

000139

Add Undergraduate Course**Course Attributes**

Subject Abbreviation: BIOL-Biology **Catalog Title:** Research Experience for Visiting Undergraduates ☐ **Additional Fee?**
Course Number: 4900 **Transcript Title:** REU for Visiting Undergrads **Justification**
Effective Term: Summer 2018 **Cross-reference(s):**
College: Science **Grade Mode:** Pass/No Pass
Department: Biological Sciences

Form

User ID: vcorbin **Name:** Victoria Corbin
Date: 09/14/2017 **Number:** 32616

Hours

Fixed Credit Course
Credit Hrs Contact Hrs

0 30

Variable Credit Course
Credit Hrs Contact Hrs
Min Max Min Max

Rationale for Add Course

- ☐ Strengthen Program Requirement(s)
☐ Alignment of Student Learning Outcomes
☐ Alternative Delivery of Content
☐ Improve Time to Degree
☐ Evolution of the Discipline
☐ Changing Prerequisites
☐ Address DWF Rates
☐ General Education Modifications

☒ Other (Please specify.)

Being enrolled in this course will facilitate the payment of stipends to REU students from other institutions. This is explained more fully under 'Justification.' The fact that it is zero credits means that the students will not have to pay summer tuition.

Schedule Types

- ☐ Field Course
☐ Independent Study
☒ Internship
☐ Lab No Fee
☐ Lab With Fee
☐ Lecture
☐ Other
☐ Seminar
☐ Studio
☐ Tutorial

Projected Enrollment

Year 1: 10
Year 2: 10
Year 3: 10
Year 4: 10

Evaluation

Undergraduate

A 90 - 100
B 80 - 89
C 70 - 79
D 60 - 69
F < 60

The course will be pass-fail. Student receiving 70% of the total points will pass. The areas evaluated will be: Lab work 45%; workshop participation 10%; research paper 15%; poster presentation 15%; short research talk 8%; one-minute video 7%.

Catalog Description

REU students will carry out ten weeks of mentored research with faculty in the life sciences and will participate in professional development workshops to help them develop their research careers. Products will include a poster presentation, a written report, a research talk, and a one-minute video

☒ Prerequisite(s) ☐ Corequisite(s)

Acceptance into the Biological Sciences NSF-REU program.

Statement of need and justification based on assessment of student learning outcomes

The goal of our NSF-funded REU program is to broaden the participation of underrepresented groups in science. To this end, our program provides mentored research opportunities to students from underrepresented groups who attend undergraduate institutions that lack research opportunities. Until this past summer (2017) our REU students were paid through Buyways as vendors. This arrangement led to tax problems for the students and was possibly illegal (according to HR). As the REU students were engaged in an intense learning experience, re-categorizing them as Clemson students made sense. In summer 2017 the students were transient Clemson students and were enrolled in a separate section of BIOL 4920. This arrangement solved the logistical problems, but having a course specific to the REU population is preferable.

REU students will:

- Learn lab safety techniques and use these techniques in their lab work.
- Show awareness of research ethics, e.g., by pointing out potential conflicts of interest.
- Keep an accurate, complete lab notebook.
- Learn to read research papers in their field.
- Conduct a library review of papers relevant to their research project.
- Learn laboratory techniques and use to collect data.
- Communicate their research in: a short (6-minute) talk; one-minute video; a formal poster presentation at the end-of-summer research symposium; and a written report.
- Learn strategies to fund graduate school in biology.
- Learn to find potential graduate programs and mentors.
- Learn steps they need to take to be competitive for graduate school admission and successful once there.

Textbook(s)

none

Learning Objectives

Students will demonstrate their ability to: find interesting and approachable research questions; critically evaluate data; consider alternative explanations of experimental results; troubleshoot experimental problems; communicate scientific results and conclusions to a wide audience; explore a possible application to graduate school.

Topical Outline

Week 1: Student orientation; learn lab safety methods; take a pre-assessment; learn best practices for keeping laboratory notebooks and giving research talks; meet their mentors and begin reading papers on their topic and working in the lab on a daily basis.
 Week 2: Continue to work in the lab daily and read relevant papers; learn the best practices in keeping research notebooks and ethically handling data.
 Week 3: Give a short (7-minute) presentation on their research project to the REU group, their mentors and lab mates; continue to work in lab on daily basis.
 Week 4: Continue to work in lab on daily basis; dialog on diversity; round table discussion with graduate students on being a graduate student; workshop on how to apply to graduate school and find a suitable graduate program/mentor.
 Week 5: Continue to work in lab on daily basis; workshop on resumes and social media; workshop on how to write an NSF-Graduate Research Fellowship.
 Week 6: Continue to work in lab on daily basis; workshop on best practices in reading a research paper.
 Week 7: Continue to work in lab on daily basis; workshop on how to make a great poster.
 Week 8: Continue to work in lab on daily basis; workshop on how to write a research paper.
 Week 9: Continue to work in lab on daily basis; practice and videotape one-minute talks; present poster at campus-wide undergraduate research symposium.
 Week 10: Finish up work in lab; turn in all data and notebooks to their mentors; take post-assessment; turn in research paper and poster in pdf form.

Syllabus

Upload File: [2017 G2P REU syllabus -20170818115842.pdf](#)

Robert J. Kucinski
Chair, Department Curriculum Committee

10/2/17

Date

Robert Cohen
Department Chair

10/2/17

Date

Robert J. Kucinski
Chair, College Curriculum Committee

10/12/17

Date

B. V. D.
College Dean

10/12/17

Date

Director, Calhoun Honors College

Date

11/3/2017

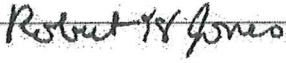

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date

Provost



1/12/18

Date

President

Date

Change 4000/6000 Course

000142

Change a Course

Subject: MICR-Microbiology

Number: 4050/6050

Effective Term: Spring 2018

Title: Advanced Microbial Ecology of Humans

Honors Course:

☐ Add Honors Course:

Last Term Course was taught: 201608

Brief Statement of Change Based on Assessment Results:

We wish to change the prerequisite for the course from Microbial Diversity and Ecology (MICR 4010) to the more basic General Microbiology (MICR 3050). The instructor has been giving pretests to the students for the past several years, and she sees no difference in the scores of those who have taken MICR 4010 vs. those that have not, and no difference in those students' final grades either. She believes MICR 3050 is a necessary prerequisite, but MICR 4010 is not.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From Preq: MICR 4010 with a C or better.
To MICR 4050 Preq: MICR 3050
MICRO 6050 Preq: an introductory microbiology course.

Form

User ID: rjksn Name: Robert Kosinski
Date: 07/13/2017 Number: 32152

Robert J. Kowinski

Chair, Department Curriculum Committee

Date

Robert Cohen

10-2-17

Department Chair

Date

Robert J. Kowinski

10/12/17

Chair, College Curriculum Committee

Date

[Signature]

10/12/17

College Dean

Date

Director, Calhoun Honors College

Date

John D. Hippi

11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date

Robert M. Jones

1/12/18

Provost

Date

President

Date

000144

Change 4000/6000 Course**Change a Course****Subject:** CH-Chemistry**Number:** 4020/6020**Effective Term:** Fall 2018**Title:***Inorganic chemistry***Honors Course:**☐ Add Honors Course:**Last Term Course was taught:** 201608**Brief Statement of Change Based on Assessment Results:**

We wish to eliminate the CH 3310 and CH 3320 prerequisites for this course and replace them with General Chemistry II (CH 1020 and CH 1021). The instructor routinely issues overrides for one or both of the 3000-level prereqs and students lacking one or both perform well in the course. This change will add flexibility for our majors and other majors wishing to take the course. This change applies to 4020 and 4020H. We also clarify the suggested prerequisite for 6020 enrollees as well.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ **Change Prerequisite(s) / Corequisite(s)**

From CH 3310 and CH 3320
To 4020 enrollees: CH 1020 and CH 1021
 6020 enrollees: undergraduate level
 general chemistry.

Learning Objectives

n/a

Topical Outline

n/a

Evaluation

4000				6000			
A	90	-	100	A	90	-	100
B	80	-	89	B	80	-	89
C	70	-	79	C	70	-	79
D	60	-	69	F	<		70
F	<		60				n/a

n/a

SyllabusUpload File: [4020Syllabus-20170824213803.pdf](#)

000145

Form

User ID: dwhiteh **Name:** Daniel Whitehead
Date: 09/28/2017 **Number:** 32833

000146



Chair, Department Curriculum Committee

Date



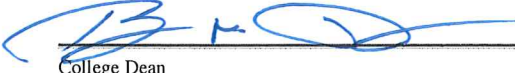
Department Chair

Date



Chair, College Curriculum Committee

Date



College Dean

Date

Director, Calhoun Honors College

Date



Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



Provost

Date

President

Date

Change 4000/6000 Course**Change a Course**

Subject: CH-Chemistry

Number: 4040/6040

Effective Term: Fall 2018

Title: Bioinorganic chemistry

Honors Course:

☐ Add Honors Course:

Last Term Course was taught: 201701

Brief Statement of Change Based on Assessment Results:

We wish to add BCHM 3050 as acceptable pre-req for this course. BCHM 3050 is essentially the same as BCHM 3010, which is restricted to Biochemistry and Genetics majors. This change is for CH 4040 and 4040H only. We also clarify the suggested prerequisite for 6040 enrollees as well.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ **Change Prerequisite(s) / Corequisite(s)**

From BCHM 3010 or CH 2050

To CH 4040/4040H enrollees: BCHM 3010 or BCHM 3050 or CH 2050

CH 6040 enrollees: an undergraduate biochemistry course or equivalent or permission of instructor.

Learning Objectives

n/a

Topical Outline

n/a

Evaluation

4000			6000		
A	90	- 100	A	90	- 100
B	80	- 89	B	80	- 89
C	70	- 79	C	70	- 79
D	60	- 69	F	<	70
F	<	60			n/a

n/a

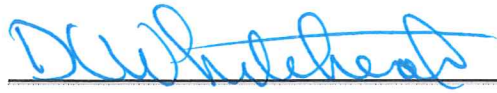
SyllabusUpload File: [CH4040syllabus-20170824214625.pdf](#)

000148

Form

User ID: dwhiteh Name: Daniel Whitehead
Date: 09/28/2017 Number: 32835

000149



Chair, Department Curriculum Committee

9/28/17

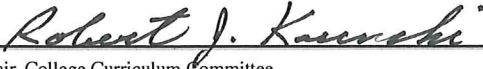
Date



Department Chair

9/28/17

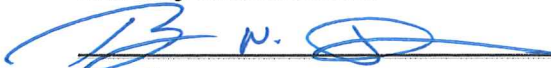
Date



Chair, College Curriculum Committee

10/12/17

Date



College Dean

10/12/17

Date

Director, Calhoun Honors College

Date



Chair, Undergraduate Curriculum Committee

11/3/2017

Date

Chair, Graduate Curriculum Committee

Date



Provost

1/12/18

Date

President

Date

Change Major

If Gen Ed requirements are changed a separate Gen Ed Checklist form must accompany this form.

Major Name:

Chemistry

Degree:

Bachelor of Arts

Effective Catalog Year:

2018-2019

☐ Change Major Name to: CHEMCurriculum Map: Proposed-BA-Curriculum-20170928133319.docx☐ Change Degree to: Bachelor of Arts☒ Change Curriculum Requirements

Description: Revised Chemistry BA curriculum map

☐ Change General Education Requirements

Additional Information:

☐ Add, Change, or Delete Concentration(s)

Description:

☐ Add, Change, or Delete Emphasis Area(s)**Summary/Explanation**

The chemistry department faculty has voted to approve the attached curriculum map to re-vamp our BA degree. The pertinent changes are highlighted in the document in bold font and underlined. A summary and justification of the changes appears below.

SUMMARY OF PROPOSED CHANGES:

1. The Technical Requirement and Physics I Laboratory were added to the Freshman year in place of an Arts and Humanities/Social Sciences Requirement and 1 credit hour elective, respectively. This change was done in order to allow the 1st year BA curriculum to match the 1st year BS curriculum. The rationale here is to: a.) facilitate freshman advising and b.) to allow students additional time before having to choose between the BA and BS tracks.
2. Footnote 4 was added to the Introduction to Inorganic Chemistry Requirement to emphasize that the student may take this course in the second semester of the junior year instead of in the sophomore year by substituting a 3 credit hour minor requirement in the second semester of the sophomore year. The rationale for this footnote is to emphasize added flexibility in the BA track. This footnote also appears on the Minor Requirement appearing in the 2nd semester of the junior year.
3. CH 3410 Introduction to Research has been added to the 1st semester of the Junior Year. Rationale: The department feels that the course covers relevant material for students undertaking the BA. Further, a number of our BA students choose to conduct research for credit to meet their Chemistry requirements in the Senior Year.
4. The Chemistry Writing Requirement is proposed to replace the ENGL 3140 (Technical Writing) course in the old BA curriculum. The newly proposed Chemistry Writing Requirement provides more options for the student, including but not limited to ENGL 3140. The rationale here is: the department believes that an additional writing course is appropriate for the BA, but we wished to provide additional choices to the student instead of dictating that they enroll in one specific course to meet this requirement. This change was inspired by a similar requirement appearing in the Physics BA curriculum.
5. CH 3600 Chemical Biology replaces a superfluous Arts and Humanities/Social Sciences Requirement in the second semester of the junior year. Rationale: The extra Arts and Humanities/ Social Sciences Requirement was not needed, and the department felt that replacing that course with another chemistry requirement was appropriate. We settled on Chemical Biology because a number of the BA students are pursuing careers in medicine, and Chemical Biology will be relevant for that career path.
6. A 3 credit hour Elective Course replaces a superfluous Arts and Humanities/Social Sciences Requirement in the second semester of the Senior year. Rationale: The extra Arts and Humanities/Social Sciences Requirement was not needed, and replacing that course with an Elective allows the student added flexibility in choosing courses.
7. Footnotes 1 and 7 delineate the appropriate courses that are allowed for each particular requirement instead of the "See advisor" footnote that appears in the older catalogs. This change reflects a desire of the registrar to eliminate all "see advisor" footnotes in future catalogs.

000151

Rationale for Change Major

- ☒ Strengthen Program Requirement(s)
☐ Alignment of Student Learning Outcomes
☐ Alternative Delivery of Content
☐ Improve Time to Degree
☐ Evolution of the Discipline
☐ Changing Prerequisites
☐ Address DWF Rates
☐ General Education Modifications
☐ Other (Please specify.)

Form

User ID: dwhiteh Name: Daniel Whitehead
Date: 10/03/2017 Number: 33702



10/3/17

Chair, Department Curriculum Committee

Date



10/3/17

Department Chair

Date



10/12/17

Chair, College Curriculum Committee

Date




10/12/17

College Dean

Date

Director, Calhoun Honors College

Date



11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



1/12/18

Provost

Date

President

Date

PROPOSED CHEMISTRY BA CURRICULUM (Changes in Bold font, Underlined)

Freshman Year

1st Semester:

- 4 – CH 1010 General Chemistry
- 4 – Technical Requirement¹**
- 3 – Arts and Humanities/Social Science Requirement²
- 4 – MATH 1060 Calculus of One Variable

(15 total hours)

2nd Semester:

- 4 – CH 1020 General Chemistry
- 4 – MATH 1080 Calculus of One Variable II
- 3 – PHYS 1220 Physics with Calculus I
- 3 – ENGL 1030 Composition
- 1 – PHYS 1240 – Physics I Laboratory**

(15 total hours)

Sophomore Year

First Semester:

- 3 – CH 2230 Organic Chemistry
- 1 – CH 2270 Organic Chemistry Lab
- 4 – MATH 2060 Calculus of Several Variables
- 3 – PHYS 2210 Physics with Calculus II
- 4 – Modern Language Requirement³

(15 total hours)

Second Semester:

- 3 – CH 1520 Chemistry Communication
- 3 – CH 2050 Intro. To Inorg. Chem.⁴
- 3 – CH 2240 Organic Chemistry
- 1 – CH 2280 Organic Chemistry Lab
- 3 – Arts and Humanities/Social Science Requirement²
- 4 – Modern Language Requirement³

(17 total hours)

Junior Year

1st Semester

- 3 – CH 3130 Quantitative Analysis
- 1 – CH 3170 Quantitative Analysis Lab
- 3 – CH 3310 Physical Chemistry
- 1 – CH 3410 Introduction to Research**
- 3 – Arts and Humanities/Social Sciences Requirement²
- 3 – Minor Requirement
- 3 – Modern Language Requirement³

(17 total hours)

2nd Semester

- 3 – CH 3320 – Physical Chemistry
- 3 – Chemistry Writing Requirement⁵**
- 3 – CH 3600 Chemical Biology⁶**
- 3 – Minor Requirement⁴
- 3 – Modern Language Requirement³

(15 total hours)

Senior Year

First Semester

- 3 – Arts and Humanities/Social Sciences Requirement²
- 3 – Chemistry Requirement⁷
- 3 – Minor Requirement
- 6 – Elective

(15 total hours)

Second Semester:

- 3 – CH 4500 Chemistry Capstone
- 3 – Elective**
- 3 – Chemistry Requirement⁷
- 6 – Minor Requirement

(15 total hours)

Footnotes:

¹ BIOL 1100 or BIOL 1030 and 1050, or CPS 1010

OR

GEOL 1010 and 1030

OR

ENGR 1020 and 1040

² See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

³ Students must complete through 2020 in a modern language. See Modern Languages Requirement at Clemson University statement on page 27.

⁴ CH 2050 may also be taken in the second semester of the junior year by substituting a 3 credit hour minor requirement in the sophomore year.

⁵ ENGL 3040, 3120, 3140, 3150, 3450, 3460, 3480, ML 4020, or THEA (ENGL) 3470

⁶ May substitute BCHM 3050.

⁷ BCHM 3010, 3050, 4060, 4230, CH 3000:4990 (except CH 3170), CHE 3070, EES 4110, 4850, ETOX 4210, 4300, FDSC 4020, 4030, GEOL 3180, MSE 4020, 4150, PHYS 4520, 4810.

Add Undergraduate Course

Course Attributes

Subject Abbreviation: MATH-Mathematical Sciences

Course Number: 4830

Effective Term: Summer 2018

College: Science

Department: Mathematical Sciences

Catalog Title: Research Experience for Visiting Undergraduates ☐ **Additional Fee?**

Transcript Title: REU for Visiting Undergrads Justification

Cross-reference(s):

Grade Mode: Pass/No Pass

Form

User ID: kevja **Name:** Kevin James

Date: 09/13/2017 **Number:** 32756

Hours

Fixed Credit Course

Credit Hrs Contact Hrs

0 30

Variable Credit Course

Credit Hrs Contact Hrs

Min Max Min Max

Rationale for Add Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☐ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications

☒ **Other (Please specify.)**

Being enrolled in this course will facilitate the payment of stipends to REU students from other institutions. This is explained more fully under 'Justification.' The fact that it is zero credits means that the students will not have to pay summer tuition.

Schedule Types

- ☐ Field Course
- ☐ Independent Study
- ☒ Internship
- ☐ Lab No Fee
- ☐ Lab With Fee
- ☐ Lecture
- ☐ Other
- ☐ Seminar
- ☐ Studio
- ☐ Tutorial

Course Modifier

- ☐ Variable Title
- ☐ Creative Inquiry
- ☒ Repeatable
- Max Credits:** 20

Projected Enrollment

Year 1: 8

Year 2: 8

Year 3: 8

Year 4: 8

Evaluation

Undergraduate

A 90 - 100

B 80 - 89

C 70 - 79

D 60 - 69

F < 60

The course will be pass-fail. Student receiving 70% of the total points will pass. The areas evaluated will be: Attendance and participation in daily research meetings 30%, Final presentation 30%, Written project report 40%

Catalog Description

Research students will carry out several weeks (the number varies by program) of mentored research with faculty in the mathematical sciences and will participate in professional development workshops to help them develop their research careers. Products will include a presentation and a written report.

☒ **Prerequisite(s)** ☐ **Corequisite(s)**

Acceptance into summer research program in Mathematical Sciences

Statement of need and justification based on assessment of student learning outcomes

The goal of our summer research programs is to broaden participation in research in the mathematical sciences. To this end, our program provides mentored research opportunities to students currently enrolled in an undergraduate institution. Until this past summer (2017) our REU students were paid through Buyways as vendors. This arrangement led to tax problems for the students and was possibly illegal (according to HR). As the REU students were engaged in an intense learning experience, re-categorizing them as Clemson students made sense. In summer 2017 the students were transient Clemson students and were enrolled in a separate section of BIOL 4920. This arrangement solved the logistical problems, but having a course specific to the REU population is preferable.

REU students will:

- Learn computational and theoretical techniques of research in the mathematical sciences.
- Learn and demonstrate awareness of research ethics, e.g., by pointing out potential conflicts of interest.
- Keep an accurate, complete notebook.
- Learn to read research papers in their field.
- Conduct a library review of papers relevant to their research project.
- Learn computational techniques and use to collect data.
- Communicate their research in short talks and a written report.
- Learn opportunities for graduate research in the mathematical sciences.
- Learn to find potential graduate programs and mentors.
- Learn steps they need to take to be competitive for graduate school admission and successful once there.

Textbook(s)

Various textbooks will be utilized but these will be provided.

Learning Objectives

Students will participate in a significant research experience in the mathematical sciences. They will be introduced to several interesting open areas of research. They will learn to identify tractable and interesting problems. They will learn to use computational techniques to gather data related to problems of interest and to formulate conjectures related to this data. They will also learn to creatively seek proofs of their findings.

Topical Outline

Topics in such courses will necessarily vary. However, it will be typical that in the first week of the program, students will spend their time attending lectures and reading background material related to open areas of research. During the first and second weeks of the program, students will choose a research area and/or topic on which to focus for the remainder of the program. During the remainder of the program, students will meet with their research teams daily to identify interesting problems and work toward their solutions. During the final week of the program, students will complete a write up of their research and give an oral presentation of their work.

Syllabus

Upload File: [Syllabus-20170822182234.pdf](#)

Description: Summer Research in Math. Sci. sample syllabus

Christopher L Cox

9/13/17

Chair, Department Curriculum Committee

Date

Christopher L Cox

9/13/17

Department Chair

Date

Robert J. Kucinski

10/12/17

Chair, College Curriculum Committee

Date

B. N. D.

10/12/17

College Dean

Date

Director, Calhoun Honors College

Date

John D. Wilfong

11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date

Robert S. Jones

1/12/18

Provost

Date

President

Date

000157

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences

Number: 2080

Effective Term: Fall 2018

Title: Intro to Ordin Diff Equations

Honors Course:

☐ Add Honors Course:

Last Term Course was taught: 999999

Brief Statement of Change Based on Assessment Results:

Changing prerequisite of MATH 2060 to MATH 2060 with a C or better, so that students are better prepared.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 2060
To MATH 2060 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz
Date: 05/12/2017 **Number:** 31712

000158



Chair, Department Curriculum Committee

8/30/17

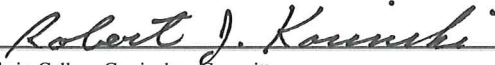
Date



Department Chair

8/30/17

Date



Chair, College Curriculum Committee

10/12/17

Date



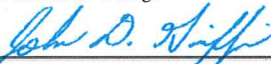
College Dean

10/12/17

Date

Director, Calhoun Honors College

Date



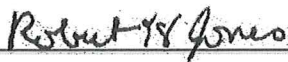
Chair, Undergraduate Curriculum Committee

11/3/2017

Date

Chair, Graduate Curriculum Committee

Date



Provost

1/12/18

Date

President

Date

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences

Number: 3020

Effective Term: Fall 2018

Title: Stat for Science & Engineering

Honors Course:

☐ Add Honors Course:

Last Term Course was taught: 999999

Brief Statement of Change Based on Assessment Results:

Changing prerequisite from MATH 2060 to C or better in MATH 2060

Rationale for Changing a Course

- ☐ **Strengthen Program Requirement(s)**
- ☐ **Alignment of Student Learning Outcomes**
- ☐ **Alternative Delivery of Content**
- ☐ **Improve Time to Degree**
- ☐ **Evolution of the Discipline**
- ☒ **Changing Prerequisites**
- ☐ **Address DWF Rates**
- ☐ **General Education Modifications**
- ☐ **Other (Please specify.)**

 Change Prerequisite(s) / Corequisite(s)

From MATH 2060

To MATH 2060 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz

Date: 05/12/2017 **Number:** 31714

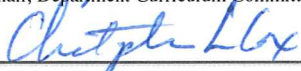
000160

8/30/17



Chair, Department Curriculum Committee

Date



8/30/17

Department Chair

Date



10/12/17

Chair, College Curriculum Committee

Date



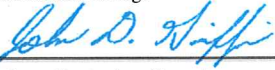
10/12/17

College Dean

Date

Director, Calhoun Honors College

Date



11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



1/12/18

Provost

Date

President

Date

000161

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences**Number:** 3110**Effective Term:** Fall 2018**Title:** Linear Algebra**Honors Course:**☐ Add Honors Course:**Last Term Course was taught:** 999999**Brief Statement of Change Based on Assessment Results:**

Changing prerequisites of "MATH 1080 or MATH 1110" to include C or better.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 1080 or MATH 1110**To** MATH 1080 with a C or better, or MATH 1110 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz**Date:** 05/12/2017 **Number:** 31716

000162

*Chetyle L Gx**8/30/17*

Chair, Department Curriculum Committee

Date

*Chetyle L Gx**8/30/17*

Department Chair

Date

*Robert J. Karinecki**10/12/17*

Chair, College Curriculum Committee

Date

*B. N. D.**10/12/17*

College Dean

Date

Director, Calhoun Honors College

Date

*John D. Wiffi**11/3/2017*

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date

*Robert S. Jones**1/12/18*

Provost

Date

President

Date

000163

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences
Number: 3190
Effective Term: Fall 2018
Title: Introduction to Proof
Honors Course:
☐ Add Honors Course:
Last Term Course was taught: 999999
Brief Statement of Change Based on Assessment Results:
Change prereqs to include C or better.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 1080 or MATH 1110
To MATH 1080 with a C or better, or MATH 1110 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz
Date: 05/15/2017 **Number:** 31732

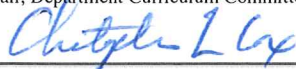
000164



8/30/17

Chair, Department Curriculum Committee

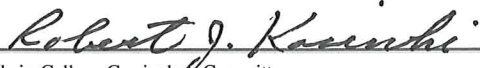
Date



8/30/17

Department Chair

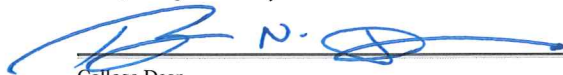
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10/12/17

Chair, College Curriculum Committee

Date

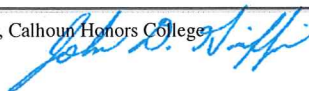


10/12/17

College Dean

Date

Director, Calhoun Honors College



Date

11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



1/12/18

Provost

Date

President

Date

000165

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences**Number:** 3600**Effective Term:** Fall 2018**Title:** Intermediate Math Computing**Honors Course:**☐ Add Honors Course:**Last Term Course was taught:** 999999**Brief Statement of Change Based on Assessment Results:**

Changing prereqs to include C or better.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 1080 or MATH 1110**To** MATH 1080 with a C or better, or MATH 1110 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz**Date:** 05/15/2017 **Number:** 31734

000166



8/30/17

Chair, Department Curriculum Committee

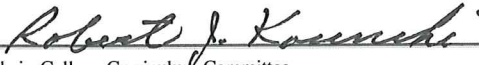
Date



8/30/17

Department Chair

Date



10/12/17

Chair, College Curriculum Committee

Date



10/12/17

College Dean

Date

Director, Calhoun Honors College

Date



11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



1/12/18

Provost

Date

President

Date

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences

Number: 4000

Effective Term: Fall 2018

Title: Theory of Probability

Honors Course:

☐ Add Honors Course:

Last Term Course was taught: 999999

Brief Statement of Change Based on Assessment Results:

Changing prereqs to include C or better

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 2060

To MATH 2060 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz

Date: 05/15/2017 **Number:** 31735

000168

Chetyle L. Cox

8/30/17

Chair, Department Curriculum Committee

Date

Chetyle L. Cox

8/30/17

Department Chair

Date

Robert J. Kaminicki

10/12/17

Chair, College Curriculum Committee

Date

B. V. D.

10/12/17

College Dean

Date

Director, Calhoun Honors College

Date

John D. Stiff

11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date

Robert S. Jones

1/12/18

Provost

Date

President

Date

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences

Number: 4020

Effective Term: Fall 2018

Title: Stat for Sci & Engineering II

Honors Course:

☐ Add Honors Course:

Last Term Course was taught: 999999

Brief Statement of Change Based on Assessment Results:

Changing prereqs to include C or better.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 3020

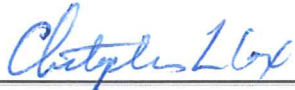
To MATH 3020 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz

Date: 05/15/2017 **Number:** 31736

000170



Chair, Department Curriculum Committee

8/30/17

Date



Department Chair

8/30/17

Date



Chair, College Curriculum Committee

10/12/17

Date

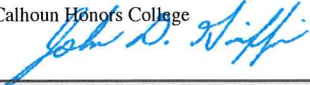


College Dean

10/12/17

Date

Director, Calhoun Honors College



Date

11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



Provost

1/12/18

Date

President

Date

000171

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences
Number: 4030
Effective Term: Fall 2018
Title: Intro to Statistical Theory
Honors Course:
☐ Add Honors Course:
Last Term Course was taught: 999999
Brief Statement of Change Based on Assessment Results:
Changing prereqs to include C or better

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

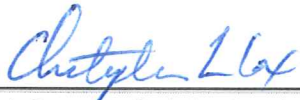
☒ Change Prerequisite(s) / Corequisite(s)

From MATH 4000
To MATH 4000 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz
Date: 05/15/2017 **Number:** 31737

000172



8/30/17

Chair, Department Curriculum Committee

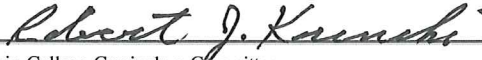
Date



8/30/17

Department Chair

Date



10/12/17

Chair, College Curriculum Committee

Date



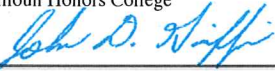
10/12/17

College Dean

Date

Director, Calhoun Honors College

Date



11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



1/12/18

Provost

Date

President

Date

000173

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences**Number:** 4110**Effective Term:** Fall 2018**Title:** Introduction to Combinatorics**Honors Course:**☐ Add Honors Course:**Last Term Course was taught:** 999999**Brief Statement of Change Based on Assessment Results:**

Changing prereqs to include C or better, and remove option of MATH 1190 or MATH 3190. MATH 1190 was replaced in the mathematical sciences curriculum with the more rigorous MATH 3190 in 2013. We have allowed the MATH 1190 since then, to allow students who had the 1190 to take it. But these students have since moved through the program, so we no longer need the MATH 1190 course as a prereq.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 3110; and either MATH 1190 or MATH 3190
To MATH 3110 and MATH 3190, each with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz**Date:** 05/15/2017 **Number:** 31738

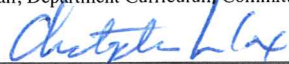
000174



8/30/17

Date

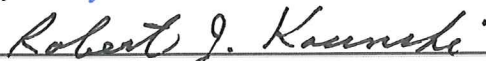
Chair, Department Curriculum Committee



8/30/17

Date

Department Chair



10/12/17

Date

Chair, College Curriculum Committee



10/12/17

Date

College Dean

Director, Calhoun Honors College

Date



11/3/2017

Date

Chair, Undergraduate Curriculum Committee

Chair, Graduate Curriculum Committee

Date



1/12/18

Date

Provost

President

Date

000175

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences**Number:** 4190**Effective Term:** Fall 2018**Title:** Discrete Math Structures I**Honors Course:**☐ Add Honors Course:**Last Term Course was taught:** 999999**Brief Statement of Change Based on Assessment Results:**

Changing prereq to include C or better.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 3110**To** MATH 3110 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz**Date:** 05/15/2017 **Number:** 31739

000176

8/30/17

Chair, Department Curriculum Committee

Date

8/30/17

Department Chair

Date

10/12/17

Date

10/12/17

Date

Director, Calhoun Honors College

Date

11/3/2017

Date

Chair, Graduate Curriculum Committee

Date

1/12/18

Date

Provost

President

Date

000177

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences**Number:** 4310**Effective Term:** Fall 2018**Title:** Theory of Interest**Honors Course:**☐ Add Honors Course:**Last Term Course was taught:** 999999**Brief Statement of Change Based on Assessment Results:**

Changing prereqs to include C or better.

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

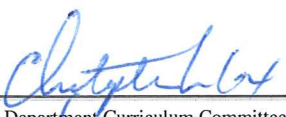
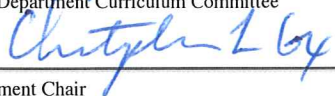
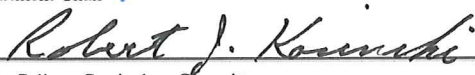

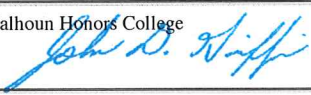
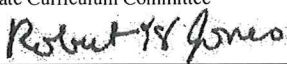
☒ Change Prerequisite(s) / Corequisite(s)

From MATH 2060**To** MATH 2060 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz**Date:** 05/15/2017 **Number:** 31740

000178

	8/30/17
Chair, Department Curriculum Committee	Date
	8/30/17
Department Chair	Date
	10/12/17
Chair, College Curriculum Committee	Date
	10/12/17
College Dean	Date
<hr/>	
Director, Calhoun Honors College	Date
	11/3/2017
Chair, Undergraduate Curriculum Committee	Date
<hr/>	
Chair, Graduate Curriculum Committee	Date
	1/12/18
Provost	Date
<hr/>	
President	Date

000179

Change Undergraduate Course

Change a Course

Subject: MATH-Mathematical Sciences**Number:** 4340**Effective Term:** Fall 2018**Title:** Adv Engineering Mathematics**Honors Course:**☐ Add Honors Course:**Last Term Course was taught:** 999999**Brief Statement of Change Based on Assessment Results:**

Changing prereqs to include C or better

Rationale for Changing a Course

- ☐ Strengthen Program Requirement(s)
- ☐ Alignment of Student Learning Outcomes
- ☐ Alternative Delivery of Content
- ☐ Improve Time to Degree
- ☐ Evolution of the Discipline
- ☒ Changing Prerequisites
- ☐ Address DWF Rates
- ☐ General Education Modifications
- ☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From MATH 2080**To** MATH 2080 with a C or better

Form

User ID: rebholz **Name:** Leo Rebholz**Date:** 05/15/2017 **Number:** 31741

000180



8/30/17

Chair, Department Curriculum Committee

Date



8/30/17

Department Chair

Date



10/12/17

Chair, College Curriculum Committee

Date



10/12/17

College Dean

Date

Director, Calhoun Honors College

Date



11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



1/12/18

Provost

Date

President

Date

Change Undergraduate Course

Change a Course

Subject:

MATH-Mathematical Sciences

Number:

4600

Effective Term:

Fall 2018

Title:

Intro to Numerical Analysis I

Honors Course:

☐

Add Honors Course:

Last Term Course was taught:

201701

Brief Statement of Change Based on Assessment Results:

Changing prereqs to include C or better, and we are making the prerequisites more consistent with what the course is now teaching. Also, we want to fix a previous prerequisite error.

Rationale for Changing a Course

☐ Strengthen Program Requirement(s)

☐ Alignment of Student Learning Outcomes

☐ Alternative Delivery of Content

☐ Improve Time to Degree

☐ Evolution of the Discipline

☒ Changing Prerequisites

☐ Address DWF Rates

☐ General Education Modifications

☐ Other (Please specify.)

☒ Change Prerequisite(s) / Corequisite(s)

From

MATH 2060 or MATH 2070; and MATH 3600 or MATH 3650.

To

MATH 2080, MATH 3600 and MATH 3110, each with a C or better

Form

User ID:

rebholz

Name:

Leo Rebholz

Date:

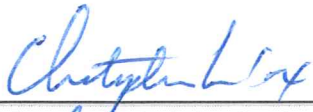
09/13/2017

Number:

31742

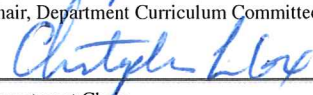
000182

8/30/17



Chair, Department Curriculum Committee

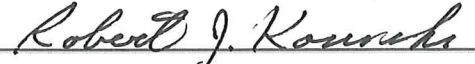
Date



8/30/17

Department Chair

Date



10/12/17

Chair, College Curriculum Committee

Date



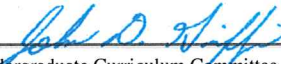
10/12/17

College Dean

Date

Director, Calhoun Honors College

Date



11/3/2017

Chair, Undergraduate Curriculum Committee

Date

Chair, Graduate Curriculum Committee

Date



1/12/18

Provost

Date

President

Date