Change Major Name: Biochemistry

Degree: BS

Effective Catalog Year: 2011

...Change Major Name to:

X Change Degree to: (CHE approval required)

Change Curriculum Requirements

[Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes]

...Change General Education Requirements

(Must also submit a General Education Checklist)

...Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

...Add, Change or Delete Emphasis Area(s)

Explanation: 1. Change the credit hour for GEN303 from "1" to "2" (Sophomore year, first semester)
2. Change the credit hour for Elective from "5" to "4" (Senior year, first semester)
3. Footnote 4: Delete the statement, "A maximum of 3 credit hours can come from undergraduate research courses (491, creative inquiry or similar courses)."
4. Footnote 4: Add that Science requirement courses may include PL PA and PL PH courses at the 300 level and above.

Form Originator: HLIANG, Halying Liang Date Form Created: 9/23/2010
Form Last Updated by: Date Form Last Updated: 9/24/2010
Form Number: 3419

Approval

Date
Chair, Department Curriculum Committee

Date
Chair, Undergraduate Curriculum Committee

Date
Department Chair

Date
Chair, Graduate Curriculum Committee

Date
Robert J. Korfhagen

Date
Chair, College Curriculum Committee

Date
Provost

Date
Collegiate Dean

Date
President

09/24/2010 10:20 AM
BIOCHEMISTRY
Bachelor of Science
Effective August 2011

Freshman Year
First Semester
1 - BIOCH 103 Careers in Biochemistry and Genetics
5 - BIOL 110 Principles of Biology I
4 - CH 101 General Chemistry
4 - MTHSC 106 Calculus of One Variable I
14

Second Semester
5 - BIOL 111 Principles of Biology II
4 - CH 102 General Chemistry
3 - ENGL 103 Accelerated Composition
4 - MTHSC 108 Calculus of One Variable II
16

Sophomore Year
First Semester
3 - CH 223 Organic Chemistry
1 - CH 227 Organic Chemistry Lab.
3 - GEN 302 Molecular and General Genetics
2 - GEN 303 Molecular and General Genetics Lab.
3 - PHYS 122 Physics with Calculus
1 - PHYS 124 Physics Lab. I
3-4 Advanced Mathematics Requirement¹
16-17

Second Semester
3 - BIOCH 301 Molecular Biochemistry
3 - CH 224 Organic Chemistry
1 - CH 228 Organic Chemistry Lab.
3 - COMM 150 Introduction to Human Communication or COMM 250 Public Speaking
3 - PHYS 221 Physics with Calculus II
1 - PHYS 223 Physics Lab. II
3 - Arts and Humanities (Literature) Requirement²
17

Junior Year
First Semester
3 - BIOCH 431 Physical Approach to Biochemistry
2 - BIOCH 433 General Biochemistry Lab. I
3 - CH 330 Introduction to Physical Chemistry³
3 - Science Requirement⁴
5 - Elective
16

Second Semester
3 - BIOCH 432 Biochemistry of Metabolism
2 - BIOCH 434 General Biochemistry Lab. II
3 - BIOCH 436 Nucleic Acid and Protein Biosynthesis
3 - PHIL 326 Science and Values
3 - Science Requirement\(^1\)
14

**Senior Year**

**First Semester**

3 - BIOSC 461 Cell Biology
3 - GEN (BIOCH) 440 Bioinformatics
3 - Social Science Requirement\(^3\)
4 - Elective\(^3\)
13

**Second Semester**

2 - BIOCH 493 Senior Seminar
3 - Social Science Requirement\(^3\)
3 - Science Requirement\(^4\)
6 - Elective\(^5\)
14

120-121 Total Semester Hours

\(^1\)EX ST 301, MTHSC 206, 301, or 302.
\(^2\)See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.
\(^3\)CH 331 may be substituted.
\(^4\)BIOSC 222, 223, or any courses at 300 level or above in BIOCH, BIO E, BIOSC, CH, EX ST, GEN, MICRO, MTHSC, PHYS, PL PA, and PL PH. A maximum of 3 credit hours can come from undergraduate research courses (491, creative inquiry or similar courses). Other courses must be approved by advisor.
\(^5\)A two-semester sequence of a foreign language is strongly recommended.

**Notes:**

1. A student is allowed to enroll in science and mathematics course only when all prerequisites have been passed with a grade of C or higher.

2. A minimum grade of C is required in all science and mathematics courses. No student may exceed a maximum of two attempts, excluding a W, to complete successfully any science or mathematics course.
Curriculum and Course Change System - Print Major Form

Change Major Name: Genetics
Degree: BS
Effective Catalog Year: 2011

... Change Major Name to:
... Change Degree to (CHE approval required)
X Change Curriculum Requirements
(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

... Change General Education Requirements
(Must also submit a General Education Checklist)

... Add, Change or Delete Concentration(s)
(Submit or upload Curriculum map in catalog format. CHE approval required)

... Add, Change or Delete Emphasis Area(s)

Explanation: 1. Add the following as electives for science requirement courses (footnote 3): PHYS 208, 210, courses at the 300 level or above in PL PA, and PL PH;
2. Add the following as electives for genetics requirement courses (footnote 5): BIOCH 431, 432, 433, 434, 443, 491, GEN 491, MICRO 305, 417;
3. To footnote 3, add, "A maximum of 9 credit hours from undergraduate research courses (491, creative inquiry, or similar courses) may be used towards the combined science and genetics requirements." This statement replaces, "A maximum of 3 credit hours can come from undergraduate research courses (491, creative inquiry or similar courses)."

Form Originator: HLIAANG, Hailing Liang Date Form Created: 9/23/2010
Form Last Updated by: HLIAANG, Hailing Liang Date Form Last Updated: 9/23/2010
Form Number: 3432

Approval

Chair, Department Curriculum Committee Date Chair, Undergraduate Curriculum Committee Date

9/24/2010

December W. Murchison 11/5/2010

Chair, Graduate Curriculum Committee Date

Robert J. Klimko 10/7/10

Chair, College Curriculum Committee Date President Date

2/10/11

College Dean Date
GENETICS
Bachelor of Science
Effective August 2011

Freshman Year
First Semester

5 - BIOL 110 Principles of Biology I  
4 - CH 101 General Chemistry  
1 - GEN 103 Careers in Biochemistry and Genetics  
4 - MTHSC 106 Calculus of One Variable I  
14

Second Semester

5 - BIOL 111 Principles of Biology II  
4 - CH 102 General Chemistry  
3 - ENGL 103 Accelerated Composition  
4 - MTHSC 108 Calculus of One Variable II  
16

Sophomore Year
First Semester

3 - CH 223 Organic Chemistry  
1 - CH 227 Organic Chemistry Lab.  
3 - COMM 150 Introduction to Human Communication or COMM 250 Public Speaking  
3 - GEN 302 Molecular and General Genetics  
3 - PHYS 122 Physics with Calculus I\textsuperscript{1}  
1 - PHYS 124 Physics Lab. I\textsuperscript{1}  
14

Second Semester

3 - BIOCH 301 Molecular Biochemistry  
2 - BIOCH 302 Molecular Biochemistry Lab  
3 - CH 224 Organic Chemistry  
1 - CH 228 Organic Chemistry Lab.  
3 - EX ST 301 Introductory Statistics  
3 - Arts and Humanities (Literature) Requirement\textsuperscript{2}  
3 - Social Science Requirement\textsuperscript{2}  
18

Junior Year
First Semester

3 - BIOSC 461 Cell Biology  
3 - GEN 410 Fundamentals of Genetics I  
2 - GEN 411 Fundamentals of Genetics I Lab.  
3 - Science Requirement\textsuperscript{3}  
3 - Elective\textsuperscript{4}  
14
Second Semester

3 - GEN 420 Fundamentals of Genetics II
2 - GEN 421 Fundamentals of Genetics II Lab.
3 - GEN (BIOCH) 440 Bioinformatics
3 - PHIL 326 Science and Values
3 - Genetics Requirement
2 = Elective
17

Senior Year
First Semester

3 - GEN 450 Comparative Genetics
3 - Science Requirement
3 - Social Science Requirement
6 = Elective
15

Second Semester

2 - GEN 493 Senior Seminar
6 - Genetics Requirement
3 - Science Requirement
4 = Elective
15

123 Total Semester Hours

1. Medical, veterinary, and graduate school requirements often include two semesters of physics taught with calculus and the physics laboratory. Students are encouraged to check requirements for admission to professional postgraduate programs.

2. See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

3. BIOSC 222, 223, PHYS 208, 210, 221, 223 or any courses at 300 level or above in BIOCH, BIO E, BIOSC, CH, EX ST, GEN, MTHSC, MICRO, PHYS, PL PA, and PL PH. Other courses must be approved by advisor. A maximum of 9 credit hours from undergraduate research courses (491, creative inquiry, or similar courses) may be used towards the combined science and genetics requirements.

4. A two-semesters of a foreign language are strongly recommended.

5. AVS 470, BIOCH 431, 432, 433, 434, 436, 443, 491, BIOSCI 335, 440, 450, 454, 456, 457, BIOSC (GEN, HORT) 465, CSENV 405, GEN 470, 491, MICRO 305, 413, 417.

Notes:
1. A student is allowed to enroll in science and mathematics course only when all prerequisites have been passed with a grade of C or higher.

2. A minimum grade of C is required in all science and mathematics courses. No student may exceed a maximum of two attempts, excluding a W, to complete successfully any science or mathematics course.