

Minutes of the Campus Curricula Committee Meeting

February 27, 2024

8:15am, Parker Hall 203

(For Faculty Senate Meeting of March 21, 2024)

Attendees: *In Person:* Petra Dewitt, Cecil Eng Huang Chua, Katie Shannon, Michael Davis, Michael Gosnell, Kyle Perry, Mark Fitch, Evie Sherlock, and Jennifer Pohlsander

The following curriculum forms were discussed and approved:

Course Change forms:

File: 5042	BIO SCI 6050 : Continuous Registration
File: 5041	BIO SCI 6099 : Research
File: 5038	BIO SCI 6603 : Advanced Principles of Biodesign
File: 5039	BIO SCI 6613 : Current Topics in Biomedical Sciences
File: 5040	BIO SCI 6623 : Current Topics in Environmental Biology
File: 5045	BME 5311 : Integrity and Ethics in Bioengineering
File: 5043	BME 6400 : Biomanufacturing
File: 5044	BME 6500 : Pharmaceutical Process Engineering
File: 5048	BUS 4050 : The Business of eSports
File: 4974	CHEM 2410 : Physical Chemistry I
File: 4975	CHEM 2420 : Physical Chemistry II
File: 4108.4	CHEM 2459 3459 : Accelerated Physical Chemistry Laboratory
File: 1825.4	CHEM 3310 2310 : Inorganic Chemistry I
File: 4173.2	CHEM 3320 2320 : Inorganic Chemistry II
File: 598.4	CHEM 3329 2319 : Inorganic Chemistry Laboratory
File: 474.10	CHEM 3410 : Chemical Thermodynamics I
File: 1641.6	CHEM 3419 : Physical Chemistry Laboratory I
File: 268.9	CHEM 3420 : Introduction To Quantum Chemistry
File: 2624.8	CHEM 3429 : Physical Chemistry Laboratory II
File: 231.1	CHEM 3430 : Chemical Kinetics I
File: 241.1	CHEM 4099 : Undergraduate Research
File: 5017	CHEM 4650 : Medicinal Chemistry
File: 5046	CHEM ENG 5211 : Intermediate Bioreactor Laboratory
File: 5047	CHEM ENG 5251 : Intermediate Bioseparations Laboratory
File: 1695.8	MATH 1215 : Calculus II
File: 1356.1	PSYCH 3311 : Psychological & Educational Development Of The Adolescent
File: 1374.1	PSYCH 4310 : Psychology Of The Exceptional Child

Program Change forms:

File: 151.24 CHEM-BA : Chemistry BA
File: 16.40 CHEM-BS : Chemistry BS
File: 410 PROPOSED : Bioengineering PhD
File: 409 PROPOSED : Biological Sciences PhD

Experimental Course form:

File: 5018 PHYSICS 5001.003 : Physics of Quantum Information

Name Change form:

9 : Earth Sciences and Engineering

New Business:

Discussed the new general education process that was approved by Faculty Senate.
Discussed the new program approval process.

The meeting adjourned at 9:10 am.

Petra DeWitt

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

Course Change Request

New Course Proposal

Date Submitted: 12/19/23 1:57 pm

Viewing: **BIO SCI 6050 : Continuous Registration**

File: 5042

Last edit: 12/19/23 1:57 pm

Changes proposed by: shannonk

Requested	Fall 2024
Effective Change Date	
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	6050
Title	Continuous Registration
Abbreviated Course Title	Continuous Registration

Catalog Description	Doctoral candidates who have completed all requirements for the degree except the dissertation, and are away from the campus must continue to enroll for at least one hour of credit each registration period until the degree is completed. Failure to do so may invalidate the candidacy. Billing will be automatic as will registration upon payment.			
Prerequisites				
Field Trip Statement				
Credit Hours	LEC: 0	LAB: 0	IND: 1	RSD: 0
Total: 1				
Required for	No			

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. 12/19/23 2:00 pm
David Duvernell (duvernell): Approved for RBIOLSCI Chair
- 2. 01/18/24 8:33 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
- 3. 02/08/24 4:24 pm
Katie Shannon (shannonk): Approved for Sciences DSCC

Majors Elective for Majors No	Chair 4. 02/13/24 7:32 am Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
Justification for new course: needed for new Biological Sciences PhD program Semesters previously offered as an experimental course Co-Listed Courses:	5. 02/27/24 3:40 pm Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda 6. 02/27/24 4:54 pm Petra Dewitt (dewittp): Approved for
Course Reviewer Comments	Campus Curricula Committee Chair

Key: 5042

Course Change Request

New Course Proposal

Date Submitted: 12/19/23 1:55 pm

Viewing: **BIO SCI 6099 : Research**

File: 5041

Last edit: 02/27/24 9:26 am

Changes proposed by: shannonk

Requested	Fall 2024
Effective Change Date	
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	6099
Title	Research
Abbreviated Course Title	Research

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

Catalog Description	Investigations of an advanced nature leading to the preparation of a thesis or dissertation. Consent of instructor required.			
Prerequisites				
Field Trip Statement				
Credit Hours	LEC: 0	LAB: 0	IND: 1-15	RSD: 0
Total: 0-15				
Required for Majors	No			
Elective for Majors	No			

Approval Path

- 1. 12/19/23 2:00 pm
David Duvernell (duvernelld):
Approved for
RBIOLSCI Chair
- 2. 01/18/24 8:33 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
- 3. 02/08/24 4:24 pm
Katie Shannon (shannonk): Approved for Sciences DSCC Chair

Justification for
new course:

The department needs a 6000 level research course for new Biological Sciences PhD

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer

Comments

jpnfd (02/27/24 9:26 am): Updated to 1-15 hours per CCC meeting 2/27/24.

Key: 5041

4. 02/13/24 7:32 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
5. 02/27/24 3:40 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
6. 02/27/24 4:54 pm
Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

Course Change Request

New Course Proposal

Date Submitted: 12/19/23 1:43 pm

Viewing: **BIO SCI 6603 : Advanced Principles of Biodesign**

File: 5038

Last edit: 12/19/23 1:43 pm

Changes proposed by: shannonk

Programs

referencing this

course

[26.0101: Biological Sciences PhD](#)

Requested	Fall 2024
Effective Change	
Date	
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	6603

Title	Advanced Principles of Biodesign
Abbreviated	Adv Prin Biodesign
Course Title	

Catalog

Description

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

Prerequisites

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

- 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. 12/19/23 2:00 pm

David Duvernell

(duvernell):

Approved for

RBIOLSCI Chair

2. 01/18/24 8:33 am

Jennifer

Pohlsander

(jpnfd): Approved

for CCC Secretary

3. 02/08/24 4:25 pm

Katie Shannon

(shannonk):

Approved for

Sciences DSCC

Chair

Total: 3		4. 02/13/24 7:32 am Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
Required for Majors	No	
Elective for Majors	No	
Justification for new course: This course will be required for Biological Sciences PhD students on the BioInnovation track		
Semesters previously offered as an experimental course		5. 02/27/24 3:40 pm Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda
Co-Listed Courses:		6. 02/27/24 4:54 pm Petra Dewitt (dewittp): Approved for Campus Curricula Committee Chair
Course Reviewer Comments		

Course Change Request

New Course Proposal

Date Submitted: 12/19/23 1:44 pm

Viewing: **BIO SCI 6613 : Current Topics in Biomedical Sciences**

File: 5039

Last edit: 12/19/23 1:44 pm

Changes proposed by: shannonk

Programs
referencing this
course

[26.0101: Biological Sciences PhD](#)

Requested	Fall 2024
Effective Change Date	
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	6613
Title	Current Topics in Biomedical Sciences
Abbreviated Course Title	Curr Top Biomed Sci

Catalog Description

A review of current topics in biomedical sciences such as obesity, cancer, neurological diseases, cardiovascular disease and microbial infections. An emphasis on recent research gains in these areas.

Prerequisites

Field Trip Statement

- 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. 12/19/23 2:00 pm
David Duvernell (duvernell):
Approved for
RBIOLSCI Chair

2. 01/18/24 8:33 am
Jennifer Pohlsander (jpnfd): Approved
for CCC Secretary

3. 02/08/24 4:25 pm
Katie Shannon (shannonk):
Approved for
Sciences DSCC
Chair

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				
Required for Majors	No			
Elective for Majors	No			

Justification for new course:

Course will be required for Biological Sciences PhD students on the Biomedicine track

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer
Comments

4. 02/13/24 7:32 am
Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
5. 02/27/24 3:40 pm
Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda
6. 02/27/24 4:55 pm
Petra Dewitt (dewittp): Approved for Campus Curricula Committee Chair

Key: 5039

[Preview Bridge](#)

Course Change Request

New Course Proposal

Date Submitted: 12/19/23 1:46 pm

Viewing: **BIO SCI 6623 : Current Topics in Environmental Biology**

File: 5040

Last edit: 12/19/23 1:46 pm

Changes proposed by: shannonk

Programs referencing this course

[26.0101: Biological Sciences PhD](#)

Requested	Fall 2024
Effective Change Date	
Department	Biological Sciences
Discipline	Biological Sciences (BIO SCI)
Course Number	6623
Title	Current Topics in Environmental Biology
Abbreviated Course Title	Curr Topic Environ Bio

Catalog Description

A review of current topics in environmental biology such as climate change, fire ecology, urban ecology, bioremediation, pollution, conservation biology, and environmental justice. An emphasis on recent research gains in these areas.

Prerequisites

Field Trip Statement

- In Workflow
1. RBIO LSCI 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. 12/19/23 1:58 pm
David Duvernell (duvernell):
Approved for RBIO LSCI Chair

2. 01/18/24 8:34 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary

3. 02/08/24 4:25 pm
Katie Shannon (shannonk):
Approved for Sciences DSCC Chair

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				
Required for Majors	No			
Elective for Majors	No			

Justification for new course:

Course will be required for Biological Sciences PhD students on the Environmental Biology track

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer
Comments

4. 02/13/24 7:32 am
Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post

5. 02/27/24 3:40 pm
Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda

6. 02/27/24 4:55 pm
Petra Dewitt (dewittp): Approved for Campus Curricula Committee Chair

Key: 5040

[Preview Bridge](#)

Course Change Request

New Course Proposal

Date Submitted: 01/08/24 2:40 pm

Viewing: **BME 5311 : Integrity and Ethics in Bioengineering**

File: 5045

Last edit: 02/27/24 9:29 am

Changes proposed by: jcwang

Programs
referencing this
course

[PROPOSED: Bioengineering PhD](#)

Requested Fall 2024
Effective Change
Date

Department Chemical and Biochemical Engineering

Discipline Biomedical Engineering (BME)

Course Number 5311

Title
 Integrity and Ethics in Bioengineering

Abbreviated Biointegrity & Ethics
Course Title

Catalog
Description
 Study of ethical, social, and legal issues that arise in biotechnology and pharmaceutical industries and in biomedical research. Emphasis on professional attitudes and standard practices.

Prerequisites
 Senior or graduate standing.

Field Trip
Statement

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. 01/08/24 2:40 pm
 Hu Yang (huyang):
 Approved for
 RCHEMENG Chair
- 2. 01/10/24 3:58 pm
 Jennifer
 Pohlsander
 (jpnfd): Approved
 for CCC Secretary
- 3. 02/06/24 11:22
 am
 Mark Fitch
 (mfitch):
 Approved for
 Engineering DSCC
 Chair

Credit Hours	LEC: 1	LAB: 0	IND: 0	RSD: 0
Total: 1				
Required for Majors	No			
Elective for Majors	Yes			

Justification for new course:
new required course for the new PhD degree in Bioengineering

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer	jpnfd (02/06/24 11:36 am): Updated prerequisite format.
Comments	jpnfd (02/27/24 9:29 am): Updated to "yes" elective for majors per CCC meeting 2/27/24.

4. 02/13/24 7:32 am
Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post

5. 02/27/24 3:40 pm
Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda

6. 02/27/24 4:55 pm
Petra Dewitt (dewittp): Approved for Campus Curricula Committee Chair

Key: 5045

[Preview Bridge](#)

Course Change Request

New Course Proposal

Date Submitted: 01/08/24 1:53 pm

Viewing: **BME 6400 : Biomanufacturing**

File: 5043

Last edit: 01/10/24 9:02 am

Changes proposed by: jcwang

Programs [PROPOSED: Bioengineering PhD](#)
referencing this
course

Requested Fall 2024
Effective Change
Date

Department Chemical and Biochemical Engineering
Discipline Biomedical Engineering (BME)
Course Number 6400

Title
 Biomanufacturing

Abbreviated Biomanufacturing
Course Title

Catalog
Description
 The development, production, recovery, and analysis of biorelated products. Specific
 topics include biomaterial synthesis and characterization, cell culture, bioreactor
 design and operation, production and purification process development, and
 regulatory expectations.

Prerequisites
 graduate standing

Field Trip
Statement

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. 01/08/24 1:54 pm
 Hu Yang (huyang):
 Approved for
 RCHEMENG Chair
- 2. 01/10/24 3:59 pm
 Jennifer
 Pohlsander
 (jpnfd): Approved
 for CCC Secretary
- 3. 02/06/24 11:21
 am
 Mark Fitch
 (mfitch):
 Approved for
 Engineering DSCC
 Chair

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	4. 02/13/24 7:32 am
Total: 3					Jennifer
Required for	No				Pohlsander
Majors					(jpnfd): Approved
Elective for	No				for Pending CCC
Majors					Agenda post
Justification for					5. 02/27/24 3:40 pm
new course:					Jennifer
New course among five core courses for the new PhD degree in Bioengineering					Pohlsander
Semesters					(jpnfd): Approved
previously					for CCC Meeting
offered as an					Agenda
experimental					6. 02/27/24 4:55 pm
course					Petra Dewitt
Co-Listed					(dewittp):
Courses:					Approved for
					Campus Curricula
					Committee Chair
Course Reviewer					
Comments					

Course Change Request

New Course Proposal

Date Submitted: 01/08/24 1:50 pm

Viewing: **BME 6500 : Pharmaceutical Process Engineering**

File: 5044

Last edit: 02/06/24 11:30 am

Changes proposed by: jcwang

Programs
referencing this
course

[PROPOSED: Bioengineering PhD](#)

Requested 01-14-2025
Effective Change
Date

Department Chemical and Biochemical Engineering

Discipline Biomedical Engineering (BME)

Course Number 6500

Title
 Pharmaceutical Process Engineering

Abbreviated Pharm Process Eng
Course Title

Catalog
Description

The manufacture, extraction, processing, purification, formulation/filling, and packaging of pharmaceutical materials to be used as medications for humans or animals. The major manufactured products and their principal manufacturing steps will be covered. The principles of engineering operations and scale-up process in pharmaceutical industry will be discussed together with quality control, pollution prevention, and Good Manufacturing Practices (GMP).

Prerequisites
 Chem Eng 5250.

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. 01/08/24 1:54 pm
 Hu Yang (huyang):
 Approved for
 RCHEMENG Chair
- 2. 01/10/24 3:58 pm
 Jennifer
 Pohlsander
 (jpnfd): Approved
 for CCC Secretary
- 3. 02/06/24 11:21
 am
 Mark Fitch
 (mfitch):
 Approved for
 Engineering DSCC
 Chair

Statement

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

Required for
Majors No

Elective for
Majors No

Justification for new course:

New course among five core courses for the new PhD degree in Bioengineering

Semesters
previously
offered as an
experimental
course

Co-Listed Courses:

Course Reviewer **jpnfd (02/06/24 11:30 am):** Updated prerequisite format.
Comments

4. 02/13/24 7:32 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
5. 02/27/24 3:40 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
6. 02/27/24 4:55 pm
Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

Key: 5044

[Preview Bridge](#)

Course Change Request

New Course Proposal

Date Submitted: 01/30/24 7:17 pm

Viewing: **BUS 4050 : The Business of eSports**

File: 5048

Last edit: 01/31/24 4:18 pm

Changes proposed by: cecq8z

Requested	Fall 2024
Effective Change Date	
Department	Business and Information Technology
Discipline	Business (BUS)
Course Number	4050
Title	The Business of eSports
Abbreviated Course Title	The Business of eSports

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

Catalog Description

This course is designed to provide students with an overview of the business side of the eSports industry. Topics covered include business model analysis, competitive structure, marketing and sponsorship, and tournament operations.

Prerequisites

Field Trip Statement

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0
Total: 3				
Required for Majors	No			
Elective for	Yes			

- Approval Path
- 1. 01/31/24 12:34 pm
Cassie Elrod (cassa): Approved for RBUSADMN Chair
 - 2. 01/31/24 4:20 pm
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
 - 3. 01/31/24 4:38 pm
Cecil Eng Huang Chua (cchua): Approved for

Majors

Justification for
new course:

Course has had requisite enrollment for two semesters as an experimental course.

Semesters
previously
offered as an
experimental
course

Fall 2023 - 24 students

Spring 2024 - 14 students

Co-Listed

Courses:

Course Reviewer

Comments

jpnfd (01/31/24 3:28 pm): Updated previous enrollment numbers to Fall 2023 - 24 students & Spring 2024 - 14 students.

jpnfd (01/31/24 4:18 pm): Course number changed to 4050 per department email 1/31/24.

Social Sciences

DSCC Chair

4. 02/13/24 7:32 am

Jennifer

Pohlsander

(jpnfd): Approved

for Pending CCC

Agenda post

5. 02/27/24 3:40 pm

Jennifer

Pohlsander

(jpnfd): Approved

for CCC Meeting

Agenda

6. 02/27/24 4:55 pm

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

Key: 5048

[Preview Bridge](#)

Course Change Request

New Course Proposal

Date Submitted: 12/06/23 5:51 pm

Viewing: **CHEM 2410 : Physical Chemistry I**

File: 4974

Last edit: 12/06/23 5:51 pm

Changes proposed by: tschuman

Programs
referencing this
course

[CHEM-BA: Chemistry BA](#)
[CHEM-BS: Chemistry BS](#)

Requested Fall 2024
Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number 2410

Title
 Physical Chemistry I

Abbreviated Physical Chemistry I
Course Title

Catalog
Description
 A study of the laws of thermodynamics, transport phenomena, kinetic theory, and chemical kinetics with applications to states of matter, solutions, chemical reactions, and equilibria.

Prerequisites
 Physics 1111 or Physics 1135 or Physics 1145, and Math 1215 or Math 1221.

Field Trip
Statement

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

In Workflow

- 1. **RCHEMIST 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. 04/05/23 7:57 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
- 2. 04/14/23 9:49 am
Jennifer Pohlsander
(jpnfd): Approved
for CCC Secretary
- 3. 04/17/23 9:24 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC

Total: 3 Required for Majors Yes Elective for Majors No	
Justification for new course: New p-chem course to be activated along with the new 120h chemistry BS degree plan, allow for College Physics as prerequisite Semesters previously offered as an experimental course Co-Listed Courses:	Chair 4. 04/18/23 10:09 am Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post 5. 05/05/23 12:43 pm Jennifer Pohlsander (jpnfd): Rollback to Initiator 6. 06/28/23 6:32 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
Course Reviewer Comments jpnfd (04/10/23 3:09 pm): Added punctuation to prerequisites. jpnfd (05/05/23 12:43 pm): Rollback: Rolled back to be resubmitted as on an EC form. See email 5/5/23 jpnfd (07/05/23 7:54 am): Updated term to Fall 2024 jpnfd (07/26/23 3:28 pm): Rollback: Please resubmit along with Chemistry BS & BA Degree Change (DC) form showing this as a new required course. jpnfd (08/18/23 4:02 pm): Rollback: Please resubmit along with Chemistry BS & BA Degree Change (DC) form showing this as a new required course.	7. 07/26/23 3:28 pm Jennifer Pohlsander (jpnfd): Rollback to RCHEMIST Chair for CCC Secretary 8. 08/09/23 9:58 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
Key: 4974	9. 08/18/23 4:02 pm Jennifer Pohlsander (jpnfd): Rollback to Initiator 10. 12/06/23 6:05 pm Chariklia Sotiriou-Leventis

(cslevent):
Approved for
RCHEMIST Chair

11. 12/19/23 3:38 pm

Jennifer
Pohlsander
(jpnfd): Approved
for CCC Secretary

12. 01/16/24 3:05 pm

Katie Shannon
(shannonk):
Approved for
Sciences DSCC
Chair

13. 02/13/24 7:32 am

Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post

14. 02/27/24 3:40 pm

Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda

15. 02/27/24 4:55 pm

Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

Course Change Request

New Course Proposal

Date Submitted: 12/06/23 5:52 pm

Viewing: **CHEM 2420 : Physical Chemistry II**

File: 4975

Last edit: 02/27/24 9:32 am

Changes proposed by: tschuman

Programs [CHEM-BS: Chemistry BS](#)
referencing this
course

Requested Fall 2024

Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number 2420

Title
Physical Chemistry II

Abbreviated Physical Chemistry II
Course Title

Catalog

Description

A study of statistical approaches to thermodynamics, kinetic theory, and chemical kinetics, including the quantum theory of atoms, molecular structures, and molecular spectroscopy.

Prerequisites

Physics 2111 or Physics 2135, Math 2222, and Chem 2410.

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

In Workflow

1. RCHEMIST 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. 04/05/23 7:58 pm
Chariklia Sotiriou-
Leventis

(cslevent):

Approved for
RCHEMIST Chair

2. 04/14/23 9:49 am
Jennifer
Pohlsander

(jpnfd): Approved
for CCC Secretary

3. 04/17/23 9:24 pm
Katie Shannon
(shannonk):

Approved for
Sciences DSCC

Total: 3 Required for Majors Yes Elective for Majors No	
Justification for new course: New p-chem course to be activated along with the new 120h chemistry BS degree plan. Will be dropping the current quantum mechanics course by combining content of current three physical chem courses into two new required courses, which will have same structure as our other three disciplines with two core courses each: inorganic, organic, and analytical divisions Semesters previously offered as an experimental course Co-Listed Courses:	Chair 4. 04/18/23 10:09 am Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post 5. 05/05/23 12:44 pm Jennifer Pohlsander (jpnfd): Rollback to Pending CCC Agenda post for CCC Meeting Agenda 6. 05/09/23 11:20 am Jennifer Pohlsander (jpnfd): Rollback to Initiator
Course Reviewer Comments jpnfd (04/10/23 3:10 pm): Added punctuation to prerequisites. jpnfd (05/05/23 12:44 pm): Rollback: Rolled back to be resubmitted as on an EC form. See email 5/5/23 jpnfd (05/09/23 11:20 am): Rollback: Rolled back to be resubmitted as on an EC form. See email 5/5/23 jpnfd (02/27/24 9:32 am): Added Chem 2410 to prerequisites per CCC meeting 2/27/24.	7. 12/06/23 6:05 pm Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair 8. 12/19/23 3:38 pm Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
	9. 01/16/24 3:06 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair 10. 02/13/24 7:32 am

Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post

11. 02/27/24 3:40 pm

Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda

12. 02/27/24 4:55 pm

Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

Course Change Request

Date Submitted: 12/15/23 4:32 pm

Viewing: **CHEM 2459 ~~3459~~ : Accelerated Physical Chemistry Laboratory**

File: 4108.4

Last approved: 12/01/14 3:49 am

Last edit: 12/15/23 4:32 pm

Changes proposed by: tschuman

Programs CHEM-BS: Chemistry BS
referencing this
course

Requested Fall 2024 ~~01/13/2015~~
Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number 2459 ~~3459~~

Title
Accelerated Physical Chemistry Laboratory

Abbreviated Accelerated PChem Lab
Course Title

Catalog
Description
A laboratory course ~~combined and accelerated version of Chem 3419 and Chem 3429~~ consisting of exploratory physical chemistry experiments.

Prerequisites
~~Preceded or accompanied by both~~ Chem 2420 ~~3420~~ and preceded or accompanied by Chem 1100.

Field Trip
Statement

In Workflow

1. RCHEMIST 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. 04/05/23 7:58 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 04/13/23 2:42 pm
Jennifer Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 04/17/23 9:24 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC

Credit Hours	LEC: 0	LAB: 2	IND: 0	RSD: 0	Chair
Total: 2					4. 04/18/23 10:09 am
Required for Majors	Yes				Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
Elective for Majors	No				5. 05/05/23 12:01 pm
Justification for change:					Jennifer Pohlsander (jpnfd): Rollback to Initiator
Renumbering to be consistent with new required physical chemistry courses and 120h chemistry BS degree, parts of Chem 2420 are essential to understand quantum mechanical calculations necessary for Chem 2459					6. 06/28/23 6:32 am
Semesters previously offered as an experimental course					Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
Co-Listed Courses:					7. 07/26/23 3:28 pm
Course Reviewer					Jennifer Pohlsander (jpnfd): Rollback to RCHEMIST Chair for CCC Secretary
Comments					8. 08/09/23 9:58 am
jpnfd (05/04/23 4:22 pm): Effective date changed to Fall 24					Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
jpnfd (05/05/23 12:01 pm): Rollback: Affecting course change. Cannot be Fall 23. See email 5/5/23.					9. 08/18/23 4:02 pm
jpnfd (07/26/23 3:28 pm): Rollback: Please resubmit along with Chemistry BS & BA Degree Change (DC) form showing the new proposed course number.					Jennifer Pohlsander (jpnfd): Rollback to Initiator
jpnfd (08/18/23 4:02 pm): Rollback: Please resubmit along with Chemistry BS & BA Degree Change (DC) form showing the new proposed course number.					10. 12/06/23 6:05 pm
jpnfd (12/15/23 2:48 pm): Rollback: Rollback per dept request.					Chariklia Sotiriou-Leventis

Key: 4108

- (cslevent):
Approved for
RCHEMIST Chair
11. 12/15/23 2:48 pm
Jennifer
Pohlsander
(jpnfd): Rollback
to Initiator
12. 12/15/23 4:40 pm
Chariklia Sotiriou-
Leventis
(cslevent):
Approved for
RCHEMIST Chair
13. 12/19/23 3:38 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Secretary
14. 01/16/24 3:06 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC
Chair
15. 02/13/24 7:32 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
16. 02/27/24 3:40 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
17. 02/27/24 4:55 pm
Petra Dewitt
(dewittp):
Approved for

History

1. Dec 1, 2014 by
Klaus Woelk
(woelkk)

[Preview Bridge](#)

Course Change Request

Date Submitted: 12/06/23 5:51 pm

Viewing: **CHEM 3310 ~~2310~~ : Inorganic Chemistry I**

File: 1825.4

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

Last edit: 12/14/23 3:53 pm

Changes proposed by: tschuman

Programs [CHEM-BS: Chemistry BS](#)
referencing this
course

Requested [Fall 2024](#) ~~08/17/2015~~

Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number [3310](#) ~~2310~~

Title
Inorganic Chemistry I

Abbreviated Inorganic Chemistry I
Course Title

Catalog

Description

A study of modern concepts of atomic structure, chemical bonding, thermodynamics and kinetics as related to the periodic relationship of the elements. Reference to topics of current interests as applied to the above areas.

Prerequisites

[Chem 1320.](#)

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

In Workflow

1. RCHEMIST 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. 04/05/23 7:58 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 04/13/23 3:21 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 04/17/23 9:25 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC

Total: 3 Required for Majors Yes Elective for Majors No	
Justification for change: Renumbering for the new 120h Chemistry BS degree, reduce degree program complexity and eliminate prerequisite redundancy Semesters previously offered as an experimental course Co-Listed Courses:	Chair 4. 04/18/23 10:09 am Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post 5. 05/05/23 12:01 pm Jennifer Pohlsander (jpnfd): Rollback to Initiator 6. 06/28/23 6:32 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
Course Reviewer Comments shannonk (04/17/23 3:26 pm): pre-reqs added per DSCC discussion and feedback from Tom Schuman jpnfd (05/04/23 4:22 pm): Effective date changed to Fall 24 jpnfd (05/05/23 12:01 pm): Rollback: Affecting course change. Cannot be Fall 23. See email 5/5/23. jpnfd (07/05/23 8:17 am): Rollback: Rollback per department chair request. jpnfd (07/26/23 3:29 pm): Rollback: Please resubmit along with Chemistry BS & BA Degree Change (DC) form showing the new proposed course number. jpnfd (08/18/23 4:03 pm): Rollback: Please resubmit along with Chemistry BS & BA Degree Change (DC) form showing the new proposed course number. jpnfd (12/14/23 3:53 pm): Updated prerequisite format.	7. 07/05/23 8:17 am Jennifer Pohlsander (jpnfd): Rollback to RCHEMIST Chair for CCC Secretary 8. 07/05/23 9:05 am Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair 9. 07/26/23 3:29 pm Jennifer Pohlsander (jpnfd): Rollback to RCHEMIST Chair for CCC Secretary
Key: 1825	10. 08/09/23 9:58 am

- Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
11. 08/18/23 4:03 pm
Jennifer
Pohlsander
(jpnfd): Rollback
to Initiator
12. 12/06/23 6:05 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
13. 12/19/23 3:38 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Secretary
14. 01/16/24 3:07 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC
Chair
15. 02/13/24 7:32 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
16. 02/27/24 3:40 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
17. 02/27/24 4:55 pm
Petra Dewitt

(dewittp):
Approved for
Campus Curricula
Committee Chair

History

1. May 4, 2015 by
imorgan (1825.1)

[Preview Bridge](#)

Course Change Request

Date Submitted: 12/06/23 5:50 pm

Viewing: **CHEM 3320 ~~2320~~ : Inorganic Chemistry II**

File: 4173.2

Last approved: 06/29/15 3:51 am

Last edit: 12/06/23 5:50 pm

Changes proposed by: tschuman

Programs [CHEM-BS: Chemistry BS](#)
referencing this
course

Requested [Fall 2024](#) ~~08/17/2015~~

Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number [3320](#) ~~2320~~

Title
Inorganic Chemistry II

Abbreviated Inorganic Chemistry II
Course Title

Catalog
Description

A study of coordination chemistry, organometallics, bioinorganic and solid-state inorganic chemistry. Reference to topics of current interest as applied to the above areas.

Prerequisites
CHEM [3310](#) ~~2310~~.

Field Trip
Statement

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

In Workflow

1. **RCHEMIST 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. 04/05/23 7:58 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 04/13/23 3:25 pm
Jennifer Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 04/17/23 9:25 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC

Total: 3 Required for Majors Yes Elective for Majors No	
Justification for change: Renumbering for the new 120h chemistry BS degree plan Semesters previously offered as an experimental course N/A Co-Listed Courses:	Chair 4. 04/18/23 10:09 am Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post 5. 05/05/23 12:02 pm Jennifer Pohlsander (jpnfd): Rollback to Initiator
Course Reviewer Comments jpnfd (04/13/23 3:25 pm): Updated prerequisite to new proposed course number, Chem 3310 (was Chem 2310). jpnfd (05/04/23 4:23 pm): Effective date changed to Fall 24 jpnfd (05/05/23 12:02 pm): Rollback: Affecting course change. Cannot be Fall 23. See email 5/5/23.	6. 12/06/23 6:05 pm Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair 7. 12/19/23 3:39 pm Jennifer Pohlsander (jpnfd): Approved for CCC Secretary 8. 01/16/24 3:07 pm Katie Shannon (shannonk): Approved for Sciences DSCC Chair 9. 02/13/24 7:32 am Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post 10. 02/27/24 3:41 pm Jennifer Pohlsander (jpnfd): Approved

Key: 4173

for CCC Meeting

Agenda

11. 02/27/24 4:55 pm

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

History

1. Jun 29, 2015 by

Klaus Woelk

(woelkk)

[Preview Bridge](#)

Course Change Request

Date Submitted: 12/06/23 5:50 pm

Viewing: **CHEM 3329 ~~2319~~ : Inorganic Chemistry Laboratory**

File: 598.4

Last approved: 04/25/14 3:06 pm

Last edit: 12/06/23 5:50 pm

Changes proposed by: tschuman

Programs [CHEM-BS: Chemistry BS](#)
referencing this
course

Requested Fall 2024 ~~2014~~
Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number 3329 ~~2319~~

Title
Inorganic Chemistry Laboratory

Abbreviated Inorganic Chem Lab
Course Title

Catalog

Description

Synthesis and characterization of inorganic chemicals, high and low temperature syntheses, inert atmosphere and vacuum manipulations, electrochemistry, magnetochemistry, spectroscopy (NMR, IR, UV/VIS), superconductivity.

Prerequisites

Preceded or accompanied by Chem 3310 ~~2310~~ and Chem 1100.

Field Trip

Statement

In Workflow

1. RCHEMIST 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. 04/05/23 7:58 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 04/13/23 3:26 pm
Jennifer Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 04/17/23 9:25 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC

Credit Hours	LEC: 0	LAB: 1	IND: 0	RSD: 0	Chair
Total: 1					4. 04/18/23 10:09 am
Required for Majors	Yes				Jennifer Pohlsander
Elective for Majors	No				(jpnfd): Approved for Pending CCC Agenda post
Justification for change:					5. 05/05/23 12:02 pm
Renumbering of courses for chemistry 120h BS degree plan					Jennifer Pohlsander
Semesters previously offered as an experimental course					(jpnfd): Rollback to Initiator
Co-Listed Courses:					6. 12/06/23 6:05 pm
Course Reviewer					Chariklia Sotiriou-Leventis
Comments					(cslevent): Approved for RCHEMIST Chair
jpnfd (05/04/23 4:23 pm): Effective date changed to Fall 24					7. 12/19/23 3:39 pm
jpnfd (05/05/23 12:02 pm): Rollback: Affecting course change. Cannot be Fall 23.					Jennifer Pohlsander
See email 5/5/23.					(jpnfd): Approved for CCC Secretary
					8. 01/16/24 3:08 pm
					Katie Shannon
					(shannonk): Approved for Sciences DSCC Chair
					9. 02/13/24 7:32 am
					Jennifer Pohlsander
					(jpnfd): Approved for Pending CCC Agenda post
					10. 02/27/24 3:41 pm
					Jennifer Pohlsander
					(jpnfd): Approved

Key: 598

for CCC Meeting

Agenda

11. 02/27/24 4:55 pm

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

History

1. Apr 25, 2014 by

lahne (598.1)

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 12/06/23 5:48 pm

Viewing: **CHEM 3410 : Chemical Thermodynamics I**

File: 474.10

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

Last edit: 12/06/23 5:48 pm

Changes proposed by: tschuman

Programs referencing this course	<u>CR ENG-BS: Ceramic Engineering BS</u> <u>EV ENG-BS: Environmental Engineering BS</u> <u>MT ENG-BS: Metallurgical Engineering BS</u>
Other Courses referencing this course	<u>In The Prerequisites:</u> <u>CHEM 3430 : Chemical Kinetics I</u>

Requested Fall 2024 ~~01/13/2015~~
Effective Change
Date

Department Chemistry
Discipline Chemistry (CHEM)
Course Number 3410
Title
Chemical Thermodynamics I
Abbreviated Chem. Thermodynamics I
Course Title

Catalog Description	A study of the laws of thermodynamics and their applications to the states of matter, solutions, and equilibria.
Prerequisites	

In Workflow

1. RCHEMIST 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. 12/06/23 6:05 pm
Chariklia Sotiriou-
Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 12/19/23 3:39 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 01/16/24 3:08 pm
Katie Shannon
(shannonk):
Approved for

Physics 1111 or Physics 1135; accompanied or preceded by either Math 1215 or Math 1221.

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:

Course being dropped in lieu of two new courses of different scope. Two new courses, CHEM 2410 and 2420, required in the revised BS and BA degrees will cover the content of 3410, 3420, and 3430 but in two semesters rather than 3. All other disciplines have two core classes and this action aligns the p-chem series with other disciplines.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Sciences DSCC
Chair

4. 02/13/24 7:33 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
5. 02/27/24 3:41 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
6. 02/27/24 4:56 pm
Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

History

1. Apr 25, 2014 by
lahne (474.1)
2. Nov 3, 2014 by
woelkk (474.4)

Key: 474

[Preview Bridge](#)

Course Change Request

Date Submitted: 12/06/23 5:49 pm

Viewing: **CHEM 3419 : Physical Chemistry Laboratory I**

File: 1641.6

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

Last edit: 02/27/24 10:08 am

Changes proposed by: tschuman

Programs [CHEM-BA: Chemistry BA](#)
referencing this
course

Requested [Fall 2024](#) ~~01/13/2015~~

Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number 3419

Title
Physical Chemistry Laboratory I

Abbreviated Physical Chem. Lab I
Course Title

Catalog
Description
Some typical operations of experimental physical chemistry.

Prerequisites
Preceded or accompanied by both Chem [2410](#) ~~3410~~ and Chem 1100.

Field Trip
Statement

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

In Workflow

1. **RCHEMIST 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. 12/06/23 6:05 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 12/19/23 3:39 pm
Jennifer Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 01/16/24 3:09 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC

Required for
Majors

Yes

Elective for
Majors

No

Justification for
change:

Two new courses, Chem 2410 and 2420, required in the revised BS and BA degrees will cover the content of 3410, 3420, and 3430 but in two semesters rather than 3. All other disciplines have two core classes and this action aligns the p-chem series with other disciplines. The change in prereq lines up with the secondary education emphasis BA and the new BS degree changes.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

jpnfd (02/27/24 10:08 am): Removed "course being dropped in lieu of two new courses of different scope.," from justification because it does not apply to this course.

Chair

4. 02/13/24 7:33 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post

5. 02/27/24 3:41 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda

6. 02/27/24 4:56 pm
Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

History

1. May 1, 2014 by
lahne (1641.1)
2. Nov 3, 2014 by
kleb6b (1641.4)

Key: 1641

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 12/06/23 5:47 pm

Viewing: **CHEM 3420 : Introduction To Quantum Chemistry**

File: 268.9

Last approved: 11/08/14 3:42 am

Last edit: 12/06/23 5:47 pm

Changes proposed by: tschuman

Programs referencing this course	CR ENG-BS: Ceramic Engineering BS
Other Courses referencing this course	<u>In The Prerequisites:</u> CHEM 4410 : Chemical Thermodynamics II CHEM 4420 : Chemical Kinetics II CHEM 5410 : Advanced Chemical Thermodynamics CHEM 6420 : Quantum Chemistry I CHEM 6450 : Spectroscopy CHEM 6550 : Chemical Spectroscopy

Requested Effective Change Date	Fall 2024 01/13/2015
Department	Chemistry
Discipline	Chemistry (CHEM)
Course Number	3420
Title	Introduction To Quantum Chemistry
Abbreviated Course Title	Intro To Quantum Chem

In Workflow

1. **RCHEMIST 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. 12/06/23 6:05 pm
Chariklia Sotiriou-
Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 12/19/23 3:39 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 01/16/24 3:09 pm
Katie Shannon
(shannonk):
Approved for

Catalog

Description

A study of molecular structures and spectroscopy, statistical thermodynamics, kinetic theory, chemical kinetics, crystals, and liquids.

Prerequisites

Physics 2135 or Physics 2111; preceded or accompanied by Math 2222.

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:

Course being dropped in lieu of two new courses of different scope. Two new courses, CHem 2410 and 2420, required in the revised BS and BA degrees will cover the content of 3410, 3420, and 3430 but in two semesters rather than 3. All other disciplines have two core classes and this action aligns the p-chem series with other disciplines.

Semesters

previously
offered as an
experimental
course

Co-Listed

Courses:

Course Reviewer

Comments

Sciences DSCC

Chair

4. 02/13/24 7:33 am

Jennifer

Pohlsander

(jpnfd): Approved

for Pending CCC

Agenda post

5. 02/27/24 3:41 pm

Jennifer

Pohlsander

(jpnfd): Approved

for CCC Meeting

Agenda

6. 02/27/24 4:56 pm

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

History

1. Apr 25, 2014 by
tschuman (268.1)

2. Nov 8, 2014 by
woelkk (268.7)

Key: 268

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 12/06/23 5:45 pm

Viewing: **CHEM 3429 : Physical Chemistry Laboratory II**

File: 2624.8

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

Last edit: 12/06/23 5:45 pm

Changes proposed by: tschuman

Requested	<u>Fall 2024</u> 01/13/2015
Effective Change	
Date	
Department	Chemistry
Discipline	Chemistry (CHEM)
Course Number	3429
Title	Physical Chemistry Laboratory II
Abbreviated	Physical Chem. Lab II
Course Title	

Catalog				
Description				
A continuation of Chem 3419.				
Prerequisites				
Preceded or accompanied by both Chem 3420 and Chem 1100.				
Field Trip				
Statement				
Credit Hours	LEC: 0	LAB: 1	IND: 0	RSD: 0
Total: 1				
Required for	Yes			
Majors				
Elective for	No			

In Workflow

1. RCHEMIST 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. 12/06/23 6:06 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 12/19/23 3:40 pm
Jennifer Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 01/16/24 3:09 pm
Katie Shannon
(shannonk):
Approved for

Majors

Justification for
change:

Course was a choice for BA chem secondary education emphasis majors but is redundant for those majors and not needed; complicates scheduling. Normal lab section being renumbered to 2459.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Key: 2624

Sciences DSCC
Chair

4. 02/13/24 7:33 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
5. 02/27/24 3:41 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
6. 02/27/24 4:56 pm
Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

History

1. Apr 25, 2014 by
lahne (2624.1)
2. Nov 3, 2014 by
woelkk (2624.4)

[Preview Bridge](#)

Course Change Request

A deleted record cannot be edited

Course Deactivation Proposal

Date Submitted: 12/06/23 5:43 pm

Viewing: **CHEM 3430 : Chemical Kinetics I**

File: 231.1

Last edit: 12/14/23 4:12 pm

Changes proposed by: tschuman

Other Courses
referencing this
course

In The Prerequisites:

[CHEM 5430 : Advanced Chemical Kinetics](#)
[CHEM 5510 : Introduction to Chemical Analysis](#)
[CHEM 6430 : Chemical Kinetics](#)
[CHEM 6570 : Electrochemistry](#)

Requested
Effective Change
Date

[Fall 2024](#) ~~07/01/2024~~

Department Chemistry

Discipline Chemistry (CHEM)

Course Number 3430

Title
Chemical Kinetics I

Abbreviated
Course Title Chemical Kinetics I

Catalog
Description
A study of kinetic theory, chemical kinetics, electromotive force and ionic equilibria.

Prerequisites
Chem 3410.

Field Trip
Statement

In Workflow

1. **RCHEMIST 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. 12/06/23 6:06 pm
Chariklia Sotiriou-
Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 12/19/23 3:40 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 01/16/24 3:09 pm
Katie Shannon
(shannonk):
Approved for

Credit Hours	LEC: 3	LAB: 0	IND: 0	RSD: 0	Sciences DSCC
Total: 3					Chair
Required for	No				4. 02/13/24 7:33 am
Majors					Jennifer
Elective for	No				Pohlsander
Majors					(jpnfd): Approved
					for Pending CCC
					Agenda post
Justification for					5. 02/27/24 3:41 pm
change:					Jennifer
Course is being replaced in all curricula beginning fall 2024					Pohlsander
Semesters					(jpnfd): Approved
previously					for CCC Meeting
offered as an					Agenda
experimental					6. 02/27/24 4:56 pm
course					Petra Dewitt
					(dewittp):
Co-Listed					Approved for
Courses:					Campus Curricula
					Committee Chair
Course Reviewer					
Comments					

Key: 231

[Preview Bridge](#)

Course Change Request

Date Submitted: 12/06/23 5:40 pm

Viewing: **CHEM 4099 : Undergraduate Research**

File: 241.1

Last edit: 02/27/24 10:38 am

Changes proposed by: tschuman

Programs [CHEM-BA: Chemistry BA](#)
referencing this [CHEM-BS: Chemistry BS](#)
course

Requested Fall 2024 ~~2014~~

Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number 4099

Title
Undergraduate Research

Abbreviated Undergraduate Research
Course Title

Catalog

Description

This course provides ~~Designed for~~ the undergraduate student with experience ~~who wishes to engage~~ in conducting chemical research. Does not lead to the preparation of a thesis. Not more than eight (8) ~~six (6)~~ credit hours allowed for graduation credit. Subject and credit to be arranged with the instructor. Preparation of a written, detailed report is required of the student.

Prerequisites

Must meet departmental requirements for instruction in laboratory safety. Consent of instructor required.

Field Trip

Statement

In Workflow

1. **RCHEMIST 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. 04/07/22 7:39 am
Rainer Glaser (glaserr):
Approved for RICHEMIST Chair
2. 04/13/22 3:16 pm
Marita Raper (tibbettsmg):
Rollback to Initiator
3. 12/06/23 6:06 pm
Chariklia Sotiriou-Leventis (cslevent):
Approved for RICHEMIST Chair

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

Total: 1-3 ~~0-6~~

Required for Yes ~~No~~
Majors

Elective for Yes ~~No~~
Majors

Justification for
change:

It is only possible for a student to reasonably take a minimum of one up to a maximum of three credit hours in a given semester. BS specifies maximum of 8 hr research allowed as degree credit.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer

Comments

tibbettsmg (04/13/22 3:16 pm): Rollback: rollback per email. MR

jpnfd (12/15/23 9:07 am): Updated credit hours to 1-8.

jpnfd (12/15/23 2:14 pm): Updated to 1-3 hours per department email 12/15/23.

jpnfd (12/19/23 3:41 pm): Updated term to Fall 2024.

jpnfd (02/27/24 10:38 am): Updated to "yes" elective for majors per CCC meeting 2/27/24.

4. 12/19/23 3:41 pm

Jennifer

Pohlsander

(jpnfd): Approved
for CCC Secretary

5. 01/16/24 3:10 pm

Katie Shannon

(shannonk):

Approved for
Sciences DSCC
Chair

6. 02/13/24 7:33 am

Jennifer

Pohlsander

(jpnfd): Approved
for Pending CCC
Agenda post

7. 02/27/24 3:41 pm

Jennifer

Pohlsander

(jpnfd): Approved
for CCC Meeting
Agenda

8. 02/27/24 4:56 pm

Petra Dewitt

(dewittp):

Approved for
Campus Curricula
Committee Chair

Course Change Request

New Course Proposal

Date Submitted: 12/06/23 5:52 pm

Viewing: **CHEM 4650 : Medicinal Chemistry**

File: 5017

Last edit: 12/14/23 4:13 pm

Changes proposed by: tschuman

Programs [CHEM-BS: Chemistry BS](#)
referencing this
course

Requested Fall 2024
Effective Change
Date

Department Chemistry

Discipline Chemistry (CHEM)

Course Number 4650

Title
 Medicinal Chemistry

Abbreviated Medicinal Chemistry
Course Title

Catalog

Description

A survey of the important aspects of analytical, organic, and physical chemistry as they relate to drug development, metabolism, and mechanism of action. A deeper understanding about drug design and molecular mechanisms by which drugs work in the body will be covered.

Prerequisites

Chem 2220.

Field Trip

Statement

In Workflow

1. **RCHEMIST 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. 12/06/23 6:06 pm
Chariklia Sotiriou-Leventis
(cslevent):
Approved for
RCHEMIST Chair
2. 12/19/23 3:41 pm
Jennifer Pohlsander
(jpnfd): Approved
for CCC Secretary
3. 01/16/24 3:10 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC

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

Total: 3

Required for
Majors Yes

Elective for
Majors No

Justification for
new course:

This course is the undergraduate pair course for INtro to medicinal chemistry Chem 5650. This course is to be required for pre-med emphasis students as part of their core curriculum.

Semesters
previously
offered as an
experimental
course
N/A

Co-Listed
Courses:

Course Reviewer **jpnfd (12/14/23 4:13 pm):** Updated prerequisite format.
Comments

Chair

4. 02/13/24 7:33 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post

5. 02/27/24 3:41 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda

6. 02/27/24 4:56 pm
Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

Key: 5017

[Preview Bridge](#)

Course Change Request

New Course Proposal

Date Submitted: 01/08/24 8:32 pm

Viewing: **CHEM ENG 5211 : Intermediate Bioreactor Laboratory**

File: 5046

Last edit: 02/06/24 11:32 am

Changes proposed by: jcwang

Programs referencing this course

[PROPOSED: Bioengineering PhD](#)

Requested Effective Change Date

Fall 2024

Department

Chemical and Biochemical Engineering

Discipline

Chemical Engineering (CHEM ENG)

Course Number

5211

Title

Intermediate Bioreactor Laboratory

Abbreviated Course Title

Inter Bioreactor Lab

Catalog Description

The application of bioengineering principles and bioreactor design to the production of biochemicals. The experiments emphasize cell culture, fermentation, and extraction and isolation of proteins and enzymes from tissue and bacteria cells

Prerequisites

Preceded or accompanied by Chem Eng 5210 or graduate standing.

Field Trip Statement

- 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. 01/08/24 8:30 pm
Hu Yang (huyang): Rollback to Initiator

2. 01/08/24 8:37 pm
Hu Yang (huyang): Approved for RCHEMENG Chair

3. 01/10/24 3:58 pm
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary

4. 02/06/24 11:21 am
Mark Fitch

Credit Hours	LEC: 1	LAB: 2	IND: 0	RSD: 0
Total: 3				
Required for Majors	No			
Elective for Majors	Yes			

Justification for new course:

New track elective for the new PhD degree in Bioengineering

Semesters previously offered as an experimental course

Co-Listed Courses:

Course Reviewer Comments

hy57v (01/08/24 8:30 pm): Rollback: Dear Jee-Ching, please revise it based on the email. Best, Hu

jpnfd (02/06/24 11:32 am): Updated prerequisite format.

(mfitch):
Approved for Engineering DSCC Chair

5. 02/13/24 7:33 am
Jennifer Pohlsander
(jpnfd): Approved for Pending CCC Agenda post

6. 02/27/24 3:41 pm
Jennifer Pohlsander
(jpnfd): Approved for CCC Meeting Agenda

7. 02/27/24 4:56 pm
Petra Dewitt
(dewittp): Approved for Campus Curricula Committee Chair

Key: 5046

[Preview Bridge](#)

Course Change Request

New Course Proposal

Date Submitted: 01/08/24 4:55 pm

Viewing: **CHEM ENG 5251 : Intermediate Bioseparations Laboratory**

File: 5047

Last edit: 02/27/24 10:42 am

Changes proposed by: jcwang

Programs [PROPOSED: Bioengineering PhD](#)
referencing this course

Requested 01-14-2025
Effective Change Date
Department Chemical and Biochemical Engineering
Discipline Chemical Engineering (CHEM ENG)
Course Number 5251
Title Intermediate Bioseparations Laboratory
Abbreviated Inter Biosep Lab
Course Title

Catalog
Description
Staged and continuous separation systems that are involved in bioengineering research, biotechnology, and pharmaceutical industry. The experiments cover chromatography, phase extraction, electrophoresis, dialysis, affinity techniques, and cell separation.
Prerequisites
Preceded or accompanied by Chem Eng 5250 or graduate standing.
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. 01/08/24 8:31 pm
Hu Yang (huyang):
Approved for RCHEMENG Chair
- 2. 01/10/24 3:58 pm
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
- 3. 02/06/24 11:21 am
Mark Fitch (mfitch):
Approved for Engineering DSCC Chair

Statement

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

Required for
Majors No

Elective for
Majors Yes

Justification for
new course:

New track elective for the new PhD degree in Bioengineering

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer **jpnfd (02/06/24 11:35 am):** Updated prerequisite format.
Comments **jpnfd (02/27/24 10:42 am):** Updated to “yes” elective for majors per CCC meeting
2/27/24.

4. 02/13/24 7:33 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
5. 02/27/24 3:41 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
6. 02/27/24 4:56 pm
Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

Key: 5047

[Preview Bridge](#)

Course Change Request

Date Submitted: 01/13/24 4:07 pm

Viewing: **MATH 1215 : Calculus II**

File: 1695.8

Last approved: 02/25/21 6:00 am

Last edit: 01/13/24 4:07 pm

Changes proposed by: singlerj

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 ARC ENG-BS: Architectural Engineering BS CR ENG-BS: Ceramic Engineering BS CH ENG-BS: Chemical Engineering BS CHEM-BA: Chemistry BA CV ENG-BS: Civil Engineering BS CP ENG-BS: Computer Engineering BS EL ENG-BS: Electrical Engineering BS GE ENG-BS: Geological Engineering BS CHEM-BS: Chemistry BS FR ENG-UN: Foundational Engineering and Computing CMP SC-BS: Computer Science BS EDUC-BS: Education BS PROPOSED: Biomedical Engineering BS 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 MI ENG-BS: Mining Engineering BS
Other Courses referencing this course	<u>In The Prerequisites:</u> AERO ENG 2861 : Aerospace Vehicle Performance AERO ENG 3131 : Aerodynamics I AERO ENG 3251 : Aerospace Structures I AERO ENG 3613 : Aerospace Mechanics I

- 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. 01/13/24 4:31 pm
Xiaoming Wang
(xwx4z):
Approved for
RMATHEMA Chair
 2. 01/16/24 11:49
am
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Secretary
 3. 02/08/24 4:24 pm
Katie Shannon
(shannonk):
Approved for

[ARCH ENG 4448 : Fundamentals Of Construction Engineering & Management](#)
[CIV ENG 2200 : Statics](#)
[CIV ENG 3116 : Construction Materials, Properties And Testing](#)
[CIV ENG 3715 : Fundamentals of Geotechnical Engineering](#)
[CIV ENG 4448 : Fundamentals Of Construction Engineering & Management](#)
[ECON 5337 : Financial Mathematics](#)
[ELEC ENG 2100 : Circuits I](#)
[EXP ENG 6212 : Theory Of High Explosives](#)
[GEO ENG 5331 : Subsurface Hydrology](#)
[MATH 3108 : Linear Algebra I](#)
[MATH 3109 : Foundations Of Mathematics](#)
[MATH 5737 : Financial Mathematics](#)
[MECH ENG 2519 : Thermodynamics](#)
[MECH ENG 2527 : Thermal Analysis](#)
[MECH ENG 3313 : Machine Dynamics](#)
[MECH ENG 3411 : Modeling and Analysis of Dynamic Systems](#)
[MIN ENG 6632 : Theory Of High Explosives](#)
[NUC ENG 2105 : Introduction To Nuclear Engineering](#)
[STAT 3113 : Applied Engineering Statistics](#)
[STAT 3115 : Engineering Statistics](#)

Sciences DSCC
Chair

4. 02/13/24 7:33 am
Jennifer Pohlsander
(jpnfd): Approved for Pending CCC Agenda post
5. 02/27/24 3:41 pm
Jennifer Pohlsander
(jpnfd): Approved for CCC Meeting Agenda
6. 02/27/24 4:56 pm
Petra Dewitt
(dewittp): Approved for Campus Curricula Committee Chair

History

1. Jan 13, 2017 by imorgan (1695.1)
2. Feb 25, 2021 by prunnion (1695.5)

Requested Fall ~~2021~~ 2024
 Effective Change
 Date
 Department Mathematics & Statistics
 Discipline Mathematics (MATH)
 Course Number 1215
 Title Calculus II
 Abbreviated Calculus II
 Course Title

Catalog Description Techniques of integration, sequences and series including power series, polar coordinates, polar and parametric equations. Applications in physical science and engineering. Credit will be given for only one of Math 1215 or Math 1221.

Prerequisites A grade of "C" or better in ~~both Math 1160 and~~ one of Math 1208 or 1214; or a grade of "C" or better in both Math 1210 and Math 1211. ~~1211; or a grade of "C" or better in both Math 1214 and 1211; or a grade of "C" or better in Math 1214 and~~

~~successful trigonometry placement.~~

Field Trip

Statement

Credit Hours	LEC: 3	LAB: 1	IND: 0	RSD: 0	Total: 4
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Required for Majors	Yes
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Elective for Majors	No
------------------------	----

Justification for
change:

The previous prerequisite included either a "C" or better in Math 1160 (Trigonometry) or successful trigonometry placement along with Math 1208 or Math 1214. However, Math 1160 or successful placement is already a prerequisite for Math 1208 (Calculus With Analytic Geometry I) and Math 1214 (Calculus I), and successful completion of Calculus I is a prerequisite for this course. Therefore, the trigonometry prerequisite is not necessary for Math 1215 (Calculus II).

For reference, the previous prerequisite: "A grade of "C" or better in both Math 1160 and one of Math 1208 or 1214; or a grade of "C" or better in both Math 1210 and Math 1211; or a grade of "C" or better in both Math 1214 and 1211; or a grade of "C" or better in Math 1214 and successful trigonometry placement."

Note that 'a grade of "C" or better in both Math 1210 and Math 1211' remains the same in the proposed new prerequisite.

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

Course Change Request

Date Submitted: 01/10/24 4:55 pm

Viewing: **PSYCH 3311 : Psychological & Educational Development Of The Adolescent**

File: 1356.1

Last edit: 02/27/24 10:44 am

Changes proposed by: burnside

Programs referencing this course

[PSYCH-BA: Psychological Science BA](#)
[PSYCH-BS: Psychological Science BS](#)

Requested Fall 2024 ~~07/01/2024~~
Effective Change Date

Department Psychological Science
Discipline Psychology (PSYCH)
Course Number 3311

Title
Psychological & Educational Development Of The Adolescent
Abbreviated Psych Educ Dev Adolescnt
Course Title

Catalog Description

An examination of the biological, social, and cognitive transitions that occur during adolescence. Other topics include the role of families, the role of peers, the adolescent identity, sexuality, the impact of schools, the role of achievement, how adolescents spend their time (work, leisure), the role of the media, and problems encountered by the adolescent.

Prerequisites

Either Psych 1101 (psychology majors) or Educ 1040 (teacher education program).
~~Psych 1101.~~

Field Trip

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. CAT entry

11. Peoplesoft

Approval Path

1. 01/11/24 8:25 am
Clair Kueny (reynoldscla):
Approved for RPSYCHOL Chair

2. 01/12/24 8:14 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary

3. 01/12/24 8:15 am
Cecil Eng Huang Chua (cchua):
Approved for Social Sciences DSCC Chair

Statement

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

Total: 3

Required for
Majors Yes ~~No~~

Elective for
Majors Yes ~~No~~

Justification for
change:

Education majors don't have to take Psych 1101

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer **jpnfd (01/11/24 8:47 am):** Updated effective change date to Fall 2024.
Comments **jpnfd (02/15/24 9:46 am):** Selected "elective for majors," per department email
2/15/24.
 jpnfd (02/26/24 2:41 pm): Updated Prerequisite format.
 jpnfd (02/27/24 10:44 am): Updated to "yes" required for majors per CCC meeting
2/27/24.

4. 02/13/24 7:33 am
Jennifer
Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
5. 02/27/24 3:41 pm
Jennifer
Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
6. 02/27/24 4:57 pm
Petra Dewitt
(dewittp):
Approved for
Campus Curricula
Committee Chair

Key: 1356

[Preview Bridge](#)

Course Change Request

Date Submitted: 01/10/24 4:56 pm

Viewing: **PSYCH 4310 : Psychology Of The Exceptional Child**

File: 1374.1

Last edit: 02/27/24 10:44 am

Changes proposed by: burnside

Programs referencing this course	AP MATH-BS: Applied Mathematics BS
	CHEM-BA: Chemistry BA
	PSYCH-BA: Psychological Science BA
	PSYCH-BS: Psychological Science BS
	EDUC-BS: Education BS
	ECON-BA: Economics BA
	ENV SCI-BS: Environmental Sciences BS
	PROPOSED: Psychology of Diversity and Inclusion CTU

Requested Effective Change Date

Fall 2024 ~~07/01/2024~~

Department Psychological Science

Discipline Psychology (PSYCH)

Course Number 4310

Title Psychology Of The Exceptional Child

Abbreviated Course Title Psych Exceptional Child

Catalog Description	Study of the psychology of children on both ends of the educational spectrum. The course presents the fundamentals of providing services as well as understanding the abilities and disabilities of children classified as exceptional. Includes coverage of various disabilities, and the implications of dealing with personal, family and classroom issues.
---------------------	--

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. CAT entry
11. Peoplesoft

Approval Path

1. 01/11/24 8:25 am
Clair Kueny (reynoldscsla):
Approved for RPSYCHOL Chair
2. 01/12/24 8:14 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
3. 01/12/24 8:16 am
Cecil Eng Huang Chua (cchua):
Approved for Social Sciences DSCC Chair

Prerequisites

Either Psych 1101 (psychology majors) or Educ 1040 (teacher education program).

~~Psych 1101.~~

Field Trip

Statement

Credit Hours

LEC: 3

LAB: 0

IND: 0

RSD: 0

Total: 3

Required for
Majors

Yes ~~No~~

Elective for
Majors

Yes ~~No~~

Justification for
change:

Education majors don't have to take Psych 1101

Semesters
previously
offered as an
experimental
course

Co-Listed
Courses:

Course Reviewer
Comments

jpnfd (01/11/24 8:47 am): Updated effective change date to Fall 2024.

jpnfd (02/15/24 9:45 am): Selected "elective for majors," per department email 2/15/24.

jpnfd (02/26/24 2:41 pm): Updated Prerequisite format.

jpnfd (02/27/24 10:44 am): Updated to "yes" required for majors per CCC meeting 2/27/24.

4. 02/13/24 7:33 am

Jennifer

Pohlsander

(jpnfd): Approved

for Pending CCC

Agenda post

5. 02/27/24 3:41 pm

Jennifer

Pohlsander

(jpnfd): Approved

for CCC Meeting

Agenda

6. 02/27/24 4:57 pm

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

Program Change Request

Date Submitted: 12/06/23 6:38 pm

Viewing: **CHEM-BA : Chemistry BA**

File: 151.24

Last approved: 05/02/23 11:17 am

Last edit: 12/20/23 9:51 am

Changes proposed by: tschuman

Catalog Pages Using this Program

[Chemistry](#)

Start Term

Fall 2024 ~~2023~~

Program Code

CHEM-BA

Department

Chemistry

Title

Chemistry BA

Program Requirements and Description

In Workflow

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

Approval Path

1. 12/06/23 7:08 pm
Chariklia Sotiriou-Leventis (cslevent): Approved for RCHEMIST Chair
2. 12/20/23 9:53 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
3. 01/16/24 3:15 pm
Katie Shannon (shannonk): Approved for Sciences DSCC Chair
4. 02/13/24 7:33 am
Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
5. 02/27/24 3:41 pm
Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda
6. 02/27/24 4:56 pm
Petra Dewitt (dewittp): Approved for Campus Curricula Committee Chair

History

1. Mar 18, 2014 by
[Lahne Black \(lahne\)](#)

2. Jul 15, 2015 by
pantaleoa
3. Jun 18, 2018 by
Thomas Schuman
(tschuman)
4. Dec 3, 2019 by
Thomas Schuman
(tschuman)
5. Mar 3, 2020 by
Thomas Schuman
(tschuman)
6. May 2, 2023 by
Thomas Schuman
(tschuman)

Bachelor of Arts Chemistry

Freshman Year			
First Semester	Credits	Second Semester	Credits
CHEM 1100	1	CHEM 1320	3
CHEM 1110	1	CHEM 1510	2
CHEM 1310	4	MATH 1215	4
CHEM 1319	1	HISTORY 1100	3
ENGLISH 1120	3	Humanities Electives	3
MATH 1214 or 1210 and 1211	4		
	14		15
Sophomore Year			
First Semester	Credits	Second Semester	Credits
CHEM 2210	3	CHEM 2220	3
CHEM 2219	1	CHEM 2229	1
Electives	6	ENGLISH 1160	3
HISTORY 1200	3	Social Elective	3
Humanities Elective	3	Elective	6
	16		16
Junior Year			
First Semester	Credits	Second Semester	Credits
CHEM 2510	4	PHYSICS 2135	4
STAT 3113	3	Chem Electives (see list below)	4
PHYSICS 1135	4	Electives	7
Elective	4		
	15		15
Senior Year			
First Semester	Credits	Second Semester	Credits
CHEM 3410, or 3430, or 3420	3	CHEM 4010	1
CHEM 2410	<u>3</u>	Humanities Elective	3

CHEM 3419	1	Social Sciences Elective	3
Humanities Elective Literature	3	Electives	7
Social Electives	6		
Elective	3		
	16		14
Total Credits: 121			

Students must complete a minimum of 121 credit hours for the bachelor of arts in chemistry degree. Students may have to take more than the minimum number of coursework hours to comply with the B.A. requirements due to variations in minor degree and foreign language requirements within an individual's program of study.

Elective credits include a required minor in one of the following areas: English, economics, history, philosophy, psychology, sociology, communications, speech, media, political science, music, mathematics, statistics, foreign language, computer science, biology, or art. See Undergraduate catalog for courses required for specific minor. All chemistry majors are encouraged to do research through [CHEM 4099](#). A total of 12 credits of a modern foreign language must also be taken as part of the electives above.

Chem Elective must be from one or more of the following: [CHEM 3310](#), [CHEM 3329](#), [CHEM 4099](#), [CHEM 4210](#), [CHEM 4297](#), [CHEM 4310](#), [CHEM 4410](#), [CHEM 4420](#), [CHEM 4510](#), [CHEM 4610](#), [CHEM 4619](#), [CHEM 4620](#), [CHEM 4630](#), [CHEM 4810](#), [CHEM 4819](#), [CHEM 4850](#). This program of study allows students to design, in conjunction with their chemistry advisor, a program for many disciplines including pre-law, business, pre-dentistry, pre-veterinary medicine, as well as pre-medicine. An example of such a program is shown for pre-medical studies:

BIO SCI 1113	General Biology	3
BIO SCI 1219	General Biology Lab	1
BIO SCI 2213	Cell Biology	3
BIO SCI 2219	Cell Biology Laboratory	1
CHEM 4610	General Biochemistry	3
CHEM 4619	General Biochemistry Laboratory	2

A grade of "C" or better is required for each Chemistry course counted towards the degree.

Bachelor of Arts

Chemistry

Secondary Education Emphasis Area

Freshman Year			
First Semester	Credits	Second Semester	Credits
CHEM 1310	4	BIO SCI 1113	3
CHEM 1319	1	CHEM 1320	3
CHEM 1100	1	CHEM 1510	2
EDUC 1040	2	EDUC 1104	1
ENGLISH 1120	3	ENGLISH 1160	3
MATH 1214 or 1210 and 1211	4	MATH 1215	4
PSYCH 1101	3		
	18		16
Sophomore Year			
First Semester	Credits	Second Semester	Credits
CHEM 2210	3	CHEM 2220	3
CHEM 2219	1	CHEM 2229	1
EDUC 1164	2	EDUC 3216	3

EDUC 1174	2	PHYSICS 2135	4
EDUC 2102 or PSYCH 2300	3	SP&M S 1185	3
ENGLISH 1221 or 1222	3	STAT 3113	3
PHYSICS 1135	4		
	18		17
Junior Year			
First Semester	Credits	Second Semester	Credits
BIO SCI 2263	3	CHEM 3410, or 3430, or 3420	3
EDUC 1164	2	ART 1180 , or MUSIC 1150 , or THEATRE 1190	3
CHEM 2510	4	CHEM 2410	<u>3</u>
EDUC 3298	<u>1</u>	CHEM 3419	1
ENGLISH 3170	3	HISTORY 1200	3
HISTORY 1100	3	HISTORY 3530 , or PHILOS 4345 , or HISTORY 3534	3
PHYSICS 1505 or GEOLOGY 1110	3	PSYCH 4310 or EDUC 2310	3
	17		16
Senior Year			
First Semester	Credits	Second Semester	Credits
CHEM 4010	1	EDUC 4298	1
CHEM 4610	3	EDUC 4299	12
CHEM 4619	2		
EDUC 3280	3		
EDUC 3340	<u>3</u>		
PHILOS 1105	3		
PSYCH 3310	3		
	18		13
Total Credits: 133			

Students must complete a minimum of 133 ~~129~~ credit hours for the Bachelor of Arts in Chemistry degree with a Secondary Education Emphasis Area. The degree program is intended to culminate in a Certification Recommendation for an initial Missouri teaching certification. Students should also consult the Secondary Teacher Education Program section for Teacher Certification requirements through the Education department. A Bachelor of Science in Chemistry degree with a Secondary Education Emphasis Area may be obtained by taking an additional 40 credit hours of mostly upper level Chemistry courses (see your academic advisor for a schedule of classes or more information).

For this Bachelor of Arts degree program, the minor degree and foreign language requirements of the typical program of study are waived and there are other course substitutions in lieu of education coursework and requirements. A total of nine humanities credit hours are required to be selected from [ENGLISH 1221](#) or [ENGLISH 1222](#) ; [PHILOS 1105](#) ; and one of [ART 1180](#) , [MUSIC 1150](#) , or [THEATRE 1190](#) .

Four credit hours of Chemistry Elective must be selected from one or more of the following: [CHEM 4210](#) , [CHEM 4297](#) , [CHEM 4410](#) , [CHEM 4510](#) , [CHEM 4610](#) , [CHEM 4619](#) , [CHEM 4620](#) , [CHEM 4710](#) , [CHEM 4810](#) , [CHEM 4819](#) , [CHEM 4850](#) , and/or [CHEM 4099](#) . [CHEM 4099](#) may not count for more than 3 credit hours toward the degree. All chemistry majors are encouraged to do research through [CHEM 4099](#) .

A grade of "C" or better is required for each Chemistry course counted towards the degree.

Justification for request

Changes are made per renumbering of courses per the changes to the BS degrees. In addition, changes to the education emphasis are made with respect to the BS renumbering as well as for changes to DESE requirements for the teaching education emphasis.

Supporting Documents

Course Reviewer Comments

jpnfd (12/19/23 4:03 pm): Edited course format.

jpnfd (12/20/23 9:51 am): Removed Educ 4310 from Sec Ed junior year 2nd semester. This course was renumbered to Educ 2310 in Fall 2021.

Program Change Request

Date Submitted: 12/06/23 5:59 pm

Viewing: **CHEM-BS : Chemistry BS**

File: 16.40

Last approved: 06/14/22 4:24 pm

Last edit: 02/27/24 10:51 am

Changes proposed by: tschuman

Catalog Pages Using this Program

[Chemistry](#)

Start Term

Fall 2024 ~~2022~~

Program Code

CHEM-BS

Department

Chemistry

Title

Chemistry BS

Program Requirements and Description

In Workflow

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

Approval Path

1. 04/05/23 7:58 pm
Chariklia Sotiriou-Leventis (cslevent):
Approved for
RCHEMIST Chair
2. 04/14/23 9:49 am
Jennifer Pohlsander (jpnfd): Approved
for CCC Secretary
3. 04/17/23 9:25 pm
Katie Shannon (shannonk):
Approved for
Sciences DSCC Chair
4. 04/18/23 10:09 am
Jennifer Pohlsander (jpnfd): Approved
for Pending CCC Agenda post
5. 05/05/23 11:47 am
Jennifer Pohlsander (jpnfd): Rollback to Initiator
6. 10/02/23 8:54 am
Chariklia Sotiriou-Leventis (cslevent):
Approved for
RCHEMIST Chair
7. 10/09/23 4:01 pm
Jennifer Pohlsander (jpnfd): Rollback to Initiator
8. 12/06/23 6:06 pm
Chariklia Sotiriou-Leventis (cslevent):

- Approved for
RCHEMIST Chair
9. 12/19/23 3:49 pm
Jennifer Pohlsander
(jpnfd): Approved
for CCC Secretary
10. 01/16/24 3:19 pm
Katie Shannon
(shannonk):
Approved for
Sciences DSCC
Chair
11. 02/13/24 7:33 am
Jennifer Pohlsander
(jpnfd): Approved
for Pending CCC
Agenda post
12. 02/27/24 3:41 pm
Jennifer Pohlsander
(jpnfd): Approved
for CCC Meeting
Agenda
13. 02/27/24 4:56 pm
Petra Dewitt
(dewittp): Approved
for Campus
Curricula
Committee Chair

History

1. Apr 28, 2014 by
Thomas Schuman
(tschuman)
2. Jun 19, 2015 by
Klaus Woelk
(woelkk)
3. Jun 28, 2017 by
Thomas Schuman
(tschuman)
4. May 3, 2018 by
Thomas Schuman
(tschuman)
5. Dec 3, 2019 by
Thomas Schuman
(tschuman)
6. Sep 2, 2020 by
Crystal Wilson
(wilsoncry)
7. Jun 10, 2021 by
Thomas Schuman
(tschuman)
8. Jun 14, 2022 by
Thomas Schuman
(tschuman)

A minimum of ~~120~~ ~~of 127~~ credit hours is required for a Bachelor of Science degree in Chemistry and an average of at least two grade points per credit hour must be obtained. These requirements for the B.S. degree are in addition to credit received for algebra, trigonometry, and basic ROTC.

The Chemistry science curriculum requires ~~twelve (12)~~ ~~nine~~ semester hours in humanities and must include ENGLISH 1120 and ENGLISH 1160 or ENGLISH 3560 . A minimum of nine (9) semester hours is required in social sciences, including either HISTORY 1300 , HISTORY 1310 , HISTORY 1200 , or POL SCI 1200 . Specific requirements for the bachelor degree are outlined in the sample program listed below.

Freshman Year			
First Semester	Credits	Second Semester	Credits
<u>CHEM 1100</u>	1	<u>CHEM 1320</u>	3
<u>CHEM 1110</u>	1	<u>CHEM 1510</u>	2
<u>CHEM 1310</u>	4	<u>MATH 1215</u>	4
<u>CHEM 1319</u>	1	Electives	6
<u>MATH 1214</u> or <u>1210</u> and <u>1211</u>	4	<u>COMP SCI 1500</u>	3
<u>ENGLISH 1120</u>	3	<u>ENGLISH 1160</u>	3
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
	14		15
Sophomore Year			
First Semester	Credits	Second Semester	Credits
<u>CHEM 2210</u>	3	<u>CHEM 2220</u>	3
<u>CHEM 2219</u>	1	<u>CHEM 2229</u>	1
<u>MATH 2222</u>	4	CHEM 3410	3
<u>PHYSICS 1135</u>	4	<u>CHEM 2410</u>	3
Electives	4	<u>CHEM 2510</u>	4
<u>Humanities elective</u>	3	<u>PHYSICS 2135</u>	4
		Select one of the following sequences:	3
		COMP SCI 1972 & COMP SCI 1982	-
		IS&T 1561 or COMP SCI 1500	-
		COMP SCI 1974 & COMP SCI 1984	-
	15		15
Junior Year			
First Semester	Credits	Second Semester	Credits
CHEM 2310	3	CHEM 2319	4
CHEM 2510	4	CHEM 2320	3
CHEM 3430	3	CHEM 3420	3
<u>CHEM 2420</u>	3	CHEM 3459	2
<u>CHEM 3310</u>	3	Electives	6
<u>CHEM 3510</u>	4	<u>CHEM 2459</u>	2
<u>STAT 3113</u> or <u>3115</u>	3	<u>CHEM 3320</u>	3
ENGLISH 1160 or 3560	3	<u>CHEM 3329</u>	1
<u>Humanities elective</u>	3	<u>CHEM 4010</u> or <u>4099</u>	1
		<u>CHEM 4099</u>	1
		<u>Social science elective</u>	3
		<u>General elective</u>	3

Senior Year

First Semester	Credits	Second Semester	Credits
CHEM-3540	4	CHEM 4010	4
CHEM 4099	1	CHEM 4297	3
CHEM 4610	3	Electives	12
CHEM 4810	3	Social science elective	3
Electives	7	General electives	9
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
General electives	6		
	16		15
Total Credits: 120			

Notes:

Grade Requirements: A minimum grade of "C" is required for each chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore year, but does not count towards the degree.

Electives: The degree has eighteen (18) There are thirty-three (33) hours of general electives credit ~~electives, not to include Math courses~~ that may not include Math courses ~~are~~ prerequisite to calculus. Not more than one (1) credit hour of CHEM 4010 can be included for degree credit. Up to eight (8) credit hours may be taken of CHEM 4099.

~~Twelve (12) hours must be 2xxx, 3xxx, 4xxx (or 5xxx or higher with permission) level in chemistry, to include up to a maximum of 9 credit hours of Chem 4099, or another technical area with permission of department. Six (6) elective hours must be completed in the social sciences. Six (6) elective hours are required in the humanities.~~ **Chemistry**

Biochemistry Emphasis Area

Freshman Year			
First Semester	Credits	Second Semester	Credits
CHEM 1100	1	BIO SCI 2213	3
CHEM 1110	1	BIO SCI 2219	1
CHEM 1310	4	Electives	3
CHEM 1319	1	CHEM 1320	3
ENGLISH 1120	3	CHEM 1510	2
MATH 1214 or 1210 and 1211	4	ENGLISH 1160	3
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	MATH 1215	4
	14		16
Sophomore Year			
First Semester	Credits	Second Semester	Credits
CHEM 2210	3	CHEM 2220	3
CHEM 2219	1	CHEM 2229	1
COMP SCI 1500	3	CHEM 3410	3
MATH 2222	4	CHEM 2410	3
PHYSICS 1135	4	CHEM 2510	4
Electives	4	PHYSICS 2135	4
		Select one of the following sequences:	3

		COMP SCI 1972 & COMP SCI 1982	-
		IS&T 1561 or COMP SCI 1500	-
		COMP SCI 1974 & COMP SCI 1984	-
	15		15
Junior Year			
First Semester	Credits	Second Semester	Credits
CHEM 2310	3	CHEM 2319	4
CHEM 3430	3	CHEM 2320	3
CHEM 2420	3	CHEM 2510	4
CHEM 3310	3	CHEM 3420	3
CHEM 4610	3	CHEM 3459	2
CHEM 4619	2	CHEM 3329	1
STAT 3113 or 3115	3	CHEM 3320	3
ENGLISH 1160 or 3560	3	CHEM 2459	2
		CHEM 4620	3
		CHEM 4099	1
		CHEM 4010 or 4099	1
		Humanities elective	3
	14		14
Senior Year			
First Semester	Credits	Second Semester	Credits
CHEM 3510	4	CHEM 4010	4
CHEM 4099	1	CHEM 4297	3
CHEM 4810	3	Electives	12
CHEM 4630	3	Social science electives	6
Electives	4	General electives	6
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3		
Humanities elective	3		
	17		15
Total Credits: 120			

Notes:

Grade Requirements: A minimum grade of "C" is required for each chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore years, but does not count towards the degree.

Electives: The degree has six (6) credit hours of general electives credit that may not include Math courses prerequisite to calculus. Three (3) There are twenty-one (21) hours upper technical elective credit of electives, to include up to twelve (12) hours must be 2xxx, 3xxx, 4xxx (or 5xxx or higher with permission) level in chemistry, to include up to a maximum of 9 credit hours of Chem 4099 or can be taken in another technical technical area with permission of department, department, not to include Math courses that are prerequisite to calculus. Not more than 1 credit hour of CHEM 4010 can be included for degree credit. Up to eight (8) credit hours may be taken of CHEM 4099.

Six (6) elective hours must be completed in the social sciences. Six (6) elective hours are required in the humanities. Polymer & Coatings Science Emphasis Area

Freshman Year			
First Semester	Credits	Second Semester	Credits
CHEM 1100	1	CHEM 1320	3
CHEM 1110	1	CHEM 1510	2
CHEM 1310	4	COMP SCI 1500	<u>3</u>
CHEM 1319	1	ENGLISH 1160	<u>3</u>
MATH 1214 or 1210 and 1211	4	MATH 1215	4
ENGLISH 1120	3	Electives	6
HISTORY 1200 , or 1300 , or 1310 , or POL SCI 1200	3		
	14		15
Sophomore Year			
First Semester	Credits	Second Semester	Credits
CHEM 2210	3	CHEM 2220	3
CHEM 2219	1	CHEM 2229	1
CHEM 4810	<u>3</u>	CHEM 2319	4
MATH 2222	4	CHEM 3410	3
PHYSICS 1135	4	CHEM 2410	<u>3</u>
CHEM 2310	3	CHEM 2510	<u>4</u>
		PHYSICS 2135	4
		Select one of the following sequences:	3
		COMP SCI 1972 & COMP SCI 1982	-
		IS&T 1561 or COMP SCI 1500	-
		COMP SCI 1971 & COMP SCI 1981	-
	15		15
Junior Year			
First Semester	Credits	Second Semester	Credits
CHEM 2510	4	CHEM 2320	3
CHEM 3430	3	CHEM 3420	3
CHEM 4810	3	CHEM 3459	2
CHEM 2420	<u>3</u>	CHEM 2459	<u>2</u>
CHEM 3310	<u>3</u>	CHEM 3320	<u>3</u>
CHEM 3510	<u>4</u>	CHEM 4850	3
PHYSICS 4523	<u>3</u>	CHEM 3329	<u>1</u>
STAT 3113 or 3115	3	CHEM 4099	2
ENGLISH 1160 or 3560	3	CHEM 4819	4
		Humanity elective	3
		Social science elective	<u>3</u>
	16		17
Senior Year			
First Semester	Credits	Second Semester	Credits
CHEM 3510	4	CHEM 4297	3

CHEM 4010	<u>1</u>	CHEM 4099	1-3
CHEM 4099	1	Electives	12
Electives	6	Social science elective	<u>3</u>
CHEM 4610	3	General electives	<u>6</u>
PHYSICS 4623	3		
CHEM 4819	<u>1</u>		
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	<u>3</u>		
Humanities elective	<u>3</u>		
General electives	<u>4</u>		
	16		12
Total Credits: 120			

Notes:

Grade Requirements: A minimum grade of "C" is required for each chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore years, but does not count towards the degree.

Undergraduate Research: The undergraduate research [CHEM 4099](#) [CHEM 4099](#) must be done in Polymers and Coatings Science.

Electives: ~~The degree has ten (10) There are twenty three (23) hours of electives, including twelve (12) hours must be 2xxx, 3xxx, 4xxx (or 5xxx or higher with permission) level in chemistry, to include up to a maximum of 9 credit hours of~~ [general electives credit](#) ~~Chem 4099 or another technical area with permission of department, not to include Math courses that may not include Math courses are~~ prerequisite to [calculus](#). ~~Not more than 1 credit hour of CHEM 4010 can be included for degree credit.~~ ~~calculus: Up to eight (8) credit hours may be taken of CHEM 4099.~~

Six (6) elective hours must be completed in the socialsciences. Six (6) elective hours are required in the humanities. **Pre-medicine Emphasis Area**

Freshman Year			
First Semester	Credits	Second Semester	Credits
CHEM 1100	1	BIO SCI 1113	3
CHEM 1110	1	BIO SCI 1249	4
CHEM 1310	4	ENGLISH 1120	3
CHEM 1319	1	CHEM 1320	3
MATH 1214 or 1210 and 1211	4	CHEM 1510	2
HISTORY 1200, or 1300, or 1310, or POL SCI 1200	3	ENGLISH 1160 or 3560	<u>3</u>
ENGLISH 1120	<u>3</u>	MATH 1215	4
	14		15
Sophomore Year			
First Semester	Credits	Second Semester	Credits
BIO SCI 2213	3	BIO SCI 2223	<u>3</u>
BIO SCI 2219	1	CHEM 2220	3
CHEM 2210	3	CHEM 2229	1
CHEM 2219	1	CHEM 3410	3
MATH 2222	4	PHYSICS 2135	4
PHYSICS 4135	4	Select one of the following sequences:	3
COMP SCI 1500	<u>3</u>	COMP SCI 1972 & COMP SCI 1982	-
PHYSICS 1145	<u>4</u>	IS&T 1561 or COMP SCI 1500	-

~~COMP SCI 1971
& COMP SCI 1981~~

<u>CHEM 2510</u>	<u>4</u>
<u>PHYSICS 2145</u>	<u>4</u>

15 15

Junior Year

First Semester	Credits	Second Semester	Credits
CHEM 3430	3	CHEM 2510	4
<u>BIO SCI 3333</u>	<u>3</u>	CHEM 3420	3
<u>BIO SCI 3359</u>	<u>1</u>	<u>BIO SCI 3343</u>	<u>3</u>
ENGLISH 1160 or 3560	3	<u>CHEM 2410</u>	<u>3</u>
<u>CHEM 3310</u>	<u>3</u>	<u>CHEM 3329</u>	<u>1</u>
<u>CHEM 4610</u>	<u>3</u>	<u>CHEM 4010 or 4099</u>	<u>1</u>
<u>CHEM 4619</u>	<u>2</u>	<u>CHEM 4099</u>	<u>1</u>
CHEM 4010 or 4099	4	<u>CHEM 4620</u>	<u>3</u>
<u>STAT 3425</u>	<u>3</u>	STAT 3113 or 3115	3
		<u>PSYCH 1101</u>	<u>3</u>
	15		15

Senior Year

First Semester	Credits	Second Semester	Credits
CHEM 2310	3	CHEM 2319	4
<u>CHEM 3510</u>	<u>4</u>	CHEM 2320	3
CHEM 3459	2	CHEM 4099	4
CHEM 4010 or 4099	4	<u>BIO SCI 3313</u>	<u>3</u>
CHEM 4810	3	<u>CHEM 4297</u>	<u>3</u>
Electives	4	Electives	9
<u>CHEM 4630</u>	<u>3</u>	<u>Humanities elective</u>	<u>3</u>
<u>CHEM 4650</u>	<u>3</u>	<u>Social science elective</u>	<u>3</u>
<u>HISTORY 1200, or 1300, or 1310, or POL SCI 1200</u>	<u>3</u>	<u>General elective</u>	<u>3</u>
<u>Humanities elective</u>	<u>3</u>		
	16		15

Total Credits: 120

Notes:

Grade Requirements: A minimum grade of "C" is required for each chemistry course counted towards the degree.

ROTC: Basic ROTC may be taken in the freshman and sophomore years, but does not count towards the degree.

Electives: ~~There are eleven (11) hours of electives, not to include Math courses that are prerequisite to calculus. The degree has three (3) Up to five (5) credit hours of general electives credit that may not include Math courses prerequisite to calculus. Not more than 1 credit hour of CHEM 4010 can be included for degree credit, taken of Chem 4099. Three (3) elective hours must be completed in the social sciences. Up to eight (8) credit There are eleven (11) hours may be taken of CHEM 4099. electives, not to include Math courses that are prerequisite to calculus.~~

~~Three (3) elective hours are required in the humanities.~~

Justification for request

We are reducing the required degree hours to 120 from 127.

Social science course hours total 9; total H-SS hrs = 21 minimum. We are combining three physical chemistry courses

into 2 courses of reduced content to align our physical chem series with the other core disciplines of organic, inorganic, and analytical chemistry, 2 courses each. We are increasing the amount of research required by one to two credit hours for most degree plans and amount allowed to a total of 8 crhr. We have also removed a general elective hour. In addition, we are renumbering our inorganic and p-chem series to align them with the typical seniority year taken. New course chem 4650, the undergraduate version of 5650 required for the medicinal chemistry certificate, is required as part of the pre-medicine emphasis degree.

Supporting Documents

Course Reviewer Comments

jpnfd (05/05/23 11:45 am): Updated start term to Fall 2024

jpnfd (05/05/23 11:47 am): Rollback: Rolled back for revisions. There must be 21 hours in HSS electives. Clarification needed on which electives are Chem electives and which are true electives. See email 5/5/23.

jpnfd (10/02/23 2:48 pm): Updated format Bio Sci 3343, added space.

jpnfd (10/09/23 4:01 pm): Rollback: Rollback for revisions. Please resubmit DC along with a CC form for Chem 4650, CHEM 2410, CHEM 2420, CHEM 3459/2459, CHEM 2310/3310, CHEM 2320/3320, & CHEM 2319/3329, & Chem 4099- if proposing to change credit hours. The Chem BA (DC) form will also need to be submitted showing the course numbering changes for Chem 2310/3310, 2320/3320, 2319/3329.

jpnfd (12/19/23 3:48 pm): Corrected course format.

jpnfd (02/27/24 10:51 am): Edited typo, changed "ther" to "the."

Program Change Request

New Program Proposal

Date Submitted: 01/08/24 11:52 pm

Viewing: **PROPOSED : Bioengineering PhD**

File: 410

Last edit: 02/06/24 12:30 pm

Changes proposed by: jcwang

Start Term

Fall 2024

Program Code

PROPOSED

Department

Chemical and Biochemical Engineering

Title

Bioengineering PhD

Program Requirements and Description

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. ProvostOffice
- 10. Registrar

Approval Path

- 1. 01/08/24 11:54 pm
Hu Yang (huyang):
Approved for
RCHEMENG Chair
- 2. 01/10/24 3:58 pm
Jennifer Pohlsander (jpnfd): Approved
for CCC Secretary
- 3. 02/06/24 11:21 am
Mark Fitch (mfitch):
Approved for
Engineering DSCC
Chair
- 4. 02/06/24 11:52 am
Jennifer Pohlsander (jpnfd): Rollback to
Engineering DSCC
Chair for Pending
CCC Agenda post
- 5. 02/06/24 12:30 pm
Mark Fitch (mfitch):
Approved for
Engineering DSCC
Chair
- 6. 02/13/24 7:33 am
Jennifer Pohlsander (jpnfd): Approved
for Pending CCC
Agenda post
- 7. 02/27/24 3:41 pm
Jennifer Pohlsander (jpnfd): Approved
for CCC Meeting
Agenda
- 8. 02/27/24 4:57 pm

The Bioengineering PhD program combines existing expertise in Chemical and Biochemical Engineering with 10 allied engineering and science departments (Biological Sciences, Chemical Engineering, Chemistry, Computer Science, Civil Engineering, Electrical Engineering, Engineering Management, Materials Science and Engineering, Mechanical Engineering, and Math) spanning three colleges (the College of Engineering and Computing, the College of Arts, Sciences, and Education, and the Kummer College of Innovation, Entrepreneurship, and Economic Development) at Missouri S&T to achieve the following objectives,

1. To attract a large and diverse set of students.
2. To build a highly skilled workforce in bioengineering to meet the current and emergent needs of industries, regulatory agencies, and NGOs.
3. To serve as an integrator and catalyst for faculty members at Missouri S&T to discover new ideas, develop collaborations, and increase scholarly productivity in the critically important bioengineering research domain.
4. To build research and educational collaborations with industry and other external partners, including those within the UM system. This includes supporting existing focus areas such as precision medicine.

The PhD is open to interested students from relevant engineering and science backgrounds, but is primarily focused on those with a BS or MS degree in Chemical Engineering, Biochemical Engineering, Biomedical Engineering, Biomolecular Engineering, or Biological Engineering. The successful applicant must have minimum undergraduate grade point average of 3.0/4.0 or equivalent and strong letters of recommendations.

Students who enter the program directly with a BS degree will need to complete a minimum of 72 credit hours beyond BS degree, which should include a minimum of 30 credit hours of 4000-, 5000-, and 6000-level lecture courses. A student entering with a MS degree will receive a block of 30 credit hours toward the total 72-hour program requirement and must complete a minimum of 24 credit hours of graduate research and a minimum of 12 credit hours of 4000-, 5000-, and 6000-level lecture courses. In addition, the PhD students are required to pass a PhD qualifying exam before their 5th semester and a PhD comprehensive exam after completing at least 50% of their required coursework for the PhD degree. They must conduct research, write a PhD dissertation, and successfully defend the dissertation in their final examination (defense).

Core Courses: select a minimum of 9 credit hours from the following courses			
BME 5100	Course BME 5100 Not Found	Drug and Gene Delivery	3
BME 6400	Course BME 6400 Not Found	Biomanufacturing	3
BME 6500	Course BME 6500 Not Found	Pharmaceutical Process Engineering	3
CHEM ENG 5250		Isolation and Purification of Biologicals	3
MS&E 5310		Biomaterials I	3
Ethics: required			
BME 5311	Course BME 5311 Not Found	Integrity and Ethics in Bioengineering	1
Lecture Series: enroll at least twice			
CHEM ENG 6015		Lecture Series	1

Elective Courses: select a minimum of 18 credit hours from the following courses			
Biomanufacturing and Biochemical Engineering Process Design			
BME 5100	Course BME 5100 Not Found	Drug and Gene Delivery	3
CHEM ENG 4210		Biochemical Reactors	3
CHEM ENG 4220		Biochemical Reactor Laboratory	3
CHEM ENG 5100		Intermediate Transport Phenomena	3
CHEM ENG 5120		Interfacial Phenomena In Chemical Engineering	3
CHEM ENG 5150		Intermediate Process Computing	3
CHEM ENG 5161		Intermediate Molecular Engineering	3
CHEM ENG 5210		Intermediate Biochemical Reactors	3

CHEM ENG 5211	Course CHEM ENG 5211 Not Found Intermediate Bioreactor Laboratory	3
CHEM ENG 5220	Intermediate Engineering Thermodynamics	3
CHEM ENG 5250	Isolation and Purification of Biologicals	3
CHEM ENG 5251	Course CHEM ENG 5251 Not Found Intermediate Bioseparations Laboratory	3
MS&E 5310	Biomaterials I	3
Biomaterials and Tissue Engineering		
CHEM ENG 5300	Principles Of Engineering Materials	3
CHEM ENG 5320	Introduction to Nanomaterials	3
CHEM ENG 6150	Molecular Modeling and Simulation	3
CHEM ENG 6300	Biomaterials II	3
ELEC ENG 5810	Computational Intelligence	3
ELEC ENG 6260	Integrated Microsystems Engineering	3
MECH ENG 5229	Smart Materials And Sensors	3
MS&E 5210	Tissue Engineering	3
MS&E 5460	Molecular Engineering of Materials	3
MS&E 6210	Advanced Tissue Engineering	3
MS&E 6460	Advanced Molecular Engineering of Materials	3
ENV ENG 6601	Biological Principles In Environmental Engineering Systems	3
ENV ENG 6612	Biological Operations In Environmental Engineering Systems	3
Data Analysis and Computational Modeling		
STAT 5346	Regression Analysis	3
STAT 6344	Design And Analysis Of Experiments	3
COMP SCI 5401	Evolutionary Computing	3
COMP SCI 5700	Bioinformatics	3
Biochemical Interactions and Applications in Medicine and Nanotechnology		
CHEM 5001	Special Topics Medicinal Chemistry	3
CHEM 5610	Biochemistry	3
CHEM 5620	Biochemical Metabolism	3
CHEM 5630	Biochemical Nanotechnology	3
BIO SCI 5533	Pharmacology	3
BIO SCI 6413	Molecular Cell Biology	3
BIO SCI 6523	Advanced Biomolecules	3
BIO SCI 6666	Advanced Nanotechnology in Biomedicine	3

Justification for request

CIP Code: 140501

Bioengineering is one of the fastest-growing sectors of employment and has seen significant increases in R&D investments by governmental agencies, foundations, and industry. Inspired in part by the recent performance of pharmaceutical and healthcare biotechnology in vaccine development and manufacturing to combat the COVID-19 pandemic, increasing numbers of students have become interested in bioengineering graduate research and career pathways. This multidisciplinary PhD program will span all the relevant aspects of bioengineering, from upstream research to downstream processing and from characterization of individual biomolecules to design of an entire process, and will develop a workforce for bioengineering jobs that will contribute to the growth and economic

development of Missouri and the nation. Additionally, it will help grow student enrollment and provide a platform to spur new ideas, develop collaborations, increase scholarly productivity, and build partnerships with industry and other external partners

Supporting Documents

[Letter from Dean PhD Bioengineering 11-8-22.docx](#)

[MDHE Receipt New PhD in Bioengineering.pdf](#)

[BIO ENG Code Creation.pdf](#)

Course Reviewer Comments

jpnfd (01/26/24 1:24 pm): BIO ENG code creation memo attached.

jpnfd (01/30/24 8:44 am): Disregard BIO ENG code memo, department and provost have decided to use BME code instead per department email 1/29/24.

jpnfd (02/01/24 8:57 am): Per department email 1/31/24, elective course in the “Biomanufacturing and Biochemical Engineering Process Design” group changed from Chem Eng 5200 to MSE 5310.

jpnfd (02/06/24 11:52 am): Rollback: Rollback for revisions.

mfitich (02/06/24 12:30 pm): Changed description to remove 'proposed' and 'new' and similar words or phrases, as ok'ed by Dr. Yang.

Program Change Request

New Program Proposal

Date Submitted: 01/11/24 3:17 pm

Viewing: **PROPOSED : Biological Sciences PhD**

File: 409

Last edit: 02/12/24 3:29 pm

Changes proposed by: shannonk

Start Term
Fall 2024
Program Code
PROPOSED
Department
Biological Sciences
Title
Biological Sciences PhD

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. ProvostOffice
- 10. Registrar

Approval Path

- 1. 12/19/23 1:43 pm
David Duvernell (duvernell): Approved for RBIOLSCI Chair
- 2. 01/03/24 8:06 am
Jennifer Pohlsander (jpnfd): Rollback to Initiator
- 3. 01/11/24 3:21 pm
David Duvernell (duvernell): Approved for RBIOLSCI Chair
- 4. 01/18/24 8:33 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
- 5. 02/08/24 4:24 pm
Katie Shannon (shannonk): Approved for Sciences DSCC Chair
- 6. 02/13/24 7:33 am
Jennifer Pohlsander (jpnfd): Approved for Pending CCC Agenda post
- 7. 02/27/24 3:41 pm
Jennifer Pohlsander (jpnfd): Approved for CCC Meeting Agenda
- 8. 02/27/24 4:57 pm

A student holding a B.S. degree and pursuing a Ph.D. in biological sciences will complete a total of 72 credit hours including a minimum of 30 credit hours in graduate course work and a minimum of 30 hours of research credit. There are three alternative tracks for doctoral students: 1) Bioinnovation, 2) Biomedicine, and 3) Environmental Biology. Students will begin the program by enrolling in one of three topical introductory courses, Advanced Principles of Biodesign (**BIO SCI 6603**), Current Topics in Biomedical Sciences (**BIO SCI 6613**), or Current Topics in Environmental Biology (**BIO SCI 6623**). Required courses include Problems in Applied and Environmental Biology ([BIO SCI 6202](#)) and Research Proposal Writing ([BIO SCI 6223](#)). Ph.D. students are required to enroll in Data Analysis and Presentation ([BIO SCI 5020](#)) for two semesters during their program of study. At least 6 credit hours of mathematics, statistics or computer science course work is required. The remaining 14 credit hours may include any additional graduate courses offered in BIO SCI or any additional graduate courses in other programs (e.g. CHEM, CHEM ENG, BIO ENG, IS&T, STAT, MSE, COMP SCI) with approval from the student's advisory committee. Students are encouraged to pursue graduate certificates in other programs that are relevant to their program of study. Note that no course below the 5000-level may be applied to the degree requirements.

A student entering with an M.S. degree will complete a total of 42 credit hours including a minimum of 12 credit hours in graduate course work after meeting all degree requirements through transfer course credit, and a minimum of 30 credit hours of research.

A qualifying exam based upon a research proposal written and defended by the student will be successfully completed no later than the end of the fifth semester of enrollment, and a plan of study will be approved by a student's advisory committee by the end of the semester in which the qualifying exam is passed. A comprehensive exam will be completed after the student has completed their coursework. Upon conclusion of research, the student will complete a written dissertation and successfully defend the dissertation in their final exam (defense).

Justification for request

program has been approved by UM system board of curators

Supporting Documents

[MDHE Approval Letter ST December 2023.pdf](#)

Course Reviewer Comments

jpnfd (12/20/23 3:31 pm): Updated title to add PhD.

jpnfd (01/02/24 12:40 pm): Attached MDHE Approval Letter.

jpnfd (01/03/24 8:06 am): Rollback: Department revisions.

jpnfd (02/12/24 3:29 pm): Updated program code.

Course Change Request

New Experimental Course Proposal

Date Submitted: 12/11/23 2:40 pm

Viewing: **PHYSICS 5001.003 : Physics of Quantum**

Information

File: 5018

Last edit: 12/12/23 11:06 am

Changes proposed by: vojtat

Requested	Fall 2024
Effective Change Date	
Department	Physics
Discipline	Physics (PHYSICS)
Course Number	5001
Topic ID	003
Experimental Title	Physics of Quantum Information
Experimental Abbreviated Course Title	Quantum Information
Instructors	Yew San Hor

Experimental Catalog Description	This course introduces the fundamental concepts of quantum information and their application in computing and communication. It starts with quantum theory as the basis for information processing and introduces quantum concepts such as quantum states, dynamics, and measurement. The course explores quantum computing and communication, focusing on entanglement as a crucial aspect of quantum information processing.
Prerequisites	

In Workflow

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

Approval Path

- 1. 12/11/23 3:18 pm
Thomas Vojta (vojtat): Approved for RPHYSICS Chair
- 2. 12/12/23 11:06 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary
- 3. 02/08/24 4:24 pm
Katie Shannon (shannonk): Approved for Sciences DSCC Chair
- 4. 02/13/24 7:33 am
Jennifer Pohlsander

Physics 2305.

Field Trip
Statement

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

Justification for
new course:

In recent years, quantum physics and, more broadly, quantum science has transformed from an area of fundamental research to the center of a technological revolution that promises break-through advances in computing, cryptography, sensors, atomic clocks and other technologies. It is crucial that S&T students are exposed to this field.

The proposed course introduces the basic concepts underlying this quantum revolution.

Semester(s) N/A
previously taught

Co-Listed
Courses:

Course Reviewer **jpnfd (12/12/23 11:06 am):** Updated prerequisite format
Comments

(jpnfd): Approved
for Pending CCC
Agenda post

5. 02/27/24 3:41 pm

Jennifer
Pohlsander

(jpnfd): Approved
for CCC Meeting
Agenda

6. 02/27/24 4:57 pm

Petra Dewitt

(dewittp):
Approved for
Campus Curricula
Committee Chair

Key: 5018

[Preview Bridge](#)

Miscellaneous Change Request

New Miscellaneous Request

Date Submitted: 12/14/23 3:59 pm

Viewing: **9 : Earth Sciences and Engineering**

Last edit: 01/26/24 11:52 am

Changes proposed by: sgao

In Workflow

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

Approval Path

- 1. 01/04/24 10:11 am
Jennifer Pohlsander (jpnfd): Approved for Registrar
- 2. 01/08/24 8:55 pm
Mark Fitch (mfitch): Approved for Engineering DSCC Chair
- 3. 01/26/24 11:55 am
Jennifer Pohlsander (jpnfd): Approved for CCC Secretary

Request Type Name Change

Title

Earth Sciences and Engineering

Description

Our department, originally established as "Geological Sciences and Engineering (GSE)" in the early 2000s through the merger of three individual departments, underwent a name change in 2013, becoming "Geosciences and Geological and Petroleum Engineering (GGPE)." While the latter name does highlight all the programs that comprise the department, including Geological Engineering, Geology and Geophysics, and Petroleum Engineering, it poses some serious challenges. The length and complexity of the GGPE name is unappealing, particularly to prospective students. In response to these concerns, we propose the new name "Earth Sciences and Engineering (ESE)."

We believe that this new name is more concise, covers the breadth of instruction and research going on in the department, and is more relatable to high-school students. Despite the absence of "Petroleum Engineering" in the proposed new name, it does align seamlessly with our goal to expand the scope of the Petroleum Engineering program, encompassing cutting-edge fields like carbon sequestration, hydrogen storage, and geothermal energy, which are broadly categorized under earth sciences and engineering, diverging from traditional petroleum engineering. Furthermore, we are retaining the current academic program names to maintain marketing and branding flexibility for diverse audiences. This approach allows us to highlight the department name when engaging with high school students, while focusing on specific program names for potential graduate students and engaging with alumni.

Supporting

Documentation

[GGPE-name-change-request.pdf](#)

[Memo to Borrok from Colin 1 3 2024 Recommendation fo approval for department name change.pdf](#)

[BAC Approval GGPE to Eart Sciences and Engineering.pdf](#)

Course Reviewer

Comments

4. 02/13/24 7:33 am

Jennifer

Pohlsander

(jpnfd): Approved

for Pending CCC

Agenda post

5. 02/27/24 3:41 pm

Jennifer

Pohlsander

(jpnfd): Approved

for CCC Meeting

Agenda

6. 02/27/24 4:56 pm

Petra Dewitt

(dewittp):

Approved for

Campus Curricula

Committee Chair

Key: 9