



**Minutes of the Campus Curricula Committee Meeting**

**January 25, 2022**

**8:15am, Bertelsmeyer 110H**

**(For Faculty Senate Meeting of February 17, 2022)**

**Attendees:** Steve Raper, Petra Dewitt, Michael Davis, Kyle Perry, Cecil Eng Huang Chua, Michael Gosnell, Evie Sherlock, Marita Raper

The following curriculum forms were discussed and approved:

**Course Change Forms:**

File: 72.1 ARCH ENG 2803 : Architectural Design I  
File: 1722.1 ARCH ENG 4097 : Senior Design Project  
File: 2321.1 ARCH ENG 5850 : Residential Renewable Energy -PV Fundamentals  
File: 4844 BIO SCI 5020 : Data Analysis and Presentation  
File: 266.1 CIV ENG 2401 : Fundamentals Of Surveying  
File: 642.4 CIV ENG 3116 : Construction Materials, Properties And Testing  
File: 641.4 CIV ENG 3715 : Fundamentals of Geotechnical Engineering  
File: 287.1 CIV ENG 4097 : Senior Design Project  
File: 841.3 CIV ENG 4448 : Fundamentals Of Contracts And Construction Engineering & Management  
File: 4653.7 CIV ENG 5451 : Information Technology Applications in the Construction Industry  
File: 110.10 COMP SCI 1200 : Discrete Mathematics for Computer Science  
File: 4038.6 COMP SCI 1972 : Introduction to MATLAB Programming  
File: 2507.10 COMP SCI 2500 : Algorithms  
File: 1996.1 ENV ENG 4097 : Senior Design Project  
File: 1876.1 GEOLOGY 2731 : Introduction to Planetary Science  
File: 4760.3 MATH 1210 : Calculus I-A  
File: 4761.2 MATH 1211 : Calculus I-B  
File: 940.1 MATH 3304 : Elementary Differential Equations  
File: 950.1 MATH 5302 : Intermediate Differential Equations  
File: 967.1 MATH 5325 : Partial Differential Equations  
File: 971.1 MATH 5351 : Introduction To Complex Variables  
File: 974.1 MATH 5483 : Operational Calculus  
File: 4757.3 MATH 5601 : Introduction to Numerical Analysis  
File: 952.1 MATH 5603 : Methods of Applied Mathematics  
File: 4103.1 MATH 5604 : Introduction to Numerical Methods for Differential Equations  
File: 285.4 PET ENG 4097 : Capstone Design  
File: 1260.7 PET ENG 4210 : Drilling and Well Integrity  
File: 1238.1 PET ENG 4410 : Production Engineering



File: 1233.1    PET ENG 4590 : Subsurface Energy Economics  
File: 919.4     PET ENG 4720 : Reservoir Geomechanics  
File: 1429.1    STAT 6841 : Stochastic Processes

**Program Change Forms:**

File: 30.8      A&E BIO-MS : Biological Science MS  
File: 192.45    PSYCH-BA : Psychology BA  
File: 193.46    PSYCH-BS : Psychology BS  
File: 126.2     PSYMETR-MI : Psychometrics Minor

**Experimental Course forms:**

File: 4820      ARCH ENG 5001.003 : Renewable Energy – Storage Systems for Buildings  
File: 4843      STAT 5001.009 : Causal Data Science

**Review of submitted Name Change form:**

7 : Department of Mining & Explosives Engineering

**New Business:**

There will be a CCC Meeting on Tuesday, March 1, 2022.

The meeting adjourned at 8:46 am.

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Stephen A. Raper, Chair  
Missouri S&T Campus Curricula Committee

# Course Change Request

A deleted record cannot be edited

## Course Deactivation Proposal

Date Submitted: 09/17/21 6:51 pm

Viewing: **ARCH ENG 2803 : Architectural Design**

|

File: 72.1

Last edit: 12/13/21 3:00 pm

Changes proposed by: baur

Requested Fall 2022 ~~08/14/2018~~

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Architectural Engineering (ARCH ENG)

Course Number 2803

Title

In Workflow

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

Approval Path

1. 12/13/21 2:54 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:00 pm  
Marita Tibbetts  
(tibbettsmg):

Approved for CCC  
Secretary

3. 01/06/22 9:22 am

Stephen Raper

(sraper):

Approved for  
Engineering DSCC  
Chair

4. 01/10/22 8:55 am

Marita Tibbetts

(tibbettsmg):

Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:26 am

Marita Tibbetts

(tibbettsmg):

Approved for CCC  
Meeting Agenda

6. 01/25/22 11:01

am

Stephen Raper

(sraper):

Approved for  
Campus Curricula  
Committee Chair

## Architectural Design I

Abbreviated Arch Dsgn I

Course Title

### Catalog

### Description

Introduction to the interaction between architecture and the engineering disciplines.  
Theories of building and site design, technology as an integral component of design,

plan and spatial organization, structural clarity, formal composition, and environmental context are considered as principle form determinants.

#### Prerequisites

Sophomore standing.

#### Field Trip

#### Statement

|              |        |        |        |        |
|--------------|--------|--------|--------|--------|
| Credit Hours | LEC: 1 | LAB: 2 | IND: 0 | RSD: 0 |
|--------------|--------|--------|--------|--------|

Total: 3

|              |    |
|--------------|----|
| Required for | No |
|--------------|----|

#### Majors

|              |    |
|--------------|----|
| Elective for | No |
|--------------|----|

#### Majors

Justification for  
change:

Course has an alternate number and was never offered under this number.

#### Semesters

previously

offered as an

experimental

course

#### Co-Listed

Courses:

#### Course Reviewer

#### Comments

**tibbettsmg (12/13/21 3:00 pm):** updated term to FS22. mt

Key: 72

[Preview Bridge](#)

# Course Change Request

Date Submitted: 11/30/21 8:21 am

Viewing: **ARCH ENG 4097 : Senior Design**

## Project

File: 1722.1

Last edit: 11/30/21 8:21 am

Changes proposed by: seelyj

Programs  
referencing this  
course

[ARC ENG-BS: Architectural Engineering BS](#)

Other Courses  
referencing this  
course

In The Catalog Description:

[CIV ENG 4097 : Senior Design Project](#)

[ENV ENG 4097 : Senior Design Project](#)

|                  |   |
|------------------|---|
| Requested        | <u>Fall 2022</u> 08/14/2018                         |
| Effective Change |   |
| Date             |   |
| Department       | Civil, Architectural, and Environmental Engineering |
| Discipline       | Architectural Engineering (ARCH ENG)                |
| Course Number    | 4097  |
| Title            |   |

### In Workflow

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

### Approval Path

1. 12/13/21 2:54 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:02 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

- Secretary
3. 01/06/22 9:23 am  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
4. 01/10/22 8:56 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
5. 01/25/22 9:27 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
6. 01/25/22 11:01  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

## Senior Design Project

Abbreviated Course Title      Senior Design Project

### Catalog

#### Description

Open-ended building design project involving one or more areas of engineering. Planning design projects, philosophy of design, and the application of engineering principles to design problems.

## Prerequisites

Arch Eng 4448 or Civ Eng 4448.

## Field Trip

## Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

Yes ~~No~~

Majors

Elective for

No

Majors

## Justification for

change:

Un colisting to allow different faculty members to receive credit for individual sections of the course.

## Semesters

previously

offered as an

experimental

course

## Co-Listed

Courses:

~~CIV-ENG 4097 - Senior Design Project~~~~ENV-ENG 4097 - Senior Design Project~~

## Course Reviewer

## Comments

Key: 1722

[Preview Bridge](#)



# Course Change Request

Date Submitted: 10/20/21 9:39 am

Viewing: **ARCH ENG 5850 : Residential**

**Renewable Energy -PV Fundamentals**

**Systems**

File: 2321.1

Last edit: 12/14/21 2:22 pm

Changes proposed by: baur

Programs  
referencing this  
course

[ARC ENG-BS: Architectural Engineering BS](#)

Requested [Fall 2022 08/14/2018](#)

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Architectural Engineering (ARCH ENG)

Course Number 5850

Title

In Workflow

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

Approval Path

1. 10/20/21 8:34 am  
kristyg: Rollback  
to Initiator
2. 12/13/21 2:54 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
3. 12/14/21 2:22 pm

- Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Secretary
4. 01/06/22 9:23 am  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
5. 01/10/22 8:58 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
6. 01/25/22 9:27 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
7. 01/25/22 11:03  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

~~Residential~~ Renewable Energy -PV Fundamentals ~~Systems~~

Abbreviated Ren Energy-PV Fund  
Course Title ~~Residential Renew Energy~~  
~~Systs~~

Catalog

## Description

Applying the fundamentals ~~Applications~~ of photovoltaic ~~renewable energy systems for residential use~~ will be covered, including identifying key components ~~system selection~~ and functions, comparing various types incentives, selecting and sizing various photovoltaic systems and performing a cost benefits analysis. ~~sizing. Economic and life cycle analysis will be used to evaluate solar, geothermal and wind power systems.~~

## Prerequisites

Mech Eng 2527. ~~Senior standing and consent of instructor, or Mech Eng 2527 or Civ Eng 3842.~~

## Field Trip

## Statement

Credit Hours      LEC: 3 ~~2~~      LAB: 0 ~~1~~      IND: 0      RSD: 0

Total: 3

Required for      No

Majors

Elective for      Yes ~~No~~

Majors

Justification for  
change:

This course has now been expanded into two courses with additional materials being added. It will also serve as one of two courses required as a certified North America Board of Certified Energy Practitioners.

Semesters

previously

offered as an

experimental

course

SS2021

Co-Listed

Courses:

## Course Reviewer

### Comments

**kristyg (10/20/21 8:34 am):** Rollback: Per request of Dr. Baur

**tibbettsmg (12/14/21 2:22 pm):** updated term to FS 22 and changed "thermal analysis" to "Mech Eng 2527" mt

Key: 2321

[Preview Bridge](#)

# Course Change Request

## New Course Proposal

Date Submitted: 12/07/21 7:37 pm

Viewing: **BIO SCI 5020 : Data Analysis and Presentation**

File: 4844

Last edit: 01/05/22 1:34 pm

Changes proposed by: shannonk

Programs  
referencing this  
course

[A&E BIO-MS: Applied and Environ Biology MS](#)

|                       |                               |
|-----------------------|-------------------------------|
| Requested             | Fall 2022                     |
| Effective Change Date |                               |
| Department            | Biological Sciences           |
| Discipline            | Biological Sciences (BIO SCI) |
| Course Number         | 5020                          |
| Title                 |                               |

### In Workflow

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

### Approval Path

1. 12/08/21 7:44 am  
David Duvernell (duvernell):  
Approved for  
RBIOLSCI Chair
2. 12/14/21 1:47 pm  
Marita Tibbetts (tibbettsmg):  
Approved for CCC

Secretary

3. 01/05/22 1:34 pm

Katie Shannon

(shannonk):

Approved for  
Sciences DSCC  
Chair

4. 01/10/22 8:59 am

Marita Tibbetts

(tibbettsmg):

Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:27 am

Marita Tibbetts

(tibbettsmg):

Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02

am

Stephen Raper

(sraper):

Approved for  
Campus Curricula  
Committee Chair

## Data Analysis and Presentation

Abbreviated Course Title      Data Analysis and Pres

### Catalog

#### Description

This class will evaluate effective oral communication methodologies by introducing students to ways to communicate visual and auditory information. Student will lead an audience through a series of scientific findings. Moreover, students will use

primary literature to evaluate conclusions. The class will assist in developing professional networks.

Prerequisites

Field Trip  
Statement

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

Total: 1

Required for      Yes

Majors

Elective for      No

Majors

Justification for

new course:

Graduate students need practice with preparing and giving a talk or poster presentation, as well as evaluating the data presented by others

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

**tibbetmsg (12/14/21 1:45 pm):** Bypassing the EC process as this is a new requirement for MS Biological Sciences. mt

**shannonk (01/05/22 1:34 pm):** Edits to course description made after DSCC discussion

Key: 4844

[Preview Bridge](#)



# Course Change Request

Date Submitted: 11/30/21 8:30 am

Viewing: **CIV ENG 2401 : Fundamentals Of Surveying**

File: 266.1

Last edit: 12/20/21 1:21 pm

Changes proposed by: seelyj

Programs  
referencing this  
course

[ARC ENG-BS: Architectural Engineering BS](#)

[CV ENG-BS: Civil Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:

[CIV ENG 3500 : Transportation Engineering](#)

[CIV ENG 5404 : Legal Aspects Of Boundary Surveying](#)

[CIV ENG 5406 : Surveying Systems](#)

[CIV ENG 5702 : Geomatics](#)

Requested Fall 2022 ~~08/14/2018~~

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Civil Engineering (CIV ENG)

Course Number 2401

In Workflow

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

Approval Path

1. 12/13/21 2:54 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:11 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

## Title

Secretary

3. 01/06/22 9:23 am

Stephen Raper  
(sraper):Approved for  
Engineering DSCC  
Chair

4. 01/10/22 9:05 am

Marita Tibbetts  
(tibbettsmg):Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:27 am

Marita Tibbetts  
(tibbettsmg):Approved for CCC  
Meeting Agenda6. 01/25/22 11:02  
amStephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

## Fundamentals Of Surveying

Abbreviated Fundamentals Surveying

Course Title

## Catalog

## Description

Surveying fundamentals: leveling, directions, angles, distances, errors, traverse calculations and basic adjustments. Fundamentals of horizontal curves. Lab exercises include leveling, traversing, horizontal circular curve layout and building layout.

## Prerequisites

Math 1211 ~~Preceded~~ or preceded or accompanied by Math ~~Math~~ 1214 or 1208. ~~(or 1208).~~

## Field Trip

## Statement

Credit Hours

LEC: 2

LAB: 1

IND: 0

RSD: 0

Total: 3

Required for

Yes ~~No~~

Majors

Elective for

No

Majors

Justification for  
change:

including new math course in prerequisite.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

**sraper (12/20/21 1:21 pm):** updated effective date.

Key: 266

[Preview Bridge](#)

# Course Change Request

Date Submitted: 11/30/21 8:23 am

Viewing: **CIV ENG 3116 : Construction Materials, Properties And Testing**

File: 642.4

Last approved: 05/06/19 3:34 am

Last edit: 11/30/21 8:23 am

Changes proposed by: seelyj

Programs  
referencing this  
course

[ARC ENG-BS: Architectural Engineering BS](#)

[CV ENG-BS: Civil Engineering BS](#)

[GE ENG-BS: Geological Engineering BS](#)

[MI ENG-BS: Mining Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:

[CIV ENG 5112 : Bituminous Materials](#)

[CIV ENG 5113 : Composition And Properties Of Concrete](#)

[CIV ENG 5117 : Asphalt Pavement Design](#)

[CIV ENG 5156 : Pavement Design](#)

[MIN ENG 4922 : Tunneling & Underground Construction Techniques](#)

[MIN ENG 5212 : Aggregates and Quarrying](#)

In Workflow

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

Approval Path

1. 12/13/21 2:54 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:07 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

Requested

Fall 2022 ~~2019~~

## Effective Change

Date

Department

Civil, Architectural, and Environmental Engineering

Discipline

Civil Engineering (CIV ENG)

Course Number

3116

Title

Secretary

3. 01/06/22 9:23 am

Stephen Raper  
(sraper):Approved for  
Engineering DSCC  
Chair

4. 01/10/22 9:06 am

Marita Tibbetts  
(tibbettsmg):Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:27 am

Marita Tibbetts  
(tibbettsmg):Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02

am

Stephen Raper  
(sraper):Approved for  
Campus Curricula  
Committee Chair

## History

1. May 6, 2019 by  
feysd (642.1)

## Construction Materials, Properties And Testing

Abbreviated

Const Mtl Prop &amp; Testing

Course Title

Catalog

**Description**

A study of the origin, production, uses and general properties of construction materials accompanied by selected laboratory tests and demonstrations.

**Prerequisites**

[Math 1215](#), [Physics 1135](#), Civ Eng 2211 or Min Eng 3812; Civ Eng 2210 or both Geo Eng 1150 and Min Eng 3412.

**Field Trip****Statement**

|              |        |        |        |        |
|--------------|--------|--------|--------|--------|
| Credit Hours | LEC: 2 | LAB: 1 | IND: 0 | RSD: 0 |
|--------------|--------|--------|--------|--------|

Total: 3

|              |     |
|--------------|-----|
| Required for | Yes |
|--------------|-----|

Majors

|              |    |
|--------------|----|
| Elective for | No |
|--------------|----|

Majors

Justification for  
change:

Adding new prerequisites to prevent students that are not in the department yet from enrolling in upper level classes of the degree.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

Key: 642

[Preview Bridge](#)

# Course Change Request

Date Submitted: 11/30/21 8:24 am

Viewing: **CIV ENG 3715 : Fundamentals of Geotechnical Engineering**

File: 641.4

Last approved: 02/04/19 5:02 am

Last edit: 11/30/21 8:24 am

Changes proposed by: seelyj

Programs  
referencing this  
course

[ARC ENG-BS: Architectural Engineering BS](#)

[CV ENG-BS: Civil Engineering BS](#)

[GE ENG-BS: Geological Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:

[CIV ENG 4729 : Foundation Engineering](#)

[CIV ENG 5715 : Intermediate Soil Mechanics](#)

[CIV ENG 5716 : Geotechnical Earthquake Engineering](#)

[CIV ENG 5744 : Geosynthetics in Engineering](#)

[CIV ENG 6712 : Computer Modeling in Geotechnical Engineering](#)

[CIV ENG 6714 : Measurement Of Soil Properties](#)

[CIV ENG 6760 : Inca Civilization Geotechnical Engineering Practices](#)

[GEO ENG 5235 : Environmental Geological Engineering](#)

In Workflow

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

Approval Path

1. 12/13/21 2:55 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:10 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

[GEO ENG 6407 : Inca Civilization Geotechnical Engineering](#)

[Practices](#)

[GEO ENG 6782 : Surface Waves \(MASW\) and Ground Penetrating Radar \(GPR\)](#)

[MIN ENG 4922 : Tunneling & Underground Construction Techniques](#)

[MIN ENG 6842 : Advanced Rock Mechanics](#)

[MIN ENG 6843 : Dynamic Rock Mechanics](#)

|                       |   |
|-----------------------|---|
| Requested             | Fall <del>2019</del> <u>2022</u>                    |
| Effective Change Date |   |
| Department            | Civil, Architectural, and Environmental Engineering |
| Discipline            | Civil Engineering (CIV ENG)                         |
| Course Number         | 3715  |
| Title                 |   |

- Secretary
- 01/06/22 9:24 am  
Stephen Raper (sraper):  
Approved for Engineering DSCC Chair
  - 01/10/22 9:10 am  
Marita Tibbetts (tibbettsmg):  
Approved for Pending CCC Agenda post
  - 01/25/22 9:27 am  
Marita Tibbetts (tibbettsmg):  
Approved for CCC Meeting Agenda
  - 01/25/22 11:01 am  
Stephen Raper (sraper):  
Approved for Campus Curricula Committee Chair

### History

- Feb 4, 2019 by baur (641.1)

Fundamentals of Geotechnical Engineering

|              |                          |
|--------------|--------------------------|
| Abbreviated  | Geotechnical Engineering |
| Course Title |                          |

Catalog



**Description**

Analysis of geotechnical systems including soil classification, index properties, permeability, compressibility and shear strength. Basic geotechnical engineering design principles as they apply to civil constructed facilities, such as analysis of foundations and earth structures. Laboratory determination of the basic properties of soils.

**Prerequisites**

[Math 1215](#), [Physics 1135](#), Geo Eng 1150 or Geology 1110; Civ Eng 2210; and preceded or accompanied by Civ Eng 3330.

**Field Trip****Statement**

|              |        |        |        |        |
|--------------|--------|--------|--------|--------|
| Credit Hours | LEC: 2 | LAB: 1 | IND: 0 | RSD: 0 |
|--------------|--------|--------|--------|--------|

Total: 3

|              |     |
|--------------|-----|
| Required for | Yes |
|--------------|-----|

Majors

|              |    |
|--------------|----|
| Elective for | No |
|--------------|----|

Majors

Justification for  
change:

Adding new prerequisites to prevent students that are not in the department yet from enrolling in upper level classes of the degree.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

## Comments

Key: 641

[Preview Bridge](#)

# Course Change Request

Date Submitted: 11/30/21 8:25 am

Viewing: **CIV ENG 4097 : Senior Design Project**

File: 287.1

Last edit: 01/25/22 9:28 am

Changes proposed by: seelyj

Programs  
referencing this  
course

[CV ENG-BS: Civil Engineering BS](#)

Other Courses  
referencing this  
course

In The Catalog Description:

[ARCH ENG 4097 : Senior Design Project](#)

[ENV ENG 4097 : Senior Design Project](#)

|                  |   |
|------------------|---|
| Requested        | <u>Fall 2022</u> <del>08/14/2018</del>              |
| Effective Change |   |
| Date             |   |
| Department       | Civil, Architectural, and Environmental Engineering |
| Discipline       | Civil Engineering (CIV ENG)                         |
| Course Number    | 4097  |
| Title            |   |

In Workflow

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

Approval Path

1. 12/13/21 2:55 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:14 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

- Secretary
3. 01/06/22 9:24 am  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
4. 01/10/22 9:21 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
5. 01/25/22 9:29 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
6. 01/25/22 11:01  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

## Senior Design Project

Abbreviated Course Title      Senior Design Project

### Catalog

#### Description

Open-ended design projects involving one or more areas of engineering. Planning design projects, philosophy of design, and application of engineering principles to design problems.

## Prerequisites

Civ Eng 4448 or Arch Eng 4448; Senior standing. 4448.

## Field Trip

## Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

Yes ~~No~~

Majors

Elective for

No

Majors

## Justification for

change:

Removing co-listing to allow for different faculty members to receive credit for teaching individual sections and adding new prerequisites.

## Semesters

previously

offered as an

experimental

course

## Co-Listed

Courses:

~~ARCH ENG 4097 - Senior Design Project~~

~~ENV ENG 4097 - Senior Design Project~~

## Course Reviewer

## Comments

**tibbettsmg (12/13/21 3:14 pm):** Is "final semester of a degree granting department" necessary?

Key: 287

[Preview Bridge](#)

# Course Change Request

Date Submitted: 11/30/21 8:25 am

Viewing: **CIV ENG 4448 : Fundamentals Of  
Contracts And Construction Engineering &  
Management**

File: 841.3

Last approved: 06/17/19 3:37 am

Last edit: 12/13/21 3:17 pm

Changes proposed by: seelyj

## Programs

referencing this  
course

[CV ENG-BS: Civil Engineering BS](#)

[CON E&M-MI: Construction Engineering and Management](#)

[Minor](#)

[EV ENG-BS: Environmental Engineering BS](#)

## Other Courses

referencing this  
course

In The Catalog Description:

[ARCH ENG 4448 : Fundamentals Of Contracts And Construction  
Engineering](#)

In The Prerequisites:

[ARCH ENG 4097 : Senior Design Project](#)

[ARCH ENG 5448 : Green Engineering: Analysis of Constructed  
Facilities](#)

[CIV ENG 4097 : Senior Design Project](#)

## In Workflow

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

## Approval Path

1. 12/13/21 2:55 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:17 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

- [CIV ENG 5445 : Construction Methods](#)
- [CIV ENG 5446 : Management Of Construction Costs](#)
- [CIV ENG 5448 : Green Engineering: Analysis of Constructed Facilities](#)
- [CIV ENG 5449 : Engineering and Construction Contract Specifications](#)
- [CIV ENG 5452 : Pre-Project Planning and Feasibility Studies](#)
- [CIV ENG 5453 : Logistics for Construction Industry](#)
- [CIV ENG 5454 : Construction Technology for High-Rise Buildings](#)
- [CIV ENG 5455 : Construction Industry Best Practices](#)
- [ENV ENG 4097 : Senior Design Project](#)

Requested                      Fall ~~2019~~ 2022

Effective Change  
Date

Department                  Civil, Architectural, and Environmental Engineering

Discipline                    Civil Engineering (CIV ENG)

Course Number              4448

Title

- Secretary
3. 01/06/22 9:24 am  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
  4. 01/10/22 9:22 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
  5. 01/25/22 9:29 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
  6. 01/25/22 11:01  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

**History**

1. Jun 17, 2019 by  
seelyj (841.1)

Fundamentals Of ~~Contracts And~~ Construction Engineering & Management

Abbreviated                  Construction Fund. ~~Fund~~

Course Title                  ~~Contract & Const En~~

Catalog

## Description

A study of the concepts and techniques used in large construction projects for the preparation of engineer service contracts, ~~the development of a project manual,~~ detailed and conceptual cost estimating, and construction scheduling analysis.

## Prerequisites

Junior Standing, Math 1215, and Physics 1135. ~~Junior Standing.~~

## Field Trip

## Statement

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

Total: 3

|              |     |
|--------------|-----|
| Required for | Yes |
|--------------|-----|

Majors

|              |    |
|--------------|----|
| Elective for | No |
|--------------|----|

Majors

Justification for  
change:

Changing wording to update course, while adding new prerequisites to prevent students that are not in the department yet from enrolling in upper level classes of the degree.

Semesters  
previously  
offered as an  
experimental  
course

## Co-Listed

## Courses:

ARCH ENG 4448 - Fundamentals Of Contracts And Construction Engineering

## Course Reviewer

## Comments



Key: 841

[Preview Bridge](#)

# Course Change Request

Date Submitted: 11/30/21 8:33 am

Viewing: **CIV ENG 5451 : Information**

## **Technology Applications in the Construction Industry**

File: 4653.7

Last approved: 11/25/19 6:01 am

Last edit: 11/30/21 8:33 am

Changes proposed by: seelyj

Programs  
referencing this  
course

[CV ENG-BS: Civil Engineering BS](#)

[CON E&M-MI: Construction Engineering and Management](#)

[Minor](#)

Requested Fall 2022 ~~Spring 2020~~

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Civil Engineering (CIV ENG)

Course Number 5451

Title

In Workflow

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

Approval Path

1. 12/13/21 2:56 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:16 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

- Secretary
- 3. 01/06/22 9:24 am  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
- 4. 01/10/22 9:23 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
- 5. 01/25/22 9:29 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
- 6. 01/25/22 11:01  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

**History**

- 1. Nov 25, 2019 by  
Jody Seely (seelyj)

**Information Technology Applications in the Construction Industry**

Abbreviated Course Title      IT App in Const Industry

Catalog

**Description**

Study of IT in construction industry including building information modeling and mobile sensing. Topics will include: collaborative design, clash detection, level of development, BIM contracts, automated code checking, and finally, information systems specific functions such as estimating, scheduling and cost control, lean, and integrated project delivery.

**Prerequisites**

Civ Eng [2451 or Civ Eng 4448](#). ~~2451~~.

**Field Trip****Statement**

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

Yes

Majors

**Justification for**

change:

Adding a prerequisite to help facilitate course enrollment.

**Semesters**

previously

offered as an

experimental

course

0

**Co-Listed**

Courses:

Course Reviewer

Comments

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/02/21 1:53 pm

Viewing: **COMP SCI 1200 : Discrete**

## Mathematics for Computer Science

File: 110.10

Last approved: 06/22/19 3:37 am

Last edit: 12/13/21 2:45 pm

Changes proposed by: zhupe

Programs  
referencing this  
course

[AP MATH-BS: Applied Mathematics BS](#)

[CP ENG-BS: Computer Engineering BS](#)

[CMP SC-BS: Computer Science BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:

[COMP SCI 2200 : Theory of Computer Science](#)

[COMP SCI 2500 : Algorithms](#)

[COMP SCI 2889 : Introduction To Computer Organization And  
Assembly](#)

[COMP SCI 5300 : Database Systems](#)

[MATH 5107 : Combinatorics And Graph Theory](#)

[PHILOS 3254 : Symbolic Logic in Argumentation](#)

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

Approval Path

1. 12/02/21 2:09 pm  
Samuel Frimpong  
(frimpong):  
Approved for  
RCOMPSCI Chair
2. 12/13/21 2:45 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

Requested **Fall 2022** ~~Spring 2020~~  
Effective Change

Date

Department      Computer Science

Discipline        Computer Science (COMP SCI)

Course Number    1200

Title

### Secretary

3. 01/06/22 9:24 am  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
4. 01/10/22 9:24 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
5. 01/25/22 9:29 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
6. 01/25/22 11:01  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

### History

1. Apr 28, 2014 by  
lahne (110.1)
2. Feb 5, 2018 by  
tauritzd (110.2)
3. Jun 22, 2019 by  
tauritzd (110.6)

Abbreviated                      Discrete Math For Cmp Sc  
Course Title

### Catalog

#### Description

This course provides a rigorous treatment of topics from discrete mathematics which are essential to computer science. Principal topics include: formal logic (propositional & predicate), set theory, proof techniques, mathematical induction, program correctness, combinatorics, discrete probability, relations, functions, matrices, and graph theory.

#### Prerequisites

A grade of "C" or better in either Comp Sci 1500 or Comp Sci 1570 and in one of Math 1120, Math 1140, Math 1208, ~~or~~ Math [1210, Math 1211, or Math 1214](#).

#### 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:

Updates to calculus prerequisite, as requested by campus.

Semesters  
previously  
offered as an  
experimental  
course

#### Co-Listed



Courses:

Course Reviewer

Comments

**tibbettsmg (12/13/21 2:45 pm):** updated prereq formatting. mt

Key: 110

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/02/21 1:54 pm

Viewing: **COMP SCI 1972 : Introduction to MATLAB Programming**

File: 4038.6

Last approved: 05/02/14 3:46 am

Last edit: 12/13/21 2:47 pm

Changes proposed by: zhupe

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

## Approval Path

1. 12/02/21 2:10 pm  
Samuel Frimpong (frimpong):  
Approved for RCOMPSCI Chair
2. 12/13/21 2:48 pm  
Marita Tibbetts (tibbettsmg):  
Approved for CCC

### Programs

referencing this course

[NU ENG-BS: Nuclear Engineering BS](#)

[PHYSIC-BS: Physics BS](#)

[AE ENG-BS: Aerospace Engineering BS](#)

[CH ENG-BS: Chemical Engineering BS](#)

[CHEM-BS: Chemistry BS](#)

[ENG MG-BS: Engineering Management BS](#)

[MC ENG-BS: Mechanical Engineering BS](#)

### Other Courses

referencing this course

In The Catalog Description:

[COMP SCI 1982 : MATLAB Programming Laboratory](#)

In The Prerequisites:

[AERO ENG 5449 : Robotic Manipulators and Mechanisms](#)

[CHEM ENG 3111 : Numerical Computing in Chemical and Biochemical Engineering](#)

[COMP SCI 1982 : MATLAB Programming Laboratory](#)

[MECH ENG 3313 : Machine Dynamics](#)

[MECH ENG 3411 : Modeling and Analysis of Dynamic Systems](#)

[MECH ENG 3525 : Heat Transfer](#)

[MECH ENG 5139 : Computational Fluid Dynamics](#)

[MECH ENG 5449 : Robotic Manipulators and Mechanisms](#)

[MECH ENG 5763 : Computer Aided Design: Theory and Practice](#)

[MECH ENG 5830 : Applied Computational Methods](#)

Requested [Fall 2022](#) ~~08/01/2014~~  
 Effective Change  
 Date  
 Department Computer Science  
 Discipline Computer Science (COMP SCI)  
 Course Number 1972  
 Title

Secretary  
 3. 01/06/22 9:24 am  
 Stephen Raper  
 (sraper):  
 Approved for  
 Engineering DSCC  
 Chair  
 4. 01/10/22 10:33  
 am  
 Marita Tibbetts  
 (tibbettsmg):  
 Approved for  
 Pending CCC  
 Agenda post  
 5. 01/25/22 9:29 am  
 Marita Tibbetts  
 (tibbettsmg):  
 Approved for CCC  
 Meeting Agenda  
 6. 01/25/22 11:01  
 am  
 Stephen Raper  
 (sraper):  
 Approved for  
 Campus Curricula  
 Committee Chair

### History

1. May 2, 2014 by  
 Daniel Tauritz  
 (tauritzd)

Introduction to MATLAB Programming

Abbreviated MATLAB Programming

## Course Title

## Catalog

## Description

Programming design and development using MATLAB for non-CS majors. Strong emphasis placed on algorithmic problem solving methods using good programming practices. Introduction to built-in functions including plotting, as well as logical/relational/arithmetic operators, decision branching, loops, functions, file I/O, datastructures, and output formatting.

## Prerequisites

Accompanied by Comp Sci 1982 and a grade of "C" or better ~~grade~~ in one of either Math 1208, ~~1208 or~~ Math 1211, or Math 1214.

## Field Trip

## Statement

Credit Hours

LEC: 2

LAB: 0

IND: 0

RSD: 0

Total: 2

Required for

No

Majors

Elective for

No

Majors

## Justification for

change:

Updates to calculus prerequisite, as requested by campus.

## Semesters

previously

offered as an

experimental

course

## Co-Listed

Courses:

Course Reviewer

Comments

Key: 4038

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/02/21 1:55 pm

Viewing: **COMP SCI 2500 : Algorithms**

File: 2507.10

Last approved: 06/20/18 3:39 am

Last edit: 01/25/22 9:30 am

Changes proposed by: zhupe

## Programs

referencing this  
course

[AP MATH-BS: Applied Mathematics BS](#)

[CP ENG-BS: Computer Engineering BS](#)

[CMP SC-BS: Computer Science BS](#)

## Other Courses

referencing this  
course

In The Prerequisites:

[COMP ENG 5803 : Mathematical Logic I](#)

[COMP SCI 3100 : Software Engineering I](#)

[COMP SCI 4090 : Software Engineering Capstone I](#)

[COMP SCI 5101 : Software Testing And Quality Assurance](#)

[COMP SCI 5102 : Object-Oriented Analysis And Design](#)

[COMP SCI 5200 : Analysis Of Algorithms](#)

[COMP SCI 5203 : Mathematical Logic I](#)

[COMP SCI 5400 : Introduction To Artificial Intelligence](#)

[COMP SCI 5401 : Evolutionary Computing](#)

[COMP SCI 5402 : Introduction to Data Mining](#)

[COMP SCI 5404 : Introduction to Computer Vision](#)

[COMP SCI 5405 : Java Gui & Visualization](#)

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

## Approval Path

1. 12/02/21 2:10 pm  
Samuel Frimpong (frimpong):  
Approved for RCOMPSCI Chair
2. 12/13/21 2:43 pm  
Marita Tibbetts (tibbettsmg):  
Approved for CCC

[COMP SCI 5406 : Interactive Computer Graphics](#)  
[COMP SCI 5407 : Introduction to Virtual Reality](#)  
[COMP SCI 5408 : Game Theory for Computing](#)  
[COMP SCI 5409 : Applied Social Network Analysis](#)  
[COMP SCI 5500 : The Structure of a Compiler](#)  
[COMP SCI 5602 : Introduction to Cryptography](#)  
[COMP SCI 5800 : Distributed Computing](#)  
[COMP SCI 5802 : Introduction to Parallel Programming and Algorithms](#)  
[COMP SCI 5803 : Introduction to High Performance Computer Architecture](#)  
[MATH 5154 : Mathematical Logic I](#)  
[PHILOS 4354 : Mathematical Logic I](#)

Requested [Fall 2022](#) ~~08/14/2018~~  
 Effective Change  
 Date  
 Department Computer Science  
 Discipline Computer Science (COMP SCI)  
 Course Number 2500  
 Title

Secretary  
 3. 01/06/22 9:24 am  
 Stephen Raper  
 (sraper):  
 Approved for  
 Engineering DSCC  
 Chair  
 4. 01/10/22 10:34  
 am  
 Marita Tibbetts  
 (tibbettsmg):  
 Approved for  
 Pending CCC  
 Agenda post  
 5. 01/25/22 9:30 am  
 Marita Tibbetts  
 (tibbettsmg):  
 Approved for CCC  
 Meeting Agenda  
 6. 01/25/22 11:01  
 am  
 Stephen Raper  
 (sraper):  
 Approved for  
 Campus Curricula  
 Committee Chair

### History

1. Apr 25, 2014 by lahne (2507.1)
2. Jun 20, 2018 by tauritzd (2507.6)

Algorithms

## Abbreviated Algorithms

## Course Title

## Catalog

## Description

Students will solve recurrence relations, analyze algorithms for correctness and time/space complexity, apply these analysis techniques to fundamental dynamic programming, greedy, shortest-path, minimal spanning trees, and maximum flow algorithms and validate these analyses through programming.

## Prerequisites

A grade of "C" ~~"C"~~ or better in both Comp Sci 1200 and Comp Sci 1575; preceded or accompanied by ~~by~~ a grade of "C" ~~or~~ ~~"C"~~ or better in either Math 1208, ~~1208~~ or Math 1211, ~~1214~~; or ~~accompanied by either~~ Math ~~1208~~ or Math 1214.

## Field Trip

## Statement

## Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

## Required for

Yes

## Majors

## Elective for

No

## Majors

## Justification for

## change:

Updates to calculus prerequisite, as requested by campus.

## Semesters

previously

offered as an

experimental

course

## Co-Listed



Courses:

Course Reviewer

Comments

**tibbettsmg (12/13/21 2:43 pm):** updated prereq formatting. mt

Key: 2507

[Preview Bridge](#)

# Course Change Request

Date Submitted: 11/30/21 8:26 am

Viewing: **ENV ENG 4097 : Senior Design Project**

File: 1996.1

Last edit: 11/30/21 8:26 am

Changes proposed by: seelyj

Programs  
referencing this  
course

[EV ENG-BS: Environmental Engineering BS](#)

Other Courses  
referencing this  
course

In The Catalog Description:

[ARCH ENG 4097 : Senior Design Project](#)

[CIV ENG 4097 : Senior Design Project](#)

Requested [Fall 2022](#) ~~08/14/2018~~

Effective Change

Date

Department Civil, Architectural, and Environmental Engineering

Discipline Environmental Engineering (ENV ENG)

Course Number 4097

Title

In Workflow

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

Approval Path

1. 12/13/21 2:56 pm  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
2. 12/13/21 3:16 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

Secretary

3. 01/06/22 9:24 am

Stephen Raper  
(sraper):

Approved for  
Engineering DSCC  
Chair

4. 01/10/22 10:35  
am

Marita Tibbetts  
(tibbettsmg):

Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:31 am

Marita Tibbetts  
(tibbettsmg):

Approved for CCC  
Meeting Agenda

6. 01/25/22 11:01  
am

Stephen Raper  
(sraper):

Approved for  
Campus Curricula  
Committee Chair

## Senior Design Project

Abbreviated Course Title      Senior Design Project

### Catalog

#### Description

Open-ended design projects involving one or more areas of engineering. Planning design projects, philosophy of design, and application of engineering principles to

design problems.

#### Prerequisites

Civ Eng 4448 or Arch Eng 4448.

#### Field Trip

#### Statement

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

Total: 3

|                        |                          |
|------------------------|--------------------------|
| Required for<br>Majors | <u>Yes</u> <del>No</del> |
|------------------------|--------------------------|

|                        |    |
|------------------------|----|
| Elective for<br>Majors | No |
|------------------------|----|

#### Justification for change:

Un colisting the course to allow different faculty members to receive credit for the different sections of the course.

#### Semesters

previously  
offered as an  
experimental  
course

#### Co-Listed

#### Courses:

~~ARCH ENG 4097 - Senior Design Project~~

~~CIV ENG 4097 - Senior Design Project~~

#### Course Reviewer

#### Comments

Key: 1996

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 10:28 am

Viewing: **GEOLOGY 2731 ~~4731~~ : Introduction to Astronomy and Planetary Science**

File: 1876.1

Last edit: 01/25/22 9:31 am

Changes proposed by: locmelism

|                  |  |
|------------------|--|
| Requested        | <u>Fall 2022</u> <del>08/01/2014</del>               |
| Effective Change |  |
| Date             |  |
| Department       | Geosciences and Geological and Petroleum Engineering |
| Discipline       | Geology (GEOLOGY)                                    |
| Course Number    | <u>2731</u> <del>4731</del>                          |
| Title            |  |

## In Workflow

1. **RGEOENG 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. 12/17/21 12:14 pm  
Jeff Cawlfeld (jdc): Approved for RGEOENG Chair
2. 12/17/21 1:38 pm  
Marita Tibbetts (tibbettsmg):

- Approved for CCC  
Secretary
3. 01/07/22 4:54 pm  
Katie Shannon  
(shannonk):  
Approved for  
Sciences DSCC  
Chair
4. 01/10/22 10:37  
am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
5. 01/25/22 9:31 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
6. 01/25/22 11:02  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

Introduction to ~~Astronomy and~~ Planetary Science

Abbreviated Intro ~~Astronomy and~~ Planet  
Course Title Sci

Catalog

Description

Basic principles of astronomy, the origin and evolution of the universe, stellar

evolution, and the origin, composition, and processes operating on the planetary bodies in the solar system. ~~system (besides the Earth)~~.

#### Prerequisites

~~Entrance requirements for the MST program in Earth Science.~~

#### Field Trip

#### Statement

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

Total: 3

|              |    |
|--------------|----|
| Required for | No |
|--------------|----|

#### Majors

|              |                          |
|--------------|--------------------------|
| Elective for | <u>Yes</u> <del>No</del> |
|--------------|--------------------------|

#### Majors

#### Justification for

change:

The change is part of GGPE's curriculum redevelopment efforts to better reflect current educational needs through improved offerings of intro-level geology classes. Lowering to 2000 level will allow more students to take it as a science elective and learn about geology careers paths currently not covered by GGPE entry level classes. The title is changed to better reflect the geologic nature of the class.

#### Semesters

previously

offered as an

experimental

course

#### Co-Listed

Courses:

#### Course Reviewer

#### Comments

**tibbettsmg (12/17/21 1:37 pm):** updated term to FS22. mt

Key: 1876

[Preview Bridge](#)



# Course Change Request

Date Submitted: 12/16/21 4:35 pm

Viewing: **MATH 1210 : Calculus I-A**

File: 4760.3

Last approved: 03/01/21 6:01 am

Last edit: 12/16/21 5:26 pm

Changes proposed by: prunnon

Programs  
referencing this  
course

[AP MATH-BS: Applied Mathematics BS](#)

[CH ENG-BS: Chemical Engineering BS](#)

[CHEM-BA: Chemistry BA](#)

[CP ENG-BS: Computer Engineering BS](#)

[CHEM-BS: Chemistry BS](#)

[EDUC-BS: Education BS](#)

Other Courses  
referencing this  
course

In The Catalog Description:

[MATH 1211 : Calculus I-B](#)

|                  |                                  |
|------------------|----------------------------------|
| Requested        | Fall <del>2021</del> <u>2022</u> |
| Effective Change |                                  |
| Date             |                                  |
| Department       | Mathematics & Statistics         |
| Discipline       | Mathematics (MATH)               |

In Workflow

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

Approval Path

1. 12/16/21 5:28 pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:27 am  
Marita Tibbetts  
(tibbettsmg):

Course Number 1210

Title

Approved for CCC  
Secretary

3. 01/07/22 5:02 pm

Katie Shannon

(shannonk):

Approved for  
Sciences DSCC  
Chair

4. 01/10/22 10:39

am

Marita Tibbetts

(tibbettsmg):

Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:31 am

Marita Tibbetts

(tibbettsmg):

Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02

am

Stephen Raper

(sraper):

Approved for  
Campus Curricula  
Committee Chair

### History

1. Mar 1, 2021 by

Paul Runnion

(prunnion)

Calculus I-A

Abbreviated                  Calculus I-A  
Course Title

### Catalog

#### Description

An introduction to differential and integral calculus for students needing extra algebra or trigonometry content. Emphasizes differential calculus along with linear, polynomial, rational, and radical functions and equations. Math 1210 and 1211 combined cover the same calculus content as Math 1214. Credit will be given for only one of Math 1210 or Math 1214.

#### Prerequisites

A grade of "C" or better in either Math 1120 or Math 1140, or by placement exam.

#### Field Trip

#### Statement

Credit Hours                  LEC: 3                          LAB: 2 ±                          IND: 0                          RSD: 0

Total: 5 4

Required for                  Yes

Majors

Elective for                  No

Majors

#### Justification for

change:

When offering this course for the first time in Fall 2021, we discovered that many students in this course would benefit from extra contact time. Thus, we want to convert this to a 5 day per week course, allowing us to add in more algebra content and provide more students with more extensive opportunities for in-class practice and assistance with the challenging portions of the foundational material contained within this course. We do not anticipate needing to make a similar change in credit hours to Math 1211, although we are going to slightly modify the catalog description of 1211 to more accurately reflect the division of material between the two courses moving forward (and a CC form for that should be in the same cycle as this one).

Our intent is to offer this course in a 5 day per week format where students will have the same instructor (either faculty or graduate TA) for all five days, which should greatly improve instructor/student communications in this vital course where most enrolled students are brand new freshmen. However, we prefer to keep the credit hours split between lecture and lab instead of moving them all to lecture so that we have the flexibility to use a lecture/lab format with separate instructors if staffing and/or scheduling demands were to necessitate such arrangement in the future.

It is our understanding that most degree programs are listing "Math 1214 or Math 1211" as the required course for the degree, so this change in credit hours should NOT impact the total required hours for a degree. Prior to Fall 2021, students needing work below calculus would take the Math 1140/1160 combination for a total of  $3+2=5$  credits prior to taking Math 1214 for 4 credits, and Math 1214 was the only course listed on the degree program for engineering degrees, Comp Sci, Physics, Chemistry, and Math. Thus, this will require the same number of credits for the same material as before.

It should be noted that the attitude of students in Math 1210 was greatly improved from what we typically saw in Math 1140/1160 because these students are in a course called calculus and calculus content forms the central core of the material in Math 1210. Thus, the students saw immediately the relevance of the algebra content that we were covering. Thus, we feel strongly that the new Math 1210/1211 approach is working and that it should be continued going forward, and we believe that the small adjustment we are proposing will help a strong course sequence become even stronger and more beneficial for the students.

Semesters  
previously  
offered as an  
experimental  
course  
None

Co-Listed  
Courses:

Course Reviewer

## Comments

Key: 4760

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 4:38 pm

Viewing: **MATH 1211 : Calculus I-B**

File: 4761.2

Last approved: 02/25/21 6:01 am

Last edit: 12/16/21 4:38 pm

Changes proposed by: prunnon

Programs  
referencing this  
course

[NU ENG-BS: Nuclear Engineering BS](#)

[PE ENG-BS: Petroleum Engineering BS](#)

[PHYSIC-BS: Physics BS](#)

[AE ENG-BS: Aerospace Engineering BS](#)

[AP MATH-BS: Applied Mathematics BS](#)

[CR ENG-BS: Ceramic Engineering BS](#)

[CH ENG-BS: Chemical Engineering BS](#)

[CHEM-BA: Chemistry BA](#)

[CP ENG-BS: Computer Engineering BS](#)

[EL ENG-BS: Electrical Engineering BS](#)

[GE ENG-BS: Geological Engineering BS](#)

[CHEM-BS: Chemistry BS](#)

[EDUC-BS: Education BS](#)

[ENV SCI-BS: Environmental Sciences BS](#)

[EV ENG-BS: Environmental Engineering BS](#)

[GL&GPH-BS: Geology and Geophysics BS](#)

[MC ENG-BS: Mechanical Engineering BS](#)

[MT ENG-BS: Metallurgical Engineering BS](#)

[MI ENG-BS: Mining Engineering BS](#)

In Workflow

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

Approval Path

1. 12/16/21 5:28 pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:28 am  
Marita Tibbetts  
(tibbettsmg):

Other Courses  
referencing this  
course

In The Prerequisites:

[CIV ENG 2601 : Fundamentals Of Environmental Engineering  
And Science](#)  
[GEOPHYS 4231 : Seismic Interpretation](#)  
[GEOPHYS 5202 : Exploration and Development Seismology](#)

|                          |                                  |
|--------------------------|----------------------------------|
| Requested                | Fall <u>2022</u> <del>2021</del> |
| Effective Change<br>Date |                                  |
| Department               | Mathematics & Statistics         |
| Discipline               | Mathematics (MATH)               |
| Course Number            | 1211                             |
| Title                    |                                  |

- Approved for CCC  
Secretary
3. 01/07/22 5:02 pm  
Katie Shannon  
(shannonk):  
Approved for  
Sciences DSCC  
Chair
4. 01/10/22 10:43  
am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
5. 01/25/22 9:31 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
6. 01/25/22 11:02  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

### History

1. Feb 25, 2021 by  
Paul Runnion  
(prunnion)

Abbreviated          Calculus I-B

Course Title

## Catalog

## Description

A continuation of Math 1210. Emphasizes differential and integral calculus along with exponential, logarithmic, ~~trigonometric~~, and trigonometric inverse functions and equations, plus trigonometric ~~trigonometric~~ identities and solutions of general triangles. Math 1210 and 1211 combined cover the same calculus content as Math 1214.

## Prerequisites

A grade of "C" or better in either Math 1210 or 1214, or by placement exam.

## Field Trip

## Statement

Credit Hours

LEC: 3

LAB: 1

IND: 0

RSD: 0

Total: 4

Required for

Yes

Majors

Elective for

No

Majors

## Justification for

change:

We are making a small change to the catalog description to more accurately reflect the division of material between Math 1210, Math 1211, and the subsequent Math 1215 courses.

This is being submitted in conjunction with a more substantive change to the Math 1210 course, and a lengthier justification is included with the Math 1210 changes.

## Semesters

previously

offered as an



experimental  
course

Co-Listed

Courses:

Course Reviewer

Comments

Key: 4761

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 5:57 pm

Viewing: **MATH 3304 : Elementary Differential Equations**

File: 940.1

Last edit: 01/25/22 9:32 am

Changes proposed by: prunion

Programs

referencing this

course

[NU ENG-BS: Nuclear Engineering BS](#)

[NU ENG-MI: Nuclear Engineering Minor](#)

[PE ENG-BS: Petroleum Engineering BS](#)

[PHYSIC-BS: Physics BS](#)

[AE ENG-BS: Aerospace Engineering BS](#)

[AP MATH-BS: Applied Mathematics BS](#)

[ARC ENG-BS: Architectural Engineering BS](#)

[CR ENG-BS: Ceramic Engineering BS](#)

[CH ENG-BS: Chemical Engineering BS](#)

[CV ENG-BS: Civil Engineering BS](#)

[CP ENG-BS: Computer Engineering BS](#)

[EL ENG-BS: Electrical Engineering BS](#)

[GE ENG-BS: Geological Engineering BS](#)

[MATH-MI: Mathematics Minor](#)

[ENG MG-BS: Engineering Management BS](#)

[EV ENG-BS: Environmental Engineering BS](#)

[GL&GPH-BS: Geology and Geophysics BS](#)

[MC ENG-BS: Mechanical Engineering BS](#)

[MT ENG-BS: Metallurgical Engineering BS](#)

In Workflow

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

Approval Path

1. 12/16/21 9:55 pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:28 am  
Marita Tibbetts  
(tibbettsmg):

[MI ENG-BS: Mining Engineering BS](#)

## Other Courses

referencing this

course

In The Prerequisites:[AERO ENG 3613 : Aerospace Mechanics I](#)[AERO ENG 5212 : Introduction to Finite Element Analysis](#)[AERO ENG 5220 : Advanced Mechanics of Materials](#)[AERO ENG 5234 : Stability of Engineering Structures](#)[AERO ENG 5309 : Engineering Acoustics I](#)[AERO ENG 5830 : Applied Computational Methods](#)[ARCH ENG 4850 : Building Electrical Systems](#)[CHEM ENG 3101 : Fundamentals of Transport in Chemical and](#)[Biochemical Engineering](#)[CHEM ENG 3111 : Numerical Computing in Chemical and](#)[Biochemical Engineering](#)[CHEM ENG 4150 : Chemical Process Flowsheeting](#)[CIV ENG 6206 : Stochastic Theory of Structural Dynamics](#)[ELEC ENG 2800 : Electrical Circuits](#)[ELEC ENG 5440 : Stochastic Signal Analysis I](#)[ENG MGT 5411 : Engineering Design Optimization](#)[GEO ENG 5556 : Renewable Energy Systems](#)[GEOLOGY 4421 : Radioactive Waste Management And](#)[Remediation](#)[MATH 5302 : Intermediate Differential Equations](#)[MATH 5325 : Partial Differential Equations](#)[MATH 5351 : Introduction To Complex Variables](#)[MATH 5483 : Operational Calculus](#)[MATH 5601 : Introduction to Numerical Analysis](#)[MATH 5603 : Methods of Applied Mathematics](#)[MATH 5604 : Introduction to Numerical Methods for](#)[Differential Equations](#)[MECH ENG 3411 : Modeling and Analysis of Dynamic Systems](#)[MECH ENG 3525 : Heat Transfer](#)Approved for CCC  
Secretary

3. 01/07/22 5:01 pm

Katie Shannon

(shannonk):

Approved for  
Sciences DSCC

Chair

4. 01/10/22 10:44

am

Marita Tibbetts

(tibbettsmg):

Approved for

Pending CCC

Agenda post

5. 01/25/22 9:32 am

Marita Tibbetts

(tibbettsmg):

Approved for CCC

Meeting Agenda

6. 01/25/22 11:02

am

Stephen Raper

(sraper):

Approved for

Campus Curricula

Committee Chair

[MECH ENG 4840 : Mechanical Instrumentation](#)

[MECH ENG 5211 : Introduction To Continuum Mechanics](#)

[MECH ENG 5212 : Introduction to Finite Element Analysis](#)

[MECH ENG 5220 : Advanced Mechanics of Materials](#)

[MECH ENG 5234 : Stability of Engineering Structures](#)

[MECH ENG 5254 : Variational Formulations Of Mechanics Problems](#)

[MECH ENG 5420 : Signal Processing for Instrumentation and Control](#)

[MECH ENG 5830 : Applied Computational Methods](#)

[MIN ENG 5522 : Ore Reserve Analysis and Geostatistics](#)

[NUC ENG 3205 : Fundamentals of Nuclear Engineering](#)

[NUC ENG 3221 : Reactor Fluid Mechanics](#)

[NUC ENG 4367 : Radioactive Waste Management And Remediation](#)

[NUC ENG 5367 : Radioactive Waste Management And Remediation](#)

[PHYSICS 2401 : Introduction To Theoretical Physics](#)

[PHYSICS 4323 : Elementary Solid State Physics](#)

[PHYSICS 4333 : Modern Physics II](#)

[PHYSICS 5403 : Computational Physics](#)

[PHYSICS 5413 : Chaos, Fractals, and Nonlinear Dynamics](#)

[PHYSICS 6101 : Classical Mechanics I](#)

|                  |  |
|------------------|--|
| Requested        | <a href="#"><u>Fall 2022</u></a> <del>08/14/2018</del> |
| Effective Change |  |
| Date             |  |
| Department       | Mathematics & Statistics                               |
| Discipline       | Mathematics (MATH)                                     |
| Course Number    | 3304   |
| Title            | Elementary Differential Equations                      |
| Abbreviated      | Elem Differen Equations                                |
| Course Title     |  |

## Catalog

## Description

First order differential equations and linear differential equations of higher order are studied. The Laplace transform and systems of linear equations as well as selected physical applications are covered. Credit will not be given for both Math 3329 and Math 3304.

## Prerequisites

Math 1215 ~~2222~~ with a grade of "C" or better.

## Field Trip

## Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

Yes ~~No~~

Majors

Elective for

No

Majors

## Justification for

change:

We are changing the prerequisite to more accurately match the mathematical needs of this course. In some cases and for certain majors, it may be beneficial for a student to take Math 3304 prior to Math 2222. Both of these courses require the material from Math 1215. Math 3304 does not depend in any way whatsoever on the material in Math 2222.

While we will encourage advisors to counsel students that taking Math 2222 and 3304 concurrently may not be in their best interest (unless the student is particularly strong mathematically), we will no longer care which order students choose to take these two courses. We hope this flexibility will prove helpful to students and to our colleagues around the campus.

## Semesters

previously

offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer  
Comments

Key: 940

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/17/21 1:17 am

Viewing: **MATH 5302 : Intermediate Differential Equations**

File: 950.1

Last edit: 01/25/22 9:32 am

Changes proposed by: prunnon

Programs  
referencing this  
course

[AP MATH-BS: Applied Mathematics BS](#)

[CP ENG-BS: Computer Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:

[MATH 6330 : Theory Of Differential Equations I](#)

[MATH 6331 : Theory Of Differential Equations II](#)

|                                 |  |
|---------------------------------|--|
| Requested Effective Change Date | <u>Fall 2022</u> <del>08/14/2018</del> |
| Department                      | Mathematics & Statistics               |
| Discipline                      | Mathematics (MATH)                     |
| Course Number                   | 5302                                   |
| Title                           |  |

In Workflow

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

Approval Path

1. 12/16/21 9:56 pm  
John Singler  
(singlerj):  
Rollback to Initiator
2. 12/17/21 8:54 am  
John Singler  
(singlerj):

- Approved for  
RMATHEMA Chair
3. 12/17/21 8:58 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Secretary
4. 01/07/22 5:01 pm  
Katie Shannon  
(shannonk):  
Approved for  
Sciences DSCC  
Chair
5. 01/10/22 10:45  
am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
6. 01/25/22 9:32 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
7. 01/25/22 11:02  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

Intermediate Differential Equations

Abbreviated

Intermed Diff Equations



## Course Title

## Catalog

## Description

Linear differential equations, vector-matrix systems, existence and uniqueness theory, nonlinear systems, phase-plane analysis, introduction to stability theory.

## Prerequisites

A grade of "C" or better in Math 2222 and Math 3304. ~~Math 3304 or Math 3329.~~

## Field Trip

## Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

Yes ~~No~~

Majors

## Justification for

change:

Now that Math 2222 will no longer be prerequisite to Math 3304, we need to add Math 2222 as a prerequisite to a variety of courses, including this one. We are also adding the "C" or better requirement for consistency with other prerequisites involving these courses. Almost all students taking this course will have already met (or exceeded) this requirement of a "C" or better due to degree requirements or other prerequisites which required a grade of "C" or better in 2222 and 3304.

Students who have already taken Math 3304 and are planning to take this course will not be affected since Math 2222 has been an enforced prerequisite on 3304; thus, they have already taken 2222.

Students wanting to take this course in the future who have not yet taken 3304 will still need to take both 3304 and 2222, just as would have been the case currently.

Thus, this change should not have a negative impact on any students. It only has the positive impact of allowing the flexibility of which order the student plans to take 2222 and 3304.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer

Comments

**singlerj (12/16/21 9:56 pm):** Rollback: For additional changes

Key: 950

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 6:05 pm

Viewing: **MATH 5325 : Partial Differential Equations**

File: 967.1

Last edit: 12/17/21 8:30 am

Changes proposed by: prunnon

Programs  
referencing this  
course

[PHYSIC-BS: Physics BS](#)

[AP MATH-BS: Applied Mathematics BS](#)

[CP ENG-BS: Computer Engineering BS](#)

[GL&GPH-BS: Geology and Geophysics BS](#)

[MT ENG-BS: Metallurgical Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:

[GEOLOGY 4211 : Electrical Methods In Geophysics](#)

[GEOPHYS 4241 : Electrical Methods In Geophysics](#)

[MATH 6603 : Mathematical Foundations of Finite Element Methods II](#)

[MECH ENG 6230 : Theory Of Plates](#)

[MECH ENG 6232 : Theory Of Shells](#)

[NUC ENG 6203 : Advanced Reactor Physics](#)

[NUC ENG 6257 : Advanced Nuclear Thermal Hydraulics](#)

In Workflow

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

Approval Path

1. 12/16/21 9:57 pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:30 am  
Marita Tibbetts  
(tibbettsmg):

Requested [Fall 2022](#) ~~08/14/2018~~  
 Effective Change  
 Date  
 Department Mathematics & Statistics  
 Discipline Mathematics (MATH)  
 Course Number 5325  
 Title

Approved for CCC  
 Secretary  
 3. 01/07/22 5:01 pm  
 Katie Shannon  
 (shannonk):  
 Approved for  
 Sciences DSCC  
 Chair  
 4. 01/10/22 10:45  
 am  
 Marita Tibbetts  
 (tibbettsmg):  
 Approved for  
 Pending CCC  
 Agenda post  
 5. 01/25/22 9:32 am  
 Marita Tibbetts  
 (tibbettsmg):  
 Approved for CCC  
 Meeting Agenda  
 6. 01/25/22 11:02  
 am  
 Stephen Raper  
 (sraper):  
 Approved for  
 Campus Curricula  
 Committee Chair

## Partial Differential Equations

Abbreviated Partial Differ Equations  
 Course Title

### Catalog

### Description

Linear equations, heat equation, eigenfunction expansions, Green's formula,

inhomogeneous problems, Fourier series, wave equation.

### Prerequisites

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

### Field Trip

### Statement

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

Total: 3

|              |    |
|--------------|----|
| Required for | No |
|--------------|----|

### Majors

|              |                          |
|--------------|--------------------------|
| Elective for | <u>Yes</u> <del>No</del> |
|--------------|--------------------------|

### Majors

### Justification for

change:

Now that Math 2222 will no longer be prerequisite to Math 3304, we need to add Math 2222 as a prerequisite to a variety of courses, including this one.

Students who have already taken Math 3304 and are planning to take this course will not be affected since Math 2222 has been an enforced prerequisite on 3304; thus, they have already taken 2222.

Students wanting to take this course in the future who have not yet taken 3304 will still need to take both 3304 and 2222, just as would have been the case currently.

Thus, this change should not have a negative impact on any students. It only has the positive impact of allowing the flexibility of which order the student plans to take 2222 and 3304.

### Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

**tibbettsmg (12/17/21 8:30 am):** updated prereq formatting. mt

Key: 967

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 6:08 pm

Viewing: **MATH 5351 : Introduction To Complex Variables**

File: 971.1

Last edit: 01/25/22 9:35 am

Changes proposed by: prunnon

Programs  
referencing this  
course

[PHYSIC-BS: Physics BS](#)

[AP MATH-BS: Applied Mathematics BS](#)

[CP ENG-BS: Computer Engineering BS](#)

Requested Fall 2022 ~~08/14/2018~~

Effective Change

Date

Department Mathematics & Statistics

Discipline Mathematics (MATH)

Course Number 5351

Title

In Workflow

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

Approval Path

1. 12/16/21 10:00 pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:32 am  
Marita Tibbetts

(tibbettsmg):

Approved for CCC  
Secretary

3. 01/07/22 5:01 pm

Katie Shannon  
(shannonk):

Approved for  
Sciences DSCC  
Chair

4. 01/10/22 10:46  
am

Marita Tibbetts  
(tibbettsmg):

Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:35 am

Marita Tibbetts  
(tibbettsmg):

Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02  
am

Stephen Raper  
(sraper):

Approved for  
Campus Curricula  
Committee Chair

## Introduction To Complex Variables

Abbreviated          Intro To Complx Variable  
Course Title

Catalog  
Description



The basic tools of complex variables are studied. These include the Cauchy-Riemann equations, complex contour integration, the Cauchy-Goursat theorem, conformal mappings, the calculus of residues and applications to boundary value problems.

#### Prerequisites

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

#### Field Trip

#### Statement

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

|              |    |
|--------------|----|
| Required for | No |
|--------------|----|

#### Majors

|              |                          |
|--------------|--------------------------|
| Elective for | <u>Yes</u> <del>No</del> |
|--------------|--------------------------|

#### Majors

#### Justification for

change:

Now that Math 2222 will no longer be prerequisite to Math 3304, we need to add Math 2222 as a prerequisite to a variety of courses, including this one. We are also adding the "C" or better requirement for consistency with other prerequisites involving these courses. Almost all students taking this course will have already met (or exceeded) this requirement of a "C" or better due to degree requirements or other prerequisites which required a grade of "C" or better in 2222 and 3304.

Students who have already taken Math 3304 and are planning to take this course will not be affected since Math 2222 has been an enforced prerequisite on 3304; thus, they have already taken 2222.

Students wanting to take this course in the future who have not yet taken 3304 will still need to take both 3304 and 2222, just as would have been the case currently.

Thus, this change should not have a negative impact on any students. It only has the positive impact of allowing the flexibility of which order the student plans to take

2222 and 3304.

Semesters

previously  
offered as an  
experimental  
course

Co-Listed

Courses:

Course Reviewer

Comments

**tibbettsmg (12/17/21 8:32 am):** updated prereq formatting. mt

Key: 971

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 6:10 pm

Viewing: **MATH 5483 : Operational Calculus**

File: 974.1

Last edit: 01/25/22 9:36 am

Changes proposed by: prunnon

Programs  
referencing this  
course

[AP MATH-BS: Applied Mathematics BS](#)

[CP ENG-BS: Computer Engineering BS](#)

|                  |  |
|------------------|--|
| Requested        | <u>Fall 2022</u> <del>08/14/2018</del> |
| Effective Change |  |
| Date             |  |
| Department       | Mathematics & Statistics               |
| Discipline       | Mathematics (MATH)                     |
| Course Number    | 5483                                   |
| Title            |  |

## In Workflow

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

## Approval Path

1. 12/16/21 10:01 pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:33 am  
Marita Tibbetts

- (tibbettsmg):  
Approved for CCC  
Secretary
- 3. 01/07/22 5:01 pm  
Katie Shannon  
(shannonk):  
Approved for  
Sciences DSCC  
Chair
- 4. 01/10/22 10:47  
am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
- 5. 01/25/22 9:36 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
- 6. 01/25/22 11:02  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

Operational Calculus

Abbreviated Course Title      Operational Calculus

Catalog Description

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

#### Prerequisites

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

#### Field Trip

#### Statement

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

Total: 3

|              |    |
|--------------|----|
| Required for | No |
|--------------|----|

#### Majors

|              |                          |
|--------------|--------------------------|
| Elective for | <u>Yes</u> <del>No</del> |
|--------------|--------------------------|

#### Majors

#### Justification for

change:

Now that Math 2222 will no longer be prerequisite to Math 3304, we need to add Math 2222 as a prerequisite to a variety of courses, including this one. We are also adding the "C" or better requirement for consistency with other prerequisites involving these courses. Almost all students taking this course will have already met (or exceeded) this requirement of a "C" or better due to degree requirements or other prerequisites which required a grade of "C" or better in 2222 and 3304.

Students who have already taken Math 3304 and are planning to take this course will not be affected since Math 2222 has been an enforced prerequisite on 3304; thus, they have already taken 2222.

Students wanting to take this course in the future who have not yet taken 3304 will still need to take both 3304 and 2222, just as would have been the case currently.

Thus, this change should not have a negative impact on any students. It only has the positive impact of allowing the flexibility of which order the student plans to take 2222 and 3304.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer

Comments

**tibbetmsg (12/17/21 8:33 am):** updated prereq formatting. mt

Key: 974

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 6:11 pm

Viewing: **MATH 5601 : Introduction to Numerical Analysis**

File: 4757.3

Last approved: 02/10/21 6:01 am

Last edit: 12/17/21 8:44 am

Changes proposed by: prunnon

Other Courses  
referencing this  
course

In The Prerequisites: \_\_\_\_\_

[MATH 5602 : Mathematical Foundation of Finite Element Methods](#)

Requested                      Fall 2022 ~~2021~~

Effective Change

Date

Department                    Mathematics & Statistics

Discipline                      Mathematics (MATH)

Course Number                5601

Title

In Workflow

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

Approval Path

1. 12/16/21 10:01 pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:44 am  
Marita Tibbetts

(tibbettsmg):  
Approved for CCC  
Secretary

3. 01/07/22 5:01 pm

Katie Shannon  
(shannonk):  
Approved for  
Sciences DSCC  
Chair

4. 01/10/22 10:49  
am

Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:36 am

Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02  
am

Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

## History

1. Feb 10, 2021 by  
Paul Runnion  
(prunnion)



Abbreviated Intro Num Analysis

Course Title

## Catalog

## Description

Mathematical foundation and theory of the basic numerical methods for nonlinear equations, function approximations, numerical differentiation/integration, ordinary differential equations, and matrix computation, including convergence, accuracy, and stability analysis; extension of the basic methods to the corresponding more advanced methods.

## Prerequisites

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

## Field Trip

## Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

Yes

Majors

Elective for

No

Majors

## Justification for

change:

Now that Math 2222 will no longer be prerequisite to Math 3304, we need to add Math 2222 as a prerequisite to a variety of courses, including this one. We are also adding the "C" or better requirement for consistency with other prerequisites involving these courses. Almost all students taking this course will have already met (or exceeded) this requirement of a "C" or better due to degree requirements or other prerequisites which required a grade of "C" or better in 2222 and 3304.

Students who have already taken Math 3304 and are planning to take this course will not be affected since Math 2222 has been an enforced prerequisite on 3304; thus, they have already taken 2222.

Students wanting to take this course in the future who have not yet taken 3304 will still need to take both 3304 and 2222, just as would have been the case currently.

Thus, this change should not have a negative impact on any students. It only has the positive impact of allowing the flexibility of which order the student plans to take 2222 and 3304.

#### Semesters

previously

offered as an

experimental

course

Fall 2019, Fall 2020

#### Co-Listed

Courses:

Course Reviewer

Comments

**tibbettsmg (12/17/21 8:44 am):** updated prereq formatting. mt

Key: 4757

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 6:12 pm

Viewing: **MATH 5603 : Methods of Applied Mathematics**

File: 952.1

Last edit: 01/25/22 9:36 am

Changes proposed by: prunniion

Programs  
referencing this  
course

[TCH CM-MIG: Technical Communication Minor](#)

[AP MATH-BS: Applied Mathematics BS](#)

[CP ENG-BS: Computer Engineering BS](#)

[MT ENG-BS: Metallurgical Engineering BS](#)

Requested Fall 2022 ~~08/14/2018~~

Effective Change

Date

Department Mathematics & Statistics

Discipline Mathematics (MATH)

Course Number 5603

Title

In Workflow

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

Approval Path

1. 12/16/21 10:01 pm  
John Singler (singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:48 am  
Marita Tibbetts

(tibbettsmg):  
Approved for CCC  
Secretary

3. 01/07/22 5:01 pm

Katie Shannon  
(shannonk):  
Approved for  
Sciences DSCC  
Chair

4. 01/10/22 10:51  
am

Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:37 am

Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02  
am

Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

## Methods of Applied Mathematics

|                             |                                   |
|-----------------------------|-----------------------------------|
| Abbreviated<br>Course Title | Methods of Applied<br>Mathematics |
|-----------------------------|-----------------------------------|

Catalog  
Description

Methods to develop and analyze mathematical models. Topics include dimensional analysis and scaling, perturbation methods, and the construction of ordinary and partial differential equation models.

#### Prerequisites

~~A Math 3304 or 3329 with a~~ grade of "C" or better in Math 2222 and Math 3304;  
~~better~~, programming competency.

#### Field Trip

#### Statement

|                     |                          |        |        |        |
|---------------------|--------------------------|--------|--------|--------|
| Credit Hours        | LEC: 3                   | LAB: 0 | IND: 0 | RSD: 0 |
| Total: 3            |                          |        |        |        |
| Required for Majors | No                       |        |        |        |
| Elective for Majors | <u>Yes</u> <del>No</del> |        |        |        |

#### Justification for change:

Now that Math 2222 will no longer be prerequisite to Math 3304, we need to add Math 2222 as a prerequisite to a variety of courses, including this one. We are also adding the "C" or better requirement for consistency with other prerequisites involving these courses. Almost all students taking this course will have already met (or exceeded) this requirement of a "C" or better due to degree requirements or other prerequisites which required a grade of "C" or better in 2222 and 3304.

Students who have already taken Math 3304 and are planning to take this course will not be affected since Math 2222 has been an enforced prerequisite on 3304; thus, they have already taken 2222.

Students wanting to take this course in the future who have not yet taken 3304 will still need to take both 3304 and 2222, just as would have been the case currently.

Thus, this change should not have a negative impact on any students. It only has the

positive impact of allowing the flexibility of which order the student plans to take 2222 and 3304.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

**tibbettsmg (12/17/21 8:47 am):** updated prereq formatting. mt

Key: 952

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 6:13 pm

Viewing: **MATH 5604 : Introduction to Numerical Methods for Differential Equations**

File: 4103.1

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

Last edit: 12/17/21 8:50 am

Changes proposed by: prunnon

Programs  
referencing this  
course

[AP MATH-BS: Applied Mathematics BS](#)

Requested [Fall 2022](#) ~~01/13/2015~~  
Effective Change  
Date

Department Mathematics & Statistics

Discipline Mathematics (MATH)

Course Number 5604

Title

## In Workflow

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

## Approval Path

1. 12/16/21 10:01 pm  
John Singler (singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:50 am  
Marita Tibbetts

(tibbettsmg):  
Approved for CCC  
Secretary

3. 01/07/22 5:01 pm

Katie Shannon  
(shannonk):  
Approved for  
Sciences DSCC  
Chair

4. 01/10/22 10:53  
am

Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:37 am

Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02  
am

Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

## History

1. Nov 3, 2014 by  
Ilene Morgan  
(imorgan)



Abbreviated Numerical Diff Eqns

Course Title

## Catalog

## Description

An introduction to finite difference methods for ordinary and partial differential equations, including (1) the derivation of the numerical methods, (2) implementation of the methods in Matlab, and (3) the mathematical accuracy and stability analysis of the methods.

## Prerequisites

A grade of "C" or better in Math 2222 ~~MATH 3304~~ and Math 3304; programming competency (preferably Matlab).

## Field Trip

## Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for

No

Majors

Elective for

Yes

Majors

## Justification for

change:

Now that Math 2222 will no longer be prerequisite to Math 3304, we need to add Math 2222 as a prerequisite to a variety of courses, including this one. We are also adding the "C" or better requirement for consistency with other prerequisites involving these courses. Almost all students taking this course will have already met (or exceeded) this requirement of a "C" or better due to degree requirements or other prerequisites which required a grade of "C" or better in 2222 and 3304.

Students who have already taken Math 3304 and are planning to take this course will not be affected since Math 2222 has been an enforced prerequisite on 3304; thus, they have already taken 2222.

Students wanting to take this course in the future who have not yet taken 3304 will still need to take both 3304 and 2222, just as would have been the case currently.

Thus, this change should not have a negative impact on any students. It only has the positive impact of allowing the flexibility of which order the student plans to take 2222 and 3304.

#### Semesters

previously

offered as an

experimental

course

SP 2013, SP 2014

#### Co-Listed

Courses:

Course Reviewer

Comments

**tibbettsmg (12/17/21 8:50 am):** updated prereq formatting. mt

Key: 4103

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/13/21 11:24 am

Viewing: **PET ENG 4097 : Capstone Petroleum Engineering Design**

File: 285.4

Last approved: 06/20/19 3:39 am

Last edit: 12/13/21 2:23 pm

Changes proposed by: weim

Programs referencing this course  
[PE ENG-BS: Petroleum Engineering BS](#)

|                       |  |
|-----------------------|--|
| Requested             | Fall <del>2019</del> <u>2022</u>                     |
| Effective Change Date |  |
| Department            | Geosciences and Geological and Petroleum Engineering |
| Discipline            | Petroleum Engineering (PET ENG)                      |
| Course Number         | 4097   |
| Title                 |  |

### In Workflow

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

### Approval Path

1. 12/13/21 12:22 pm  
Jeff Cawlfeld (jdc): Approved for RGEOENG Chair
2. 12/13/21 2:23 pm  
Marita Tibbetts (tibbettsmg):

Approved for CCC  
Secretary

3. 01/06/22 9:25 am

Stephen Raper

(sraper):

Approved for  
Engineering DSCC  
Chair

4. 01/10/22 10:54

am

Marita Tibbetts

(tibbettsmg):

Approved for  
Pending CCC  
Agenda post

5. 01/25/22 9:37 am

Marita Tibbetts

(tibbettsmg):

Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02

am

Stephen Raper

(sraper):

Approved for  
Campus Curricula  
Committee Chair

## History

1. Jun 20, 2019 by  
reflori (285.1)

Capstone ~~Petroleum Engineering~~ Design

Abbreviated

Capstone ~~Petroleum Engr~~

## Course Title          Design

### Catalog

#### Description

Senior capstone design project(s) based on industry data. Application of reservoir engineering: drilling and production engineering principles to evaluate and solve an industry problem such as a new field development, evaluation of an existing reservoir asset, or analysis of field re-development.

#### Prerequisites

Pet Eng 3520 and senior standing.

#### Field Trip

#### Statement

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

Total: 3

|              |     |
|--------------|-----|
| Required for | Yes |
|--------------|-----|

Majors

|              |    |
|--------------|----|
| Elective for | No |
|--------------|----|

Majors

Justification for  
change:

The updated title emphasizes the "integrated" nature of the class.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed

Courses:

Course Reviewer

## Comments

Key: 285

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/13/21 11:29 am

Viewing: **PET ENG 4210 : Drilling and Well**

## Integrity Design

File: 1260.7

Last approved: 02/25/19 4:54 am

Last edit: 12/13/21 2:24 pm

Changes proposed by: weim

Programs  
referencing this  
course

[PE ENG-BS: Petroleum Engineering BS](#)

[PE ENG-MI: Petroleum Engineering Minor](#)

[PET SYS-CT: Petroleum Systems CT](#)

[PROPOSED: Carbon Management Engineering](#)

[EV ENG-BS: Environmental Engineering BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:

[PET ENG 4211 : Advanced Drilling Technology](#)

[PET ENG 6211 : Advanced Directional Drilling and MWD](#)

[PET ENG 6231 : Drilling Optimization](#)

[PET ENG 6811 : Advanced Offshore Petroleum Technology](#)

Requested                      Fall 2022 ~~2019~~  
Effective Change  
Date

### In Workflow

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

### Approval Path

1. 12/13/21 12:21  
pm  
Jeff Cawlfeld  
(jdc): Approved  
for RGEOENG  
Chair
2. 12/13/21 2:25 pm  
Marita Tibbetts  
(tibbettsmg):

Department Geosciences and Geological and Petroleum Engineering  
 Discipline Petroleum Engineering (PET ENG)  
 Course Number 4210  
 Title

- Approved for CCC Secretary
- 3. 01/06/22 9:26 am  
Stephen Raper (sraper):  
Approved for Engineering DSCC Chair
- 4. 01/10/22 10:56 am  
Marita Tibbetts (tibbettsmg):  
Approved for Pending CCC Agenda post
- 5. 01/25/22 9:37 am  
Marita Tibbetts (tibbettsmg):  
Approved for CCC Meeting Agenda
- 6. 01/25/22 11:02 am  
Stephen Raper (sraper):  
Approved for Campus Curricula Committee Chair

**History**

- 1. Feb 25, 2019 by hendrixrl (1260.1)

Drilling and Well Integrity Design

Abbreviated Drilling & Well Integrity



**Course Title**      ~~Drilling and Well Design~~**Catalog****Description**

This course covers drilling fluids, including mixing and analysis of rheological properties; pressure loss calculations; casing design; well cementing; pore pressure and geomechanical considerations in drilling; completion equipment; and completion design.

**Prerequisites**

Preceded or accompanied by Civ Eng 2200.

**Field Trip****Statement**

|                     |               |               |               |               |
|---------------------|---------------|---------------|---------------|---------------|
| <b>Credit Hours</b> | <b>LEC: 2</b> | <b>LAB: 1</b> | <b>IND: 0</b> | <b>RSD: 0</b> |
|---------------------|---------------|---------------|---------------|---------------|

Total: 3

|                     |            |
|---------------------|------------|
| <b>Required for</b> | <b>Yes</b> |
|---------------------|------------|

**Majors**

|                     |           |
|---------------------|-----------|
| <b>Elective for</b> | <b>No</b> |
|---------------------|-----------|

**Majors**

**Justification for  
change:**

The updated title is better for the teaching content.

**Semesters  
previously  
offered as an  
experimental  
course**

**Co-Listed**

**Courses:**

**Course Reviewer**

## Comments

Key: 1260

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/13/21 11:16 am

Viewing: **PET ENG 4410 : Production Engineering ~~Well Performance and Production Systems~~**

File: 1238.1

Last edit: 12/13/21 11:16 am

Changes proposed by: weim

Programs  
referencing this  
course

[PE ENG-BS: Petroleum Engineering BS](#)

[PE ENG-MI: Petroleum Engineering Minor](#)

Other Courses  
referencing this  
course

In The Prerequisites:

[PET ENG 4421 : Artificial Lift](#)

[PET ENG 4431 : Well Completion Design](#)

[PET ENG 6431 : Advanced Well Completion Design](#)

Requested [Fall 2022](#) ~~08/14/2018~~

Effective Change

Date

Department Geosciences and Geological and Petroleum  
Engineering

In Workflow

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

Approval Path

1. 12/13/21 12:19  
pm  
Jeff Cawlfeld  
(jdc): Approved  
for RGEOENG  
Chair
2. 12/13/21 2:25 pm  
Marita Tibbetts  
(tibbettsmg):

Discipline            Petroleum Engineering (PET ENG)  
 Course Number      4410  
 Title

- Approved for CCC Secretary
- 3. 01/06/22 9:25 am  
 Stephen Raper (sraper):  
 Approved for Engineering DSCC Chair
- 4. 01/10/22 10:57 am  
 Marita Tibbetts (tibbettsmg):  
 Approved for Pending CCC Agenda post
- 5. 01/25/22 9:37 am  
 Marita Tibbetts (tibbettsmg):  
 Approved for CCC Meeting Agenda
- 6. 01/25/22 11:02 am  
 Stephen Raper (sraper):  
 Approved for Campus Curricula Committee Chair

Production Engineering ~~Well Performance and Production Systems~~

Abbreviated            Production Engineering ~~Well~~  
 Course Title            ~~Performance & Prod Sys~~

Catalog Description  
 Introduction to the producing wellbore system; inflow performance relationships,

effect of formation damage on well flow, nodal systems analysis; perforating methods and their effect on inflow; stimulation treatments to enhance well performance. Introduction to well completions, diagnostics and well servicing. Overview of production systems.

#### Prerequisites

Preceded or accompanied by Pet Eng 3520.

#### Field Trip

#### Statement

|              |        |        |        |        |
|--------------|--------|--------|--------|--------|
| Credit Hours | LEC: 2 | LAB: 1 | IND: 0 | RSD: 0 |
|--------------|--------|--------|--------|--------|

Total: 3

|                        |                          |
|------------------------|--------------------------|
| Required for<br>Majors | <u>Yes</u> <del>No</del> |
|------------------------|--------------------------|

|                        |    |
|------------------------|----|
| Elective for<br>Majors | No |
|------------------------|----|

#### Justification for change:

The updated title is more accurate.

#### Semesters

previously  
offered as an  
experimental  
course

#### Co-Listed

Courses:

Course Reviewer

Comments

Key: 1238

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/13/21 11:27 am

Viewing: **PET ENG 4590 : Subsurface Energy Economics ~~Petroleum Economics and Asset Valuation~~**

File: 1233.1

Last edit: 12/13/21 3:56 pm

Changes proposed by: weim

Programs referencing this course

- [PE ENG-BS: Petroleum Engineering BS](#)
- [GE ENG-BS: Geological Engineering BS](#)
- [PET SYS-CT: Petroleum Systems CT](#)
- [PROPOSED: Carbon Management Engineering](#)

Requested **Fall 2022 08/14/2018**

Effective Change

Date

Department Geosciences and Geological and Petroleum Engineering

Discipline Petroleum Engineering (PET ENG)

Course Number 4590

Title

## In Workflow

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

## Approval Path

1. 12/13/21 12:15 pm  
Jeff Cawlfild (jdc): Approved for RGEOENG Chair
2. 12/13/21 3:56 pm  
Marita Tibbetts (tibbettsmg):

- Approved for CCC Secretary
- 3. 01/06/22 9:25 am  
Stephen Raper (sraper):  
Approved for Engineering DSCC Chair
- 4. 01/10/22 10:58 am  
Marita Tibbetts (tibbettsmg):  
Approved for Pending CCC Agenda post
- 5. 01/25/22 9:37 am  
Marita Tibbetts (tibbettsmg):  
Approved for CCC Meeting Agenda
- 6. 01/25/22 11:02 am  
Stephen Raper (sraper):  
Approved for Campus Curricula Committee Chair

Subsurface Energy Economics ~~Petroleum Economics and Asset Valuation~~

Abbreviated Course Title      Sub. Energy Economics ~~Petr Econ & Asset Valuation~~

Catalog

Description

Uncertainty in the estimation of oil and gas reserves; tangible and intangible

investment costs; depreciation; evaluation of producing properties; federal income tax considerations; chance factor and risk determination. Petroleum economic evaluation software is introduced.

#### Prerequisites

Pet Eng 3520, Econ 1100, ~~1100~~ or Econ 1200.

#### Field Trip

#### Statement

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

|                     |                          |
|---------------------|--------------------------|
| Required for Majors | <u>Yes</u> <del>No</del> |
|---------------------|--------------------------|

|                     |    |
|---------------------|----|
| Elective for Majors | No |
|---------------------|----|

#### Justification for change:

The updated title is more inclusive and provide a better vision of engineering economics analysis.

#### Semesters

previously offered as an experimental course

#### Co-Listed

#### Courses:

Course Reviewer  
Comments

Key: 1233

[Preview Bridge](#)



# Course Change Request

Date Submitted: 11/18/21 11:56 am

Viewing: **PET ENG 4720 : Reservoir**

**Geomechanics ~~Mechanical Earth Modeling~~**

File: 919.4

Last approved: 06/20/19 3:39 am

Last edit: 12/07/21 12:14 pm

Changes proposed by: eckertan

### In Workflow

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

### Approval Path

1. 11/11/21 12:11 pm  
Jeff Cawlfeld (jdc): Approved for RGEOENG Chair
2. 11/11/21 3:11 pm  
Marita Tibbetts (tibbettsmg):

Programs referencing this course

[PE ENG-BS: Petroleum Engineering BS](#)

[PET SYS-CT: Petroleum Systems CT](#)

[PROPOSED: Carbon Management Engineering](#)

[GEOL-MI: Geology Minor](#)

|                       |  |
|-----------------------|--|
| Requested             | <b><u>Fall 2022</u> <del>Spring 2020</del></b>       |
| Effective Change Date |  |
| Department            | Geosciences and Geological and Petroleum Engineering |
| Discipline            | Petroleum Engineering (PET ENG)                      |
| Course Number         | 4720   |
| Title                 |  |

- Rollback to  
Initiator
3. 11/18/21 12:33  
pm  
Jeff Cawfield  
(jdc): Approved  
for RGEOSENG  
Chair
4. 11/18/21 1:11 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Secretary
5. 12/07/21 12:36  
pm  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
6. 01/10/22 10:59  
am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
7. 01/25/22 9:37 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
8. 01/25/22 11:02  
am  
Stephen Raper

(sraper):  
 Approved for  
 Campus Curricula  
 Committee Chair

History

1. Jun 20, 2019 by reflori (919.1)

Reservoir Geomechanics ~~Mechanical Earth Modeling~~

Abbreviated Res Geom ~~Mech Earth~~  
 Course Title Modeling

Catalog

Description

This course introduces the work process necessary to create the Mechanical Earth Model's principal ~~principle~~ components, formation in situ ~~in-situ~~ stress and strength. 1-D modeling ~~modelign~~ methods are reviewed and extended to 3-D, ~~3-D~~; and the integration of MEM with well design is shown. An MEM model will be created and compared to actual field results.

Prerequisites

Pet Eng 3330 and Geology 3310.

Field Trip

Statement

Credit Hours      LEC: 2 ~~3~~      LAB: 1 ~~0~~      IND: 0      RSD: 0

Total: 3

Required for      Yes

Majors

Elective for      No

Majors

Justification for

change:

The class will get a name name to align with contemporary industry terminology

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

**tibbettsmg (11/11/21 3:11 pm):** Rollback: changes are greater than 50%. please see email. mt

**sraper (12/07/21 12:14 pm):** changing show to shown.

Key: 919

[Preview Bridge](#)

# Course Change Request

Date Submitted: 12/16/21 7:49 pm

Viewing: **STAT 6841 : Stochastic Processes**

File: 1429.1

Last edit: 12/17/21 8:56 am

Changes proposed by: prunnon

Programs  
referencing this  
course

[ACTUSCI-CT: Actuarial Science CT](#)

[STATS-CT: Statistics](#)

[GFINMTH-CT: Financial Mathematics CT](#)

|                          |  |
|--------------------------|--|
| Requested                | <u>Fall 2022</u> <del>08/01/2014</del> |
| Effective Change<br>Date |  |
| Department               | Mathematics & Statistics               |
| Discipline               | Statistics (STAT)                      |
| Course Number            | 6841                                   |
| Title                    |  |

## In Workflow

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

## Approval Path

1. 12/16/21 10:02  
pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 8:56 am  
Marita Tibbetts

- (tibbettsmg):  
Approved for CCC  
Secretary
3. 01/07/22 5:01 pm  
Katie Shannon  
(shannonk):  
Approved for  
Sciences DSCC  
Chair
4. 01/10/22 11:00  
am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
5. 01/25/22 9:37 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Meeting Agenda
6. 01/25/22 11:02  
am  
Stephen Raper  
(sraper):  
Approved for  
Campus Curricula  
Committee Chair

## Stochastic Processes

Abbreviated Course Title      Stochastic Processes

Catalog  
Description

Development and application of Poisson and nonhomogeneous Poisson processes; renewal processes; Markov chains and processes including birth and death processes; and normal processes, including Brownian motion.

#### Prerequisites

A grade of "C" Stat 5643 and Math 3304 or better in Math 2222, Math 3304, and Stat 5643. ~~3329.~~

#### 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:

Now that Math 2222 will no longer be prerequisite to Math 3304, we need to add Math 2222 as a prerequisite to a variety of courses, including this one. We are also adding the "C" or better requirement for consistency with other prerequisites involving these courses. Almost all students taking this course will have already met (or exceeded) this requirement of a "C" or better due to degree requirements or other prerequisites which required a grade of "C" or better in 2222 and 3304.

Students who have already taken Math 3304 and are planning to take this course will not be affected since Math 2222 has been an enforced prerequisite on 3304; thus, they have already taken 2222.

Students wanting to take this course in the future who have not yet taken 3304 will still need to take both 3304 and 2222, just as would have been the case currently.

Thus, this change should not have a negative impact on any students. It only has the

positive impact of allowing the flexibility of which order the student plans to take 2222 and 3304.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer

Comments

**tibbettsmg (12/17/21 8:56 am):** updated prereq formatting. mt

Key: 1429

[Preview Bridge](#)



## Program Change Request

Date Submitted: 12/13/21 2:20 pm

Viewing: **A&E BIO-MS : Biological Science MS**

**~~Applied and Environ Biology MS~~**

File: 30.8

Last approved: 07/22/15 11:54 am

Last edit: 12/14/21 1:42 pm

Changes proposed by: shannonk

Catalog Pages Using this Program

[Biological Sciences](#)

Start Term

Fall 2022 ~~08/17/2015~~

Program Code

A&E BIO-MS

Department

Biological Sciences

Title

Biological Science MS ~~Applied and Environ Biology MS~~

## Program Requirements and Description

### In Workflow

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

### Approval Path

1. 12/13/21 2:22 pm  
David Duvernell (duvernell):  
Approved for  
RBIOLSCI Chair
2. 12/14/21 1:47 pm  
Marita Tibbetts (tibbettsmg):  
Approved for CCC  
Secretary
3. 01/05/22 1:32 pm  
Katie Shannon (shannonk):  
Approved for  
Sciences DSCC  
Chair
4. 01/10/22 8:53 am  
Marita Tibbetts (tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
5. 01/25/22 9:17 am  
Marita Tibbetts (tibbettsmg):  
Approved for CCC

Meeting Agenda  
 6. 01/25/22 11:01 am  
 Stephen Raper  
 (sraper): Approved  
 for Campus  
 Curricula  
 Committee Chair

## History

1. Apr 28, 2014 by  
 Katie Shannon  
 (shannonk)
2. Oct 15, 2014 by  
 Katie Shannon  
 (shannonk)
3. Jul 22, 2015 by  
 pantaleoa

## Degree Requirements M.S. - with thesis

|                                 |   |
|---------------------------------|---|
| <a href="#">BIO SCI 6202</a>    | Problems In Applied And Environmental Biology |
| <a href="#">BIO SCI 5010</a>    | Graduate Seminar                              |
| or <a href="#">BIO SCI 5020</a> | <a href="#">Course BIO SCI 5020 Not Found</a> |
| <a href="#">BIO SCI 5099</a>    | Graduate Research                             |
| <a href="#">BIO SCI 6223</a>    | Research Proposal Writing                     |

## Degree Requirements M.S. - without thesis

|                              |   |
|------------------------------|---|
| <a href="#">BIO SCI 6202</a> | Problems In Applied And Environmental Biology |
| <a href="#">BIO SCI 5010</a> | Graduate Seminar                              |

Elective courses are chosen with guidance from the advisor and advisory committee. A minimum of 30 credit hours is required for a M.S. degree. Up to 6 credit hours may be taken at the 3000-level in courses offered by other departments. Candidates for the M.S. degree with thesis conduct original research that is defended in a final oral examination. Non-thesis M.S. degree candidates take a comprehensive written final examination.

### Justification for request

We are adding a new class and students can take either 5010 or 5020 to fulfill this requirement.

Also, just a note that last year we put through a name change for this degree, but the name change is not reflected here. It is now Biological Sciences MS, not Applied and Environmental Biology MS

### Supporting Documents

[Approved Biological Sciences MS title change.pdf](#)

[MS Bio Science degree title change.pdf](#)

**Course Reviewer Comments**

**tibbettsmg (12/14/21 1:42 pm):** updated title to reflect previously approved changes. supporting documentation attached. mt

Key: 30

## Program Change Request

Date Submitted: 12/08/21 11:33 am

Viewing: **PSYCH-BA : Psychology BA**

File: 192.45

Last approved: 05/05/21 8:29 am

Last edit: 12/13/21 2:53 pm

Changes proposed by: burnsde

Catalog Pages Using this Program

[Psychology](#)

Start Term

Fall 2022 ~~2021~~

Program Code

PSYCH-BA

Department

Psychological Science

Title

Psychology BA

### Program Requirements and Description

### In Workflow

1. RPSYCHOL 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. kristyng

### Approval Path

1. 12/08/21 1:27 pm  
Susan Murray  
(murray): Approved  
for RPSYCHOL  
Chair
2. 12/13/21 2:53 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Secretary
3. 12/23/21 11:30 am  
Cecil Eng Huang  
Chua (cchua):  
Approved for Social  
Sciences DSCC  
Chair
4. 01/10/22 11:01 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
5. 01/25/22 9:25 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

Meeting Agenda  
6. 01/25/22 11:02 am  
Stephen Raper  
(sraper): Approved  
for Campus  
Curricula  
Committee Chair

## History

1. Aug 4, 2014 by nstone
2. Mar 20, 2015 by nstone
3. Jun 19, 2015 by nstone
4. Jul 21, 2015 by pantaleoa
5. Jun 28, 2017 by Nathan Weidner (weidnern)
6. Jun 14, 2019 by Susan Murray (murray)
7. Jul 1, 2020 by Devin Burns (burnsde)
8. Mar 4, 2021 by Devin Burns (burnsde)
9. May 5, 2021 by Devin Burns (burnsde)

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## Bachelor of Arts Psychology

A minimum of 120 credit hours is required for a bachelor of arts degree in psychology and an average of at least two grade points per credit hour must be obtained. The psychology B.A. curriculum requires 6 hours of English Composition, 14 hours of math and science, 12 semester hours in humanities, 12 semester hours is required in social sciences, 11-16 hours of foreign language and a minimum of 35 hours are required in psychology. Up to 12 credit hours of advanced ROTC may be credited toward the degree. Specific requirements for the bachelor of arts degree are outlined in the sample program listed below.

1. [ENGLISH 1120](#) and one additional three hour composition course (6 hours).
2. Western civilization ([HISTORY 1100](#) and [HISTORY 1200](#)) (6 hours).
3. Foreign languages for at least 3 semesters of basic study in French, German, Russian, Spanish or an approved substitute; or one year of basic study in a foreign language in either French, German, Russian, Spanish, or an approved substitute, and a humanities or social sciences course taught in a foreign country and employing the language of that country; or one year of basic study in each of two of the foreign languages of French, German, Russian or Spanish or an approved substitute (11-16

hours).

4. Sciences. At least one course taken in biological (biological sciences) and physical (chemistry, geology and geophysics, physics) sciences. A laboratory course is required (and a lab offered in engineering also may count at the discretion of the student's major advisor) toward the total requirement. Stat 1115 is required, and an additional elective in Science or Math (14 hours).
5. Humanities and fine arts. Courses used to satisfy this requirement must include one course in each of the three areas of literature (English or American), philosophy, and fine arts (art, music or theater), but not to include studio and performance offerings (12 hours).
6. Social Sciences. At least two of the following social science areas are to be included: economics, political science, or history (6 hours).

|    |  |                            |     |
|----|--|----------------------------|-----|
| 7. | Psychology Courses (35 hours)  |                            |     |
|    | Required:*   |                            |     |
|    | General Skills Courses:  |                            |     |
|    | <a href="#">PSYCH 1100</a>   | Introduction to Psychology | 1   |
|    | <a href="#">PSYCH 1101</a>   | General Psychology         | 3   |
|    | <a href="#">PSYCH 2200</a>   | Research Methods           | 4   |
|    | Content Courses:   |                            |     |
|    | <a href="#">PSYCH 3310</a>   | Developmental Psychology   | 3   |
|    | <a href="#">PSYCH 4400</a>   | Cognitive Psychology       | 3   |
|    | <a href="#">PSYCH 4501</a>   | Abnormal Psychology        | 3   |
|    | <a href="#">PSYCH 4600</a>   | Social Psychology          | 3   |
|    | And one of the following 2 courses:  |                            |     |
|    | <a href="#">PSYCH 4410</a>   | Neuroscience               | 3   |
|    | <a href="#">PSYCH 4411</a>   | Sensation and Perception   | 3   |
|    | Capstone Course:   |                            |     |
|    | Select three credit hours from the Capstone courses:   |                            |     |
|    | <a href="#">PSYCH 4010</a>   | Seminar                    | 0-6 |
|    | <a href="#">PSYCH 4099</a>   | Undergraduate Research     | 0-6 |
|    | <a href="#">PSYCH 4200</a>   | Tests and Measurements     | 3   |
|    | <a href="#">PSYCH 4590</a>   | Health Psychology          | 3   |
|    | <a href="#">PSYCH 4994</a>   | Psychology in Media        | 3   |
|    | <a href="#">PSYCH 4992</a>   | Cross-Cultural Psychology  | 3   |
|    | <a href="#">PSYCH 4993</a>   | Psychology of Gender       | 3   |
|    | <a href="#">PSYCH 4990</a>   | Internship                 | 0-6 |
|    | *These required courses total 26 hours.  |                            |     |
|    | Elective Courses:  |                            |     |
|    | Select an additional 9 hours of psychology electives to complete the 35 hour degree requirement. |                            |     |

8. Major-field requirements: A cumulative grade point average of 2.0 must be earned in all course work taken in the major field. Upper-class (3000-4000-level) courses completed with grades of "D" may not be included in the course work for the major field without the approval of the chair of the department. At least nine hours of upper-class work in the major field must be completed in residence at Missouri S&T.

9. Minor: A minor will be selected from any discipline other than the major with the approval of the student's advisor. A total of at least 15 hours is required for the minor, but may include courses which also satisfy other requirements. At least nine hours must be beyond the introductory level. A cumulative grade point average of 2.0 must be earned in all course work required in the minor field. At least six hours of work in the minor field must be completed in residence at Missouri S&T.
10. Basic ROTC may be elected in the freshman and sophomore years, but is not creditable toward a degree. Up to 12 credit hours of advanced ROTC may be credited toward a degree.
11. Elective Credits: In consultation with his/her advisor, each student will elect sufficient additional courses to complete a minimum of 120 credit hours.

## Emphasis Areas

Note: The following areas identify courses from which a student may opt to develop an emphasis area. It is not required that students obtain an emphasis specialty within psychology. At least one class for each emphasis area is already required for all majors, so the remaining three may be taken as the additional 9 hours of required psychology electives. In this way, getting an emphasis requires no additional courses, just less flexibility in which courses you take.

|                                      |   |     |
|--------------------------------------|---|-----|
| Industrial/Organizational Psychology |   |     |
| <a href="#">PSYCH 4600</a>           | Social Psychology                         | 3   |
| <a href="#">PSYCH 4700</a>           | Industrial Psychology                     | 3   |
| <a href="#">PSYCH 4602</a>           | Organizational Psychology                 | 3   |
| And 1 of the following 4:            |   |     |
| <a href="#">PSYCH 4601</a>           | Group Dynamics                            | 3   |
| <a href="#">PSYCH 4610</a>           | Psychology of Leadership in Organizations | 3   |
| <a href="#">PSYCH 4500</a>           | Personality Theory                        | 3   |
| <a href="#">PSYCH 4200</a>           | Tests and Measurements                    | 3   |
| Health Psychology                    |   |     |
| <a href="#">PSYCH 4501</a>           | Abnormal Psychology                       | 3   |
| And 3 of the following 4:            |   |     |
| <a href="#">PSYCH 4510</a>           | Clinical Psychology                       | 3   |
| <a href="#">PSYCH 4990</a>           | Internship                                | 0-6 |
| <a href="#">PSYCH 4590</a>           | Health Psychology                         | 3   |
| <a href="#">PSYCH 3501</a>           | Drugs and Behavior                        | 3   |
| Cognition and Neuroscience           |   |     |
| <a href="#">PSYCH 4400</a>           | Cognitive Psychology                      | 3   |
| And 3 of the following 4:            |   |     |
| <a href="#">PSYCH 4411</a>           | Sensation and Perception                  | 3   |
| <a href="#">PSYCH 3400</a>           | Theories Of Learning                      | 3   |
| <a href="#">PSYCH 4410</a>           | Neuroscience                              | 3   |
| <a href="#">PSYCH 3501</a>           | Drugs and Behavior                        | 3   |
| Human Factors                        |   |     |
| <a href="#">PSYCH 4400</a>           | Cognitive Psychology                      | 3   |
| <a href="#">PSYCH 4710</a>           | Human Factors                             | 3   |

|                            |                                     |   |
|----------------------------|-------------------------------------|---|
| <a href="#">PSYCH 4720</a> | Psychology of Social Technology     | 3 |
| And 1 of the following 3:  |                                     |   |
| <a href="#">PSYCH 4411</a> | Sensation and Perception            | 3 |
| <a href="#">PSYCH 4700</a> | Industrial Psychology               | 3 |
| <a href="#">PSYCH 4602</a> | Organizational Psychology           | 3 |
| Diversity and Inclusion    |                                     |   |
| <a href="#">PSYCH 4600</a> | Social Psychology                   | 3 |
| And 3 of the following 4:  |                                     |   |
| <a href="#">PSYCH 4993</a> | Psychology of Gender                | 3 |
| <a href="#">PSYCH 4500</a> | Personality Theory                  | 3 |
| <a href="#">PSYCH 4992</a> | Cross-Cultural Psychology           | 3 |
| <a href="#">PSYCH 4310</a> | Psychology Of The Exceptional Child | 3 |

## Bachelor of Arts Psychology (Secondary Education Emphasis Area)

You may earn a B.A. degree in psychology from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with the secondary education emphasis area program.

In addition to maintaining a 3.0 content and professional requirement GPA, students must pass the appropriate content assessment to be eligible for student teaching. Missouri S&T allows students to choose their student teaching placement, if the district agrees and a qualified cooperating teacher is available. This program is approved by the Missouri Department of Elementary and Secondary Education for initial teacher certification. Students intending to teach in other states are responsible for investigating the reciprocity agreement of that state agency.

A degree with this emphasis area requires 121 credit hours. The required courses are provided below.

|  |                              |   |
|--|------------------------------|---|
| Communications Skills: 6 semester hours  |                              |   |
| <a href="#">ENGLISH 1120</a>   | Exposition And Argumentation | 3 |
| <a href="#">ENGLISH 1160</a>   | Writing And Research         | 3 |
| Humanities: 12 semester hours  |                              |   |
| Art, Music, or Theatre course  |                              | 3 |
| Philosophy course  |                              | 3 |
| Literature course  |                              | 3 |
| One additional humanities from the above course groups, Foreign Language, or Etymology |                              | 3 |
| Social Sciences: 21 semester hours   |                              |   |
| <a href="#">HISTORY 1300</a>   | American History To 1877     | 3 |
| <a href="#">HISTORY 1310</a>   | American History Since 1877  | 3 |
| <a href="#">POL SCI 1200</a>   | American Government          | 3 |
| <a href="#">POL SCI 3211</a>   | American Political Parties   | 3 |
| or <a href="#">POL SCI 3300</a>  | Principles Of Public Policy  |   |



|   |   |                   |
|---|---|-------------------|
| or <a href="#">POL SCI 3760</a>                   | The American Presidency                                   |                   |
| or <a href="#">POL SCI 3763</a>                   | Contemporary Political Thought                            |                   |
| <a href="#">PSYCH 1101</a>                        | General Psychology  | 3                 |
| <a href="#">ECON 1100</a>                         | Principles Of Microeconomics                              | 3                 |
| or <a href="#">ECON 1200</a>                      | Principles Of Macroeconomics                              |                   |
| Geography   |   | 3                 |
| Natural Science/Mathematics: 12 semester hours    |   |                   |
| One course in Physics, Chemistry or Geology       |   | 3                 |
| Mathematics 1120, 1103, 1140+                     |   | 3                 |
| <a href="#">STAT 1115</a>                         | Statistics For The Social Sciences I                      | 3                 |
| <a href="#">BIO SCI 1113</a>                      | General Biology   | 3                 |
| Professional Requirements: 23 semester hours      |   |                   |
| <a href="#">EDUC 1040</a>                         | Perspectives In Education                                 | 2                 |
| <a href="#">EDUC 1174</a>                         | School Organization and Administration For Teachers       | 2                 |
| <a href="#">EDUC 2251</a>                         | Historical Foundation Of American Education               | 3                 |
| <a href="#">EDUC 3216</a>                         | Instructional Literacy in the Content Area                | 3                 |
| <a href="#">EDUC 3280</a>                         | Instructional Strategies in the Content Area              | 3                 |
| <a href="#">EDUC 4298</a>                         | Student Teaching Seminar                                  | 1                 |
| <a href="#">PSYCH 2300</a>                        | Educational Psychology                                    | 3                 |
| <a href="#">PSYCH 3311</a>                        | Psychological & Educational Development Of The Adolescent | 3                 |
| <a href="#">PSYCH 4310</a>                        | Psychology Of The Exceptional Child                       | 3                 |
| Clinical Experience: 15 semester hours            |   |                   |
| <a href="#">EDUC 1104</a>                         | Teacher Field Experience I                                | 1                 |
| <a href="#">EDUC 1164</a>                         | Teacher Field Experience II                               | 2                 |
| <a href="#">EDUC 4299</a>                         | Student Teaching  | 12                |
| Psychology Degree Requirements: 17 semester hours |   |                   |
| <a href="#">PSYCH 1100</a>                        | Introduction to Psychology                                | 1                 |
| <a href="#">PSYCH 2200</a>                        | Research Methods  | 4                 |
| <del>PSYCH 3400</del>                             | <del>Theories Of Learning</del>                           | <del>3</del>      |
| <a href="#">PSYCH 3310</a>                        | Developmental Psychology                                  | 3                 |
| <a href="#">PSYCH 4400</a>                        | <a href="#">Cognitive Psychology</a>                      | <a href="#">3</a> |
| <a href="#">PSYCH 4501</a>                        | Abnormal Psychology                                       | 3                 |
| <a href="#">PSYCH 4600</a>                        | Social Psychology   | 3                 |
| Certification: 15 semester hours                  |   |                   |
| 6 hours of American History from the following:   |   |                   |
| <a href="#">HISTORY 3320</a>                      | Colonial America  |                   |
| <a href="#">HISTORY 3325</a>                      | Revolutionary America, 1754-1789                          |                   |

|  |   |
|--|---|
| <a href="#">HISTORY 3340</a>                 | Age Of Jefferson And Jackson                            |
| <a href="#">HISTORY 3345</a>                 | Civil War And Reconstruction                            |
| <a href="#">HISTORY 3360</a>                 | Recent United States History                            |
| <a href="#">HISTORY 3425</a>                 | History Of The Old South                                |
| <a href="#">HISTORY 3426</a>                 | History Of The Modern South                             |
| <a href="#">HISTORY 3480</a>                 | History Of Baseball                                     |
| <a href="#">HISTORY 3440</a>                 | 20th Century Americans In Combat                        |
| <a href="#">HISTORY 3442</a>                 | The United States in Vietnam                            |
| <a href="#">HISTORY 3761</a>                 | U.S. Diplomatic History to World War II                 |
| <a href="#">HISTORY 4435</a>                 | History of the American West                            |
| 9 hours of World History from the following: |   |
| <a href="#">HISTORY 1100</a>                 | Early Western Civilization                              |
| <a href="#">HISTORY 1200</a>                 | Modern Western Civilization                             |
| <a href="#">HISTORY 2220</a>                 | Making Of Modern Britain                                |
| <a href="#">HISTORY 2222</a>                 | The Making Of Modern France                             |
| <a href="#">HISTORY 2224</a>                 | Making Of Modern Russia                                 |
| <a href="#">HISTORY 3130</a>                 | Medieval History I                                      |
| <a href="#">HISTORY 3135</a>                 | Medieval History II                                     |
| <a href="#">HISTORY 3140</a>                 | History Of Renaissance Thought                          |
| <a href="#">HISTORY 3230</a>                 | Europe In The Age Of The French Revolution And Napoleon |
| <a href="#">HISTORY 3235</a>                 | Foundations Of Contemporary Europe 1815-1914            |
| <a href="#">HISTORY 3240</a>                 | Contemporary Europe                                     |
| <a href="#">HISTORY 3660</a>                 | Modern East Asia  |

**Justification for request**

Aligning the education requirements with the core of our program

Supporting Documents

Course Reviewer Comments

**tibbettsmg (12/13/21 2:53 pm):** updated effective term to FS22. mt

Key: 192

## Program Change Request

Date Submitted: 12/08/21 11:32 am

Viewing: **PSYCH-BS : Psychology BS**

File: 193.46

Last approved: 05/05/21 8:29 am

Last edit: 12/08/21 11:32 am

Changes proposed by: burnsde

Catalog Pages Using this Program

[Psychology](#)

Start Term

Fall 2022 ~~2021~~

Program Code

PSYCH-BS

Department

Psychological Science

Title

Psychology BS

### Program Requirements and Description

### In Workflow

1. **RPSCYCHOL 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. **kristyng**

### Approval Path

1. 12/08/21 1:27 pm  
Susan Murray (murray): Approved for RPSYCHOL Chair
2. 12/13/21 4:20 pm  
Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 12/23/21 11:30 am  
Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 01/10/22 11:02 am  
Marita Tibbetts (tibbettsmg): Approved for Pending CCC Agenda post
5. 01/25/22 9:25 am  
Marita Tibbetts (tibbettsmg): Approved for CCC

Meeting Agenda  
6. 01/25/22 11:02 am  
Stephen Raper  
(sraper): Approved  
for Campus  
Curricula  
Committee Chair

## History

1. May 6, 2014 by  
nstone
2. Jul 8, 2014 by  
pantaleoa
3. Jul 8, 2014 by  
pantaleoa
4. Mar 20, 2015 by  
nstone
5. Jun 19, 2015 by  
nstone
6. Jul 21, 2015 by  
pantaleoa
7. Jun 28, 2017 by  
Nathan Weidner  
(weidner)
8. Jun 14, 2019 by  
Susan Murray  
(murray)
9. Jul 1, 2020 by  
Devin Burns  
(burnsde)
10. Mar 4, 2021 by  
Devin Burns  
(burnsde)
11. May 5, 2021 by  
Devin Burns  
(burnsde)

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## Bachelor of Science Psychology

A minimum of 120 credit hours is required for a bachelor of science degree in psychology and a cumulative grade point average of 2.0 must be obtained. These requirements for the B.S. degree are in addition to credit received for basic ROTC.

The psychology bachelor of science curriculum requires six hours of English composition; 20 hours of math, science and computer science; twelve semester hours in the humanities; and twelve semester hours in the social sciences. Specific requirements for the bachelor degree are outlined in the sample program listed below.

1. [ENGLISH 1120](#) and [ENGLISH 1160](#) (entering students will normally take [ENGLISH 1120](#) either semester of the first year.) (6

hours)

2. A total of 20 hours in biological, physical, (chemistry, geology and geophysics, and physics), and mathematical (mathematics/statistics and computer science or information science & technology) sciences, to include at least one course taken in the biological and one in the physical sciences. Of the biological and physical science offerings, at least one must be a laboratory course. Stat 1115 is required. Engineering courses may, at the discretion of the student's major advisor, also count toward this total requirement. (20 hours)
3. 12 hours in humanities and fine arts (literature, philosophy, art, music, or theater). Foreign language courses may count toward fulfilling this requirement. Courses used to satisfy this requirement must be taken in at least two humanities areas. (12 hours)
4. 12 hours in at least two social sciences fields outside the major area (economics or history or political science). A course in Modern Western Civilization ([HISTORY 1200](#)), American History To 1877 ([HISTORY 1300](#)) or American History Since 1877 ([HISTORY 1310](#)), or American Government ([POL SCI 1200](#)) must be taken to satisfy the requirement of the state of Missouri (the "Williams Law"), and this course may count toward fulfilling the social sciences requirement. (12 hours)
5. Minor: A minor will be selected from any discipline other than the major with the approval of the student's advisor. A total of at least 15 hours is required for the minor, but may include courses which also satisfy other requirements. At least nine hours must be beyond the introductory level.
6. Basic ROTC may be elected in the freshman and sophomore years, but is not creditable toward a degree. Six credit hours of advanced ROTC may be credited toward a degree.
7. Elective Credits: In consultation with his/her advisor, each student will elect sufficient additional courses to complete a minimum of 120 credit hours which may include [MATH 1160](#) and one of [MATH 1120](#) or [MATH 1140](#) .

8. Psychology Courses (35 hours)

Required:\*

General Skills Courses:

|  |                            |     |
|--|----------------------------|-----|
| <a href="#">PSYCH 1100</a>                                     | Introduction to Psychology | 1   |
| <a href="#">PSYCH 1101</a>                                     | General Psychology         | 3   |
| <a href="#">PSYCH 2200</a>                                     | Research Methods           | 4   |
| Content Courses:   |                            |     |
| <a href="#">PSYCH 3310</a>                                     | Developmental Psychology   | 3   |
| <a href="#">PSYCH 4400</a>                                     | Cognitive Psychology       | 3   |
| <a href="#">PSYCH 4501</a>                                     | Abnormal Psychology        | 3   |
| <a href="#">PSYCH 4600</a>                                     | Social Psychology          | 3   |
| And one of the following 2 courses:                            |                            |     |
| <a href="#">PSYCH 4410</a>                                     | Neuroscience               | 3   |
| <a href="#">PSYCH 4411</a>                                     | Sensation and Perception   | 3   |
| Capstone Course:   |                            |     |
| Select three credit hours from the following Capstone courses: |                            |     |
| <a href="#">PSYCH 4010</a>                                     | Seminar                    | 0-6 |
| <a href="#">PSYCH 4099</a>                                     | Undergraduate Research     | 0-6 |
| <a href="#">PSYCH 4200</a>                                     | Tests and Measurements     | 3   |
| <a href="#">PSYCH 4590</a>                                     | Health Psychology          | 3   |
| <a href="#">PSYCH 4994</a>                                     | Psychology in Media        | 3   |
| <a href="#">PSYCH 4992</a>                                     | Cross-Cultural Psychology  | 3   |
| <a href="#">PSYCH 4993</a>                                     | Psychology of Gender       | 3   |

|  |            |     |
|--|------------|-----|
| <a href="#">PSYCH 4990</a>   | Internship | 0-6 |
| *These required courses total 26 hours.  |            |     |
| Elective Courses:  |            |     |
| Select an additional 9 hours of psychology electives to complete the 35 hour degree requirement. |            |     |

9. A cumulative grade point average of 2.0 must be earned in all course work taken in the major field. Upper class (3000-level and above) courses completed with grades of "D" may not be included in the course work for the major field without the approval of the advisor and the chair of the department concerned.

## Emphasis Areas

Note: The following areas identify courses from which a student may opt to develop an emphasis area. It is not required that students obtain an emphasis specialty within psychology. At least one class for each emphasis area is already required for all majors, so the remaining three may be taken as the additional 9 hours of required psychology electives. In this way, getting an emphasis requires no additional courses, just less flexibility in which courses you take.

|                                      |   |     |
|--------------------------------------|---|-----|
| Industrial/Organizational Psychology |   |     |
| <a href="#">PSYCH 4600</a>           | Social Psychology                         | 3   |
| <a href="#">PSYCH 4700</a>           | Industrial Psychology                     | 3   |
| <a href="#">PSYCH 4602</a>           | Organizational Psychology                 | 3   |
| And 1 of the following 4:            |   |     |
| <a href="#">PSYCH 4601</a>           | Group Dynamics                            | 3   |
| <a href="#">PSYCH 4500</a>           | Personality Theory                        | 3   |
| <a href="#">PSYCH 4610</a>           | Psychology of Leadership in Organizations | 3   |
| <a href="#">PSYCH 4200</a>           | Tests and Measurements                    | 3   |
| Health Psychology                    |   |     |
| <a href="#">PSYCH 4501</a>           | Abnormal Psychology                       | 3   |
| And 3 of the following 4:            |   |     |
| <a href="#">PSYCH 4510</a>           | Clinical Psychology                       | 3   |
| <a href="#">PSYCH 3501</a>           | Drugs and Behavior                        | 3   |
| <a href="#">PSYCH 4590</a>           | Health Psychology                         | 3   |
| <a href="#">PSYCH 4990</a>           | Internship                                | 0-6 |
| Cognition and Neuroscience           |   |     |
| <a href="#">PSYCH 4400</a>           | Cognitive Psychology                      | 3   |
| <a href="#">PSYCH 4410</a>           | Neuroscience                              | 3   |
| <a href="#">PSYCH 4411</a>           | Sensation and Perception                  | 3   |
| And 1 of the following 2:            |   |     |
| <a href="#">PSYCH 3400</a>           | Theories Of Learning                      | 3   |
| <a href="#">PSYCH 3501</a>           | Drugs and Behavior                        | 3   |
| Human Factors                        |   |     |
| <a href="#">PSYCH 4400</a>           | Cognitive Psychology                      | 3   |

|                            |                                     |   |
|----------------------------|-------------------------------------|---|
| <a href="#">PSYCH 4710</a> | Human Factors                       | 3 |
| <a href="#">PSYCH 4720</a> | Psychology of Social Technology     | 3 |
| And 1 of the following 3:  |                                     |   |
| <a href="#">PSYCH 4700</a> | Industrial Psychology               | 3 |
| <a href="#">PSYCH 4602</a> | Organizational Psychology           | 3 |
| <a href="#">PSYCH 4411</a> | Sensation and Perception            | 3 |
| Diversity and Inclusion    |                                     |   |
| <a href="#">PSYCH 4600</a> | Social Psychology                   | 3 |
| And 3 of the following 4:  |                                     |   |
| <a href="#">PSYCH 4993</a> | Psychology of Gender                | 3 |
| <a href="#">PSYCH 4992</a> | Cross-Cultural Psychology           | 3 |
| <a href="#">PSYCH 4310</a> | Psychology Of The Exceptional Child | 3 |
| <a href="#">PSYCH 4500</a> | Personality Theory                  | 3 |

## Bachelor of Science Psychology (Secondary Education Emphasis Area)

You may earn a B.S. degree in psychology from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with the secondary education emphasis area program.

In addition to maintaining a 3.0 content and professional requirement GPA, students must pass the appropriate content assessment to be eligible for student teaching. Missouri S&T allows students to choose their student teaching placement, if the district agrees and a qualified cooperating teacher is available. This program is approved by the Missouri Department of Elementary and Secondary Education for initial teacher certification. Students intending to teach in other states are responsible for investigating the reciprocity agreement of that state agency.

A degree with this emphasis area requires 121 credit hours. The required courses are provided below.

|  |                              |     |
|--|------------------------------|-----|
| Communications Skills: 3 semester hours  |                              |     |
| <a href="#">ENGLISH 1120</a>   | Exposition And Argumentation | 3   |
| Humanities: 12 semester hours  |                              |     |
| Art, Music, or Theatre course  |                              | 3   |
| Philosophy course  |                              | 3   |
| Literature course  |                              | 3   |
| One additional humanities from the above course groups, Foreign Language, or Etymology |                              | 3-4 |
| Social Sciences: 21 semester hours   |                              |     |
| <a href="#">HISTORY 1300</a>   | American History To 1877     | 3   |
| <a href="#">HISTORY 1310</a>   | American History Since 1877  | 3   |
| <a href="#">POL SCI 1200</a>   | American Government          | 3   |
| <a href="#">POL SCI 3211</a>   | American Political Parties   | 3   |
| or <a href="#">POL SCI 3300</a>  | Principles Of Public Policy  |     |

|   |   |                   |
|---|---|-------------------|
| or <a href="#">POL SCI 3760</a>                   | The American Presidency                                   |                   |
| or <a href="#">POL SCI 3763</a>                   | Contemporary Political Thought                            |                   |
| <a href="#">PSYCH 1101</a>                        | General Psychology  | 3                 |
| <a href="#">ECON 1100</a>                         | Principles Of Microeconomics                              | 3                 |
| or <a href="#">ECON 1200</a>                      | Principles Of Macroeconomics                              |                   |
| <a href="#">HISTORY 2110</a>                      | World Regional Geography                                  | 3                 |
| Natural Sciences/Mathematics: 15 semester hours   |   |                   |
| One course in Physics, Chemistry or Geology       |   |                   |
|   |   | 3                 |
| Mathematics 1120, 1130, 1140+                     |   |                   |
|   |   | 3                 |
| <a href="#">BIO SCI 1113</a>                      | General Biology   | 3                 |
| <a href="#">STAT 1115</a>                         | Statistics For The Social Sciences I                      | 3                 |
| 3 additional hours of Math &/or Science courses   |   |                   |
|   |   | 3                 |
| Professional Requirements: 23 semester hours      |   |                   |
| <a href="#">EDUC 1040</a>                         | Perspectives In Education                                 | 2                 |
| <a href="#">EDUC 1174</a>                         | School Organization and Administration For Teachers       | 2                 |
| <a href="#">EDUC 2251</a>                         | Historical Foundation Of American Education               | 3                 |
| <a href="#">EDUC 3216</a>                         | Instructional Literacy in the Content Area                | 3                 |
| <a href="#">EDUC 3280</a>                         | Instructional Strategies in the Content Area              | 3                 |
| <a href="#">EDUC 4298</a>                         | Student Teaching Seminar                                  | 1                 |
| <a href="#">PSYCH 2300</a>                        | Educational Psychology                                    | 3                 |
| <a href="#">PSYCH 3311</a>                        | Psychological & Educational Development Of The Adolescent | 3                 |
| <a href="#">PSYCH 4310</a>                        | Psychology Of The Exceptional Child                       | 3                 |
| Clinical Experience: 15 semester hours            |   |                   |
| <a href="#">EDUC 1104</a>                         | Teacher Field Experience I                                | 1                 |
| <a href="#">EDUC 1164</a>                         | Teacher Field Experience II                               | 2                 |
| <a href="#">EDUC 4299</a>                         | Student Teaching  | 12                |
| Psychology Degree Requirements: 17 semester hours |   |                   |
| <a href="#">PSYCH 1100</a>                        | Introduction to Psychology                                | 1                 |
| <a href="#">PSYCH 2200</a>                        | Research Methods  | 4                 |
| <del>PSYCH 3400</del>                             | <del>Theories Of Learning</del>                           | <del>3</del>      |
| <a href="#">PSYCH 3310</a>                        | Developmental Psychology                                  | 3                 |
| <a href="#">PSYCH 4400</a>                        | <a href="#">Cognitive Psychology</a>                      | <a href="#">3</a> |
| <a href="#">PSYCH 4501</a>                        | Abnormal Psychology                                       | 3                 |
| <a href="#">PSYCH 4600</a>                        | Social Psychology   | 3                 |
| Certification: 15 semester hours                  |   |                   |
| 6 hours of American History from the following:   |   |                   |
| <a href="#">HISTORY 3320</a>                      | Colonial America  |                   |



|  |   |
|--|---|
| <a href="#">HISTORY 3325</a>                 | Revolutionary America, 1754-1789                        |
| <a href="#">HISTORY 3340</a>                 | Age Of Jefferson And Jackson                            |
| <a href="#">HISTORY 3345</a>                 | Civil War And Reconstruction                            |
| <a href="#">HISTORY 3360</a>                 | Recent United States History                            |
| <a href="#">HISTORY 3425</a>                 | History Of The Old South                                |
| <a href="#">HISTORY 3426</a>                 | History Of The Modern South                             |
| <a href="#">HISTORY 3480</a>                 | History Of Baseball                                     |
| <a href="#">HISTORY 3440</a>                 | 20th Century Americans In Combat                        |
| <a href="#">HISTORY 3442</a>                 | The United States in Vietnam                            |
| <a href="#">HISTORY 3761</a>                 | U.S. Diplomatic History to World War II                 |
| <a href="#">HISTORY 4435</a>                 | History of the American West                            |
| 9 hours of World History from the following: |   |
| <a href="#">HISTORY 1100</a>                 | Early Western Civilization                              |
| <a href="#">HISTORY 1200</a>                 | Modern Western Civilization                             |
| <a href="#">HISTORY 2220</a>                 | Making Of Modern Britain                                |
| <a href="#">HISTORY 2222</a>                 | The Making Of Modern France                             |
| <a href="#">HISTORY 2224</a>                 | Making Of Modern Russia                                 |
| <a href="#">HISTORY 3130</a>                 | Medieval History I                                      |
| <a href="#">HISTORY 3135</a>                 | Medieval History II                                     |
| <a href="#">HISTORY 3140</a>                 | History Of Renaissance Thought                          |
| <a href="#">HISTORY 3230</a>                 | Europe In The Age Of The French Revolution And Napoleon |
| <a href="#">HISTORY 3235</a>                 | Foundations Of Contemporary Europe 1815-1914            |
| <a href="#">HISTORY 3240</a>                 | Contemporary Europe                                     |
| <a href="#">HISTORY 3660</a>                 | Modern East Asia  |

Justification for request

Aligning the education requirements with the core of our program

Supporting Documents

Course Reviewer Comments

Key: 193

## Program Change Request

A deleted record cannot be edited

### Program Deactivation Proposal

Date Submitted: 12/08/21 11:26 am

Viewing: **PSYMETR-MI : Psychometrics Minor**

File: 126.2

Last approved: 05/07/14 11:09 am

Last edit: 12/13/21 2:55 pm

Changes proposed by: burnsde

Catalog Pages Using this Program

[Psychology](#)

Start Term

Fall 2022 08/01/2014

Program Code

PSYMETR-MI

Department

Psychological Science

Title

Psychometrics Minor

### Program Requirements and Description

#### In Workflow

1. RPSYCHOL 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. kristyg

#### Approval Path

1. 12/08/21 1:26 pm  
Susan Murray (murray): Approved for RPSYCHOL Chair
2. 12/13/21 2:56 pm  
Marita Tibbetts (tibbettsmg): Approved for CCC Secretary
3. 12/23/21 11:30 am  
Cecil Eng Huang Chua (cchua): Approved for Social Sciences DSCC Chair
4. 01/10/22 11:03 am  
Marita Tibbetts (tibbettsmg): Approved for Pending CCC Agenda post
5. 01/25/22 9:25 am  
Marita Tibbetts

(tibbettsmg):  
 Approved for CCC  
 Meeting Agenda  
 6. 01/25/22 11:02 am  
 Stephen Raper  
 (sraper): Approved  
 for Campus  
 Curricula  
 Committee Chair

## History

1. May 7, 2014 by  
 Lahne Black (lahne)

### Psychometric Minor

Requirements include the following courses:

|                              |                           |   |
|------------------------------|---------------------------|---|
| <a href="#">PSYCH 1101</a>   | General Psychology        | 3 |
| <a href="#">PSYCH 5201</a>   | Psychometrics             | 3 |
| <a href="#">PSYCH 4700</a>   | Industrial Psychology     | 3 |
| <a href="#">PSYCH 4200</a>   | Tests and Measurements    | 3 |
| <a href="#">STAT 5346</a>    | Regression Analysis       | 3 |
| or <a href="#">STAT 5353</a> | Statistical Data Analysis |   |

Justification for request

No longer in use

Supporting Documents

Course Reviewer Comments

**tibbettsmg (12/13/21 2:55 pm):** updated term to FS22. mt

Key: 126

# Course Change Request

## New Experimental Course Proposal

Date Submitted: 12/13/21 3:39 pm

Viewing: **ARCH ENG 5001.003 : Renewable Energy – Storage Systems for Buildings**

File: 4820

Last edit: 12/14/21 1:56 pm

Changes proposed by: baur

|                       |   |
|-----------------------|---|
| Requested             | Summer 2022   |
| Effective Change Date |   |
| Department            | Civil, Architectural, and Environmental Engineering |
| Discipline            | Architectural Engineering (ARCH ENG)                |
| Course Number         | 5001  |
| Topic ID              | 003   |
| Experimental Title    |   |

### In Workflow

1. RCIVILEN 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. 08/19/21 5:29 am  
Joel Burken (burken):  
Approved for RCIVILEN Chair
2. 08/19/21 8:42 am  
Marita Tibbetts (tibbettsmg):  
Rollback to Initiator
3. 10/20/21 8:34 am  
kristyg: Rollback to Initiator
4. 12/13/21 2:54 pm

- Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
- 5. 12/13/21 3:32 pm  
Marita Tibbetts  
(tibbettsmg):  
Rollback to  
Initiator
- 6. 12/14/21 4:26 am  
Joel Burken  
(burken):  
Approved for  
RCIVILEN Chair
- 7. 12/14/21 1:56 pm  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Secretary
- 8. 01/06/22 9:23 am  
Stephen Raper  
(sraper):  
Approved for  
Engineering DSCC  
Chair
- 9. 01/10/22 8:57 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for  
Pending CCC  
Agenda post
- 10. 01/25/22 9:17 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC

- Meeting Agenda
- 11. 01/25/22 11:01 am  
Stephen Raper (sraper):  
Approved for Campus Curricula Committee Chair
  - 12. 01/25/22 1:34 pm  
Marita Tibbetts (tibbettsmg):  
Approved for CAT entry

Renewable Energy – Storage Systems for Buildings

Experimental            Ren Ener-Stor Sys Bldg  
 Abbreviated  
 Course Title  
 Instructors            Baur

Experimental  
 Catalog  
 Description  
 The fundamentals of storage systems from renewable power systems (photovoltaic) for buildings will be covered. This includes identifying various systems, sizing a storage system, designing and analyzing the various storage systems.

Prerequisites  
 Mech Eng 2527 or consent of instructor.

Field Trip  
 Statement

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

Justification for

new course:

The course will also serve as an expansion of the building systems focus area of the architectural engineering graduate certificate program. The course will provide greater depth into not only the various types of storage systems from both an individuals home use but even expanding into the use of micro-grids as well as utility use systems.

Semester(s)

previously taught

New

Co-Listed

Courses:

Course Reviewer

Comments

**tibbettsmg (08/19/21 8:42 am):** Rollback: The prereq as currently stated, has no defined parameter for students to determine if they meet the “thermal analysis” or “fluid mechanics” requirement.

**kristyg (10/20/21 8:34 am):** Rollback: Per request of Dr. Baur

**tibbettsmg (12/13/21 3:32 pm):** Rollback: "Thermal analysis" as a prereq has no defined parameter for students to determine if they meet the requirement. I recommend listing a course(s) and or "consent of instructor".

**tibbettsmg (12/14/21 1:56 pm):** missed deadline for Sp22. Updated effective term to SS22. mt

Key: 4820

[Preview Bridge](#)

# Course Change Request

## New Experimental Course Proposal

Date Submitted: 12/03/21 8:46 am

Viewing: **STAT 5001.009 : Causal Data Science**

File: 4843

Last edit: 12/17/21 9:01 am

Changes proposed by: paigero

Requested                      Fall 2022

Effective Change

Date

Department                    Mathematics & Statistics

Discipline                     Statistics (STAT)

Course Number                5001

Topic ID                        009

Experimental

Title

### In Workflow

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

### Approval Path

1. 12/15/21 4:52 pm  
John Singler  
(singlerj):  
Approved for  
RMATHEMA Chair
2. 12/17/21 9:02 am  
Marita Tibbetts  
(tibbettsmg):  
Approved for CCC  
Secretary
3. 01/07/22 5:01 pm  
Katie Shannon  
(shannonk):



Approved for  
Sciences DSCC  
Chair

4. 01/10/22 11:04  
am

Marita Tibbetts  
(tibbettsmg):

Approved for  
Pending CCC

Agenda post

5. 01/25/22 9:26 am

Marita Tibbetts  
(tibbettsmg):

Approved for CCC  
Meeting Agenda

6. 01/25/22 11:02  
am

Stephen Raper  
(sraper):

Approved for  
Campus Curricula  
Committee Chair

## Causal Data Science

Experimental Causal Data Science

Abbreviated

Course Title

Instructors Robert Paige

Experimental

Catalog

Description

An introduction to Causal Inference for Data Science. Topics to be covered include potential outcomes; causality; adjustment for confounding, selection bias; measurement bias; causal inference with models and causal inference from complex

longitudinal data.

#### Prerequisites

Stat 3113, Stat 3115, Stat 3117, or Stat 5643.

#### Field Trip

#### Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

#### Justification for

new course:

This adage "correlation does not imply causation" is widely taught to data scientists in order

to prevent the logical fallacy of cum hoc ergo propter hoc ("with this, therefore because of this").

The overwhelming majority of statistical learning models used in Data Science are predictive.

The downside to this is that predictive models, even with extremely high accuracy are of limited

help when one is trying to ascertain what might happen if we change a system or take an action.

Causal inference bridges the gap between prediction and decision making. It helps one to better

understand the underlying causes of a phenomenon and as such leads to better decisions.

#### Semester(s)

previously taught

#### Co-Listed

Courses:

#### Course Reviewer

#### Comments

**tibbettsmg (12/17/21 9:01 am):** updated prereq formatting. mt

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Key: 4843

[Preview Bridge](#)

# Miscellaneous Change Request

Shred Proposal

## New Miscellaneous Request

Date Submitted: 12/15/21 11:41 am

Viewing: **7 : Department of Mining & Explosives Engineering**

Last edit: 12/15/21 11:41 am

Changes proposed by: kabp3

|              |   |
|--------------|---|
| Request Type | Name Change   |
| Title        | Department of Mining & Explosives Engineering   |
| Description  | <p>The Mining &amp; Explosives Engineering programs would like to change its name to the "Department of Mining &amp; Explosives Engineering". This change will not impact the names of our programs, degrees or certificates. Our respective faculty have discussed this change and we have consulted with our alumni on this issue. All stakeholders are in favor of the programs becoming a standalone department. The programs have been operating independently for more than 2 years. Since the University formed the Department of Nuclear Engineering &amp; Radiation Science, the Mining &amp; Explosives Engineering programs have operated as programs outside of a department. This uncertainty has implications for tenure and promotion cases, and faculty retention and morale. The Dean of CEC, the Provost and the Chancellor have also approved this change.</p> |

Supporting Documentation [Mining and Explosives Engineering.pdf](#)

Course Reviewer Comments **tibbetmsg (09/17/21 8:59 am):** Rollback: please attach the supporting approval documents and resubmit.

### In Workflow

1. Pending CCC Agenda post
2. CCC Meeting Agenda
3. Campus Curricula Committee Chair
4. Registrar

### Approval Path

1. 09/17/21 8:59 am  
Marita Tibbetts (tibbetmsg): Rollback to Initiator