BIOLOGICAL SCIENCE MAJOR: BIOLOGICAL SCIENCE CONCENTRATION

NAME: __________________________

Entering Major Semester: _______
Transfer Credits: _______

GRADUATION REQUIREMENTS
1. Complete the All University Core Curriculum - See General Catalog.
2. Complete Biology Core Requirements.
3. Complete a minimum of 120 total credits.
4. A minimum of 42 upper division credits (300 level or above).
5. Minimum of 2.0 CUMULATIVE GPA.

Requirements for participation in BZ487V, BZ587V, BZ495V, BZ594V, BZ498V, BY384V, BZ384V and BZ587V.
Only BZ487V, BZ495V and BZ498V may be applied towards a student’s SELECTED FIELD with approval of the Curriculum Committee.
- Cumulative GPA: 2.5 GPA in major: 3.0
- Junior standing or higher.

GRADE REQUIREMENTS
To be qualified for graduation, students in the Biology major must have at least a grade of C+ in each of the Biology Core, Physical Sciences and Mathematics courses. This also applies to courses taken as substitutions for meeting these requirements.

BIOLOGY CORE REQUIREMENTS
LIFE 102 Attributes of Living Systems (4)
LIFE 103 Biology of Organisms (4)

OR
BZ110 Principles of Animal Bio (3)
BZ111 Principles of Animal Lab (1)
BZ120 Principles of Plant Biology (4)

BZ220 Introduction to Evolution (3)
BZ310 Cell Biology (4)
BZ311 Developmental Biology (4)
LIFE320 Ecology (3)
BZ350 Molecular & General Genetics (4)

SELECTED AND ADDITIONAL FIELDS
In addition, select 12 credits in one field and a minimum of one course in each of two additional fields. Courses used to fulfill biology core requirements may NOT be used to meet requirements in the field areas. See attached list.

SELECTED FIELD FOR 12 CREDITS

2 ADDITIONAL FIELDS (minimum 6 credits)

CHM 112(4) _______ CHM 116(2) _______

OR
CHEM113(3) _______ CHEM114(1) _______

PHYSICAL SCIENCES
CHEM245 (4) _______ CHEM246 (1) _______
OR
CHEM341 (3) _______ CHEM343 (3) _______ CHEM344 (2) _______

ORGANIC CHEMISTRY
BC351 (4) _______
OR
BC401 (3) _______ BC403 (3) _______

BIOCHEMISTRY
PH121 (5) _______ PH122 (5) _______
OR
PH141 (5) _______ PH142 (5) _______

CALCULUS
MATH 155 (4) _______ OR MATH 160 (4) _______

STATISTICS
STAT301 (3) _______ OR STAT307 (3) _______

ALL UNIVERSITY CORE CURRICULUM (AUCC)

Category 1
1. A. Written Communication (3 credits)
   CO 150 ______

Category 2
2. Additional Communication (3 credits)
   (only for students enrolled BEFORE Fall 2008) SPCM 200 ______
   OR
   Advanced Writing ______

Category 3.
3.B. Arts/Humanities (6) ______

3.C. Social/Behavioral (3) ______

3.D. Historical Perspectives (3) ______

3.E. Global & Cultural Awareness (3) ______

Category 4: Depth and Integration (7 credits minimum)
LIFE320 ______ and BZ350 ______
TRACK 1 HONORS PROGRAM STUDENTS FULFILL THE FOLLOWING REQUIREMENTS FOR THE
TRACK 1 HONORS PROGRAM INSTEAD OF THE AUCC CORE

Arts/Humanities (For students admitted Fall 2007 and forward)

Advanced Writing (For students admitted Fall 2008 and forward)

HONR192 (4)      HONR193 (3)      HONR392 (3)      HONR399 (1)      HONR492 (3)      HONR499 (3)    

P:\advising\ADVISING CENTER 2010\Checksheets
Revised: 02/09/2011
"With the approval of the Biology Curriculum Committee, a maximum of 3 credits from BZ487V, BZ495V and/or BZ498V may be applied towards a student’s "SELECTED FIELD" requirement, if the Committee deems the experience appropriate in content for the Selected Field." Students must complete **12 credits in one of the following "Selected Fields", as well as a minimum of 6 credits in two additional fields."

**ANATOMY/PHYSIOLOGY**

Students selecting this field must take one of the following three classes:

**BMS360(4)** Fundamentals of Physiology  
**or**  
**BMS300*(4)** Principles of Human Physiology  
**or**  
**BZ440(3)** Plant Physiology

(*Note: If either BMS360 or BMS300 is taken, only one of these 2 classes may be used to fulfill the 12-credit requirement in this field.)

All BMS courses numbered 300 and above except BMS384 and BMS495.

**AQUATIC BIOLOGY**

- BSPM445(4) Aquatic Insects
- BZ315(3) Marine Ecology
- BZ321(3) Aquatic Vascular Plants
- BZ332(4) Introductory Phycology
- BZ471(3) Stream Biology & Ecology
- BZ472(1) Stream Biology & Eco Lab
- BZ474(3) Limnology
- FW300(2) Ichthyology
- FW301(2) Ichthyology Lab
- FW400(3) Fish Ecology
- FW420(2) Water Quality for Fish & Wild
- FW540(4) Fisheries Ecology
- FW544(3) Ecotoxicology

Students are encouraged to consult with their advisor regarding field station classes that may be used to fulfill course requirements in this field.

**BEHAVIORAL BIOLOGY**

Students selecting this field must take BMS325 Cellular Neurobiology and BZ300 Animal Behavior, and complete 6 credits from the following:

- BSPM507(3) Insect Behavior
- BSPM570(3) Chemical Ecology
- BZ301(1) Animal Behavior Lab
- BZ433(3) Behavioral Genetics
- BZ747(3) Biology and Behavior of Dogs
- BZ535(3) Behavioral Ecology
- NB501(2) Molecular & Cellular Neurobiology
- NB/CN502(2) Techniques in Molecular & Cellular Biology
- PSY352(3) Psychology of Learning
- PSY454A(3) Physiological Psychology
- PSY455B(2) Physiological Psychology Lab
- VS331(4) Histology (on line)
- VS333(4) Domestic Animal Anatomy
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ANEQ330(3)</td>
<td>Principles of Anim. Breeding</td>
</tr>
<tr>
<td>BC401(3)</td>
<td>Compreh Biochemistry I</td>
</tr>
<tr>
<td>BC403(3)</td>
<td>Compreh Biochemistry II</td>
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<tr>
<td>BC406A-C(2)</td>
<td>Investigative Biochem.</td>
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<td>BC463(4)</td>
<td>Molecular Genetics</td>
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<tr>
<td>BC511(3)</td>
<td>Structural Biology I</td>
</tr>
<tr>
<td>BC513(1)</td>
<td>Enzymology</td>
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<tr>
<td>BC517(2)</td>
<td>Metabolism</td>
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<td>BMS325(3)</td>
<td>Cellular Neurobiology</td>
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<tr>
<td>BMS405 (3)</td>
<td>(previously BMS365) Nerve &amp; Muscle-Toxins, Trauma &amp; Disease</td>
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<tr>
<td>BZ346(3)</td>
<td>Population &amp; Evol. Genetics</td>
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<tr>
<td>BZ402(4)</td>
<td>Chromosomes of Eukaryotes</td>
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<tr>
<td>BZ403(3)</td>
<td>Comp. Endocrinology</td>
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<td>BZ433(3)</td>
<td>Behavioral Genetics</td>
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<tr>
<td>BZ455(3)</td>
<td>Human Heredity &amp; Birth Defects</td>
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<tr>
<td>BZ476(3)</td>
<td>Topics in Advanced Genetics</td>
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<tr>
<td>BZ570(3)</td>
<td>Molecular Aspects of Plant Development</td>
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<tr>
<td>BZ/MIP577(1)</td>
<td>Computer Analysis in Population Genetics</td>
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<td>BZ/MIP578(4)</td>
<td>Genetics of Nat. Populations</td>
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<td>CM501(4)</td>
<td>Advanced Cell Biology</td>
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<td>HORT/SOCR460(3)</td>
<td>Plant Breeding</td>
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<td>HORT575(2)</td>
<td>Plant Germplasm Conservation</td>
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<td>MIP300(3)</td>
<td>General Microbiology</td>
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<td>MIP302(2)</td>
<td>Gen Microbiology Lab</td>
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<td>MIP342(4)</td>
<td>Immunology</td>
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<td>MIP343(2)</td>
<td>Immunology Lab</td>
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<td>MIP450(3)</td>
<td>Microbial Genetics</td>
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<tr>
<td>MIP550(3)</td>
<td>Microbial &amp; Molec. Genetics Lab</td>
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<tr>
<td>NB501(2)</td>
<td>Cellular &amp; Molecular Neurophysiology</td>
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<td>NB/CMM502(2)</td>
<td>Techniques in Molecular &amp; Cellular Biology</td>
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<td>NB503(3)</td>
<td>Developmental Neurobiology</td>
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<td>VS331(4)</td>
<td>Histology (on line)</td>
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<tr>
<td>BMS 330 (4)</td>
<td>Microscopic Anatomy</td>
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**ECOLOGY**

Students selecting this field must complete one class from List A below; Classes in List B must be used to fulfill the remainder of the 12 credits:

**List A:**

- BSPM302(2) Applied & General Entomology
- BZ325(4) Plant Systematics
- BZ329(3) Herpetology
- BZ330(3) Mammalogy
- BZ332(4) Introductory Phycology
- BZ333(4) Introductory Mycology
- BZ335(3) Ornithology
- BZ338(4) Comp. Morph. of Vasc. Plants
- FW300(2) Ichthyology
- FW301(2) Ichthyology Lab
- MIP300(3) Microbiology
- MIP302(2) Gen Microbiology Lab

**List B:**

- ANTH370(3) Primate Behavior & Ecol.
- BSPM570(3) Chemical Ecology
- BMS410(3) Physiological Responses to the Environment
- BZ315(3) Marine Ecology
- BZ/MATH348(3) Theory of Pop. & Evol. Eco
- BZ/NR353 (3) Global Change Ecology Impacts & Mitigation
- BZ450(4) Plant Ecology
- BZ471(3) Stream Biology & Ecology
- BZ472(1) Stream Biology & Ecology Lab
- BZ474(3) Limnology
- BZ510(3) Zoophysiological Ecology
- BZ535(3) Behavioral Ecology
- BZ561(3) Landscape Ecology
- BZ/BSPM/MIP562(5) Field Ecology of Disease Vectors
- BZ572(3) Phytoremediation
- ERHS332(3) Prmcpls of Epidemiology
- ERHS 532(3) Epidemiologic Methods
- F311(3) Forest Ecology
- FW400(3) Fish Ecology
- FW474(3) Wildlife Ecology
- FW544(3) Ecotoxicology
- ERHS570(2) Radiocology
- RS331(3) Rangeland Ecogeography
- RS351(3) Range Plant Prod & Decomp
- RS478(3) Restoration Ecology
- RS578(3) Ecology of Disturbed Lands
EVOLUTION, GENETICS & SYSTEMATICS

Students selecting this field must take:
BZ346(3) Population & Evol. Genetics, and either
BZ325 Plant Systematics or
BSPM/BZ424 Systematic Zoology, and complete the remainder of their 12 credits from the following courses:

ANTH373(3) Human Evolution
ANTH374(3) Human Biological Variation
BC463(4) Molecular Genetics
BSPM302(2) Applied & Gen. Entomology
BSPM303A(2) Applied&Gen.Entomology Lab
BSPM423(4) Evol. & Class. of Insects
BSPM/BZ/MIP462(5) Parasitology & Vector Bio
BSPM507(3) Insect Behavior
BSPM/BZ520(3) Advanced Systematics
BZ300(3) Animal Behavior
BZ329(3) Herpetology
BZ330(3) Mammalogy
BZ332(4) Introductory Phycology
BZ333(4) Introductory Mycology
BZ335(3) Ornithology
BZ338(4) Comp. Morph. of Vasc. Pl.
BZ/MATH348(3) Theory of Pop. & Evol Eco
BZ402(4) Chromosomes of Eukaryotes
BZ433(3) Behavioral Genetics
BZ455(3) Human Heredity&Birth Defects
BZ/BSPM/MIP462(5) Parasitology & Vector Bio
BZ/BSPM520(3) Advanced Systematics
BZ530(2) Ecol. Plant Morphology
BZ535(3) Behavioral Ecology
BZ/MIP577(1) Computer Analysis in Population Genetics
BZ/MIP578(4) Genetics of Natural Populations
FW300(2) Ichthyology
FW301(2) Ichthyology Lab
GEOL342(3) Paleontology
MIP300(3) Microbiology
MIP302(2) Gen Microbiology Lab
MIP450(3) Microbial Genetics
MIP550(3) Microbial & Molec Gen Lab
SOCR535(3) Orig & Evol of Cultv Plants

MICROBIOLOGY

All MIP courses numbered 300 or above except MIP342,MIP343,MIP384,MIP495, and MIP 315

BSPM361(3) Elements of Plant Pathology
BSPM550(3) Molecular Plant-Microbe Inter (old name Phytobacteriology)
BZ332(4) Introductory Phycology
BZ333(4) Introductory Mycology
BZ537(3) Topics in Mycology
SOCR455(3) Soil Microbiology
SOCR456(1) Soil Microbiology Lab (old name Phytobacteriology)
INTEGRATIVE ORGANISIMAL BIOLOGY

Students selecting this field must include in their 12 credits at least one course from each of the following lists:

List A (Botany):

BZ223(3) Plant Identification
BZ302(3) Poisonous Plants
BZ321(3) Aquatic Vascular Plants
BZ325(4) Plant Systematics
BZ332(4) Introductory Phycology
BZ333(4) Introductory Mycology
BZ338(4) Comp. Morph. of Vasc. Pl.
BZ450(4) Plant Ecology
BZ572(3) Phytoremediation

List B (Zoology):

BSPM302(2) Appld & Gen Entomology
BSPM303A(2) Appld & Gen Entomology Lab
BSPM/BZ424(3) Princ of Systematic Zoo
BSPM/BZ/MIP462 (5) Parasitology & Vector Bio
BZ/VVS479 Biology and Behavior of Dogs
BZ212(4) Invertebrate Biology
BZ214(4) Vertebrate Biology
BZ300(3) Animal Behavior
BZ315(3) Marine Ecology
BZ329(3) Herpetology
BZ330(3) Mammalogy
BZ335(3) Ornithology
BZ/BSPM424(3) Princ of Systematic Zoo
BZ/BSPM/MIP462 (5) Parasitology & Vector Bio
BZ471(3) Stream Biology & Ecology
BZ472(1) Stream Biology & Ecology Lab
BZ474(3) Limnology
FW300(2) Ichthyology
FW301(2) Ichthyology Lab
FW400(3) Fish Ecology
GEOL342(3) Paleontology

Students are encouraged to consult with their advisor regarding field station classes that may be used to fulfill course requirements in this field.

SELF DESIGNATED FIELD

A student may, with the approval of their advisor and the Biology Curriculum Committee, define their own individual selected field. Students wishing to pursue this option should consult with their advisor to develop a proposal for a self-designated field. The proposal should include a description of the field of interest, the student's reasons or rationale for wishing to pursue a self-designated field, and a list of relevant classes (totaling 12 credits) to be completed. To be included, courses should be upper-division classes that are primarily biological in content. Once approved by the advisor, a student's request for a self-designated field must be submitted to the Biology Curriculum Committee for approval. The Curriculum Committee's approval for a self-designated field should be obtained before the end of the sophomore year.