Campus Curricula Committee Meeting Agenda
October 7, 2020
8:15am - 9:45am, Zoom
(For Faculty Senate Meeting of October 22, 2020)

Review of submitted Course Change forms:
ECON 4440 : Environmental And Natural Resource Economics
ECON 4540 : Energy Economics
EDUC 1104 : Teacher Field Experience I
EDUC 2002 : Problems Of Teaching Social Studies
EDUC 2205 : Problems Of Teaching Science/Chemistry
EDUC 2206 : Problems Of Teaching Science/Physics
EDUC 2207 : Problems Of Teaching English
EDUC 2219 : Art For Elementary Teachers
EDUC 2231 : Methods In Physical Education 5-9
EDUC 3320 : Professional Development
GEOLOGY 6551 : Global Tectonics and Metallogeny
IS&T 1552 : Implementing Information Systems: Data Perspective
IS&T 5168 : Design Thinking and Technological Innovation
IS&T 5335 : Fundamentals of Mobile Technology for Business
IS&T 5445 : Database Marketing
IS&T 5450 : Introduction to Information Visualization
IS&T 5641 : Digital Commerce and IoT Analytics
IS&T 5780 : Human and Organizational Factors in Cybersecurity
IS&T 5885 : Human-Computer Interaction and User Experience
IS&T 6251 : Technological Innovation Management and Leadership
IS&T 6336 : Internet Computing and the Internet of Things
IS&T 6723 : Artificial Intelligence, Robotics, and Digital Transformation
MKT 5410 : Big Data Consumer Analytics
PHILOS 4665 : Creating Future Cities
PHILOS 4666 : Technology, Ethics, and Philosophy
PSYCH 3340 : Assessment of Student Learning
STAT 6545 : Multivariate Statistical Methods
Review of submitted Degree Change forms:

AI-MI : Minor in Artificial Intelligence and Machine Learning in Business
ANA&DTA-MI : Business Analytics and Data Science Minor
BUSAPPS-MI : Business Applications and Software Development Minor
CYBERMG-MI : Cybersecurity Management and Information Assurance Minor
FINANCE-MI : Finance Minor
HCl-MI : Human-Computer Interaction and User Experience Minor
IST-BS : Information Science and Tch BS
MARKET-MI : Marketing Minor
MOBLB&T-MI : Mobile Bus & Digital Transformation
PROPOSED : Human Factors Psychology

Review of submitted Certificate forms:

AI-CT : AI, Mach Lrn & Auto for Bus CT
ANA&DTA-CT : Bus Analytics & Data Sci CT
CYBERMG-CT : Cyber Mgmt & Info Assurance CT
DIGITMD-CT : Digital Media & Web Design CT
E&S COM-CT : Elec & Social Commerce CT
FIN ENG-CT : Financial Engineering CT
HCl-CT : Human Computer Interaction CT
MGTLLEAD-CT : Management and Leadership
PROPOSED : Mine Reclamation CT
PROPOSED : Mining Project Evaluation CT
PROPOSED : Sustainability in Mining CT
PROPOSED : UCT - Logic and the Philosophical Foundations of STEM
PROPOSED : UCT - PROFESSIONAL ETHICS AND MORAL REASONING

Review of submitted Experimental Course forms:

ENGLISH 3001.008 : Pandemic Literature
PHYSICS 4001.001 : Cosmology and Galaxies

Review of forms referred back to the committee for additional input:

COMP SCI 5001.008 : Computer Science BootCamp Part 1
COMP SCI 5001.009 : Computer Science BootCamp Part 2
Course Change Request

Date Submitted: 08/07/20 4:21 pm

Viewing: **ECON 4440: Environmental And Natural Resource Economics**

File: 2470.1
Last edit: 08/19/20 9:09 am
Changes proposed by: davismc

Programs referencing this course:
- **GS ECON-MI: Global Sustainable Economics Minor**
- **HUM ENG-MI: Humanitarian Engineering and Science Minor**
- **E/T ECN-MI: E/T Economics Minor**
- **MI ENG-BS: Mining Engineering BS**

Requested **Spring 2021 08/14/2018**
Effective Change Date

Department
- Economics

Discipline
- Economics (ECON)

Course Number 4440

Title
- Env & Nat Res Econ

In Workflow
1. RECONOMI 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. 08/07/20 4:21 pm
   Michael Davis (davismc):
   Approved for RECONOMI Chair
2. 08/19/20 9:09 am
   Marita Tibbetts (tibbettsmg):
Environmental And Natural Resource Economics

Abbreviated
Course Title

Catalog
Description
Optimum use of replenishable and non-replenishable resources, public goods and common resources, externalities, private vs. public costs, and quality of the environment; emphasis on public policy related to environmental and natural resource economics.

Prerequisites
Econ 1100, 2100.

Field Trip
Statement

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

Required for Majors
No

Elective for Majors
No
Justification for change:

We are trying to make many of our classes easier for students to take so have lowered the pre-req from Intermediate Microeconomics to Principles of Microeconomics.

Semesters previously offered as an experimental course

Co-Listed Courses:

MIN ENG 4523 - Environmental And Natural Resource Economics

Course Reviewer Comments
Course Change Request

Date Submitted: 08/07/20 3:12 pm

Viewing: **ECON 4540 : Energy Economics**

File: 1747.4

Last approved: 11/21/19 6:00 am

Last edit: 08/19/20 9:10 am

Changes proposed by: davismc

Programs referencing this course

- GS ECON-MI: Global Sustainable Economics Minor
- E/T ECN-MI: E/T Economics Minor
- MC ENG-BS: Mechanical Engineering BS

Requested Effective Change

- Spring 2021 Fall 2019

Department

Economics

Discipline

Economics (ECON)

Course Number

4540

Title

Energy Economics

Abbreviated Course Title

Energy Economics

In Workflow

1. RECONOMI 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. 08/07/20 3:18 pm Michael Davis (davismc): Approved for RECONOMI Chair
2. 08/19/20 9:10 am Marita Tibbetts (tibbettsmg):
Energy Economics

Catalog

Description
For students interested in both economic and engineering issues of energy policy. Provides an assessment of economics and technology issues related to traditional and renewable energy resources. Presented in a framework that allows for analysis of the economic trade-offs between energy sources and the technologies associated with their use and extraction.

Prerequisites
Econ 1100 or Econ 1200. 2100.

Field Trip

Statement

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

No
Required for Majors

Elective for Majors No

Justification for change:
The course material does not really require knowledge of Intermediate Microeconomics (2100). Lowering the pre-req will allow a lot more students to enroll directly into the course that typically have to ask for instructor permission.

Semesters previously offered as an experimental course

Co-Listed Courses:
CHEM ENG 4540 - Energy Economics
MIN ENG 4524 - Energy Economics

Course Reviewer Comments
Course Change Request

Date Submitted: 05/19/20 11:48 am

Viewing: **EDUC 1104 : Teacher Field Experience I**

File: 2086.4
Last approved: 11/25/19 6:01 am
Last edit: 09/15/20 11:32 am
Changes proposed by: bakm75

Catalog Pages referencing this course
- Teacher Education and Certification

Programs referencing this course
- PHYSIC-BS: Physics BS
- AP MATH-BS: Applied Mathematics BS
- BIO SC-BA: Biological Sciences BA
- BUS&MS-BS: Business and Mgmt Systems BS
- CHEM-BA: Chemistry BA
- HIST-BA: History BA
- PSYCH-BA: Psychology BA
- PROPOSED: Education
- ECON-BA: Economics BA

In Workflow
1. REDUCTION 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. 09/15/20 9:48 am
   Beth Kania-Gosche
   (bkaniagosche): Approved for REDUCTION Chair
Other Courses
referencing this course

In The Prerequisites:

EDUC 1164 : Teacher Field Experience II

Requested Fall 2021 Spring 2020
Effective Change
Date

Department
Teacher Education and Certification

Discipline
Education (EDUC)

Course Number 1104

Title

Teacher Field Experience I

Abbreviated Teach Field Experience I

Course Title

Catalog Description

Students will spend 30-60 clock hours in classrooms, including experiences in diverse settings. Students will attend seminar sessions and complete assignments related to the field experiences. A background check is required for enrollment in this course.

Prerequisites
Educ 1040.

Field Trip
Statement
<table>
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**Required for Majors**: Yes  
**Elective for Majors**: No

**Justification for change:**
DESE only requires a one hour course with 30 hours of observation. Students just investigating teacher education did not want to commit to 60 hours of observation, and some did not have transportation. Community colleges in the area use a one hour course, and students were having to retake the class because ours is two credit hours and 60 hours. Students will take Teacher Field Experience III later in the program for the 30 hours. That will benefit them more because it is closer to student teaching.

**Semesters previously offered as an experimental course**

*This course has been offered for many years.*

**Co-Listed Courses:**

**Course Reviewer**

**Comments**

Key: 2086

Preview Bridge
A deleted record cannot be edited

**Course Deactivation Proposal**

Date Submitted: 09/15/20 9:31 am

Viewing: **EDUC 2002 : Problems Of Teaching**

**Social Studies**

File: 1111.3
Last approved: 01/18/19 5:02 am
Last edit: 09/15/20 9:31 am
Changes proposed by: bakm75

- **Requested**: Fall 2021 01/07/2019
- Effective Change Date
- **Department**: Teacher Education and Certification
- **Discipline**: Education (EDUC)
- **Course Number**: 2002
- **Title**: Prob Of Teach Soc Study
- **Abbreviated Course Title**: Prob Of Teach Soc Study

**Approval Path**

1. 09/15/20 9:48 am
   - Beth Kania-Gosche (bkaniagosche): Approved for
Problems Of Teaching Social Studies
A study of current methodologies for teaching in area of specialization.

Field Trip
Statement

Credit Hours  LEC: 2  LAB: 0  IND: 0  RSD: 0
Total: 2
Required for Majors  No
Elective for Majors  No
Justification for change:
This course is no longer used, and listing it is confusing for students. All content areas take one course; we no longer differentiate by subject. In addition, a two hour course is not sufficient.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments
Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 09/15/20 9:48 am

Viewing: EDUC 2205: Problems Of Teaching Science/Chemistry

File: 404.3
Last approved: 01/18/19 5:02 am
Last edit: 09/15/20 9:32 am
Changes proposed by: bakm75

Requested Fall 2021 01/07/2019
Effective Change Date

Department
  Teacher Education and Certification

Discipline
  Education (EDUC)

Course Number 2205

Title

Abbreviated Course Title Probs Of Teach Sci/Chem

Catalog Description

Prerequisites

In Workflow
1. REDUCTION 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. 09/15/20 9:48 am

Beth Kania-Gosche (bkaniagosche): Approved for
Problems Of Teaching Science/Chemistry
A study of current methodologies for teaching in area of specialization.

Field Trip
Statement

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Required for Majors: No
Elective for Majors: No
Justification for change:

This course is no longer used, and listing it is confusing for students. All content areas take one course; we no longer differentiate by subject. In addition, a two hour course is not sufficient.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments

Key: 404
Preview Bridge
Course Change Request

A deleted record cannot be edited

**Course Deactivation Proposal**

Date Submitted: 09/15/20 9:31 am

Viewing: **EDUC 2206 : Problems Of Teaching Science/Physics**

File: 1069.3

Last approved: 01/18/19 5:02 am

Last edit: 09/15/20 9:31 am

Changes proposed by: bakm75

Requested **Fall 2021 01/07/2019**

Effective Change Date

Department

Teacher Education and Certification

Discipline

Education (EDUC)

Course Number 2206

Title

Abbreviated Course Title Prob Of Teach Sci/Physic

Catalog Description

Prerequisites

In Workflow

1. REDUCTION 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. 09/15/20 9:48 am Beth Kania-Gosche (bkaniagosche): Approved for
Problems Of Teaching Science/Physics
A study of current methodologies for teaching in area of specialization.

Field Trip
Statement

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History
1. Jan 18, 2019 by ershenb (1069.1)
2. 09/15/20 11:33 am
   Marita Tibbetts (tibbettsmg):
   Approved for CCC Secretary
3. 09/15/20 8:11 pm
   Cecil Eng Huang Chua (cchua):
   Approved for Social Sciences DSCC Chair
Justification for change:

This course is no longer used, and listing it is confusing for students. All content areas take one course; we no longer differentiate by subject. In addition, a two hour course is not sufficient.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments
Course Change Request

A deleted record cannot be edited

**Course Deactivation Proposal**

Date Submitted: 09/15/20 9:32 am

Viewing: **EDUC 2207 : Problems Of Teaching English**

File: 513.3

Last approved: 01/18/19 5:02 am

Last edit: 09/15/20 9:32 am

Changes proposed by: bakm75

Requested: Fall 2021 01/07/2019

Effective Change Date

Department

Teacher Education and Certification

Discipline

Education (EDUC)

Course Number: 2207

Title

Prob Of Teaching English

Abbreviated Course Title

Catalog Description

Prerequisites

In Workflow

1. REDUCTION Chair
2. CCC Secretary
3. Social Sciences DSCC Chair

Pending CCC Agenda post

4. Pending CCC Agenda post

5. CCC Meeting Agenda

Campus Curricula Committee Chair

7. FS Meeting Agenda

Faculty Senate Chair

8. Faculty Senate Chair

Registrar

9. Registrar

CAT entry

10. CAT entry

PeopleSoft

11. Peoplesoft

Approval Path

1. 09/15/20 9:48 am

Beth Kania-Gosche (bkaniagosche): Approved for
Problems Of Teaching English
A study of current methodologies for teaching in area of specialization.

Field Trip Statement

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Required for Majors: No
Elective for Majors: No
Justification for change:

This course is no longer used, and listing it is confusing for students. All content areas take one course; we no longer differentiate by subject. In addition, a two hour course is not sufficient.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments

Key: 513

Preview Bridge
Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 05/19/20 12:15 pm

Viewing: EDUC 2219 : Art For Elementary

Teachers

File: 1550.3
Last approved: 01/18/19 5:02 am
Last edit: 05/19/20 12:15 pm
Changes proposed by: bakm75

Requested 01/07/2019
Effective Change Date

Department
Teacher Education and Certification

Discipline
Education (EDUC)

Course Number 2219

Title

Abbreviated Course Title Art For Elem Teachers

Catalog Description
Prerequisites

In Workflow
1. REDUCTION 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. 09/15/20 9:48 am

Beth Kania-Gosche (bkaniagosche): Approved for
Art For Elementary Teachers
Considers the vital role of art activities and creative experiences in the growth and development of children at their level.

Educ 1040.

Field Trip Statement

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<th>Credit Hours</th>
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</table>

Required for Majors: No
Elective for Majors: No
Justification for change:
This is no longer a required course for elementary teachers. We do not offer art certification.

Semesters previously offered as an experimental course

Co-Listed Courses:
ART 3219 - Art For Elementary Teachers
Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 05/19/20 12:14 pm

Viewing: EDUC 2231 : Methods In Physical Education 5-9

File: 2503.3
Last approved: 01/18/19 5:02 am
Last edit: 09/15/20 11:34 am
Changes proposed by: bakm75

Requested Fall 2021 01/07/2019
Effective Change Date

Department
Teacher Education and Certification

Discipline
Education (EDUC)

Course Number 2231

Title

Abbreviated Course Title Meths Physical Educ 5-9

Catalog Description
Prerequisites

Approval Path
1. 09/15/20 9:48 am
   Beth Kania-Gosche (bkaniagogosche): Approved for
Methods In Physical Education 5-9
The course will provide the opportunity to learn how to promote student fitness and skill development while building the foundation for a physically active life through specific activities aimed at the student in transition from childhood to young adulthood (5-9).

Field Trip
Statement

Credit Hours
Total: 3

LEC: 3  LAB: 0  IND: 0  RSD: 0

Required for Majors  No
Elective for Majors: No

Justification for change:
We do not offer PE certification.

Semesters previously offered as an experimental course

Co-Listed Courses:
ED 2310 - Course Not Found

Course Reviewer Comments
## Course Change Request

A deleted record cannot be edited

### Course Deactivation Proposal

**Date Submitted:** 09/15/20 9:34 am

**Viewing:** EDUC 3320 : Professional Development

- **File:** 177.3
- **Last approved:** 01/18/19 5:02 am
- **Last edit:** 09/15/20 11:34 am
- **Changes proposed by:** bakm75

| Requested | Fall 2021 01/07/2019 |
| Effective Change | Date |

**Department**
- Teacher Education and Certification

** Discipline  
Education (EDUC)**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
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<tbody>
<tr>
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<td>Professional Development</td>
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<table>
<thead>
<tr>
<th>Abbreviated Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Development</td>
</tr>
</tbody>
</table>

### In Workflow

1. REDUCTION 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. 09/15/20 9:49 am

Beth Kania-Gosche (bkaniagosche): Approved for
Professional Development
This online course focuses on the responsibilities of the professional development committee, state requirements, and components of effective programs that positively impact student performance. Students will examine the relationships among the district's Comprehensive School Improvement Plan, MSIP and the PD Plan.

Graduate standing.

Field Trip

Statement

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

No
Required for Majors
Elective for Majors

Justification for change:

This course is no longer offered. It requires graduate standing, which makes little sense for an undergraduate course. The items in the course description are not appropriate for an undergraduate teacher education program.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments
Course Change Request

Date Submitted: 06/29/20 12:29 pm

Viewing: **GEOLOGY 6551: Global Tectonics and Metallogeny Ore Deposition**

File: 1168.1
Last edit: 06/29/20 12:29 pm
Changes proposed by: locmelism

Requested **Spring 2021 08/01/2014**

Effective Change Date

Department
Geosciences and Geological and Petroleum Engineering

Discipline
Geology (GEOLOGY)

Course Number 6551

Title

Abbreviated **Global Tect & Metal Ore Deposition**

Catalog Description

Prerequisites

Field Trip Statement

Credit Hours LEC: 2 LAB: 1 IND: 0

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

Approval Path
1. 06/29/20 12:38 pm
   David Borrok (borrokd):
   Approved for RGEOSENG Chair
2. 07/21/20 9:00 am
   Kristy Giacomelli-
Global Tectonics and Metallogeny Ore Deposition

An advanced study of metallic ore deposits. Mineral deposits, time and space in deposition, theories of deposition and their effect on exploration. Theories of ore genesis in different tectonic regimes and the effects on exploration. Discussions based on maps, logs, exploration datasets and samples from the world's typical mineral deposits. Two all-day field trips at student expense required.

Geology 3511. This course must also be preceded or accompanied by Geology 4521

RSD: 0  Total: 3

Required for Majors: No
Elective for Majors: No

Justification for change:
The class was established >20 years ago and title and course description need to be modernized to better reflect modern concepts, i.e., that ore deposit formation is tied to specific stages during the tectonic evolution of continents. Modernizing this class is also a requirement of a NSF Career award to the faculty who is teaching it.

Geology 4521 - Ore Microscopy is proposed as a prerequisite because ore
microscopy is an important part of the study of samples from the deposits that are mentioned in the description.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments
Course Change Request

Date Submitted: 06/01/20 11:14 am

Viewing: **IS&T 1552 : Implementing Information Systems: Data Perspective**

File: 1565.10
Last approved: 04/03/17 3:15 am
Last edit: 06/01/20 11:14 am
Changes proposed by: cecq8z

Programs referencing this course
- **BUS&MS-BS: Business and Mgmt Systems BS**
- **BUSAPPS-MI: Business Applications and Software Development Minor**

Other Courses referencing this course

In The Prerequisites:
- **IS&T 3131 : Computing Internals and Operating Systems**
- **IS&T 3420 : Introduction to Data Science and Management**
- **IS&T 3553 : Modular Software Systems in Java**
- **IS&T 5520 : Data Science and Machine Learning with Python**
- **IS&T 5535 : Machine Learning Algorithms and Applications**

Spring 2021 01/09/2018

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

Approval Path
1. 08/29/20 11:20 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:24 am
   Marita Tibbetts
Requested
Effective Change Date
Department
  Business and Information Technology
Discipline
  Info Science & Technology (IS&T)
Course Number 1552
Title

Implementing Information Systems: Data Perspective

Abbreviated Course Title Info Sys: Data Perspective

Catalog Description
Continuation of object-oriented programming in the context of developing and implementing the various components of an information system with particular attention given to database incorporation. Class will include numerous projects covering intermediate topics.

Prerequisites
  IS&T 1551. A grade of "C" or better in IS&T 1551.

Field Trip Statement
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<thead>
<tr>
<th>Credit Hours</th>
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<td>Total:</td>
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Required for Majors: Yes
Elective for Majors: No

Justification for change:
To be consistent with the prerequisite for IS&T 1562

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments
Course Change Request

Date Submitted: 08/27/20 8:39 am

Viewing: **IS&T 5168: Design Thinking and Technological Innovation Law and Ethics in E-Commerce**

File: 1068.1

Last edit: 08/31/20 11:25 am

Changes proposed by: cecq8z

Programs referencing this course

- **MOBLB&T-MI: Mobile Bus & Digital Transformation**
- **PRE LAW-MI: Pre Law Minor**
- **BUS&MS-BS: Business and Mgmt Systems BS**
- **HCI-MI: Human-Computer Interaction and User Experience Minor**
- **ENT&TEC-CT: Entrepreneur & Tech Innovat CT**
- **MGTLEAD-CT: Management and Leadership**
- **DIGITMD-CT: Digital Media & Web Design CT**
- **E&S COM-CT: Elec & Social Commerce CT**
- **HCl-CT: Human Computer Interaction CT**
- **MOBLB&T-CT: Mobile Business and Digital Transformation CT**
- **E&S COM-MI: Elect & Social Commerce Minor**

Other Courses referencing this course

In Workflow
1. RINFSCTE Chair
2. CCC Secretary
3. Social Sciences DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. CAT entry
11. Peoplesoft Approval Path
1. 08/29/20 11:20 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:25 am
   Marita Tibbetts
In The Catalog Description:

**PHILOS 4368 : Law and Ethics in E-Commerce**

Requested  
**Spring 2021 08/01/2014**

Effective Change Date

Department  
Business and Information Technology

Discipline  
Info Science & Technology (IS&T)

Course Number  
5168

Title

**Design Thinking and Technological Innovation** Law and Ethics in E-Commerce

Abbreviated Course Title  
Design Thinking Law & Ethics

Catalog Description

**Design transforms the way companies create value. Design thinking is an iterative user-centered approach. The success of innovation increases dramatically when design principles are applied to innovation. This course covers design thinking techniques and design principles for technological innovation. Provides the ethical framework to analyze the ethical, legal, and social issues that arise for citizens and computer professionals regarding the computerization of society. Topics include: free speech, privacy, intellectual property, product liability, and professional responsibility.**

Prerequisites
### Field Trip Statement

<table>
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<th>Credit Hours</th>
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<tr>
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**Required for Majors:** No

**Elective for Majors:** No

**Justification for change:**

Topics the course covers are in a highly sought after area.

**Semesters previously offered as an experimental course**

**Co-Listed Courses:**

- **PHILOS 4368 - Law and Ethics in E-Commerce**

**Course Reviewer Comments**
Course Change Request

Date Submitted: 08/27/20 8:40 am

Viewing: IS&T 5335 4335: Fundamentals of Mobile Technology for Business

File: 2391.9
Last approved: 02/05/18 3:29 am
Last edit: 08/31/20 11:29 am
Changes proposed by: cecq8z

Requested Effective Change Date: Spring 2021 08/14/2018

Department: Business and Information Technology
Discipline: Info Science & Technology (IS&T)
Course Number: 5335 4335

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

Approval Path:
1. 08/29/20 11:20 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:29 am
   Marita Tibbetts
# Fundamentals of Mobile Technology for Business

**Abbreviated Course Title**: Fund MobileTech for Bus

## Catalog Description
A broad overview of mobile technology use in business environments. Topics include the mobile industry; mobile network and wireless standards; mobile devices; mobile web design and app development; social and user experience issues; mobile marketing and commerce.

## Prerequisites
Junior standing or above.
**Field Trip**

**Statement**

<table>
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**Required for Majors**
Yes

**Elective for Majors**
No

**Justification for change:**
Part of a departmental exercise to clean up the course catalog to reduce enrollment confusion..

**Semesters previously offered as an experimental course**

**Co-Listed Courses:**

**Course Reviewer**

**Comments**
Course Change Request

Date Submitted: 08/27/20 8:40 am

Viewing: IS&T 5445 6445 : Database Marketing

File: 1034.1
Last edit: 08/27/20 8:40 am
Changes proposed by: cecq8z

Programs referencing this course:
    - AI-CT: AI, Mach Lrn & Auto for Bus CT
    - ANA&DTA-CT: Bus Analytics & Data Sci CT
    - DATA WR-CT: Business Intelligence CT
    - E&S COM-CT: Elec & Social Commerce CT

Requested: Spring 2021 08/01/2014
Effective Change Date

Department: Business and Information Technology
Discipline: Info Science & Technology (IS&T)
Course Number: 5445 6445
Title: Database Marketing

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

Approval Path
1. 08/29/20 11:21 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:30 am
   Marita Tibbetts
Database Marketing

Abbreviated Course Title

Catalog Description
Intro to methods and concepts used in database marketing: 1) predictive modeling techniques (e.g., regression, decision trees, cluster analysis) and 2) standard processes for mapping business objectives to data mining goals to produce a deployable marketing model. Metrics like lifetime value of a customer and ROI will be covered. Several application areas covered.

Prerequisites
Statistics understanding, programming understanding, familiarity with spreadsheets.

Field Trip Statement

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

Required for Majors
No

No
Elective for Majors

Justification for change:
Part of a departmental exercise to clean up the course catalog to reduce enrollment confusion.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments
Course Change Request

Date Submitted: 08/27/20 8:40 am

Viewing: **IS&T 5450 4450**: Introduction to Information Visualization

File: 4157.9

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

Last edit: 08/27/20 8:40 am

Changes proposed by: cecq8z

Programs referencing this course

- ANA&DTA-MI: Business Analytics and Data Science Minor
- AI-MI: Minor in Artificial Intelligence and Machine Learning in Business
- FIN TCH-CT: Financial Technology, Analytics and Transformation CT
- ANA&DTA-CT: Bus Analytics & Data Sci CT

Requested **Spring 2021 08/17/2015**

Effective Change Date

Department

Business and Information Technology

Discipline

Info Science & Technology (IS&T)

Course Number **5450 4450**
Title

Introduction to Information Visualization

Abbreviated Course Title

Intro Info Visualization

Catalog Description

Topics include: the visualization development framework, traditional presentations of data, human perception and aesthetics, colorspace theory, visualization algorithms and software, modern visualizations of large data sets. Application of R packages will be emphasized throughout.

Prerequisites


Field Trip Statement

Credit Hours

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**Justification for change:**

Part of a departmental exercise to clean up the course catalog to reduce enrollment confusion.

**Semesters previously offered as an experimental course**

**Co-Listed Courses:**

**Course Reviewer Comments**
Course Change Request

Date Submitted: 08/27/20 8:42 am

Viewing: **IS&T 5641 4641** : Digital Commerce and IoT Analytics the Internet of Things
File: 925.11
Last approved: 07/09/18 8:47 am
Last edit: 08/31/20 11:33 am
Changes proposed by: cecq8z

Programs referencing this course:
- MOBLB&T-MI: Mobile Bus & Digital Transformation
- ANA&DTA-MI: Business Analytics and Data Science Minor
- CYBERMG-MI: Cybersecurity Management and Information Assurance Minor
- FIN TCH-MI: Minor in Financial Technology, Analytics and Transformation
- ANA&DTA-CT: Bus Analytics & Data Sci CT
- CYBERMG-CT: Cyber Mgmt & Info Assurance CT
- E&S COM-CT: Elec & Social Commerce CT
- MOBLB&T-CT: Mobile Business and Digital Transformation CT

Requested Effective Change Date: **Spring 2021 01/09/2018**

Approval Path:
1. 08/29/20 11:22 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:34 am
   Marita Tibbetts
Department
Business and Information Technology

Discipline
Info Science & Technology (IS&T)

Course Number  5641 4641

Title
Digital Commerce and IoT Analytics the Internet of Things

Abbreviated
Digital Commerce & IoT

Catalog
Description
Introduction to methods and concepts of data analytics that provides digital marketers and managers the foundation needed to make decisions or detect patterns based on data from eCommerce websites or from Internet of Things (IoT) devices. Key metrics, process, and challenges will be covered. Introduction to fundamental concepts of management and application to IT and support of commerce. Examines the use of IT in business processes and everyday interactions such as IoT. Explores management issues of integrating IT into processes to run businesses better.
Prerequisites
- IS&T 1750 and at least Sophomore standing.

Field Trip Statement

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

Required for Majors
- Yes

Elective for Majors
- No

Justification for change:
- Part of a departmental exercise to clean up the course catalog to reduce enrollment confusion.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments
Course Change Request

Date Submitted: 08/27/20 8:42 am

Viewing: **IS&T 5780 4780**: Human and Organizational Factors in Cybersecurity

File: 4349.10

Last approved: 10/11/17 3:29 am

Last edit: 08/27/20 8:42 am

Changes proposed by: cecq8z

Programs referencing this course:

- **CYBERMG-MI**: Cybersecurity Management and Information Assurance Minor
- **FIN TCH-MI**: Minor in Financial Technology, Analytics and Transformation
- **FIN TCH-CT**: Financial Technology, Analytics and Transformation CT
- **CYBERMG-CT**: Cyber Mgmt & Info Assurance CT

Requested **Spring 2021 08/14/2017**

Effective Change Date

Department

Business and Information Technology

Discipline

Info Science & Technology (IS&T)

In Workflow

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

Approval Path

1. 08/29/20 11:22 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:34 am
   Marita Tibbetts
Course Number: 5780 4780

Title: Human and Organizational Factors in Cybersecurity

Abbreviated Course Title: Factors in Cybersecurity

Catalog Description:
In-depth examination of human and organizational factors in cybersecurity and information assurance. Study of how to protect information integrity, availability, and confidentiality, as well as tools, methods, principles, and analytics for fraud prevention, insider threat detection, and forensic investigations. Assumes prior exposure to cybersecurity or IA.

Prerequisites

Field Trip Statement
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</table>

Justification for change:
Part of a departmental exercise to clean up the course catalog to reduce enrollment confusion..

Semesters previously offered as an experimental course
None

Co-Listed Courses:

Course Reviewer Comments
Course Change Request

Date Submitted: 08/27/20 8:42 am

Viewing: IS&T 5885 : Human-Computer Interaction and User Experience

File: 2560.8
Last approved: 12/01/14 3:49 am
Last edit: 08/31/20 11:34 am
Changes proposed by: cecq8z

Programs referencing this course
- ARC ENG-BS: Architectural Engineering BS
- BUS&MS-BS: Business and Mgmt Systems BS
- HCI-MI: Human-Computer Interaction and User Experience Minor
- DIGITMD-CT: Digital Media & Web Design CT
- E&S COM-CT: Elec & Social Commerce CT
- HCI-CT: Human Computer Interaction CT
- SFTYENG-CT: Safety Engineering
- E&S COM-MI: Elect & Social Commerce Minor

Other Courses referencing this course
In The Prerequisites:
- IS&T 5886 : Prototyping Human-Computer Interactions
- IS&T 5887 : Human-Computer Interaction Evaluation

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

Approval Path
1. 08/29/20 11:23 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:35 am
   Marita Tibbetts
Human-Computer Interaction and User Experience

Catalog Description
Introduction to the field of Human-Computer Interaction (HCI). Students examine issues and challenges related to the interaction between people and technology. The class explores the social and cognitive characteristics of people who use information systems. Students learn techniques for understanding user needs, interface prototyping & interface evaluation.

Prerequisites

Field Trip Statement

Credit Hours
LEC: 3    LAB: 0    IND: 0    RSD: 0
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<td>Required for Majors</td>
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<td>Elective for Majors</td>
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</table>

**Justification for change:**

Captures changes in industry language.

**Semesters previously offered as an experimental course**

**Co-Listed Courses:**

**Course Reviewer Comments**
Course Change Request

Date Submitted: 08/27/20 8:43 am

Viewing: **IS&T 6251 5251**: Technological Innovation Management and Leadership

File: 2412.1

Last edit: 08/27/20 8:43 am

Changes proposed by: cecq8z

Programs referencing this course

- **ENT&TEC-CT**: Entrepreneur & Tech Innovat CT
- **MGTLLEAD-CT**: Management and Leadership
- **E&S COM-CT**: Elec & Social Commerce CT
- **MOBLB&T-CT**: Mobile Business and Digital Transformation CT

Requested Effective Change Date: **Spring 2021 08/14/2018**

Department: Business and Information Technology

Discipline: Info Science & Technology (IS&T)

Course Number: **6251 5251**

Title: Tech Innovation Mgt

In Workflow

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

Approval Path

1. 08/29/20 11:23 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:35 am
   Marita Tibbetts
Technological Innovation Management and Leadership

Catalog

Description

The course **covers strategic focuses on the knowledge and skills necessary for the development and implementation of effective strategies for the** management of technological innovation and leadership in managing technology-based organizations. This involves: It focuses on developing a general management perspective on technology, on technology and innovation, industry dynamics examining the problems of new product development, identifying distinctive technological innovation, and new product development. Competencies, licensing and marketing technologies, assessing the organizational and industrial context of technology.

Prerequisites

Senior or Graduate Standing.

Field Trip

Statement

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Required for Majors: No
Elective for Majors: No

Justification for change:
Renumbering to provide 9 hrs of 6000 level courses required for MS IST students.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer
Comments

Key: 2412
Preview Bridge
Course Change Request

Date Submitted: 08/27/20 8:43 am

Viewing: **IS&T 6336: Foundations of Internet Computing and the Internet of Things**

File: 75.5
Last approved: 02/09/15 3:18 am
Last edit: 08/31/20 11:37 am
Changes proposed by: cecq8z

Programs referencing this course
- **CYBERMG-CT: Cyber Mgmt & Info Assurance CT**

Other Courses referencing this course

In The Prerequisites:
- **IS&T 6780: Adv Human and Organizational Factors in Cybersecurity**

Requested: **Spring 2021 08/17/2015**
Effective Change Date
Department
- Business and Information Technology

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

Approval Path
1. 08/29/20 11:24 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:36 am
   Marita Tibbetts
Discipline
Info Science & Technology (IS&T)

Course Number  6336
Title

**Catalog**

**Description**

*The course principally focuses on what's "under the hood" in the Internet. The foundations of Internet Computing include computer networks and Websites. What Networks are the underlying protocols covered thoroughly and how do they work?* Research directions for networking and information security are discussed. *How can constellations of devices (both traditional computing as well as Internet of Things) be configured into networks using the Internet Protocol suite to communicate with each other?* Web site design and research findings about site usability considerations are reexamined.

**Prerequisites**

IS&T MS entrance requirements, including solid programming knowledge.
## Field Trip Statement

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<td>Elective for Majors</td>
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</table>

**Justification for change:**

New instructor and capturing new Industry concepts..

**Semesters previously offered as an experimental course**

**Co-Listed Courses:**

**Course Reviewer Comments**
# Course Change Request

## New Course Proposal

<table>
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<th>Date Submitted:</th>
<th>08/27/20 8:44 am</th>
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<td>Viewing:</td>
<td>IS&amp;T 6723 : Artificial Intelligence, Robotics, and Digital Transformation</td>
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<tr>
<td>File:</td>
<td>4732</td>
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<tr>
<td>Last edit:</td>
<td>08/27/20 8:44 am</td>
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<td>Changes proposed by:</td>
<td>cecq8z</td>
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</tbody>
</table>

- **Requested** Spring 2021
- **Effective Change Date**
- **Department** Business and Information Technology
- **Discipline** Info Science & Technology (IS&T)
- **Course Number** 6723
- **Title**
- **Abbreviated Course Title** AI, Robot, DT

## Approval Path

1. 08/29/20 11:24 am
   - siauk: Approved for RINFSCTE Chair
2. 08/31/20 4:05 pm
   - Marita Tibbetts (tibbettsmg):
Artificial Intelligence, Robotics, and Digital Transformation
The course, designed for business executives, covers management of information to revitalize business processes, improve business decision-making, embrace emerging and disruptive technologies, and gain competitive advantages. The course also covers implications of AI, automation, machine learning, and robotics on business and society. MBA core.
Graduate standing.

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Required for Majors: No
Elective for Majors: No

Justification for new course:
This is just a cross-listing for BUS 6723

Semesters previously offered as an experimental course
Co-Listed Courses:

BUS 6723 - Artificial Intelligence, Robotics, and Information Systems Management

Course Reviewer
Comments
Course Change Request

New Course Proposal

Date Submitted: 08/27/20 8:44 am

Viewing: MKT 5410: Big Data Consumer Analytics

File: 4731
Last edit: 08/31/20 4:11 pm
Changes proposed by: cecq8z

Programs referencing this course
MARKET-MI: Marketing Minor

Requested: Spring 2021
Effective Change Date
Department
Business and Information Technology
Discipline
Marketing (MKT)
Course Number
5410
Title
Consumer Analytics
Abbreviated Course Title

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

Approval Path
1. 08/29/20 11:29 am
siauk: Approved for RINFSCTE Chair
2. 08/31/20 4:11 pm
Marita Tibbetts (tibbettsmg):
Big Data Consumer Analytics

Catalog

Description

In this course, we will discuss the challenges that companies face in extracting and utilizing insights from consumer Big Data to implement innovation in various marketing activities. Additionally, we will explore various approaches of analyzing consumer Big Data. The course will include lectures, case studies and simulation.

Prerequisites

BUS 6622 or both MKT 3110 and one of the following: STAT 1111, STAT 1115, STAT 1116, STAT 3111, STAT 3113, STAT 3115, or STAT 3117

Field Trip

Statement

Credit Hours

LEC: 3  
LAB: 0  
IND: 0  
RSD: 0

Total: 3

Required for Majors  
No

Elective for Majors  
No

Justification for new course:

We are formalizing an existing experimental course.
Semesters previously offered as an experimental course
  Spring 2019 and Spring 2017

Co-Listed Courses:

Course Reviewer Comments

**tibbettsmg (08/31/20 4:11 pm):** Mkt5001 enrollment 15 in Sp19; 10 in Sp17.
## Course Change Request

### New Course Proposal

Date Submitted: 09/08/20 3:58 pm

Viewing: **PHILOS 4665: Creating Future Cities**

### Cities

File: 4729

Last edit: 09/08/20 3:58 pm

Changes proposed by: gamezp

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<tr>
<td>Department</td>
<td>Arts, Languages, &amp; Philosophy</td>
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<td>Course Number</td>
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<td>Creating Future Cities</td>
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### Approval Path

1. 07/01/20 6:27 pm
   - Audra Merfeld-Langston
   - (audram):
   - Rollback to Initiator

### 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
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**Stakeholders:*

1. **07/01/20 7:22 pm**
   - Audra Merfeld-Langston (audram): Approved for RPHILOSO Chair

2. **07/21/20 9:00 am**
   - Kristy Giacomelli-Feys (kristyg): Approved for CCC Secretary

3. **07/30/20 2:22 pm**
   - Petra Dewitt (dewittp): Rollback to Initiator

4. **09/08/20 7:06 pm**
   - Audra Merfeld-Langston (audram): Approved for RPHILOSO Chair

5. **09/09/20 7:15 am**
   - Marita Tibbetts (tibbettsmg): Approved for CCC Secretary

6. **09/09/20 8:40 am**
   - Petra Dewitt (dewittp): Approved for Arts & Humanities DSCC Chair

**Justification for new course:**

Semesters previously offered as an experimental course

**Co-Listed Courses:**

**Key:** 4729
Creating Future Cities

Through texts in the history of philosophy, along with contemporary readings, this class examines how humankind’s thinking about urban environments has progressed. It uses philosophical analysis to understand topics such as the ethical, political, aesthetic, and metaphysical dimensions of the city as such, zoning, housing, transportation, & infrastructure.

Sophomore standing or above.

No field trip.

Firstly, this will be new offering to meet distribution requirements for the newly proposed Technology, Philosophy, and Ethical Futures certificate. This certificate has been approved by MDHE and is pending approval from CCC.

Secondly, cities have been a recurrent topic throughout the history of philosophy. Yet, until recently, contemporary philosophers have neglected to give them sufficient attention. During the last decade, there has been an increasing trend in professional philosophy to study cities, employing lessons throughout the history of philosophy to understand their many dimensions. This course aims to keep students current on the most recent advancements in the discipline of philosophy.

Thirdly, research on the future of cities at Missouri S & T has been on the cutting edge with trailblazing initiatives such as the Smart Living signature area, which “seamlessly improves quality of life by transforming home, workplace, transportation and energy infrastructures into “smart” environments.” This course complements and bolsters this kind of research through teaching students about the broader social, political, and ethical impacts of topics such as smart living.

Finally, this course will help prepare S & T students for a dynamic world that requires leaders who not only understand the physical challenges of designing cities for human flourishing, but it will enhance their education though teaching them about the values that underpin how they address such issues. For instance, the majority of Earth’s population now lives in cities, and many researchers predict that this trend will only increase. In turn, urban environments will also require additional attention to address the numerous challenges that this situation currently presents and will
continue to raise. A course of this caliber will ready them to take on these challenges.

**audram (07/01/20 6:27 pm):** Rollback: Please change the "previously offered" section.

**dewittp (07/30/20 2:22 pm):** Rollback: Need to roll back until certificate is approved. Then submit with certificate.
Course Change Request

New Course Proposal

Date Submitted: 09/08/20 3:58 pm

Viewing: PHILOS 4666: Technology, Ethics, and Philosophy

File: 4728
Last edit: 09/08/20 3:58 pm
Changes proposed by: gamezp

Requested: Spring 2021
Effective Change Date

Department:
Arts, Languages, & Philosophy

Discipline:
Philosophy (PHILOS)

Course Number: 4666
Title

Abbreviated Course Title: Tech Ethics & Philosophy

Catalog Description
Prerequisites
Field Trip Statement

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

Approval Path

1. 07/01/20 5:53 pm
Audra Merfeld-Langston (audram):
Approved for RPHILOSO Chair
Technology, Ethics, and Philosophy

Students will learn the conceptual tools & skills for reflection on the ethical, social, and philosophical dimensions of life in a technological society. Topics covered might include: philosophy of engineering, artificial intelligence, information ethics,
cybernetics, technological unemployment, human enhancement and biotechnology, posthumanism, and others.
Sophomore standing or above.
No field trips.
Credit Hours  LEC: 3  LAB: 0  IND: 0  RSD: 0
Total: 3
Required for Majors  No
Elective for Majors  Yes

Justification for new course:
First, this course will be a required capstone course for students taking a newly proposed certificate in Technology, Philosophy, and Ethical Futures. This certificate has been approved by MDHE and is pending approval from CCC.

Second, a philosophy of technology course will meet the needs of students in STEM fields who want to explore the humanities in a way that it is relevant to their central interests in science and technology. Especially for engineering students who are not interested in the epistemological issues raised by theorizing in the natural sciences, this will be a more attractive and important elective than, e.g., philosophy of science. Moreover, it will be make our students more competitive; employers have recently stated that they want STEM graduates to have a humanities background, and philosophical reflection on technological society meets this desideratum.

Third, this course will serve to bolster existing minors, and majors in both the Philosophy BS and the multidisciplinary BS. The plan is to make this course a recommended elective for our existing minor in Philosophy of Technology, and develop a set of core courses for students interested in exploring ethical issues in interdisciplinary ways.

Third, this course will allow current and new faculty to integrate their research and
teaching. As we do not have a graduate program, often our course offerings are not reflective of the research interests of our faculty. This is a rare opportunity to offer a course that is both highly relevant to both student and faculty interests.

Semesters previously offered as an experimental course

1 (as Philosophy 3001 - special topics: Philosophy of Technology)

Co-Listed Courses:

Course Reviewer Comments
dewittp (07/30/20 2:22 pm): Rollback: Need to roll this back until the certificate is approved. Then submit with certificate to CCC
# Course Change Request

## New Course Proposal

Date Submitted: 06/12/20 12:55 pm

Viewing: **PSYCH 3340 : Assessment of Student Learning**

File: 4725

Last edit: 06/12/20 12:55 pm

Changes proposed by: burnsde

<table>
<thead>
<tr>
<th>Requested</th>
<th>Fall 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective Change</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>Department</td>
<td>Psychological Science</td>
</tr>
<tr>
<td>Discipline</td>
<td>Psychology (PSYCH)</td>
</tr>
<tr>
<td>Course Number</td>
<td>3340</td>
</tr>
<tr>
<td>Title</td>
<td></td>
</tr>
<tr>
<td>Abbreviated</td>
<td>Assessment of Learning</td>
</tr>
<tr>
<td>Course Title</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites</td>
<td>Field Trip</td>
</tr>
<tr>
<td>Statement</td>
<td></td>
</tr>
</tbody>
</table>

## Approval Path

1. 06/12/20 1:02 pm
   - Susan Murray (murray):
     Approved for RPSYCHOL Chair

2. 07/21/20 9:01 am
   - Kristy Giacomelli-Feys (kristyg):
Assessment of Student Learning

Students will learn to evaluate assessments for validity and reliability. Students will develop formative and summative assessments aligned with learning outcomes. Writing quality rubrics and universal design will be introduced. Students will analyze data to make instructional decisions and learn to evaluate vendor assessments.

Credit Hours

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>LEC: 3</th>
<th>LAB: 0</th>
<th>IND: 0</th>
<th>RSD: 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total: 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Required for Majors

No

Elective for Majors

Yes

Justification for new course:

Cross listing an existing course from the education department for Psych majors.
Co-Listed Courses:

EDUC 3340 - Assessment of Student Learning

Course Reviewer Comments

Key: 4725

Preview Bridge
Course Change Request

Date Submitted: 08/13/20 5:38 pm

Viewing: **STAT 6545: Multivariate Statistical Methods**

File: 412.1
Last edit: 08/19/20 9:15 am
Changes proposed by: prunnion

Requested **Spring 2021 08/01/2014**
Effective Change Date

Department
  Mathematics & Statistics

Discipline
  Statistics (STAT)

Course Number
  6545

Title

Abbreviated Course Title
  Multivariate Stat Methods

Catalog Description

Prerequisites

Field Trip Statement

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

Approval Path

1. 08/13/20 5:43 pm
   vsam: Approved for RMATHEMA Chair
2. 08/19/20 9:15 am
   Marita Tibbetts (tibbettsmg):
Multivariate Statistical Methods

Required for Majors No
Elective for Majors No

Justification for change:
Corrects prerequisite from Math 3103 (Matrix Algebra, not currently offered) to Math 3108 (Linear Algebra, offered every semester). Everything else remains unchanged.

Semesters previously offered as an experimental course
Co-Listed Courses:

Course Reviewer Comments

Key: 412

Preview Bridge
Program Change Request

Date Submitted: 08/27/20 8:49 am

Viewing: Al-MI : Minor in Artificial Intelligence and Machine Learning in Business

File: 253.9
Last approved: 04/19/18 12:27 pm
Last edit: 08/27/20 8:49 am
Changes proposed by: cecq8z

Catalog Pages Using this Program
Business and Management Systems
Information Science and Technology

Start Term
Spring 2021 01/09/2018

Program Code
AI-MI

Department
Business and Information Technology

Title
Minor in Artificial Intelligence and Machine Learning in Business

Approval Path

1. 08/29/20 11:14 am
tiauk: Approved for RINFSCTE Chair
2. 08/31/20 11:18 am
Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 11:24 am
Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History

1. Dec 11, 2017 by Barry Flachsbart (barryf)
2. Mar 12, 2018 by Brittany Pamell (ershenb)
Program Requirements and Description

Minor in Artificial Intelligence and Machine Learning in Business

The Minor requires 15 credit hours, as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 5730</td>
<td>Machine Learning and Artificial Intelligence for Business</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5535</td>
<td>Machine Learning Algorithms and Applications</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3420</td>
<td>Introduction to Data Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>STAT 3111</td>
<td>Statistical Tools For Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3333</td>
<td>Data Networks and Information Security</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3343</td>
<td>Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4450</td>
<td>Introduction to Information Visualization</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5420</td>
<td>Business Analytics and Data Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>IS&amp;T 5450</strong></td>
<td>Course IST 5450 Not Found</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5520</td>
<td>Data Science and Machine Learning with Python</td>
<td>3</td>
</tr>
<tr>
<td>ERP 5410</td>
<td>Use of Business Intelligence</td>
<td>3</td>
</tr>
<tr>
<td><strong>IS&amp;T 5620</strong></td>
<td>Course IST 5620 Not Found</td>
<td>3</td>
</tr>
</tbody>
</table>

Justification for request
Strong overlap in machine learning and data science. Update to reflect course renumbering.

Supporting Documents

Course Reviewer Comments

Key: 253
Program Change Request

Date Submitted: 08/27/20 8:50 am

Viewing: **ANA&DTA-MI : Business Analytics and Data Science Minor**

File: 239.16

Last approved: 09/19/17 10:37 am

Last edit: 08/27/20 8:50 am

Changes proposed by: cecq8z

Catalog Pages Using this Program

**Information Science and Technology**

Start Term

**Spring 2021 01/09/2018**

Program Code

ANA&DTA-MI

Department

Business and Information Technology

Title

Business Analytics and Data Science Minor

In Workflow

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

Approval Path

1. 08/29/20 11:14 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:18 am
   Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 11:24 am
   Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History

1. Mar 17, 2015 by Barry Flachsbart (barryf)
2. Jul 28, 2015 by kleb6b
3. Jul 29, 2015 by pantaleoa
Program Requirements and Description

Minor in Business Analytics and Data Science
The minor in business analytics and data science requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 1750</td>
<td>Introduction to Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3423</td>
<td>Database Management</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3420</td>
<td>Introduction to Data Science and Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Two courses from the following list:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 4450</td>
<td>Introduction to Information Visualization</td>
</tr>
<tr>
<td>IS&amp;T 5420</td>
<td>Business Analytics and Data Science</td>
</tr>
<tr>
<td>IS&amp;T 5450</td>
<td>Course IST 5450 Not Found</td>
</tr>
<tr>
<td>IS&amp;T 5520</td>
<td>Data Science and Machine Learning with Python</td>
</tr>
<tr>
<td>IS&amp;T 5641</td>
<td>Course IST 5641 Not Found</td>
</tr>
<tr>
<td>IS&amp;T 5620</td>
<td>Course IST 5620 Not Found</td>
</tr>
<tr>
<td>BUS 5730</td>
<td>Machine Learning and Artificial Intelligence for Business</td>
</tr>
</tbody>
</table>

Justification for request
Adding other analytics courses as options. Course renumbering.

Supporting Documents
Course Reviewer Comments

Key: 239
Program Change Request

Date Submitted: 08/27/20 8:50 am

Viewing: **BUSAPPS-MI : Business Applications and Software Development Minor**

File: 255.16

Last approved: 05/02/19 11:35 am

Last edit: 08/27/20 8:50 am

Changes proposed by: cecq8z

Catalog Pages Using this Program
- Business and Management Systems
- Information Science and Technology

Start Term
- **Spring 2021 Fall 2019**

Program Code
BUSAPPS-MI

Department
Business and Information Technology

Title
Business Applications and Software Development Minor

In Workflow
1. RINFSCTE Chair
2. CCC Secretary
3. Social Sciences DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Kristy Giacomelli-Feys

Approval Path
1. 08/29/20 11:14 am sliauk: Approved for RINFSCTE Chair
2. 08/31/20 11:19 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 11:24 am Cecil Eng Huang Chua (chua): Approved for Social Sciences DSCC Chair

History
1. Mar 21, 2018 by Barry Flachsbart (barryf)
2. Apr 19, 2018 by Brittany Parnell (ershenb)
### Program Requirements and Description

**Minor in Business Applications and Software Development**

The Minor requires 15 credit hours, as follows:

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IS&amp;T 3420</strong> Introduction to Data Science and Management</td>
<td>3</td>
</tr>
<tr>
<td><strong>IS&amp;T 5520</strong> Data Science and Machine Learning with Python</td>
<td>3</td>
</tr>
<tr>
<td><strong>IS&amp;T 4680</strong> Introduction to Web and New Media Studies</td>
<td>3</td>
</tr>
</tbody>
</table>

And three courses from the following list:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 1552</td>
<td>Implementing Information Systems: Data Perspective</td>
<td>3</td>
</tr>
<tr>
<td>or IS&amp;T 1562</td>
<td>Java and Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3131</td>
<td>Computing Internals and Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3423</td>
<td>Database Management</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3443</td>
<td>Database Applications in Business</td>
<td>3</td>
</tr>
<tr>
<td>ERP 5240</td>
<td>Enterprise Application Development and Software Security</td>
<td>3</td>
</tr>
<tr>
<td><strong>IS&amp;T 5520</strong> Data Science and Machine Learning with Python</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Justification for request**

The new 4680 is being treated as an advanced software development course.

**Supporting Documents**

**Course Reviewer Comments**
Program Change Request

Date Submitted: 08/27/20 8:51 am

Viewing: CYBERMG-MI : Cybersecurity Management and Information Assurance Minor

File: 247.12

Last approved: 06/26/17 9:25 am
Last edit: 08/27/20 8:51 am

Changes proposed by: cecq8z

Catalog Pages Using this Program
Business and Management Systems
Information Science and Technology

Start Term
Spring 2021 08/14/2017

Program Code
CYBERMG-MI

Department
Business and Information Technology

Title
Cybersecurity Management and Information Assurance Minor

In Workflow
1. RINFSCTE Chair
2. CCC Secretary
3. Social Sciences DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Kristy Giacomelli-Feys

Approval Path
1. 08/29/20 11:15 am siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:20 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 11:25 am Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History
1. Apr 7, 2017 by Barry Flachsbart (barryf)
2. Jun 26, 2017 by Kristy Giacomelli-Feys (kristyg)
Minor in Cybersecurity Management and Information Assurance

This minor requires the following 15 hours of coursework:

The following three courses are required:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 5910</td>
<td>Privacy and Information Security Law</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4780</td>
<td>Human and Organizational Factors in Cybersecurity</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5780</td>
<td>Data Networks and Information Security</td>
<td>3</td>
</tr>
</tbody>
</table>

Two of the following three courses must also be taken:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERP 5240</td>
<td>Enterprise Application Development and Software Security</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4335</td>
<td>Fundamentals of Mobile Technology for Business</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4641</td>
<td>Digital Commerce and the Internet of Things</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5641</td>
<td>Course IST 5641 Not Found</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 3420</td>
<td>Introduction to Data Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5910</td>
<td>Privacy and Information Security Law</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5620</td>
<td>Course IST 5620 Not Found</td>
<td>3</td>
</tr>
</tbody>
</table>

Justification for request

There is a data science element in information assurance. Update to reflect course renumbering.

Supporting Documents

Course Reviewer Comments
Program Change Request

Date Submitted: 06/01/20 4:30 pm

Viewing: **FINANCE-MI : Finance Minor**

File: 58.19

Last approved: 06/14/19 2:14 pm

Last edit: 08/31/20 11:21 am

Changes proposed by: cecq8z

Catalog Pages Using this Program

- Business and Management Systems
- Information Science and Technology

Start Term

**Spring 2021** Fall 2019

Program Code

FINANCE-MI

Department

Business and Information Technology

Title

Finance Minor

---

**In Workflow**

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

**Approval Path**

1. 08/29/20 11:19 am siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:21 am Marita Tibbetts (tibbettsmg):
   Approved for CCC Secretary
3. 08/31/20 11:25 am Cecil Eng Huang Chua (cchua):
   Approved for Social Sciences DSCC Chair

**History**

1. Apr 28, 2014 by Barry Flachsbart (barryf)
2. Jan 30, 2015 by Barry Flachsbart (barryf)
### Program Requirements and Description

#### Minor in Finance

The minor in finance requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1100</td>
<td>Principles Of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>or ECON 1200 or BUS 1414</td>
<td>Course ECON 1200 or BUS 1414 Not Found</td>
<td></td>
</tr>
<tr>
<td>FINANCE 2150</td>
<td>Corporate Finance I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 5230</td>
<td>Financial Statement Analysis</td>
<td></td>
</tr>
<tr>
<td>FINANCE 5160</td>
<td>Corporate Finance II</td>
<td></td>
</tr>
<tr>
<td>FINANCE 5260</td>
<td>Investments I</td>
<td></td>
</tr>
<tr>
<td>FINANCE 5310</td>
<td>Financial Technology and Analytics</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits**: 15

---

**Justification for request**

In line with new AACSB requirements

**Supporting Documents**

**Course Reviewer Comments**

**tibbettsmg (08/31/20 11:21 am)**: Updated to term to Sp21-mt
Program Change Request

Date Submitted: 08/27/20 8:51 am

Viewing: **HCI-MI : Human-Computer Interaction and User Experience Minor**

File: 238.11

Last approved: 02/27/18 10:03 am

Last edit: 08/27/20 8:51 am

Changes proposed by: cecq8z

Catalog Pages Using this Program

- Information Science and Technology

Start Term

**Spring 2021 05/28/2018**

Program Code

HCI-MI

Department

Business and Information Technology

Title

Human-Computer Interaction and User Experience Minor

In Workflow

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

Feys

Approval Path

1. 08/29/20 11:19 am
   siauk: Approved for RINFSCTE Chair

2. 08/31/20 11:21 am
   Marita Tibbetts (tibbettsmg): Approved for CCC Secretary

3. 08/31/20 11:25 am
   Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History

1. Mar 17, 2015 by Barry Flachsbart (barryf)
2. Jul 28, 2015 by kleb66b
3. Jul 29, 2015 by pantaleoa
Program Requirements and Description

Minor in Human-Computer Interaction and User Experience

The minor in human-computer interaction and user experience requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 1101</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4654</td>
<td>Web and Digital Media Development</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 5885</td>
<td>Human-Computer Interaction</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>And two of the following</td>
<td>6</td>
</tr>
<tr>
<td>IS&amp;T 4680</td>
<td>Introduction to Web and New Media Studies</td>
<td></td>
</tr>
<tr>
<td>IS&amp;T 5886</td>
<td>Prototyping Human-Computer Interactions</td>
<td></td>
</tr>
<tr>
<td>IS&amp;T 5887</td>
<td>Human-Computer Interaction Evaluation</td>
<td></td>
</tr>
<tr>
<td>IS&amp;T 5168</td>
<td>Law and Ethics in E-Commerce</td>
<td></td>
</tr>
</tbody>
</table>

Justification for request
Updated to reflect course renumbering.
Supporting Documents
Course Reviewer Comments

Key: 238
Program Change Request

Date Submitted: 06/01/20 11:15 am

Viewing: IST-BS : Information Science and Tch BS

File: 75.32

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

Last edit: 06/01/20 11:15 am

Changes proposed by: cecq8z

Catalog Pages Using this Program

Information Science and Technology

Start Term

Spring 2021 Fall 2018

Program Code

IST-BS

Department

Business and Information Technology

Title

Information Science and Tch BS

In Workflow

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

Approval Path

1. 08/29/20 11:27 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:58 am
   Marita Tibbetts (tibbettsmg):
   Approved for CCC Secretary
3. 08/31/20 12:06 pm
   Cecil Eng Huang Chua (cchua):
   Approved for Social Sciences DSCC Chair

History

1. Apr 28, 2014 by Barry Flachsbart (barryf)
2. Jan 30, 2015 by Barry Flachsbart (barryf)
Program Requirements and Description

Bachelor of Science
Information Science and Technology

In Information Science and Technology, the Bachelor of Science degree consists of 120 credit hours. All undergraduate students in Business and Management Systems are required to complete a General Education Requirements Core, including courses in Humanities, Social Sciences, Mathematics, Science, and Communication Skills.

A common departmental core of courses in Management and Information Technology helps provide students with skills to succeed in a fast-changing and globalized environment. Information Science and Technology (IST) Core courses and IST Electives provide students with comprehensive knowledge of information technology utilization in businesses. These courses include business analytics & data science, database management, systems analysis, introduction to data science and management, computing internals, networks and communications, and electronic and mobile commerce. The electives for this degree consist of advanced coursework in the areas introduced by the required courses.

A minimum grade of "C" is required in the IST Core, IST Electives, Management, and Information Technology courses. Students have 9 credit hours for free electives.

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td>Credits</td>
<td><strong>Second Semester</strong></td>
<td>Credits</td>
</tr>
<tr>
<td>BUS 1810(^1)</td>
<td>1</td>
<td>PSYCH 1101</td>
<td>3</td>
</tr>
<tr>
<td>ENGLISH 1120</td>
<td>3</td>
<td>MATH 1212</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1140(^5)</td>
<td>3</td>
<td>IS&amp;T 1561</td>
<td>3</td>
</tr>
<tr>
<td>Science Elective(^2)</td>
<td>3</td>
<td>BUS 1110</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 1750</td>
<td>3</td>
<td>BUS 1210</td>
<td>3</td>
</tr>
<tr>
<td>Laboratory w/Science Elective</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>
## Sophomore Year

<table>
<thead>
<tr>
<th></th>
<th>First Semester</th>
<th>Credits</th>
<th>Second Semester</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECON 1200</strong></td>
<td></td>
<td>3</td>
<td>IS&amp;T 3131</td>
<td>3</td>
</tr>
<tr>
<td><strong>SP&amp;M S 1185</strong></td>
<td></td>
<td>3</td>
<td>Science Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>IS&amp;T 1562</strong></td>
<td></td>
<td>3</td>
<td>IS&amp;T Elective</td>
<td>4</td>
</tr>
<tr>
<td><strong>ENGLISH 1600 or TCH COM 1600</strong></td>
<td></td>
<td>3</td>
<td>STAT 3111</td>
<td>3</td>
</tr>
<tr>
<td><strong>ERP 2110</strong></td>
<td></td>
<td>3</td>
<td>ECON 1100</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

## Junior Year

<table>
<thead>
<tr>
<th></th>
<th>First Semester</th>
<th>Credits</th>
<th>Second Semester</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IS&amp;T 4654</strong></td>
<td></td>
<td>3</td>
<td>IS&amp;T 3343</td>
<td>3</td>
</tr>
<tr>
<td><strong>FINANCE 2150</strong></td>
<td></td>
<td>3</td>
<td>MKT 3110</td>
<td>3</td>
</tr>
<tr>
<td><strong>IS&amp;T 3423</strong></td>
<td></td>
<td>3</td>
<td>IS&amp;T 3420</td>
<td>3</td>
</tr>
<tr>
<td><strong>IS&amp;T 3333</strong></td>
<td></td>
<td>3</td>
<td>IS&amp;T 4641</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T Elective</td>
<td></td>
<td>3</td>
<td>ENGLISH 2560 or TCH COM 2560</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

## Senior Year

<table>
<thead>
<tr>
<th></th>
<th>First Semester</th>
<th>Credits</th>
<th>Second Semester</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Elective</td>
<td></td>
<td>3</td>
<td>BUS 5980</td>
<td>3</td>
</tr>
<tr>
<td>Fine Art, Social Science, or Humanities Elective</td>
<td>3</td>
<td></td>
<td>POL SCI 1200</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T Electives</td>
<td></td>
<td>6</td>
<td>IS&amp;T Elective</td>
<td>4</td>
</tr>
<tr>
<td>History Elective</td>
<td></td>
<td>3</td>
<td>Free Electives</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

Total Credits: 120

A grade of “C” or better is required in the following courses for graduation: **BUS 1110**, **BUS 1210**, **BUS 1810**, **BUS 5980**, **ECON 1100**, **ECON 1200**, **ERP 2110**, **FINANCE 2150**, **MKT 3110**, **IS&T 1561**, **IS&T 1562**, **IS&T 1750**, **IS&T 3131**, **IS&T 3333**, **IS&T 3343**, **IS&T 3420**, **IS&T 3423**, **IS&T 4641**, **IS&T 4654**, and all IS&T Electives.

---

1. Writing intensive course
2. Any course in the following areas: biology, chemistry, geology, geological engineering, physics.
3. Any course in the following areas not used for other degree requirements: art, economics, English, foreign language, history, literature, music, philosophy, political science, psychology, sociology, theater.
4. A grade of “C” or better is required in IS&T elective courses for graduation. Electives may be:
   - any IS&T or ERP designated course at the 3000-level or above
   - **BUS 5730**
   - **BUS 5910**
   - **COMP SCI 4700**
• or COMP SCI 5601.

5  MATH 1120 may be substituted for MATH 1140.

6  ENGLISH 1160 may be substituted for ENGLISH 1600

Justification for request
Compatibility with AI and Cybersecurity minors
Supporting Documents
Course Reviewer Comments
Program Change Request

Date Submitted: 08/27/20 8:49 am

Viewing: MARKET-MI : Marketing Minor

File: 81.9

Last approved: 07/14/15 3:41 pm

Last edit: 08/27/20 8:49 am

Changes proposed by: cecq8z

Catalog Pages Using this Program
Business and Management Systems
Information Science and Technology

Start Term
**Spring 2021** 08/17/2015

Program Code
MARKET-MI

Department
Business and Information Technology

Title
Marketing Minor

In Workflow
1. RINFSCTE Chair
2. CCC Secretary
3. Social Sciences DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. FS Meeting Agenda
8. Faculty Senate Chair
9. Registrar
10. Kristy Giacomelli-Feys

Approval Path
1. 07/21/20 9:01 am
   Kristy Giacomelli-Feys (kristyg): Rollback to Initiator
2. 08/29/20 11:27 am
   siauk: Approved for RINFSCTE Chair
3. 08/31/20 11:22 am
   Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
4. 08/31/20 11:25 am
   Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History
1. Apr 28, 2014 by Barry Flachsbart (barryf)
Minor in Marketing

The minor in marketing requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1100</td>
<td>Principles Of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>or ECON 1200 or BUS 1414</td>
<td>Course ECON 1200 or BUS 1414 Not Found</td>
<td></td>
</tr>
<tr>
<td>MKT 3110</td>
<td>Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

Three courses from the following list:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKT 3210</td>
<td>Consumer Behavior</td>
</tr>
<tr>
<td>MKT 4580</td>
<td>Marketing Strategy</td>
</tr>
<tr>
<td>MKT 5310</td>
<td>Digital Marketing and Promotions</td>
</tr>
<tr>
<td>MKT 4150</td>
<td>Customer Focus and Satisfaction</td>
</tr>
<tr>
<td>MKT 5320</td>
<td>Marketing for Non-Profits</td>
</tr>
<tr>
<td>ERP 4610</td>
<td>Customer Relationship Management in ERP Environment</td>
</tr>
<tr>
<td>MKT 5410</td>
<td>Course MKT 5410 Not Found</td>
</tr>
</tbody>
</table>

Other marketing electives approved by the department (MKT 3000 and above)

Justification for request
In line with new AACSB requirements.
Adding new courses.

Supporting Documents

Course Reviewer Comments

kristyg (07/21/20 9:01 am): Rollback: Rollback per email.
Program Change Request

Date Submitted: 08/27/20 8:52 am

Viewing: MOBLB&T-MI : Mobile Bus & Digital Transformation Tech Minor

File: 101.7

Last approved: 07/14/15 3:41 pm

Last edit: 08/31/20 11:23 am

Changes proposed by: cecq8z

Catalog Pages Using this Program
- Business and Management Systems
- Information Science and Technology

Start Term
- Spring 2021 08/17/2015

Program Code
- MOBLB&T-MI

Department
- Business and Information Technology

Title
- Mobile Bus & Digital Transformation Tech Minor

In Workflow
1. RINFSCTE Chair
2. CCC Secretary
3. Social Sciences DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. FS Meeting Agenda Chair
8. Faculty Senate Chair
9. Registrar
10. Kristy Giacomelli-Feys

Approval Path
1. 08/29/20 11:30 am siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:23 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 11:25 am Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History
1. Aug 5, 2014 by pantaleoa
2. Jun 17, 2015 by pantaleoa
3. Jul 14, 2015 by pantaleoa
Program Requirements and Description

Minor in Mobile Business and **Digital Transformation Technology**

The minor in mobile business and technology requires the following 15 hours of coursework:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 4641</td>
<td>Digital Commerce and the Internet of Things</td>
<td>3</td>
</tr>
<tr>
<td>IS&amp;T 4335</td>
<td>Fundamentals of Mobile Technology for Business</td>
<td>3</td>
</tr>
</tbody>
</table>

Two or three of the following courses must be taken:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5641</td>
<td>Course IST 5641 Not Found</td>
</tr>
<tr>
<td>IS&amp;T 4654</td>
<td>Web and Digital Media Development (Two or three of the following courses must be taken:)</td>
</tr>
<tr>
<td>IS&amp;T 5335</td>
<td>Course IST 5335 Not Found</td>
</tr>
<tr>
<td>ERP 5240</td>
<td>Enterprise Application Development and Software Security</td>
</tr>
</tbody>
</table>

Two or three of the following courses must be taken:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 1414</td>
<td>Course BUS 1414 Not Found</td>
</tr>
<tr>
<td>IS&amp;T 3333</td>
<td>Data Networks and Information Security</td>
</tr>
<tr>
<td>IS&amp;T 5652</td>
<td>Advanced Web Development</td>
</tr>
<tr>
<td>IS&amp;T 5886</td>
<td>Prototyping Human-Computer Interactions</td>
</tr>
<tr>
<td>ERP 4610</td>
<td>Customer Relationship Management in ERP Environment</td>
</tr>
<tr>
<td>ERP 5310</td>
<td>Supply Chain Management Systems in an ERP Environment</td>
</tr>
<tr>
<td>ERP 5210</td>
<td>Performance Dashboard, Scorecard and Data Visualization</td>
</tr>
<tr>
<td>IS&amp;T 5168</td>
<td>Law and Ethics in E-Commerce</td>
</tr>
<tr>
<td>IS&amp;T 4680</td>
<td>Introduction to Web and New Media Studies</td>
</tr>
<tr>
<td>MKT 5310</td>
<td>Digital Marketing and Promotions</td>
</tr>
</tbody>
</table>

Justification for request

Provides more flexibility for students to take relevant electives. AACSB requirements.

Supporting Documents

Course Reviewer Comments

tibbettsmg (08/31/20 11:23 am): updated term to Sp21-mt
New Program Proposal

Date Submitted: 08/27/20 1:08 pm

Viewing: **PROPOSED : Human Factors Psychology**

File: 363

Last edit: 08/27/20 1:08 pm

Changes proposed by: burnsde

Start Term
Spring 2021

Program Code
PROPOSED

Department
Psychological Science

Title
Human Factors Psychology

Program Requirements and Description

- Psych 1101 - Gen Psych (3)
- Psych 4710 & Eng Mgt 4330 - Human Factors (3)
- Psych 4700 Industrial Psychology (3)
- Psych 4720 Psych of Social Technology (3)
• *Either* Psych 4411 S&P (3) **OR** Psych 4400 Cog (3)

Justification for request
We want to offer a minor for students especially interested in human focused design and interaction.

Most relevant CIP code: 42.2813, Applied Psychology
Supporting Documents
Course Reviewer Comments
Program Change Request

Date Submitted: 08/27/20 8:45 am

Viewing: **AI-CT : AI, Mach Lrn & Auto for Bus CT**

File: 292.6

Last approved: 07/01/20 1:37 pm

Last edit: 08/27/20 8:45 am

Changes proposed by: cecq8z

Catalog Pages Using this Program

Information Science and Technology

Start Term

Spring 2021  Fall 2020

Program Code

AI-CT

Department

Business and Information Technology

Title

AI, Mach Lrn & Auto for Bus CT

In Workflow

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

Approval Path

1. 08/29/20 11:11 am siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:17 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 11:24 am Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History

1. Jun 12, 2019 by Brittany Parnell (ershenb)
2. Jul 1, 2020 by Cecil Eng Huang Chua (cchua)
AI, Machine Learning and Automation in Business

Artificial Intelligence is a disruptive technology in the business realm with transformational impact. From detecting malware and preventing money laundering to automating insurance claims and optimizing inventory and improving product recommendations and more, AI will continue to necessitate changes in core business processes and models. Within the past few years, machine learning, while not fully tapped in the business sphere, has become more effective and widely utilized. Tomorrow's leaders and managers will need to integrate machine learning where appropriate, incorporating its capabilities with those of humans. The design and implementation of new combinations of technologies with human skills to meet customers' needs will require critical thinking skills, creativity, and project planning.

**Required Core Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 5730</td>
<td>Machine Learning and Artificial Intelligence for Business</td>
</tr>
<tr>
<td>IS&amp;T 5535</td>
<td>Machine Learning Algorithms and Applications</td>
</tr>
</tbody>
</table>

**Elective courses (choose two):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5420</td>
<td>Business Analytics and Data Science</td>
</tr>
<tr>
<td>IS&amp;T 5520</td>
<td>Data Science and Machine Learning with Python</td>
</tr>
<tr>
<td>IS&amp;T 6443</td>
<td>Information Retrieval and Analysis</td>
</tr>
<tr>
<td>IS&amp;T 5445</td>
<td>Artificial Intelligence, Robotics, and Information Systems Management</td>
</tr>
<tr>
<td>BUS 6723</td>
<td>Data Modeling &amp; Visualization Prototyping for Enterprise Decision Dashboards</td>
</tr>
<tr>
<td>ERP 6220</td>
<td>Data Modeling &amp; Visualization Prototyping for Enterprise Decision Dashboards</td>
</tr>
<tr>
<td>IS&amp;T 5620</td>
<td>Information Visualization</td>
</tr>
</tbody>
</table>

A student admitted to this graduate certificate must complete four courses: Required Courses: BUS 5730 Machine Learning and Artificial Intelligence for Business IS&T 5535 Machine Learning Algorithms and Applications Elective Courses (choose two): BUS 6723 Artificial Intelligence, Robotics, and Information Systems Management IS&T 5520 Data Science and Machine Learning with Python IS&T 6443 Information Retrieval and Analysis IS&T 6445 Database Marketing IST6450: Information Visualization ERP5410: Use of Business Intelligence

**Justification for request**

Added data science courses to the elective mix.

**Supporting Documents**

**Course Reviewer Comments**
Program Change Request

Date Submitted: 08/27/20 8:45 am

Viewing: **ANA&DTA-CT : Bus Analytics & Data Sci CT**

File: 293.2

Last approved: 06/12/19 10:03 am

Last edit: 08/27/20 8:45 am

Changes proposed by: cecq8z

Catalog Pages Using this Program
Information Science and Technology

Start Term
**Spring 2021 Fall 2019**

Program Code
ANA&DTA-CT

Department
Business and Information Technology

Title
Bus Analytics & Data Sci CT

Approval Path
1. 04/20/20 9:14 pm
   siauk: Rollback to Initiator
2. 08/29/20 11:13 am
   siauk: Approved for RINFSCTE Chair
3. 08/31/20 11:58 am
   Marita Tibbetts (tibbettsmg):
   Approved for CCC Secretary
4. 08/31/20 12:06 pm
   Cecil Eng Huang Chua (cchua):
   Approved for Social Sciences DSCC Chair

History
1. Jun 12, 2019 by Brittany Parmell (ershenb)
Program Requirements and Description

Business Analytics and Data Science

Data analytics facilitates realization of objectives by identifying trends, creating predictive models for forecasting, and optimizing business processes for enhanced performance. Three main categories of analytics are:

- **Descriptive** - the use of data to find out what happened in the past.
- **Predictive** - the use of data to find out what could happen in the future.
- **Prescriptive** - the use of data to prescribe the best course of action for the future.

Big data is an emerging phenomenon. Computing systems today are generating 15 petabytes of new information every day—eight times more than the combined information in all the libraries in the U.S.; about 80% of the data generated every day is textual and unstructured data.

This graduate certificate is one of three graduate certificates offered by cooperating departments at Missouri S&T to fulfill the needs in the area described as "big data." The other two graduate certificates are:

- Big Data and Security
- Big Data Management and Analytics

**Required Core Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5420</td>
<td>Business Analytics and Data Science</td>
</tr>
<tr>
<td>IS&amp;T 5450</td>
<td>Course IST 5450 Not Found</td>
</tr>
</tbody>
</table>

**One course from the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 5730</td>
<td>Machine Learning and Artificial Intelligence for Business</td>
</tr>
<tr>
<td>IS&amp;T 5550</td>
<td>Data Science and Machine Learning with Python</td>
</tr>
<tr>
<td>ERP 5410</td>
<td>Use of Business Intelligence</td>
</tr>
<tr>
<td>COMP SCI 5204</td>
<td>Regression Analysis</td>
</tr>
<tr>
<td>COMP SCI 5402</td>
<td>Introduction to Data Mining</td>
</tr>
<tr>
<td>COMP SCI 6304</td>
<td>Cloud Computing and Big Data Management</td>
</tr>
<tr>
<td>COMP ENG 6330</td>
<td>Clustering Algorithms</td>
</tr>
<tr>
<td>STAT 5814</td>
<td>Applied Time Series Analysis</td>
</tr>
</tbody>
</table>

**One course from the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5445</td>
<td>Course IST 5445 Not Found</td>
</tr>
<tr>
<td>IS&amp;T 5535</td>
<td>Machine Learning Algorithms and Applications</td>
</tr>
<tr>
<td>IS&amp;T 5641</td>
<td>Course IST 5641 Not Found</td>
</tr>
<tr>
<td>IS&amp;T 6443</td>
<td>Information Retrieval and Analysis</td>
</tr>
<tr>
<td>IS&amp;T 6444</td>
<td>Essentials of Data Warehouses</td>
</tr>
<tr>
<td>IS&amp;T 6448</td>
<td>Building the Data Warehouse</td>
</tr>
</tbody>
</table>
A student admitted to this graduate certificate must complete four courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5420</td>
<td>Business Analytics and Data Science</td>
</tr>
<tr>
<td>IS&amp;T 6450</td>
<td>Information Visualization</td>
</tr>
</tbody>
</table>

One course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5001</td>
<td>Special Topics (Data Methodologies Using Python)</td>
</tr>
<tr>
<td>ERP 5410</td>
<td>Use of Business Intelligence</td>
</tr>
<tr>
<td>COMP SCI 5204</td>
<td>Regression Analysis</td>
</tr>
<tr>
<td>COMP SCI 5402</td>
<td>Introduction to Data Mining</td>
</tr>
<tr>
<td>COMP SCI 6304</td>
<td>Cloud Computing and Big Data Management</td>
</tr>
<tr>
<td>COMP ENG 6330</td>
<td>Clustering Algorithms</td>
</tr>
<tr>
<td>STAT 5814</td>
<td>Applied Time Series Analysis</td>
</tr>
</tbody>
</table>

One course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 6443</td>
<td>Information Retrieval and Analysis</td>
</tr>
<tr>
<td>IS&amp;T 6444</td>
<td>Essentials of Data Warehouses</td>
</tr>
<tr>
<td>IS&amp;T 6445</td>
<td>Database Marketing</td>
</tr>
<tr>
<td>IS&amp;T 6448</td>
<td>Building the Data Warehouse</td>
</tr>
<tr>
<td>IS&amp;T 6887</td>
<td>Research Methods in Business and IS&amp;T</td>
</tr>
<tr>
<td>ERP 6240</td>
<td>Performance Dashboard, Scorecard and Data Visualization</td>
</tr>
<tr>
<td>ERP 6610</td>
<td>Advanced Customer Relationship Management in ERP Environment</td>
</tr>
<tr>
<td>ERP 6220</td>
<td>Data Modeling &amp; Visualization Prototyping for Enterprise Decision Dashboards</td>
</tr>
<tr>
<td>BUS 6425</td>
<td>Supply Chain and Project Management</td>
</tr>
</tbody>
</table>

Justification for request
Course number has changed. Added various analytics and business intelligence courses to the mix.

Supporting Documents
Course Reviewer Comments
siauk (04/20/20 9:14 pm): Rollback: Is IST 6443 supposed to be in the third block?
Program Change Request

Date Submitted: 08/27/20 8:46 am

Viewing: CYBERMG-CT: Cyber Mgmt & Info Assurance CT

File: 295.2

Last approved: 06/12/19 11:51 am

Last edit: 08/31/20 11:52 am

Changes proposed by: cecq8z

Catalog Pages Using this Program
Information Science and Technology

Start Term
**Spring 2021** Fall 2019

Program Code
CYBERMG-CT

Department
Business and Information Technology

Title
Cyber Mgmt & Info Assurance CT

Program Requirements and Description

In Workflow
1. RINFSCTE Chair
2. CCC Secretary
3. Social Sciences DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. FS Meeting Agenda Chair
8. Faculty Senate Chair
9. Registrar
10. Kristy Giacomelli-Feys

Approval Path
1. 08/29/20 11:15 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:59 am
   Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 12:06 pm
   Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History
1. Jun 12, 2019 by Brittany Parnell (ershenb)
Cybersecurity and Information Assurance Management

Cybersecurity is one of the fastest growing employment segments in IT. As technology grows and progresses, with our devices and lives becoming more and more interconnected, the challenges of cybersecurity and information assurance will continue to grow. This presents a career to those with the necessary skills that will be exciting, rewarding, fast-paced, and highly sought after.

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

<table>
<thead>
<tr>
<th>Required core courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 5910</td>
</tr>
<tr>
<td>IS&amp;T 6780</td>
</tr>
<tr>
<td>S&amp;T 5780</td>
</tr>
</tbody>
</table>

Two courses from the following list:

<table>
<thead>
<tr>
<th>Course IST 5780 Not Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5335</td>
</tr>
<tr>
<td>IS&amp;T 5520</td>
</tr>
<tr>
<td>S&amp;T 5641</td>
</tr>
<tr>
<td>ERP 5240</td>
</tr>
<tr>
<td>IS&amp;T 6335</td>
</tr>
<tr>
<td>IS&amp;T 6336</td>
</tr>
<tr>
<td>IS&amp;T 6641</td>
</tr>
<tr>
<td>S&amp;T 5620</td>
</tr>
</tbody>
</table>

Justification for request
Course numbering change. Added course with information assurance component to elective mix.

Supporting Documents
Course Reviewer Comments
tibbettsmg (08/31/20 11:52 am): updated term to Sp21-mt
Program Change Request

Date Submitted: 08/27/20 8:48 am

Viewing: DIGITMD-CT : Digital Media & Web Design CT

File: 296.2
Last approved: 06/12/19 12:06 pm
Last edit: 08/27/20 8:48 am
Changes proposed by: cecq8z

Catalog Pages Using this Program
Information Science and Technology

Start Term
Spring 2021 Fall 2019

Program Code
DIGITMD-CT

Department
Business and Information Technology

Title
Digital Media & Web Design CT

Program Requirements and Description

In Workflow
1. RINFSCTE Chair
2. CCC Secretary
3. Social Sciences DSCC Chair
4. Pending CCC Agenda post
5. CCC Meeting Agenda
6. Campus Curricula Committee Chair
7. FS Meeting Agenda Chair
8. Faculty Senate Chair
9. Registrar
10. Kristy Giacomelli-Feys

Approval Path
1. 08/29/20 11:16 am siauk: Approved for RINFSCTE Chair
2. 08/31/20 11:59 am Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 12:06 pm Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History
1. Jun 12, 2019 by Brittany Parnell (ershenb)
Digital Media and Web Design

Digital media is growing as consumers change the way they access information. In pursuing this certificate, students will acquire the skills and knowledge to create, design and analyze digital media. The focus will be on the media itself, the social/digital network that connects these media, the interfaces that connect these media with users, and the application of these skills in business and other creative contexts. Thus this certificate program will address the pressing demand and opportunities for graduates with advanced knowledge and skills in areas such as networked communication and marketing, web-based media creation and design, and methods for designing and building effective human-media interfaces.

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

<table>
<thead>
<tr>
<th>Required core course:</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 6654</td>
</tr>
</tbody>
</table>

Two courses from the following list:

<table>
<thead>
<tr>
<th>IS&amp;T 5885</th>
<th>Human-Computer Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 6680</td>
<td>Advanced Web and New Media Studies</td>
</tr>
<tr>
<td>MKT 5310</td>
<td>Digital Marketing and Promotions</td>
</tr>
</tbody>
</table>

One course from the following:

<table>
<thead>
<tr>
<th>IS&amp;T 5652</th>
<th>Advanced Web Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5886</td>
<td>Prototyping Human-Computer Interactions</td>
</tr>
<tr>
<td>IS&amp;T 5168</td>
<td>Law and Ethics in E-Commerce</td>
</tr>
</tbody>
</table>

Justification for request
Added HCI course to the electives.
Supporting Documents
Course Reviewer Comments
Program Change Request

Date Submitted: 08/27/20 8:47 am

Viewing: **E&S COM-CT : Elec & Social Commerce CT**

File: 298.2

Last approved: 06/12/19 12:17 pm

Last edit: 08/27/20 8:47 am

Changes proposed by: cecq8z

Catalog Pages Using this Program

Information Science and Technology

Start Term

**Spring 2021** Fall 2019

Program Code

E&S COM-CT

Department

Business and Information Technology

Title

Elec & Social Commerce CT

Program Requirements and Description

In Workflow

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

Approval Path

1. 08/29/20 11:18 am
   siauk: Approved for RINFSCTE Chair
2. 08/31/20 12:03 pm
   Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 08/31/20 12:06 pm
   Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair

History

1. Jun 12, 2019 by Brittany Parnell (ershenb)
Electronic and Social Commerce

Social commerce is just one sub-set of e-commerce, however it is growing rapidly. The department of business and information technology (BIT) has leveraged its strengths in both business and technology for this program, which is designed to create successful students by developing skills in technological business practices that will provide opportunities for succeeding in today’s fast paced world. To that end, the program focuses on the following competencies:

- Management concepts applied to IT
- Management concepts applied to support of electronic commerce
- Use of business processes in IT integration
- Competitive advantage through IT
- Electronic commerce through collaborative shopping

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 6641</td>
<td>Advanced Digital Commerce and the Internet of Things</td>
</tr>
<tr>
<td>IS&amp;T 5251</td>
<td>Technological Innovation Management and Leadership</td>
</tr>
<tr>
<td>IS&amp;T 5641</td>
<td><strong>Course IST 5641 Not Found</strong></td>
</tr>
<tr>
<td>IS&amp;T 6251</td>
<td><strong>Course IST 6251 Not Found</strong></td>
</tr>
<tr>
<td>BUS 6723</td>
<td>Artificial Intelligence, Robotics, and Information Systems Management</td>
</tr>
</tbody>
</table>

Required core courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5251</td>
<td>Technological Innovation Management and Leadership</td>
</tr>
<tr>
<td>IS&amp;T 5641</td>
<td><strong>Course IST 5641 Not Found</strong></td>
</tr>
</tbody>
</table>

Core Courses (choose one or two):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 6251</td>
<td><strong>Course IST 6251 Not Found</strong></td>
</tr>
<tr>
<td>BUS 6723</td>
<td>Artificial Intelligence, Robotics, and Information Systems Management</td>
</tr>
</tbody>
</table>

Elective courses (choose one or two):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS&amp;T 5168/PHILOS 4368</td>
<td>Law and Ethics in E-Commerce</td>
</tr>
<tr>
<td>IS&amp;T 5335</td>
<td><strong>Course IST 5335 Not Found</strong></td>
</tr>
<tr>
<td>IS&amp;T 5445</td>
<td><strong>Course IST 5445 Not Found</strong></td>
</tr>
<tr>
<td>IS&amp;T 5652</td>
<td>Advanced Web Development</td>
</tr>
<tr>
<td>IS&amp;T 5885</td>
<td>Human-Computer Interaction</td>
</tr>
<tr>
<td>IS&amp;T 5886</td>
<td>Prototyping Human-Computer Interactions</td>
</tr>
<tr>
<td>IS&amp;T 6335</td>
<td>Mobile Technology for Business</td>
</tr>
<tr>
<td>IS&amp;T 6445</td>
<td>Database Marketing</td>
</tr>
<tr>
<td>IS&amp;T 6680</td>
<td>Advanced Web and New Media Studies</td>
</tr>
<tr>
<td>MKT 5310</td>
<td>Digital Marketing and Promotions</td>
</tr>
<tr>
<td>MKT 6580</td>
<td>Advanced Marketing Strategy</td>
</tr>
</tbody>
</table>

Justification for request

Course renumbering

Supporting Documents
Program Change Request

Date Submitted: 07/22/20 12:48 pm

Viewing: **FIN ENG-CT : Financial Engineering CT**

File: 329.2
Last approved: 06/12/19 2:20 pm
Last edit: 07/22/20 12:48 pm

Changes proposed by: cornss

Catalog Pages Using this Program
Engineering Management

Start Term
**Spring 2021 Fall 2019**

Program Code
FIN ENG-CT

Department
Engineering Management and Systems Engineering

Title
Financial Engineering CT

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

Approval Path
1. 07/22/20 11:42 am
   Suzanna Long (longsuz): Rollback to Initiator
2. 07/22/20 12:50 pm
   Suzanna Long (longsuz): Approved for RENGMNGT Chair
3. 07/30/20 1:53 pm
   Kristy Giacomelli-Feys (kristyg): Approved for CCC Secretary
4. 09/02/20 12:22 pm
   Stephen Raper (sraper): Approved for Engineering DSCC Chair
Program Requirements and Description

Financial Engineering

The financial engineering certificate program aims to equip students with a set of tools that will help them meet the standards of the Global Association of Risk Professionals (GARP) and the Professional Risk Managers' International Association (PRMIA) certifications. While being separate organizations, both GARP and PRMIA have become the standards in financial engineering and financial risk management, due to their similar knowledge of requirements for certification.

Certificate topics will help prepare students to take the GARP Financial Risk Managers (FRM) exam and/or the PRMIA Professional Risk Managers (PRM) exam. Both exams are set around topics in financial theory, financial markets and financial instruments, market risk measures, quantitative analysis, mathematical foundations of risk management, financial derivatives for risk reduction, risk management best practices, operational risk, market risk, credit risk, case studies, ethics, and governance. The certificate courses will provide a strong foundation in these areas.

Students will be responsible for prerequisite knowledge as determined by course instructors and are expected to have taken ENG MGT 5210 Economic Decision Analysis, ENG MGT 5202 Financial Decision Analysis, SYS ENG 6103 Systems Life Cycle Costing, or an equivalent introduction to finance and/or engineering economics course, as a prerequisite to the certificate program. **To complete the certificate, students must complete any four of the five certificate courses.**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG MGT 6212</td>
<td>Investment</td>
</tr>
<tr>
<td>ENG MGT 6213</td>
<td>Financial Engineering</td>
</tr>
<tr>
<td>ENG MGT 6214</td>
<td>Financial Engineering II</td>
</tr>
<tr>
<td>ENG MGT 6215</td>
<td>Financial Risk Management</td>
</tr>
<tr>
<td>SYS ENG 5212</td>
<td>Introduction to Neural Networks and Applications</td>
</tr>
<tr>
<td>ENG MGT 5212</td>
<td>Intelligent Investing</td>
</tr>
<tr>
<td>ENG MGT 6211</td>
<td>Advanced Financial Management</td>
</tr>
</tbody>
</table>

Justification for request
Add courses related to financial engineering to allow more flexibility in how the certificate can be completed.

Supporting Documents
Course Reviewer Comments
longsuz (07/22/20 11:42 am): Rollback: Updates
Program Change Request

Date Submitted: 08/27/20 8:47 am

Viewing: **HCI-CT : Human Computer Interaction CT**

File: 300.2

Last approved: 06/12/19 3:37 pm

Last edit: 08/27/20 8:47 am

Changes proposed by: cecq8z

Catalog Pages Using this Program

- Information Science and Technology

Start Term

- **Spring 2021 Fall 2019**

Program Code

- HCI-CT

Department

- Business and Information Technology

Title

- Human Computer Interaction CT

Program Requirements and Description

In Workflow

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

Approval Path

1. 08/29/20 11:19 am siauk: Approved for RINFSCTE Chair
2. 08/31/20 12:04 pm tibbettsmg: Approved for CCC Secretary
3. 08/31/20 12:06 pm cchua: Approved for Social Sciences DSCC Chair

History

1. Jun 12, 2019 by ershenb
Human-Computer Interaction and User Experience

There is a growing demand within industry for workers with expertise in human-computer interaction (HCI), who generally hold titles such as interface designer; usability researcher analyst; usability engineer; user experience specialist; or information architect. HCI specialists bridge the gap in organizations between groups who build the technologies and groups who use the technologies. The qualifications for these positions generally fall into the following categories:

- Knowledge of human-computer interaction principles
- Skills in collecting user requirements
- Skills in developing prototypes, both low fidelity (e.g., paper) and high fidelity (e.g., html mock-up)
- Skills in evaluation of the impact of technologies on humans

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

<table>
<thead>
<tr>
<th>Required core courses:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IS&amp;T 5885</strong></td>
<td>Human-Computer Interaction</td>
</tr>
<tr>
<td><strong>IS&amp;T 5886</strong></td>
<td>Prototyping Human-Computer Interactions</td>
</tr>
<tr>
<td><strong>IS&amp;T 5887</strong></td>
<td>Human-Computer Interaction Evaluation</td>
</tr>
</tbody>
</table>

One course from the following:

| **IS&T 6680**              | Advanced Web and New Media Studies|
| **IS&T 6887**              | Research Methods in Business and IS&T|
| **IS&T 5168**              | Law and Ethics in E-Commerce|

Justification for request
Course renumbering
Supporting Documents
Course Reviewer Comments

Key: 300
Program Change Request

Date Submitted: 08/27/20 8:48 am

Viewing: **MGtlead-CT : Management and Leadership**

File: 291.5

Last approved: 07/01/20 1:39 pm

Last edit: 08/27/20 8:48 am

Changes proposed by: cecq8z

Catalog Pages Using this Program

**Business Administration**

Start Term

**Spring 2021 Fall 2020**

Program Code

MGtlead-CT

Department

Business and Information Technology

Title

Management and Leadership

In Workflow

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

Approval Path

1. 08/29/20 11:28 am siauk: Approved for RINFSCTE Chair
2. 08/31/20 12:05 pm tibbettsmg: Approved for CCC Secretary
3. 08/31/20 12:06 pm cchua: Approved for Social Sciences DSCC Chair

History

1. Jun 12, 2019 by Brittany Parnell (ershenb)
2. Jul 1, 2020 by Cecil Eng Huang Chua (cchua)
Program Requirements and Description

Management and Leadership

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

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

<table>
<thead>
<tr>
<th>Required Core Course:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 6121</td>
<td>Teambuilding and Leadership</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elective courses (choose three):</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 5580</td>
</tr>
<tr>
<td>BUS 5111</td>
</tr>
<tr>
<td>BUS 5470</td>
</tr>
<tr>
<td>BUS 6425</td>
</tr>
<tr>
<td>BUS 6723</td>
</tr>
<tr>
<td>S&amp;T 6251</td>
</tr>
<tr>
<td>IS&amp;T 6261</td>
</tr>
<tr>
<td>IS&amp;T 5168</td>
</tr>
<tr>
<td>MKT 5150</td>
</tr>
<tr>
<td>ENG MGT 5320</td>
</tr>
</tbody>
</table>

Required Core Course: BUS 6121 - Team Building and Leadership

Justification for request
Course renumbering. Expansion of elective offerings.
Supporting Documents
Course Reviewer Comments

Key: 291
Program Change Request

New Program Proposal

Date Submitted: 07/22/20 10:53 am

Viewing: PROPOSED : Mine Reclamation CT

File: 360

Last edit: 09/01/20 3:56 pm

Changes proposed by: kabp3

Start Term
Spring 2021

Program Code
PROPOSED

Department
Mining & Nuclear Engineering

Title
Mine Reclamation CT

Program Requirements and Description

PROGRAM DESCRIPTION:

The Mine Reclamation Certificate Program is designed to provide formalized education in mine reclamation. The program aims to equip students with skills that allow them to work as mine reclamation professionals and regulators on mine reclamation...
projects. The program is designed for engineers, geologists, and other scientists who find themselves working in mine reclamation without formal training.

Students admitted to this certificate program must take the four required courses provided in the curriculum section, and obtain a cumulative GPA of 3.0 or better to earn the certificate. Students are admitted in non-matriculated status; however, if they complete the graduate certificate with a grade of “B” or better in each of the courses taken, they may be admitted to the Master of Science degree program in mining engineering, if they choose to. The certificate credits taken by students admitted to the graduate degree program will count toward their master’s degree.

ADMISSION:

The Mine Reclamation Certificate Program is open to all persons holding a B.S., M.S., or Ph.D. degree in Engineering, Science, and/or Mathematics 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 three years to complete the program.

Students admitted to the Mine Reclamation Certificate Program will have non-degree graduate status, however, they will earn graduate credit for the course they complete. If the student completes the four-course sequence with a grade of B or better in each of the courses taken, they, upon application, will be admitted to the M.S. degree program in mining engineering. The certificate credits taken by the students admitted to the M.S. degree program will count towards their master’s degrees. Students who do not have all of the prerequisite courses necessary to begin the courses in the Mine Reclamation Certificate Program will be allowed to take "bridge" courses at either the graduate or undergraduate level to prepare for the formal certificate courses.

CONTRIBUTING FACULTY:

Mining Engineering; Environmental Engineering; Geological Engineering

CURRICULUM:

The graduate certificate in mine reclamation requires 12 credit hours (four courses) and must include at least two of the following courses:

1. **MIN ENG 5742 Environmental Aspects of Mining**
   
   Permitting: the legal environment of reclamation and environmental impact assessment; post-mining land-use selection and mine planning for optimum reclamation of all mines: metal, nonmetal, and coal; unit operations of reclamation: drainage, backfill, soil replacement, revegetation, maintenance, etc.
   
   Delivery: Main Campus & Online/Spring Semester

2. **ENV ENG 5635 Phytoremediation and Natural Treatment Systems: Science and Design**
   
   Students learn the scientific basics of chemical transport in soil and groundwater and learn fundamental plant physiology and processes. Students then learn how these processes are utilized in design of phytoremediation and natural treatment systems, including the most up to date literature and design guidance available.
   
   Delivery: Main Campus & Online/Spring Semester

3. **GEO ENG 5381 Intermediate Subsurface Hydrology and Contaminant Transport**
A study of the physical/chemical properties of rocks and sediments in the subsurface environment. Emphasis is put on waterrock properties such as permeability, capillarity, and mechanical dispersion. Both microscopic and macroscopic approaches are used.

**Delivery:** Main Campus & Online/Spring Semester

**Students can select up to two more courses from the following courses:**

1. **ENV ENG 5630 Remediation of Contaminated Groundwater and Soil.**
   
   Course covers current in-situ and ex-situ remediation technologies. Current literature and case studies are utilized to provide the focus for class discussions and projects.
   
   **Delivery:** Main Campus & Online/Summer Semester

2. **ENV ENG 5640 Environmental Law and Regulations**
   
   This course provides comprehensive coverage of environmental laws and regulations dealing with air, water, wastewater, and other media. The primary focus is permitting, reporting, and compliance protocols. The course topics include U.S. and international legal systems and judicial processes, liability, enforcement, Clean Air Act, Clean Water Act (NPDES) permitting, Safe Drinking Water Act, OSGA, TSCA, RCRA, and CERCLA. Case studies will be emphasized.
   
   **Delivery:** Main Campus & Online/Spring Semester

   
   This course will examine the concepts regarding the continued advancement of humankind while maintaining our ecological niche on earth. Key topics include: population growth, poverty, and impacts of development; energy consumption, sources, storage, conservation and policy; water quality and quantity; materials and building; and policy implications.
   
   **Delivery:** Main Campus & Online/Fall Semester

4. **GEO ENG 5235 Environmental Geological Engineering**
   
   Introduction to engineering geologic mapping for site selection for solid waste disposal facilities; landfill site selection, design, permitting, construction, operation, and closeout/reclamation.
   
   **Delivery:** Main Campus & Online/Fall Semester

5. **GEO ENG 5331/5332 Fundamentals of Groundwater Hydrology**
   
   Focus on fundamental analysis and survey of groundwater hydrology with emphasis on practical geo-environmental and subsurface hydrology issues of interest to working professionals. Topics will include general hydrology, surface and subsurface interconnection, basic groundwater flow and well test analysis, and a brief intro to contaminant transport.
   
   **Delivery:** Main Campus & Online/Fall Semester

6. **MIN ENG 6712 Managing Social and Environmental Risks in Mining (Intro to Responsible Mining)**
   
   This course is an introduction to responsible mining. It focuses on industry and NGO programs around sustainability and reporting in mining, financial community response, community of interest engagement and participation, and safety and crisis response and management.
Delivery: Main Campus & Online/Fall Semester

7. MIN ENG 6735 Sustainability in Mining

Sustainability defined: social, economic and environmental impacts. Mining as sustainable development interventions. Mine planning for sustainability, sustainability assessment and reporting, sustainable mine closure and post-mining land use.

Delivery: Main Campus & Online/Fall Semester

Justification for request
The Mine Reclamation Certificate Program is designed to provide formalized education in mine reclamation, which is currently absent in our offerings. The program aims to equip students with skills that allow them to work as mine reclamation professionals and regulators on mine reclamation projects. The program is designed for engineers, geologists, and other scientists who find themselves working in mine reclamation without formal training. By bring together the three programs (Mining, Environmental and Geological Engineering) we are able to offer unique training for these professionals.

Supporting Documents
Mine Reclamation - Graduate Certificate.pdf
Signed - Mine Reclamation-cover letter.pdf
MS&T PC June 2020 REVISED.pdf

Course Reviewer Comments
sraper (09/01/20 3:56 pm): Changed effective date to Spr 2021
New Program Proposal

Date Submitted: 07/22/20 10:57 am

Viewing: PROPOSED : Mining Project Evaluation CT

File: 361

Last edit: 09/01/20 3:56 pm

Changes proposed by: kabp3

Start Term
Spring 2021

Program Code
PROPOSED

Department
Mining & Nuclear Engineering

Title
Mining Project Evaluation CT

Program Requirements and Description

PROGRAM DESCRIPTION:

The Mining Project Evaluation Certificate Program is designed to provide formalized education in mining project evaluation. The program aims to equip students with skills that allow them to evaluate mining projects in order to facilitate investment decisions.
Students admitted to this program must take the four required courses provided in the curriculum section, and obtain a cumulative GPA of 3.0 or better to earn the certificate. Students are admitted in non-matriculated status; however, if they complete the graduate certificate with a grade of “B” or better in each of the courses taken, they may be admitted to the Master of Science degree program in mining engineering, if they so choose. The certificate credits taken by students admitted to the graduate degree program will count toward their master’s degree.

ADMISSION:

The Mining Project Evaluation Certificate Program is open to all persons holding a B.S., M.S., or Ph.D. degree in Engineering, Science, and/or Mathematics 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 three years to complete the program.

Students admitted to the Mining Project Evaluation Certificate Program will have non-degree graduate status, however, they will earn graduate credit for the course they complete. If the student completes the four-course sequence with a grade of B or better in each of the courses taken, they, upon application, will be admitted to the M.S. degree program in mining engineering. The certificate credits taken by the students admitted to the M.S. degree program will count towards their master's degrees. Students who do not have all of the prerequisite courses necessary to begin the courses in the Mining Project Evaluation Certificate Program will be allowed to take "bridge" courses at either the graduate or undergraduate level to prepare for the formal certificate courses.

CONTRIBUTING FACULTY:

Mining Engineering

CURRICULUM:

The graduate certificate in mining project evaluation requires 12 credit hours (four courses) and must include at least three of the following courses:

1. **MIN ENG 5522 Ore Reserve Analysis and Geostatistics**
   
   Principles of geostatistics, theory of spatially correlated random variables, variance and co-variances and their application on the evaluation of mineral resources, ore reserve estimation, strategic exploration, and production planning. Real case studies from mining industry will be presented.

   **Delivery:** Main Campus & Online/Spring Semester

2. **MIN ENG 5532 Advanced Mining Economics**
   
   Mining industry & national economics. Social & economics significance of mined commodities. Marketing of mined commodities. Innovation approaches to mine financing, project loans, and leasing. Mining feasibility studies, government influence & policy, mining industry foreign investment, investment strategies, mining taxation, cost predictions.

   **Delivery:** Main Campus & Online/Fall Semester

3. **MIN ENG 5913 Advanced Computer Aided Mine Design**
   
   Project-based mine planning and design course. Engineering design process applied to computer-aided mine planning and design. Mine layouts, production planning, and materials scheduling optimization.
4. **MIN ENG 6522 Mining Property Feasibility Studies and Evaluation Procedure**

A systematic phased approach is presented, designed to increase the level of confidence and accuracy of estimates, moving from exploration through to a "bankable" study. Liability, ethics, resource/reserves, political/social/investment risk, economic parameters, and due diligence are discussed.

**Delivery:** Main Campus & Online/Spring semester

**Students can select one from the following courses:**

1. **MIN ENG 5212 Aggregates and Quarrying**

   Advanced coverage of topics on the stone and aggregate industry, including surface and underground operations, plant equipment, economics, marketing, transportation, and environmental topics. The course will include at least one field trip and a design project.

   **Delivery:** Main Campus & Online/Spring Semester

2. **MIN ENG 6912 Simulation of Mining Systems**


   **Delivery:** Main Campus & Online/Fall Semester

3. **MIN ENG 6932 Advanced Mining Systems**

   Principles of design for the development and production of hard rock mineral deposits that require integrated surface and underground mining methods. Cost considerations leading to optimization. Terminal feasibility report required.

   **Delivery:** Main Campus & Online/Fall Semester

4. **MIN ENG 6936 Surface Mine Design**

   This course will focus on the determinants of surface mine design, geomechanical and geometrical mine design for open pit and strip mining; mine layouts optimization; mine environmental systems; and research directions in surface mine design and optimization.

   **Delivery:** Main Campus & Online/Spring Semester

**Justification for request**

The Mining Project Evaluation Certificate Program is designed to provide formalized education in mining project evaluation. The program aims to equip professionals with skills that allow them to evaluate mining projects in order to facilitate investment decisions. There is no such offering in our catalog now. There is demand for this sort of training as shown by University of Arizona's executive training program that contains some elements of this training.

**Supporting Documents**
sraper (09/01/20 3:56 pm): Changed effective date to spr 2021.
New Program Proposal

Date Submitted: 07/22/20 11:12 am

Viewing: PROPOSED : Sustainability in Mining CT

File: 362

Last edit: 09/01/20 3:57 pm

Changes proposed by: kabp3

Start Term
Spring 2021

Program Code
PROPOSED

Department
Mining & Nuclear Engineering

Title
Sustainability in Mining CT

Program Requirements and Description

PROGRAM DESCRIPTION:

The Sustainability in Mining Certificate Program is designed to provide formalized education in sustainability in mining. The program aims to equip students with skills that allow them work as professionals and regulators who deal with mine
sustainability issues including sustainability assessment and reporting, stakeholder/community engagement, and similar matters. The program is designed for engineers, geologists, and other scientists who find themselves working in mine reclamation without formal training.

Students admitted to this certificate program must take the four required courses provided in the curriculum section, and obtain a cumulative GPA of 3.0 or better to earn the certificate. Students are admitted in non-matriculated status; however, if they complete the graduate certificate with a grade of “B” or better in each of the courses taken, they may be admitted to the Master of Science degree program in mining engineering, if they so choose. The certificate credits taken by students admitted to the graduate degree program will count toward their master’s degree.

ADMISSION:

The Sustainability in Mining Certificate Program is open to all persons holding a B.S., M.S., or Ph.D. degree in Engineering, Science, and/or Mathematics 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 three years to complete the program.

Students admitted to the Sustainability in Mining Certificate Program will have non-degree graduate status, however, they will earn graduate credit for the course they complete. If the student completes the four-course sequence with a grade of B or better in each of the courses taken, they, upon application, will be admitted to the M.S. degree program in mining engineering. The certificate credits taken by the students admitted to the M.S. degree program will count towards their master's degrees. Students who do not have all of the prerequisite courses necessary to begin the courses in the Sustainability in Mining Certificate Program will be allowed to take "bridge" courses at either the graduate or undergraduate level to prepare for the formal certificate courses.

CONTRIBUTING FACULTY:

Mining Engineering; Environmental Engineering

CURRICULUM:

The graduate certificate in sustainability in mining requires the following courses:

1. MIN ENG 5742 Environmental Aspects of Mining

   Permitting: the legal environment of reclamation and environmental impact assessment; post-mining land-use selection and mine planning for optimum reclamation of all mines: metal, nonmetal, and coal; unit operations of reclamation: drainage, backfill, soil replacement, revegetation, maintenance, etc.

   Delivery: Main Campus & Online/Spring Semester

2. MIN ENG 6712 Managing Social and Environmental Risks in Mining (Intro to Responsible Mining)

   This course is an introduction to responsible mining. It focuses on industry and NGO programs around sustainability and reporting in mining, financial community response, community of interest engagement and participation, and safety and crisis response and management.

   Delivery: Main Campus & Online/Fall Semester

3. MIN ENG 6735 Sustainability in Mining
Sustainability defined: social, economic and environmental impacts. Mining as sustainable development interventions. Mine planning for sustainability, sustainability assessment and reporting, sustainable mine closure and post-mining land use. Case studies.

**Delivery:** Main Campus & Online/Spring Semester


This course will examine the concepts regarding the continued advancement of humankind while maintaining our ecological niche on earth. Key topics include: population growth, poverty, and impacts of development; energy consumption, sources, storage, conservation and policy; water quality and quantity; materials and building; and policy implications.

**Delivery:** Main Campus & Online/Fall Semester

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**Justification for request**

The Sustainability in Mining Certificate Program is designed to provide formalized education in mine sustainability issues. The program aims to equip students with skills that allow them work as professionals and regulators who deal with mine sustainability issues including sustainability assessment and reporting, stakeholder/community engagement, and similar matters. The program is designed for engineers, geologists, and other scientists who find themselves working on sustainability issues in mining without formal training. These days all major mining companies assess and disclose to their stakeholders their sustainability impacts (i.e. annual sustainability reports) and conduct activities to reduce such impacts. These same activities are done by governments and multinational institutions (e.g., World Bank) with mining interests. Formal education in this area is absent from our curriculum and that of many other universities. By bring together Mining and Environmental Engineering, S&T can provide unique training that is needed.

**Supporting Documents**

- [MS&T PC June 2020 REVISED.pdf](#)
- [Sustainability in Mining - Graduate Certificate.pdf](#)
- [Signed - Sustainability in Mining-cover letter.pdf](#)

**Course Reviewer Comments**

-scraper (09/01/20 3:57 pm): Changed effective date to Spr 2021.
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
PHILOS 3254 - Symbolic Logic in Argumentation

A further six (6) credits can be chosen from:
PHILOS 4320 - Minds and Machines
PHILOS 4325 - Epistemology
PHILOS 4345 - Philosophy of Science
PHILOS 3530 - History of Science

Justification for request
The purpose of this certificate is to allow STEM students to be recognized for pursuing a course of study that focuses on the historical, conceptual, and epistemological foundations of their chosen disciplines.

Currently, liberal arts, humanities, and – in particular – philosophy degrees have become sought after in surprising areas like tech; this certificate allows students to develop these skills in areas that still remain close to their chosen fields, and receive credentials for doing so.

Moreover, students who major in the natural and human sciences tend to do quite well in postgraduate studies in philosophy. This certificate allows students to explore their interests in the philosophical issues raised in their chosen area of study while developing a solid foundation for graduate school.

Supporting Documents
Proposal Logic & the Philosophical Foundation of STEM.pdf
MS&T PC August 2020.pdf
Course Reviewer Comments
**Program Change Request**

**New Program Proposal**

Date Submitted: 09/08/20 3:27 pm

Viewing: **PROPOSED : UCT - PROFESSIONAL ETHICS AND MORAL REASONING**

File: 367

Last edit: 09/08/20 3:27 pm

Changes proposed by: gamezp

Start Term
Spring 2021

Program Code
PROPOSED

Department
Arts, Languages, & Philosophy

Title
UCT - 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 further credits from:
PHILOS 3223 Bioethics
PHILOS 3225 Business Ethics
PHILOS 3235 Engineering Ethics

6 further credits (excluding courses taken to meet above requirements) from:
PHILOS 3223 Bioethics
PHILOS 3225 Business Ethics
PHILOS 3235 Engineering Ethics
PHILOS 4340 From Activism to Zoos: Issues in Social Ethics
PHILOS 4350 Environmental Ethics
PHILOS 4360 Who Should Rule and Why? Debates in Political Philosophy
PHILOS 4368 Law and Ethics in E-Commerce

Justification for request
The purpose of this certificate is to demonstrate to employers and others that the student or recipient has a solid background in both applied ethics and normative theory. Demand for excellence, or at the very least competence, in ethical decision-making is increasing, both in the tech and corporate worlds:

https://qz.com/work/1793582/why-you-should-hire-a-moral-philosopher/

Allowing students from STEM disciplines the chance to take a manageable 12-credit certificate in philosophy that will hone these skills will ultimately make them more attractive candidates, standing apart from those who have focused only on technical and/or management skills; moreover, for students primarily studying in the humanities, it provides an explicit area of emphasis on values, tying their studies to concrete cases in the real world.

Supporting Documents
Proposal Professional Ethics & Moral Reasoning .pdf
MS&T PC August 2020 (1).pdf
Course Reviewer Comments
Course Change Request

New Experimental Course Proposal

Date Submitted: 08/12/20 11:33 am

Viewing: ENGLISH 3001.008 : Pandemic Literature

File: 4735
Last edit: 08/19/20 9:13 am
Changes proposed by: kswenson

Requested Spring 2021
Effective Change
Date

Department
  English and Technical Communication

Discipline
  English (ENGLISH)

Course Number 3001
Topic ID 008

Experimental Title

Experimental Abbreviated Course Title

Instructors
  Marie Lathers

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

Approval Path
1. 08/12/20 11:33 am
   Kristine Swenson (kswenson):
   Approved for RENGLISH Chair
2. 08/19/20 9:14 am
   Marita Tibbetts (tibbettsmg):
   Approved for CCC Secretary
Pandemic Literature
Experimental
Catalog

Description
Fiction that represents pandemics or epidemics. Authors from various eras and cultures, including Boccaccio, Defoe, Poe, Thomas Mann, Katherine Anne Porter, Albert Camus, José Saramago, and Colson Whitehead. Topics concern how literature narrates illness, contagion, and the possibility of rejuvenation.

Prerequisites
ENGL 1120 or PHIL 1105.

Field Trip
Statement

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

Justification for new course:
Dr. Lathers is the Weiner Distinguished Visiting Professor in the Humanities during 2020-21. This is the course she wishes to teach in the spring.

Semester(s)
previously taught
N/A
Co-Listed Courses:

HISTORY 3001 - Special Topics
PHILOS 3001 - Special Topics

Course Reviewer Comments

Key: 4735
Preview Bridge
# Course Change Request

## New Experimental Course Proposal

**Date Submitted:** 07/06/20 11:06 am

**Viewing:** PHYSICS 4001.001: Cosmology and Galaxies

File: 4730  
Last edit: 08/21/20 2:12 pm  
Changes proposed by: vojtat

<table>
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<th>Requested</th>
<th>Spring 2021</th>
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<tbody>
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**Department**  
Physics

**Discipline**  
Physics (PHYSICS)

**Course Number**  
4001

**Topic ID**  
001

**Experimental Title**  
Cosmology and Galaxies

**Experimental Abbreviated Course Title**  
Cosmology and Galaxies

**Instructors**  
Shun Saito

## Approval Path

1. **07/06/20 11:09 am**  
   Thomas Vojta (vojtat): Approved for RPHYSICS Chair

2. **07/21/20 9:00 am**  
   Kristy Giacomelli-Feys (kristyg): Approved for CCC Secretary

3. **08/19/20 11:04 am**
Cosmology and Galaxies

Experimental Catalog

Description
An introduction to modern cosmology. Topics include the big bang model of the Universe, the large-scale structure of the Universe, observational methods to test cosmological models (dark matter and dark energy) using the cosmic microwave background and galaxies.

Prerequisites
Physics 2305 or Physics 2311

Field Trip

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

Justification for new course:
This course will become part of the department's new focus area of astrophysics and will serve as an elective for physics majors. The existing "Astrophysics" course focuses on smaller structures such as stars, binary systems and nebulae while the new course deals with larger scales: the evolution of the universe as a whole and its large-scale structure.

Semester(s) previously taught
Co-Listed Courses:

Course Reviewer Comments

Key: 4730

Preview Bridge
Course Change Request

New Experimental Course Proposal
Date Submitted: 05/04/20 12:25 am
Viewing: COMP SCI 5001.008 : Computer Science BootCamp Part 1

File: 4709
Last edit: 08/03/20 9:27 am
Changes proposed by: zhupe

Requested Fall 2020
Effective Change Date

Department
Computer Science

Discipline
Computer Science (COMP SCI)

Course Number 5001
Topic ID 008

Experimental Title
CS BootCamp 1
Abbreviated Course Title

Instructors
Ricardo Morales

In Workflow
1. RCOMPSCI 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. 05/04/20 8:08 am
   Bruce McMillin (ff): Approved for RCOMPSCI Chair
2. 06/09/20 3:13 pm
   Kristy Giacomelli-Feys (kristyg):
   Approved for CCC Secretary
3. 07/23/20 9:15 am
   Stephen Raper (sraper):
   Approved for
Computer Science BootCamp Part 1
Experimental
Catalog
Description
This non-credit course prepares the non-computer science engineers or natural science educated students, with no computing background, for the pathway to a Master in Computer Science at Missouri S&T. Topics covered include Problem Solving with Computing with Python, Discrete Mathematics, The C++ Programming Language, and Data Structures.
Prerequisites
None
Field Trip
Statement
None
Credit Hours
LEC: 0  LAB: 0  IND: 0  RSD: 0
Total: 0

Justification for new course:
Many of the incoming and prospective graduate students in Computer Science do not have a Computer Science background. This course will prepare them with the necessary background knowledge to make a successful transition to a graduate degree in Computer Science.
Semester(s) previously taught
None

Co-Listed Courses:

Course Reviewer Comments

kristyg (06/09/20 3:13 pm): This was submitted too late for Sumerr 2020 deadline.
New Experimental Course Proposal

Date Submitted: 05/04/20 12:26 am

Viewing: **COMP SCI 5001.009 : Computer Science BootCamp Part 2**

File: 4710
Last edit: 08/03/20 9:28 am
Changes proposed by: zhupe

Requested Fall 2020
Effective Change Date
Department Computer Science
Discipline Computer Science (COMP SCI)
Course Number 5001
Topic ID 009
Experimental Title
Experimental CS BootCamp 2
Abbreviated Course Title
Instructors Ricardo Morales

In Workflow
1. RCOMPSCI 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. 05/04/20 8:09 am
   Bruce McMillin (ff): Approved for RCOMPSCI Chair
2. 06/09/20 3:14 pm
   Kristy Giacomelli-Feys (kristyg): Approved for CCC Secretary
3. 07/23/20 9:15 am
   Stephen Raper (sraper): Approved for
Computer Science BootCamp Part 2
Experimental
Catalog
Description
This non-credit course prepares the non-computer science engineers or natural science educated students, with no computing background, for the pathway to a Master in Computer Science at Missouri S&T. Topics covered include Algorithms, Computer Architecture, Operating Systems and Databases.

Prerequisites

Field Trip
Statement
None

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

Justification for new course:
Many of the incoming and prospective graduate students in Computer Science do not have a Computer Science background. This course will prepare them with the necessary background knowledge to make a successful transition to a graduate degree in Computer Science.
Semester(s)
previously taught
None

Co-Listed
Courses:

Course Reviewer
Comments