

CURRICULUM PROPOSAL

APPROVAL PAGE

Proposal Title: Update to the Cellular and Molecular Biochemistry Degree Plan

College: Science

Department: Biological Sciences

DEPARTMENT CHAIR- Charles Spencer

I have read the enclosed proposal and approve this proposal on behalf of the department.



Charles T Spencer
2022.04.07 12:42:21 -06'00'

4/7/22

Signature

Date

COLLEGE CURRICULUM COMMITTEE CHAIR – Nancy Marcus

I have read the enclosed documents and approve the proposal on behalf of the college curriculum committee.



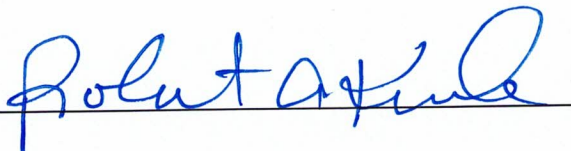
4-13-22

Signature

Date

COLLEGE DEAN – Robert Kirken

I have read the enclosed documents and approve the proposal on behalf of the college. I certify that the necessary funds will be allocated by the college in support of this proposal.



4-13-22

Signature

Date

Undergraduate Curriculum Change Memo

Date: 4/7/2022

From: Charles Spencer, Department of Biological Sciences

Through: Bruce Cushing, Department of Biological Sciences

Through: Robert Kirken, College of Science

To: Andrew Fleck, Chair University Undergraduate Curriculum
Committee

Subject: Update to the Cellular and Molecular Biochemistry Degree Plan

In order to streamline the CMB degree and provide flexibility to students taking this major, we propose to remove 2 required courses and replace those hours with elective options. In addition, we are expanding the courses considered appropriate menu electives to provide the students with more choices within the degree.

Degree Plan

Required Credits: 120

Code	Title	Hours
University Core ^c		
Complete the University Core Curriculum requirements.		42
Designated Core ^c		
MATH 1411	Calculus I	
PHYS 1403 & PHYS 1404	General Physics I and General Physics II	
or		
PHYS 2420 & PHYS 2421	Introductory Mechanics and Introductory Electromagnetism	
Cellular and Molecular Biochemistry Requirements:		
Required Chemistry Courses: ^c		
CHEM 1105	Laboratory for CHEM 1305	1
CHEM 1106	Laboratory for CHEM 1306	1
CHEM 1305	General Chemistry	3
CHEM 1306	General Chemistry	3
CHEM 2124	Lab for Organic Chemistry 2324	1
CHEM 2125	Lab for Organic Chemistry 2325	1
CHEM 2324	Organic Chemistry	3
CHEM 2325	Organic Chemistry	3
CHEM 3131	Lab for Chemistry	1
CHEM 3330	Biochem I:Struc & Function	3

Code	Title	Hours
CHEM 3332	Biochem II: Metabol & Bioenerg	3
Required Biology Courses:		
BIOL 1107	Topics in Study of Life I ^c	1
BIOL 1108	Organismal Biology Laboratory ^c	1
BIOL 1305	General Biology ^c	3
BIOL 1306	Organismal Biology ^c	3
BIOL 3320	Genetics	3
CBCH 3316 & BIOL 3115	Membrane Biology and Molecular Cell Biol Laboratory ^c	4
CBCH 4310	Techniques in Mol Biochem ^c	3
CBCH 4320	<i>Adv Topics in Mol Biochem</i>	3
MICR 2340 & MICR 2141	General Microbiology and Gen Microbiology Laboratory ^c	4
MICR 3345 & MICR 3146	<i>Microbial Physiology and Microbial Physiology Lab</i>	4
MICR 3449	Prokaryotic Molecular Genetics	4
MICR 4353 & MICR 4154	Immunology and Immunology Laboratory	4
CBCH Major:		
BIOL 3314 & BIOL 3115	Molecular Cell Biology and Molecular Cell Biol Laboratory	4
CBCH 4414	Cellular Biochemistry	4
MATH 1312 or STAT 2480	Calculus II Elementary Statistical Methods	3-4
Prescribed Course Electives:		
Select five <u>twelve</u> hours of the following:		5/12

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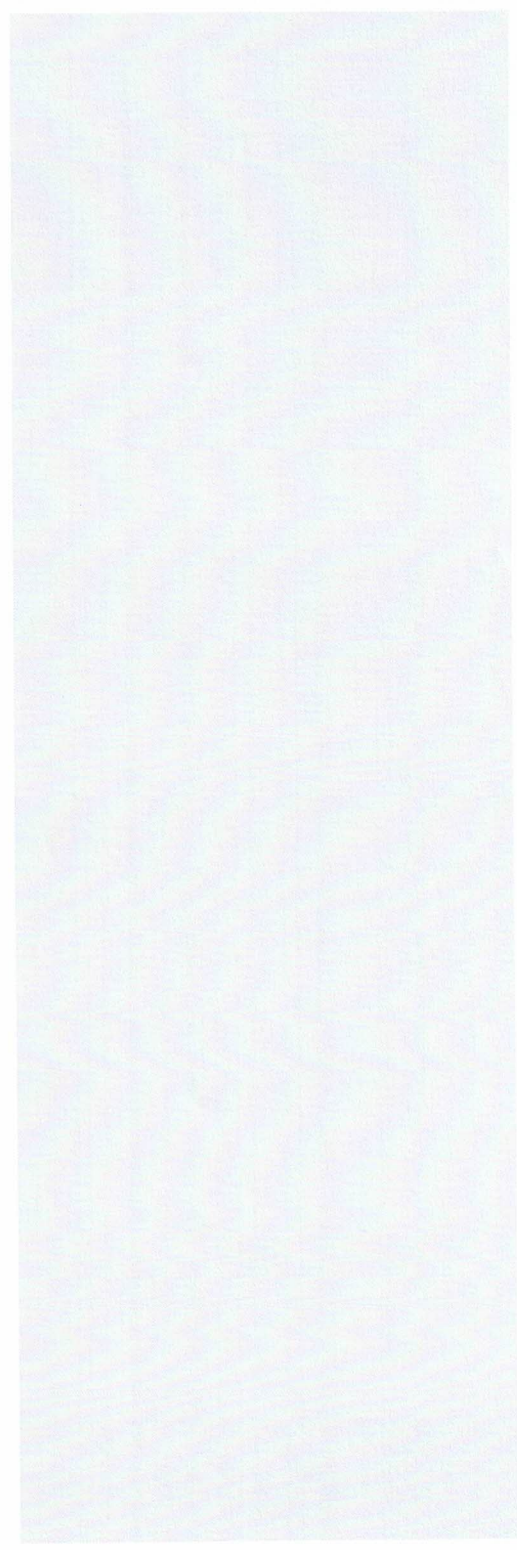
Code	Title	Hours
BIOL 3192	Professional Development Sem.	
BIOL 3330	Histology	
BIOL 4198	Special Problems	
BIOL 4298	Special Problems	
BIOL 4388	Mammalian Physiology	
BIOL 4398	Special Problems	
CHEM 4134	Structural Biochemistry Lab	
CHEM 4176	Introduction to Research	
CHEM 4334	Structural Biochemistry	
CHEM 4376	Introduction to Research	
MICR 3343 & MICR 3144	Pathogenic Microbiology and Pathogenic Microbiology Lab	
MICR 4351	General Virology	
MICR 4355	Medical Mycology	
ZOOL 3464	Medical Parasitology	
ZOOL 4384	Neurobiology	
MICR 4329	Epidemiology	
BIOL 4330	Cancer Biology	
BIOL 4319	G Protein-Coupled Receptor Biology	
BIOL 4389	Developmental Biology	
MICR 3345 & MICR 3146	Microbial Physiology & Microbial Physiology Lab	
Total Hours		120

C Course requires a grade of C or better.

Code	Title	Hours
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1 A total of thirty-seven hours of upper division coursework is required for all Bachelor of Science degrees.		
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Course List



BS CELLULAR AND MOLECULAR BIOCHEMISTRY (STARTING WITH CALCULUS)

FRESHMAN

Fall

BIOL 1305 & BIOL 1107	General Biology and Topics in Study of Life I	4
MATH 1411	Calculus I	4
SCI 1301	Inquiry in Math & Science	3
RWS 1301	Rhetoric & Composition I	3

Spring

BIOL 1306 & BIOL 1108	Organismal Biology and Organismal Biology Laboratory	4
CHEM 1305 & CHEM 1105	General Chemistry and Laboratory for CHEM 1305	4
RWS 1302	Rhetoric & Composition 2	3
Social & Behavioral Sciences		3

SOPHOMORE

Fall

CHEM 1306 & CHEM 1106	General Chemistry and Laboratory for CHEM 1306	4
HIST 1301	History of U.S. to 1865	3
PHYS 1403	General Physics I	4
MICR 2340 & MICR 2141	General Microbiology and Gen Microbiology Laboratory	4

Spring

CHEM 2324 & CHEM 2124	Organic Chemistry and Lab for Organic Chemistry 2324	4
COMM 1301	Public Speaking	3
PHYS 1404	General Physics II	4
HIST 1302	History of U.S. Since 1865	3

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JUNIOR

Fall

BIOL 3320	Genetics	3
CHEM 2325 & CHEM 2125	Organic Chemistry and Lab for Organic Chemistry 2325	4
POLS 2310	Introduction to Politics	3
Creative Arts Elective		3
Language, Philosophy, and Culture		3

Spring

CHEM 3330 & CHEM 3131	Biochem I:Struc & Function and Lab for Chemistry	4
STAT 2480 or MATH 1312	Elementary Statistical Methods Calculus II	3-4
POLS 2311	American Gover & Politics	3
BIOL 3314 & BIOL 3115 Menu Electives in Major _____ Molecular Cell Biology and Molecular Cell Biol Laboratory		3 4
Menu Electives in Major		3

SENIOR

Fall

CBCH 4310	Techniques in Mol Biochem	3
CBCH 3316 & BIOL 3115	Membrane Biology and Molecular Cell Biol Laboratory	4 3
Menu Electives in Major		3-4
MICR 3345 & MICR 3146	Microbial Physiology and Microbial Physiology Lab	4
MICR 4353 & MICR 4154	Immunology and Immunology Laboratory	4

Spring

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Menu Electives in MajorBIOL 4198	Special Problems	3-41
Menu Electives in MajorCBCH 4320	Adv Topics in Mil Biochem	3-43
CBCH 4414	Cellular Biochemistry	4
CHEM 3332	Biochem II: Metabol & Bioenerg	3
MICR 3449	Prokaryotic Molecular Genetics	4
Total Hours		119-120

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