

## Minutes of the Campus Curricula Committee Meeting

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**October 24, 2023**

**8:15am, Parker Hall 203**

**(For Faculty Senate Meeting of November 16, 2023)**

**Attendees:** *In Person:* Petra Dewitt, Katie Shannon, Michael Davis, Kyle Perry, Michael Gosnell, Mark Fitch, Stephen Raper, Michel Gueldry, and Jennifer Pohlsander *Virtual:* Cecil Eng Huang Chua

*The following curriculum forms were discussed and approved:*

**Course Change forms:**

File: 4280.11 CHEM ENG 3101 : Fundamentals of Transport in Chemical and Biochemical Engineering  
File: 4279.31 CHEM ENG 3111 : Numerical Computing in Chemical and Biochemical Engineering  
File: 1038.14 CHEM ENG 3150 : Chemical Engineering Reactor Design  
File: 792.12 CHEM ENG 4130 : Chemical Engineering Laboratory II  
File: 5001 CHEM ENG 5335 : Introduction to Process Intensification  
File: 1627.7 COMP ENG 3150 : Introduction to Microcontrollers and Embedded System Design  
File: 2451.4 COMP ENG 6510 : Resilient Networks  
File: 924.1 MATH 1120 : College Algebra

**Program Change forms:**

File: 232.11 MIL AIR-MI : Military Aerospace Studies Minor

**Experimental Course forms:**

File: 5002 COMP SCI 5001.015 : Natural Language Processing  
File: 5003 MATH 6001.009 : Fixed Income Models

**New Business:**

Motion approved to bring before the Faculty Senate the Minor statement on the following page for inclusion in the catalog.

The graduate oral examination fee was discussed.

The CCC calendar was updated and approved, due to summer semester registration moving to October 30, 2023.

The meeting adjourned at 8:56 am.

*Petra Dewitt*

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Dr. Petra Dewitt, Chair  
Missouri S&T Campus Curricula Committee

The members of the Campus Curriculum Committee approved a motion to bring before the Faculty Senate the following Minor statement for inclusion in the catalogue:

A minor is a defined academic program outside of a student's major field of study. Minors are intended to broaden the student's education, providing a coherent and officially recognized course of study outside of their chosen major.

A minor typically consists of at least 12 credit hours of coursework and must include 6 credit hours or more at courses numbered 3000 level or above. Special topics, independent study and undergraduate research credit may be included in the minor program but not exceed 6 credit hours.

A maximum of 6 credit hours of transfer credit may be used to satisfy the course requirements for a minor, at the department's discretion.

Interdisciplinary or multidisciplinary minors are considered as Special Programs and must meet requirements as specified in CRR 300.030 Faculty Bylaws of the Missouri University of Science and Technology.

All courses used to satisfy the course requirements for a minor must be completed with a grade of C (2.000) or better.

The minor is awarded simultaneously with the major degree award.

Proposals for a minor start at the department (or Special Program level) and follow normal Campus Curricula Committee (CCC) processes and procedures.

The justification for this statement in the catalog is to better inform consumers, students, parents, or advisors.

# Course Change Request

Date Submitted: 09/01/23 8:22 am

Viewing: **CHEM ENG 3101 : Fundamentals of Transport in Chemical and Biochemical Engineering**

File: 4280.11

Last approved: 06/16/22 6:01 am

Last edit: 09/07/23 10:03 am

Changes proposed by: luksc

Programs  
referencing this  
course

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

Other Courses  
referencing this  
course

In The Prerequisites:

[CHEM ENG 3131 : Separations in Chemical and Biochemical Engineering](#)  
[CHEM ENG 3141 : Process Operations in Chemical and Biochemical Engineering](#)  
[CHEM ENG 3150 : Chemical Engineering Reactor Design](#)  
[CHEM ENG 5100 : Intermediate Transport Phenomena](#)  
[CHEM ENG 5340 : Principles of Environmental Monitoring](#)  
[NUC ENG 4257 : Two-phase Flow in Energy Systems - I](#)

Requested [Fall 2024](#) ~~Spring 2023~~

Effective Change  
Date

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 3101

Title  
Fundamentals of Transport in Chemical and Biochemical Engineering

Abbreviated Transport Phenomena  
Course Title

Catalog

## In Workflow

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

## Approval Path

1. 09/07/23 8:50 am  
Hu Yang (hy57v):  
Approved for  
RCHEMENG Chair
2. 09/07/23 10:14 am  
Jennifer  
Pohlsander  
(jpnfd): Approved  
for CCC Secretary
3. 09/13/23 10:46 pm  
Mark Fitch  
(mfitch):  
Approved for  
Engineering DSCC

## Description

This course covers the fundamentals of momentum, energy, and mass transport. Phenomenological mechanisms of molecular transport, fluid static, analysis of a fluid in motion laminar and turbulent flow are covered. The general differential equations for momentum, energy and mass transfer are presented and solved for a variety of chemical engineering problems.

## Prerequisites

A grade of "C" or better in Math [2222, Math](#) 3304 and Chem Eng 2110.

## Field Trip

## Statement

Credit Hours	LEC: 4	LAB: 0	IND: 0	RSD: 0
Total: 4				
Required for Majors	Yes			
Elective for Majors	No			

## Justification for change:

At faculty retreat we reviewed our prerequisites for all courses to be sure they were in alignment with current practices. Since students are able to take or transfer in Math 3304 without Math 2222, the Calculus III course needed to be added.

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer **jpnfd (09/07/23 10:03 am):** Updated effective date.  
Comments

## Chair

4. 10/09/23 3:31 pm  
Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
5. 10/24/23 9:36 am  
Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda
6. 10/24/23 9:38 am  
Petra Dewitt (dewittp): Approved for Campus Curricula Committee Chair

## History

1. May 24, 2016 by Daniel Forciniti (forciniti)
2. Jun 16, 2022 by luksc (4280.9)

# Course Change Request

Date Submitted: 09/01/23 8:23 am

Viewing: **CHEM ENG 3111 : Numerical Computing in Chemical and Biochemical Engineering**

File: 4279.31

Last approved: 06/16/22 6:01 am

Last edit: 09/08/23 7:16 am

Changes proposed by: luksc

Programs  
referencing this  
course

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

Other Courses  
referencing this  
course

In The Prerequisites:

[CHEM ENG 3131 : Separations in Chemical and Biochemical Engineering](#)

[CHEM ENG 3150 : Chemical Engineering Reactor Design](#)

[CHEM ENG 6180 : Advanced Applications of Computational Fluid Dynamics](#)

Requested  
Effective Change  
Date

[Fall 2024](#) ~~Spring 2023~~

Department

Chemical and Biochemical Engineering

Discipline

Chemical Engineering (CHEM ENG)

Course Number

3111

Title

Numerical Computing in Chemical and Biochemical Engineering

Abbreviated

Numerical Computing

Course Title

Catalog

Description

Students will add to their programming skills by exploring numerical computational techniques for solving and analyzing algebraic and calculus-based equations and

In Workflow

1. **RCHEMENG Chair**

2. **CCC Secretary**

3. **Engineering DSCC  
Chair**

4. **Pending CCC  
Agenda post**

5. **CCC Meeting  
Agenda**

6. **Campus Curricula  
Committee Chair**

7. **FS Meeting  
Agenda**

8. Faculty Senate  
Chair

9. Registrar

10. CAT entry

11. Peoplesoft

Approval Path

1. 09/07/23 8:50 am  
Hu Yang (hy57v):

Approved for  
RCHEMENG Chair

2. 09/08/23 7:21 am  
Jennifer

Pohlsander  
(jpnfd): Approved  
for CCC Secretary

3. 09/13/23 10:45  
pm

Mark Fitch  
(mfitch):  
Approved for  
Engineering DSCC  
Chair

systems of equations that describe chemical engineering processes.

#### Prerequisites

A grade of "C" or better in Math [2222 and Math](#) 3304. Comp Sci 1500, or both Comp Sci 1570 and Comp Sci 1580, or both Comp Sci 1971 and Comp Sci 1981, or both Comp Sci 1972 and Comp Sci 1982; preceded or accompanied by Chem Eng 2100.

#### Field Trip

#### Statement

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

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

At faculty retreat we reviewed our prerequisites for all courses to be sure they were in alignment with current practices. Since students are able to take or transfer in Math 3304 without Math 2222, the Calculus III course needed to be added.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

#### Course Reviewer

#### Comments

**jpnfd (09/07/23 10:04 am):** Updated effective date.

**jpnfd (09/08/23 7:16 am):** Updated prerequisite to "A grade of "C" or better in Math 2222 and Math 3304," per dept email 9/7/23.

4. 10/09/23 3:31 pm  
Jennifer  
Pohlsander  
(jpnfd): Approved  
for Pending CCC  
Agenda post
5. 10/24/23 9:36 am  
Jennifer  
Pohlsander  
(jpnfd): Approved  
for CCC Meeting  
Agenda
6. 10/24/23 9:38 am  
Petra Dewitt  
(dewittp):  
Approved for  
Campus Curricula  
Committee Chair

#### History

1. Jan 24, 2017 by  
Daniel Forciniti  
(forcinit)
2. Mar 6, 2017 by  
kristyg (4279.14)
3. Feb 18, 2019 by  
jcwang (4279.17)
4. Nov 4, 2019 by  
jcwang (4279.21)
5. Oct 19, 2020 by  
luksc (4279.22)
6. May 3, 2021 by  
luksc (4279.25)
7. Jun 16, 2022 by  
luksc (4279.27)

Key: 4279

[Preview Bridge](#)

# Course Change Request

Date Submitted: 09/01/23 8:26 am

Viewing: **CHEM ENG 3150 : Chemical Engineering Reactor Design**

File: 1038.14

Last approved: 06/16/22 6:01 am

Last edit: 09/07/23 10:04 am

Changes proposed by: luksc

Programs  
referencing this  
course

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

Other Courses  
referencing this  
course

In The Prerequisites:

[CHEM ENG 4091 : Chemical Process Design I](#)  
[CHEM ENG 4097 : Chemical Process Design II](#)  
[CHEM ENG 4110 : Chemical Engineering Process Dynamics And Control](#)  
[CHEM ENG 4130 : Chemical Engineering Laboratory II](#)  
[CHEM ENG 4140 : Chemical Process Safety](#)  
[CHEM ENG 4210 : Biochemical Reactors](#)  
[CHEM ENG 4241 : Process Safety in the Chemical and Biochemical Industries](#)  
[CHEM ENG 5110 : Intermediate Chemical Reactor Design](#)  
[CHEM ENG 5210 : Intermediate Biochemical Reactors](#)  
[CHEM ENG 5325 : Carbon Capture Process Engineering](#)

Requested  
Effective Change  
Date

Department

Discipline

Course Number

Title

Fall ~~2022~~ 2024

Chemical and Biochemical Engineering

Chemical Engineering (CHEM ENG)

3150

Chemical Engineering Reactor Design

## In Workflow

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

## Approval Path

1. 09/07/23 8:50 am  
Hu Yang (hy57v):  
Approved for  
RCHEMENG Chair
2. 09/07/23 10:43 am  
Jennifer  
Pohlsander  
(jpnfd): Approved  
for CCC Secretary
3. 09/13/23 10:45 pm  
Mark Fitch  
(mfitch):  
Approved for  
Engineering DSCC

## Catalog

## Description

The study of chemical reaction kinetics and their application to the design and operation of chemical and catalytic reactors.

## Prerequisites

Preceded or accompanied by both Chem Eng 3111 and Chem Eng 3120 ~~3101~~.

## 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:

At faculty retreat we reviewed our prerequisites for all courses to be sure they were in alignment with current practices. Students should be successful if they have completed 3120 and this will allow students to progress through their degree more efficiently if they struggle with the 3101 course.

## Semesters

previously

offered as an

experimental

course

## Co-Listed

Courses:

Course Reviewer **jpnfd (09/07/23 10:04 am):** Updated effective date.

Comments

Chair

4. 10/09/23 3:31 pm

Jennifer

Pohlsander

(jpnfd): Approved

for Pending CCC

Agenda post

5. 10/24/23 9:36 am

Jennifer

Pohlsander

(jpnfd): Approved

for CCC Meeting

Agenda

6. 10/24/23 9:38 am

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

## History

1. Jun 29, 2015 by

luksc (1038.1)

2. May 24, 2016 by

forcinit (1038.5)

3. May 3, 2021 by

luksc (1038.10)

4. Jun 16, 2022 by

luksc (1038.12)



# Course Change Request

Date Submitted: 09/01/23 8:28 am

Viewing: **CHEM ENG 4130 : Chemical Engineering Laboratory II**

File: 792.12

Last approved: 05/10/21 6:01 am

Last edit: 09/07/23 10:05 am

Changes proposed by: luksc

Programs [CH ENG-BS: Chemical Engineering BS](#)  
referencing this  
course

Requested [Fall 2024](#) ~~Spring 2022~~  
Effective Change  
Date

Department Chemical and Biochemical Engineering

Discipline Chemical Engineering (CHEM ENG)

Course Number 4130

Title  
Chemical Engineering Laboratory II

Abbreviated Chem Eng Lab II  
Course Title

Catalog

Description

Experiments illustrating the unit operations of continuous and staged separation. Experimental design methods are extended to include the principles of regression and model building. Communication skills are stressed. This is a communication emphasized course.

Prerequisites

Stat 3113, Chem Eng 3141 and Chem Eng 3131; preceded or accompanied by Chem Eng 3150 and ~~either~~ English [3560](#). ~~3560 or English 1160~~.

Field Trip

In Workflow

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

Approval Path

1. 09/07/23 8:50 am  
Hu Yang (hy57v):  
Approved for  
RCHEMENG Chair
2. 09/08/23 7:34 am  
Jennifer  
Pohlsander  
(jpnfd): Approved  
for CCC Secretary
3. 09/13/23 10:45  
pm  
Mark Fitch  
(mfitch):  
Approved for  
Engineering DSCC  
Chair

## Statement

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

Total: 3

Required for  
Majors      Yes

Elective for  
Majors      No

## Justification for change:

At faculty retreat we reviewed our prerequisites for all courses to be sure they were in alignment with current practices. English 1160 is no longer in our curriculum, so it is being removed.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed  
Courses:

Course Reviewer

Comments

**jpnfd (09/07/23 10:05 am):** Updated effective date.

4. 10/09/23 3:31 pm

Jennifer

Pohlsander

(jpnfd): Approved  
for Pending CCC  
Agenda post

5. 10/24/23 9:36 am

Jennifer

Pohlsander

(jpnfd): Approved  
for CCC Meeting  
Agenda

6. 10/24/23 9:38 am

Petra Dewitt

(dewittp):

Approved for

Campus Curricula  
Committee Chair

## History

1. May 24, 2016 by  
forcinit (792.1)

2. Jul 27, 2020 by  
ershenb (792.7)

3. May 10, 2021 by  
luksc (792.10)

Key: 792

[Preview Bridge](#)

# Course Change Request

## New Course Proposal

Date Submitted: 09/01/23 8:54 am

Viewing: **CHEM ENG 5335 : Introduction to Process Intensification**

File: 5001

Last edit: 09/07/23 10:13 am

Changes proposed by: luksc

Requested	Fall 2024
Effective Change Date	
Department	Chemical and Biochemical Engineering
Discipline	Chemical Engineering (CHEM ENG)
Course Number	5335
Title	Introduction to Process Intensification
Abbreviated	Process Intensification
Course Title	

Catalog				
Description	This course builds on basic knowledge of staged separations and reactor design to develop novel apparatus, techniques, and methods to increase process efficiency, lower energy/material costs, enhance safety, and increase sustainability. These topics are part of process intensification aimed at continuous process improvement.			
Prerequisites	Senior or Graduate standing.			
Field Trip				
Statement				
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				
Required for	No			

### In Workflow

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

### Approval Path

- 1. 09/07/23 8:50 am  
Hu Yang (hy57v):  
Approved for RCHEMENG Chair
- 2. 09/07/23 10:42 am  
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
- 3. 09/13/23 10:45 pm  
Mark Fitch (mfitch):  
Approved for Engineering DSCC

Majors

Elective for Majors Yes

Justification for new course:

This is a growing area of interest for chemical engineers working in industry. The topic is excellent preparation for undergraduates and graduate students planning industrial careers. The course encompasses topics covered throughout the curriculum and uses those tools in new ways.

Semesters previously offered as an experimental course

Fall 2020 (34 students)  
Fall 2022 (6 students)  
Fall 2023 (18 students)

Co-Listed Courses:

Course Reviewer **jpnfd (09/07/23 10:13 am):** Updated prerequisite format.  
Comments

Chair

4. 10/09/23 3:31 pm  
Jennifer Pohlsander  
(jpnfd): Approved for Pending CCC Agenda post
5. 10/24/23 9:36 am  
Jennifer Pohlsander  
(jpnfd): Approved for CCC Meeting Agenda
6. 10/24/23 9:38 am  
Petra Dewitt  
(dewittp): Approved for Campus Curricula Committee Chair

Key: 5001

[Preview Bridge](#)

# Course Change Request

Date Submitted: 09/21/23 8:13 pm

Viewing: **COMP ENG 3150 : Introduction to**

## **Microcontrollers and Embedded System Design**

File: 1627.7

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

Last edit: 09/27/23 11:56 am

Changes proposed by: stanleyj

Programs  
referencing this  
course

[CP ENG-BS: Computer Engineering BS](#)  
[EL ENG-BS: Electrical Engineering BS](#)  
[CP ENG-MI: Computer Engineering Minor](#)  
[CMP SC-BS: Computer Science BS](#)

Other Courses  
referencing this  
course

In The Prerequisites:  
[COMP ENG 3110 : Computer Organization and Design](#)  
[COMP ENG 3151 : Digital Engineering Lab II](#)  
[COMP ENG 4096 : Computer Engineering Senior Project I](#)  
[COMP ENG 5120 : Digital Computer Design](#)  
[COMP ENG 5151 : Digital Systems Design Laboratory](#)  
[COMP ENG 5160 : Embedded Processor System Design](#)  
[COMP ENG 5170 : Real-Time Systems](#)  
[COMP ENG 5410 : Introduction to Computer Communication Networks](#)  
[COMP ENG 5430 : Wireless Networks](#)  
[COMP ENG 5620 : Signal Integrity in High-Speed Digital & Mixed Signal Design](#)  
[COMP SCI 5205 : Real-Time Systems](#)  
[COMP SCI 5803 : Introduction to High Performance Computer Architecture](#)  
[ELEC ENG 5430 : Wireless Networks](#)  
[ELEC ENG 5620 : Signal Integrity in High-Speed Digital & Mixed Signal Design](#)  
[SYS ENG 5323 : Wireless Networks](#)

### In Workflow

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

### Approval Path

1. 09/22/23 10:37 am  
Jonathan Kimball (kimballjw):  
Approved for RELECENG Chair
2. 09/27/23 11:58 am  
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
3. 10/02/23 4:44 pm  
Mark Fitch (mfitch):  
Approved for

Requested

Summer 2024 ~~08/17/2015~~

Effective Change

Date					Engineering DSCC Chair
Department	Electrical and Computer Engineering				4. 10/09/23 3:31 pm
Discipline	Computer Engineering (COMP ENG)				Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
Course Number	3150				5. 10/24/23 9:37 am
Title	Introduction to Microcontrollers and Embedded System Design				Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda
Abbreviated Course Title	Intro Micro Embed Design				6. 10/24/23 9:38 am
Catalog Description	Microcontroller-based digital system design methodology and techniques. Topics include basic machine organization, interface design, and C and assembly language programming for real-time embedded systems.				Petra Dewitt (dewittp): Approved for Campus Curricula Committee Chair
Prerequisites	<u>Comp Eng</u> <del>COMP-ENG</del> 2210 and <u>Comp Sci 1500</u> <del>COMP-SCI-1570</del> (or <u>instructor approved</u> programming <u>course</u> ) <del>equivalent</del> ) each with grade of "C" or better.				
Field Trip Statement					
Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	History
Total: 3					
Required for Majors	Yes				
Elective for Majors	No				1. Jun 30, 2014 by stanleyj (1627.1)
Justification for change:	Students pursuing a variety of degree programs seek taking this course due to the multidisciplinary nature of embedded system applications. The current prerequisite, Comp Sci 1570 (object oriented C++) has been the programming prerequisite since the inception of this course. However, the primary focus of this course is on computer organization and assembly language programming. The hybrid C language covered in this course does not require an extensive background in C/C++ programming Required hybrid C language syntax and constructs are covered in the lecture material. The current Comp Sci 1570 prerequisite requires some of department students to take one or two additional prerequisite programming courses. Changing the programming prerequisite to Comp Sci 1500 is being done in order to make the course more attractive for out of department students. In				2. Feb 9, 2015 by stanleyj (1627.3)

addition, as indicated above, exposure to a high level programming is sufficient background for this lecture course. Note that the prerequisite for Comp Eng 3151, which is taken by Comp Eng majors, is remaining unchanged as Comp Sci 1570.

Semesters

previously

offered as an

experimental

course

Co-Listed

Courses:

Course Reviewer	<b>jpnfd (09/25/23 9:23 am):</b> Updated effective change date.
Comments	<b>jpnfd (09/27/23 9:07 am):</b> Updated prerequisite format from COMP ENG & COMP SCI to Comp Eng & Comp Sci to standardize. <b>jpnfd (09/27/23 11:56 am):</b> Updated prerequisite to Comp Sci 1500 (or instructor approved programming course) per dept email 9/27/23. Dept is aware that the term,"or instructor approved programming course," cannot be tracked or coded as a prerequisite in the system. They understand that this may cause permission numbers to have to be issued. Another reason for the vague listing is that students transfer a number of different programming courses that are not specifically equivalent to CS 1500.

Key: 1627

[Preview Bridge](#)

# Course Change Request

Date Submitted: 09/22/23 11:05 am

Viewing: **COMP ENG 6510 : Resilient Networks**

File: 2451.4

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

Last edit: 09/28/23 7:50 am

Changes proposed by: stanleyj

## In Workflow

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

## Approval Path

- 1. 09/22/23 11:39 am  
Jonathan Kimball (kimballjw): Approved for RELECENG Chair
- 2. 09/28/23 8:05 am  
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
- 3. 10/02/23 4:45 pm  
Mark Fitch (mfitch): Approved for Engineering DSCC

Programs referencing this course

[NET CNS-CT: Cyber Physical Systems CT](#)  
[NET CNC-CT: Cyber Physical Systems CT](#)

Other Courses referencing this course

In The Catalog Description:

[SYS ENG 6322 : Resilient Networks](#)

Requested Effective Change Date Summer 2024 ~~08/17/2015~~

Department Electrical and Computer Engineering

Discipline Computer Engineering (COMP ENG)

Course Number 6510

Title Resilient Networks

Abbreviated Course Title Resilient Networks

Catalog Description

This course presents reliability and fault tolerance for network-centric systems, including models, metrics, and analysis techniques. This course also concentrates on security, including technical tools and methods for audit and assessment as well as management and policy issues.

Prerequisites

~~Sys Eng 6410~~, Comp Eng [5410](#) ~~6410~~, or ~~Comp Eng 5420~~.



Field Trip  
Statement

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

Total: 3

Required for  
Majors      No

Elective for  
Majors      No ~~Yes~~

Justification for  
change:

The prerequisites have been updated to the only necessary course prerequisite,  
which is Comp Eng 5410.

Semesters  
previously  
offered as an  
experimental  
course

Co-Listed

Courses:

SYS ENG 6322 - Resilient Networks

Chair

4. 10/09/23 3:31 pm

Jennifer

Pohlsander

(jpnfd): Approved  
for Pending CCC  
Agenda post

5. 10/24/23 9:37 am

Jennifer

Pohlsander

(jpnfd): Approved  
for CCC Meeting  
Agenda

6. 10/24/23 9:38 am

Petra Dewitt

(dewittp):

Approved for  
Campus Curricula  
Committee Chair

History

1. May 4, 2015 by  
stanleyj (2451.1)

Course Reviewer      **jpnfd (09/25/23 9:31 am):** Updated Effective Change Date.

Comments      **jpnfd (09/27/23 7:18 am):** Grad course, updated to Elective for Majors- No.

**jpnfd (09/28/23 7:50 am):** Course is co-listed with Sys Eng 6322. Dr. Enke,  
Engineering Management & Systems Engineering Department Chair approved of the  
prerequisite change via email on 9/28/23.

Key: 2451

[Preview Bridge](#)

# Course Change Request

Date Submitted: 09/11/23 10:17 am

Viewing: **MATH 1120 : College Algebra**

File: 924.1

Last edit: 09/13/23 1:19 pm

Changes proposed by: prunnion

Programs referencing this course	<a href="#">HIST-BA: History BA</a> <a href="#">PSYCH-BS: Psychological Science BS</a> <a href="#">PHIL-BS: Philosophy BS</a> <a href="#">EDUC-BS: Education BS</a> <a href="#">PROPOSED: Biological Sciences BS with Emphasis area in Medical Laboratory Scientist</a> <a href="#">ECON-BA: Economics BA</a>
Other Courses referencing this course	<u>In The Prerequisites:</u> <a href="#">ECON 1300 : Business And Economic Statistics I</a> <a href="#">EDUC 3221 : Methods of Teaching Math</a> <a href="#">EDUC 3222 : Geometric Concepts for Elementary Teachers</a> <a href="#">MATH 1160 : Trigonometry</a> <a href="#">MATH 1208 : Calculus With Analytic Geometry I</a> <a href="#">MATH 3921 : Methods of Teaching Math</a> <a href="#">MATH 3922 : Geometric Concepts for Elementary Teachers</a> <a href="#">STAT 1111 : Business And Economic Statistics I</a>

Requested Effective Change Date	<u>Fall 2024</u> 07/01/2024
Department	Mathematics & Statistics
Discipline	Mathematics (MATH)
Course Number	1120
Title	College Algebra
Abbreviated Course Title	College Algebra

## 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. 09/11/23 10:18 am  
Xiaoming Wang (xwx4z):  
Approved for RMATHEMA Chair
2. 09/13/23 1:19 pm  
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
3. 09/25/23 9:39 am  
Katie Shannon (shannonk):  
Approved for

## Catalog

### Description

Contains the same topics as covered in Math 1140, and preceded by a thorough review of the basic principles of algebra.

### Prerequisites

A grade of "C" or better in Math 1103; or by placement examination. ~~By placement examination.~~

### Field Trip

### Statement

### Credit Hours

LEC: 5

LAB: 0

IND: 0

RSD: 0

Total: 5

### Required for

No

### Majors

### Elective for

Yes ~~No~~

### Majors

### Justification for

### change:

The current prerequisite on Math 1120 pre-dates the existence of Math 1103 (which was created a long time ago). This update simply reflects the existing practice of allowing students who are successful in Math 1103 to move to Math 1120. This should not have a negative impact on any students and should shorten the PERC reports and the need for permission numbers, particularly in the spring semesters.

### Semesters

### previously

### offered as an

### experimental

### course

### Co-Listed

### Courses:

### Course Reviewer

**jpnfd (09/13/23 1:19 pm):** Selected "Yes" elective for Major per department email

### Comments

9/13/23.

## Sciences DSCC

### Chair

4. 10/09/23 3:32 pm

Jennifer

Pohlsander

(jpnfd): Approved

for Pending CCC

Agenda post

5. 10/24/23 9:37 am

Jennifer

Pohlsander

(jpnfd): Approved

for CCC Meeting

Agenda

6. 10/24/23 9:38 am

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

## Program Change Request

Date Submitted: 09/20/23 3:51 pm

Viewing: **MIL AIR-MI : Military Aerospace Studies Minor**

File: 232.11

Last approved: 05/03/16 9:30 am

Last edit: 10/24/23 9:34 am

Changes proposed by: dwdwr

Catalog Pages Using this Program  
[Aerospace Studies](#)

Start Term

Fall 2024 ~~08/15/2016~~

Program Code

MIL AIR-MI

Department

Aerospace Studies - Air Force ROTC

Title

Military Aerospace Studies Minor

### Program Requirements and Description

#### In Workflow

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

#### Approval Path

1. 09/22/23 6:37 am  
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
2. 10/09/23 3:32 pm  
Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
3. 10/24/23 9:37 am  
Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda
4. 10/24/23 9:38 am  
Petra Dewitt (dewittp): Approved for Campus Curricula Committee Chair

#### History

1. Oct 15, 2014 by Bradley Chronister (chronisterbk)
2. May 3, 2016 by kleb6b
3. May 3, 2016 by pantaleoa

## Military Aerospace Studies Minor

Air Force Reserve Officer Training Corps (ROTC) is administered by the Department of Aerospace Studies. Although Air Force ROTC is set up as a four-year program, students can choose a four, three and a half, or three year course of study. The first two years of the program, called the General Military Course

(GMC), cover basic introductory military topics as well as communication and leadership. The final two years of the program, called the Professional Officer Course (POC), cover topics such as leadership, management, doctrine, international events, quality, communication, and officership. To fulfill the requirements for the proposed Aerospace Studies minor, students will complete all of the following classes for a total of 12 ~~46~~ credit hours.

<a href="#">MIL AIR 1110</a>	Air Force Heritage and Values I	0.5
<a href="#">MIL AIR 1120</a>	Air Force Heritage and Values II	0.5
<a href="#">MIL AIR 2110</a>	Team and Leadership Fundamentals I	0.5
<a href="#">MIL AIR 2120</a>	Team and Leadership Fundamentals II	0.5
<a href="#">MIL AIR 3110</a>	Leading People & Effective Communication I	2.5
<a href="#">MIL AIR 3120</a>	Leading People & Effective Communication II	2.5
<a href="#">MIL AIR 4110</a>	National Security, Leadership Responsibilities & Commissioning Preparation I	2.5
<a href="#">MIL AIR 4120</a>	National Security, Leadership Responsibilities & Commissioning Preparation II	2.5

Justification for request  
Supporting Documents  
Course Reviewer Comments  
**jpnfd (10/24/23 9:34 am):** Updated credit hour format to 0.5.

# Course Change Request

## New Experimental Course Proposal

Date Submitted: 09/01/23 10:39 am

Viewing: **COMP SCI 5001.015 : Natural Language**

### Processing

File: 5002

Last edit: 09/05/23 7:58 am

Changes proposed by: mrghx4

Requested	Spring 2024
Effective Change Date	
Department	Computer Science
Discipline	Computer Science (COMP SCI)
Course Number	5001
Topic ID	015
Experimental Title	Natural Language Processing
Experimental Abbreviated Course Title	Natural Lang Processing
Instructors	Suman Maity

Experimental Catalog Description	Natural Language Processing (NLP) is a dynamic field that focuses on the interaction between computers and human language. In this comprehensive course, students will delve into the theories, techniques, and applications that underpin the understanding and generation of human language by machines. NLP has a profound impact on a wide range of domains, from communication technologies to artificial intelligence and beyond. This course provides a deep exploration of NLP concepts, tools, and methodologies from foundational concepts to state-of-the-art advancements; empowering students to effectively process, analyze, and generate
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#### In Workflow

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

#### Approval Path

1. 09/05/23 7:27 am  
Seung-Jong Park (spxzb): Approved for RCOMPSCI Chair
2. 09/05/23 8:09 am  
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
3. 09/13/23 10:45 pm  
Mark Fitch (mfitch): Approved for Engineering DSCC Chair
4. 10/09/23 3:32 pm  
Jennifer Pohlsander (jpnfd): Approved

human language using computational techniques.

#### Prerequisites

Basic knowledge of programming (Python preferred) and familiarity with linear algebra and probability.

#### Field Trip

#### Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 0

#### Justification for

#### new course:

In today's rapidly evolving technological landscape, the ability to process and understand human language is of paramount importance. Natural Language Processing (NLP) is at the heart of this capability, enabling machines to comprehend and generate human language in a way that is meaningful and contextually relevant. The emergence of advanced models like ChatGPT further underscores the significance of NLP education. Here's why a dedicated course on NLP is crucial:

**Ubiquity of Text Data:** Textual information is ubiquitous, present in communication, social media, documents, and more. Equipping students with NLP skills prepares them to extract valuable insights from this vast pool of unstructured text data.

**AI and Automation:** As artificial intelligence continues to grow, NLP plays a pivotal role in creating conversational agents, chatbots, virtual assistants, and other human-computer interaction systems that bridge the gap between humans and machines. Models like OpenAI's ChatGPT, Google's BARD exemplify the latest advancements in this direction.

**Language Understanding:** Businesses and organizations strive to understand customer sentiment, feedback, and preferences. NLP techniques enable sentiment analysis, topic modeling, and trend analysis to decode user opinions and interests.

**Language Generation:** NLP isn't just about understanding language; it's also about creating it. Automated content generation, language translation, and even creative writing are areas where NLP-driven systems excel. ChatGPT and similar models are at the forefront of creative text generation.

**Search and Information Retrieval:** Search engines, recommendation systems, and information retrieval heavily depend on NLP algorithms to deliver accurate and

for Pending CCC

Agenda post

5. 10/24/23 9:37 am

Jennifer

Pohlsander

(jpnfd): Approved

for CCC Meeting

Agenda

6. 10/24/23 9:38 am

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

relevant results to users' queries. Advanced language models enhance the effectiveness of these systems.

Healthcare and Biomedicine: NLP has revolutionized the healthcare industry by enabling efficient clinical text analysis, medical record digitization, and drug discovery from scientific literature. Cutting-edge models aid medical professionals in information retrieval and decision-making.

Ethical Considerations: As NLP systems become more advanced, concerns related to biases, fairness, and ethical implications emerge. A dedicated course on NLP provides students with the knowledge to address these critical issues, particularly in the context of models like ChatGPT and their potential impacts.

Semester(s)  
previously taught

Co-Listed

Courses:

Course Reviewer	<b>jpnfd (09/05/23 7:58 am):</b> Updated abbreviated course title.
Comments	

Key: 5002

[Preview Bridge](#)



# Course Change Request

## New Experimental Course Proposal

Date Submitted: 09/13/23 4:40 pm

Viewing: **MATH 6001.009 : Fixed Income Models**

File: 5003

Last edit: 09/14/23 7:55 am

Changes proposed by: singlerj

Requested	Spring 2024
Effective Change Date	
Department	Mathematics & Statistics
Discipline	Mathematics (MATH)
Course Number	6001
Topic ID	009
Experimental Title	Fixed Income Models
Experimental Abbreviated Course Title	Fixed Income Models
Instructors	Martin Bohner

Experimental Catalog Description	Definition of interest rates, no-arbitrage pricing and numeraire change, one-factor short-rate models, two-factor short-rate models, HJM framework, market models, volatility smile, market payoffs, inflation-indexed swaps and caplets/floorlets, credit derivatives, CDS.
Prerequisites	Math 5737 or Econ 5337.
Field Trip Statement	

### 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. 09/13/23 8:28 pm  
Xiaoming Wang (xwx4z):  
Approved for  
RMATHEMA Chair
- 2. 09/14/23 7:56 am  
Jennifer Pohlsander (jpnfd): Approved  
for CCC Secretary
- 3. 09/25/23 9:40 am  
Katie Shannon (shannonk):  
Approved for  
Sciences DSCC Chair
- 4. 10/09/23 3:32 pm  
Jennifer Pohlsander (jpnfd): Approved

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

Justification for  
new course:

This course leverages the expertise of our faculty to add another course related to financial mathematics, which is of interest to many students.

Semester(s)  
previously taught  
none

Co-Listed  
Courses:

Course Reviewer      **jpnfd (09/14/23 7:55 am):** Updated prerequisite format.  
Comments

for Pending CCC  
Agenda post  
5. 10/24/23 9:37 am  
Jennifer  
Pohlsander  
(jpnfd): Approved  
for CCC Meeting  
Agenda  
6. 10/24/23 9:38 am  
Petra Dewitt  
(dewittp):  
Approved for  
Campus Curricula  
Committee Chair

Key: 5003

[Preview Bridge](#)

# 2023-2024 CCC Calendar



CCC Meetings are from 8:15am – 9:30am in Parker Hall 203

CCC INFORMATION	Department submission to Registrar <i>Fridays</i>	DSCC submission to Registrar <i>Fridays</i>	CCC Meeting <i>Tuesdays</i>	Faculty Senate Meeting <i>Thursdays</i>
EC forms for Fall 2023	July 7, 2023	July 21, 2023	August 8, 2023	September 21, 2023
Affecting CC forms for Summer 2024 & Spring 2024	July 7, 2023	July 21, 2023	August 8, 2023	September 21, 2023
Non-affecting CC forms for Summer 2024 & Spring 2024	August 25, 2023	September 8, 2023	September 26, 2023	October 19, 2023
EC forms for Spring 2024	September 2, 2023	October 6, 2023	October 24, 2023	November 16, 2023
Affecting CC forms for Fall 2024	November 3, 2023	November 17, 2023	December 5, 2023	January 25, 2024
	December 15, 2023	January 5, 2024	January 23, 2024 February 27, 2024 (If needed)	<u>February 22, 2024</u> March 21, 2024
EC forms for Summer 2024	March 1, 2024	March 15, 2024	April 2, 2024	April 25, 2024
DC forms & non-affecting CC forms for Fall 2024	March 29, 2024	April 12, 2024	April 30, 2024	June 6, 2024
EC forms for Fall 2024	TBD	TBD	TBD	TBD

*Form Deadlines Revised 10/24/23- Summer Registration moved to same date as Spring Registration*