08/25/26 2:55 pm): Changed start term to Fall 2027.

Program Change Request

New Program Proposal

Date Submitted: 06/05/26 2:22 pm

Viewing: PROPOSED : STEM Education

Last edit: 07/24/26 8:48 am

Changes proposed by: Beth Kania-Gosche (bakm75)

Effective Catalog Edition	FS2027-SP2028
Start Term	Fall 2027
Program Type	Certificate
CIM Prospectus	
Academic Level	Graduate
Program Code	PROPOSED
Department	Education
Discipline	Education
Offered by	
Title	

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. 06/05/26 2:26 pm Beth Kania-Gosche (bakm75): Approved for REDUCATION Chair
2. 07/24/26 8:53 am Crystal Wilson (wilsoncry): Approved for CCC Secretary
3. 08/06/26 12:28 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 09/08/26 8:32 am Hannah Johnson (hjh9x): Approved for Pending CCC

Agenda post

STEM Education

CIP Code	13.1213 - Science, Technology, Engineering, and Mathematics (STEM) Educational Methods.

Purpose

Most STEM doctoral programs do not include coursework on effective teaching, although this is an important component of a faculty member's job. Educational research is constantly evolving as new technologies emerge. Even experienced high school teachers may desire updated knowledge on AI, STEM instruction, and research-based strategies.

Intended Audience

Distance (online) Students

Main Campus Students

Program-Specific Admission

The STEM Education graduate certificate is open to all persons holding a bachelor's degree or are currently accepted into a graduate degree program at Missouri S&T. Once admitted to the program, the student must take the four designated courses (provided in the curriculum section). In order to receive a Graduate Certificate, the student must have an average cumulative grade point of 3.0 or better in the certificate courses. Once admitted to the program, a student will be given six years to complete the program.

Students only admitted to the STEM Education Certificate Program will have non-degree graduate status, however, they will earn graduate credit for the course they complete.

Program Requirements and Description

STEM Education Certificate

Prepare to excel as a future faculty member or STEM educator with this certificate focused on evidence-based teaching practices for STEM disciplines. Graduate students will develop the skills to design inclusive, engaging, and effective learning experiences. Students will align assessments with learning outcomes, analyze data, and map curriculum. This program emphasizes taking educational research into practical application, preparing learners to confidently teach in universities, colleges, schools, or informal science education contexts. The certificate's curriculum is flexible, allowing students to select courses that meet their career goals. The program is designed for working professionals, practicing educators, and graduate students. Course assignments are

designed using adult learning principles, so the knowledge and skills can be immediately applied in the learner's context.

By the end of this certificate program, participants will be able to:

• Create appropriate course/module learning outcomes mapped to program learning outcomes,

• Select and use effective formative and summative assessment techniques to document improvement of instruction.

• Implement evidence-based instructional strategies to improve student learning outcomes in STEM disciplines.

• Apply research-based student support practices to foster inclusive learning environments in STEM

• Design, align, and evaluate STEM curricula for specified levels, using national standards as a guide.

• Communicate research and advocate effectively about STEM educational issues in a wide range of instructional and professional contexts.

Program Requirements

Students must complete 12 graduate credit hours from the courses listed below. Any substitutions require advisor approval.

Choose one of the following courses (Teaching Engineering course required for Engineering PhD students):		
EDUC 5060	Advanced STEM Teaching Methods	3
ENV ENG 5070/ CIV ENG 5070/ COMP ENG 5070/ ELEC ENG 5070/ ENG MGT 5070	Teaching Engineering	3
Choose three courses from the following (must not duplicate course taken above):		
EDUC 5060	Advanced STEM Teaching Methods	3
EDUC 5070	AI and Computer Science for Educators	3
EDUC 5225	Curriculum Development and Assessment	3
EDUC 5370	Effective Instructional Strategies	3
TCH COM 5550	Advanced Proposal Writing	3

Justification for request

See attached documentation for STEM Education graduate certificate. This is part of the stackable certificates for the proposed master's degree in education.

Attach Budget

System Approval Letter

MDHE Approval

Supporting Documents STEM Education Graduate Certificate.pdf

Reviewer Comments

Hannah Johnson (hjh9x) (06/08/26 9:14 am): Added a heading for the CT. Combined the two course listings into one. Edited the first paragraph in the program requirements and description to be in proper paragraph format - did not change any wording, just removed some extra spacings.

Hannah Johnson (hjh9x) (06/08/26 10:57 am): Changed course for EDUC 50700 to EDUC 5070.

Crystal Wilson (wilsoncry) (07/24/26 8:48 am): Listed out co-listed courses for Teaching Engineering 5070 course.

Key: 441

Program Change Request

Date Submitted: 08/03/26 11:10 am

Viewing: TCH CM-MIG : Technical Communication Minor

Last approved: 04/24/26 4:26 pm

Last edit: 08/03/26 11:10 am

Changes proposed by: Kathryn Dolan (dolankc)

Catalog Pages Using this Program

Technical Communication

Effective Catalog Edition	FS2027-SP2028
Start Term	Fall 2027
Program Type	Minor
Academic Level	Graduate
Program Code	TCH CM-MIG
Department	English & Tech Communication
Discipline	Technical Communication
Title	

In Workflow

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

Approval Path

1. 07/22/26 1:08 pm Kathryn Dolan (dolankc): Approved for RENGLISH Chair
2. 08/03/26 9:56 am Crystal Wilson (wilsoncry): Rollback to Initiator
3. 08/03/26 11:11 am Kathryn Dolan (dolankc): Approved for RENGLISH Chair
4. 08/04/26 11:50 am Hannah Johnson (hjh9x): Approved for CCC Secretary
5. 08/31/26 10:29 am Alejandra Sobrado (asgx4): Approved for Arts &

Humanities DSCC Chair
6. 09/08/26 8:32 am Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post

History

1. Apr 23, 2014 by Kristine Swenson (kswenson)
2. Sep 5, 2014 by pantaleoa
3. Jul 24, 2015 by pantaleoa
4. Jun 10, 2021 by Kristine Swenson (kswenson)
5. Apr 24, 2026 by Crystal Wilson (wilsoncry)

Technical Communication Minor

CIP Code

Program Requirements and Description

Technical Communication Graduate Minor

The technical communication program offers a graduate-level minor that is open to any graduate student. The minor is designed to strengthen the written, oral, and visual communication skills of students majoring in the sciences, engineering, management, information systems, or other fields. The minor will be particularly useful for those students who will pursue the “paper option” thesis or dissertation. The minor will also be beneficial for those students who will make oral or poster presentations at technical conferences, write journal articles, prepare research proposals, design technical web pages, or prepare technical marketing information.
The program requires a minimum of 12 hours of credit (excluding all courses taken for undergraduate credit). A minimum of 6 hours of 4000-level or above courses with the TCH COM designation is required. At least 6 additional hours of technical communication intensive courses are required. The additional courses may come

from courses with the TCH COM designation, the list of approved technical communication intensive courses, and/or technical communication intensive courses from any academic discipline with the approval of the minor advisor and the English and technical communication department.

Students can elect to pursue this minor at any point during their graduate studies by submitting the Application for a Designated Graduate Minor form (available at http://registrar.mst.edu/media/administrative/registrar/documents/gradminorapp.pdf) to the English and technical communication department. Upon application, each student will be assigned a minor advisor who will work with the student to develop a proposed list of courses to fulfill the program requirements.

Approved Technical Communication Intensive Courses

All TCH COM courses, 4000-level and above		
BIO SCI 6313	Environmental Microbiology	3
BUS 5111	Business Negotiations	3
~~ENGLISH 2410~~	~~Theory Of Written Communication~~	~~3~~
ENGLISH 5571	Advanced Writing For Science & Engineering	3
IS&T 6887	Research Methods in Business and IS&T	3
MATH 3109	Foundations Of Mathematics	3
MATH 5108	Linear Algebra II	3
~~MATH 5154~~	~~Mathematical Logic I~~	~~3~~
MATH 5603	Methods of Applied Mathematics	3
MS&E 6120	Thermodynamics and Phase Equilibria	3

The technical Communication Graduate Minor Advisory Committee will evaluate other courses, upon the request of students or faculty, for inclusion on the approved list or on a case-by-case basis for individual programs.

Justification for request

Math no longer teaching 5154 / Grad students can't take 2000 level courses for credit toward minor

Attach Budget

System Approval Letter

MDHE Approval

Supporting

Documents

Reviewer

Comments

Hannah Johnson (hjh9x) (07/24/26 9:38 am): Changed effective date to Fall 2027.
Alphabetized course listing.

Crystal Wilson (wilsoncry) (08/03/26 9:56 am): Rollback: Graduate students cannot include 2000 level courses on their plan of study therefore a 2000 level course should not be listed for the graduate minor.

Key: 133

Experimental Change Request

New Proposal

Date Submitted: 08/11/26 10:04 am

Viewing: **PHYSICS 4001.006: Introduction to Quantum Science and Technology**

Last edit: 09/08/26 8:13 am

Changes proposed by: Thomas Vojta (vojtat)

Requested Effective Date	Spring 2027
Department	Physics (RPHYSICS)
Discipline	Physics (PHYSICS)
Course Number	4001
Topic ID	006
Experimental Title	

In Workflow

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

Approval Path

1. 08/13/26 11:00 am Marco Cavaglia (cavagliam): Approved for RPHYSICS Chair
2. 08/18/26 3:30 pm Hannah Johnson (hjh9x): Approved for CCC Secretary
3. 09/04/26 10:07 am Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 09/08/26 8:31 am Hannah Johnson (hjh9x): Approved for Pending CCC Agenda post

Experimental Abbreviated Course Title: Quantum Science and Tech

Co-Listed Course

Instructors

Dr. Simeon Mistakidis

Experimental Catalog Description

This course introduces the foundations and frontiers of modern quantum science and technology. It covers core concepts of quantum mechanics such as superposition, entanglement, and measurement, as well as essential mathematical tools and key engineering challenges associated with contemporary quantum platforms. The course surveys transformative applications in areas such as quantum dynamics, quantum simulation, quantum chemistry, quantum sensing, quantum communication, and quantum computing, highlighting connections across physics, engineering, and computer science.

Prerequisite(s)

Math 3304 and Physics 2135.

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:

This class will be a core course for the UG certificate "Quantum Science and Technology" that the Physics Department is developing.

We are currently witnessing the “second” quantum revolution: Quantum science is transforming from an area of fundamental research to the center of a technological revolution. Research firms project up to 800,000 new quantum jobs in the next ten years globally. Missouri is not currently well-positioned to take advantage of this boom due to a lack of a properly trained work¬¬force with quantum skills. The proposed certificate aims to fill this gap. It is designed for majors in any STEM field who wish to enhance their degrees with

Reviewer
Comments

Hannah Johnson (hjh9x) (08/18/26 1:18 pm): Added 'and' and a period to the prereq. Selected graded for grading basis.

Hannah Johnson (hjh9x) (09/08/26 8:13 am): Assigned 006 to the topic ID. Alphabetized the Prereqs.

Key: 571