College Core and Biology Major Requirements (Bachelor of Arts) – Catalog Year 2009-2010

**Major Requirements for Biology:**

- Requirements in cognate sciences and mathematics include the following:

  **Physical Sciences**
  - CHEM 1103/1101L University Chemistry I/ Univ. Chem. I Lab (MATH 1203)
  - CHEM 1123/1121L University Chemistry II/ Univ. Chem. II Lab (CHEM 1103)

  and either
  - CHEM 2613/2611L/2610D Organic Physiological Chemistry/ Lab/ Drill (CHEM 1123/1121L or CHEM 1074/1071L)
  - CHEM 3603/3601L Organic Chemistry I/ Organic Chemistry I Lab (CHEM 1123/1121L) and

- PHYS 2013/2011L College Physics I/ College Physics I Lab (MATH 1203 & 1213 or equivalent)

- PHYS 2033/2031L College Physics II/ College Physics II Lab (PHYS 2013/2011L)

  **Mathematical Sciences**
  - MATH 2043 Survey of Calculus (MATH 1203) OR
  - MATH 2554 Calculus I (MATH 1203 & 1213 or 1285)

- **BIOL 1543/1541L Principles of Biology/Principles of Biology Lab**
  - Majors may take an additional 1000-level BIOL course BIOL1603/1601L (Principles of Zoology) OR BIOL 1613/1611L (Plant Biology). Majors in the B.A. degree may apply a maximum of eight 1000-level credits toward the major.
An additional 24 hours of biological sciences including the following:

- **Bibliographic Practicum:**
  - BIOL 2001 Bibliographic Practicum is required of all majors.
- One course from four of the following six areas of specialization (I-VI), with at least one course from each of the three general areas of biology. Refer to groups below: **Group 1:** Botany, **Group 2:** Microbiology, **Group 3:** Zoology.

### I. Microorganism Biology:
- BIOL 2533/2531L Cell Biology/Cell Biology Lab* (*lab optional)
  - (Pre: BIOL 1543/1541L; Pre or Co: CHEM 1123/1121L or CHEM 1223/1221L)
- BIOL 2013/2011L General Microbiology/General Micro Lab
  - (BIOL 1543/1541L and 1 semester of General Chemistry)
- BIOL 31233 Prokaryote Biology (BIOL 2533)

### II. Genetics:
- BIOL 2323/2321L General Genetics/General Genetics Lab
  - (BIOL 1543/1541L & CHEM 1123/1121L & MATH 1203 or STAT 2023)
- BIOL 4233 Genomic and Bioinformatics (BIOL 2013/2011L & CHEM 3603/3601L, CHEM 3613/3611L)

### III. Morphology:
- BIOL 4404 Comparative Botany
- BIOL 4104 Taxonomy of Flowering Plants (BIOL 1613/1611L & BIOL 1543/1511L)
- BIOL 4424 Mycology (BIOL 2323 & BIOL 2533)
- BIOL 2404 Comparative Vertebrate Morphology (BIOL 1543/1511L or equivalent)

### IV. Physiology:
- BIOL 4234 Comparative Physiology (BIOL 2533 & CHEM 1123/1121L or equivalent)
- BIOL 4263 Cell Physiology (BIOL 2533 & BIOL 2323 & CHEM 3813 & PHYS 2033)
- BIOL 4304 Plant Physiology (BIOL 1613/1611L & BIOL 1543/1511L & CHEM 1103)
- BIOL 4313 Molecular Cell Biology (BIOL 2533 & BIOL 2323 & CHEM 3603/360L & CHEM 3613/3611L)
- BIOL 2213/2211L Human Physiology/Human Phys. Lab
  - (CHEM 1023/1021L or CHEM 1074/1071L or CHEM 1103/1101L or CHEM 1123/1121L or equivalent & MATH 1203)

### V. Evolution:
- BIOL 3023 Evolutionary Biology (BIOL 1543/1541L, Pre- or co-requisite BIOL 2323)

### VI. Ecology:
- BIOL 3863/3861L General Ecology/General Ecology Lab (7 hours of Biological Sciences)

- Remaining 8-10 credit hours of biology electives of advanced level BIOL classes (3000 level or greater):

  - BIOL ___________________________ _______________________
  - BIOL ___________________________ _______________________
  - BIOL ___________________________ _______________________

Examples:

**Group 1 Botany**  Taxonomy of Flowering Plants (BIOL 4104), dendrology (BIOL 4114), Plant Physiology (BIOL 4304), Comparative Botany (BIOL 4404), Mycology (BIOL 4424), Plant Ecology (BIOL 4523), Forest Ecology (BIOL 4693), Protistology (BIOL 4724)

**Group 2 Microbiology**  Prokaryote Biology (BIOL3123), Molecular Cell Biology (BIOL 4313), Genomics and Bioinformatics (BIOL 4233), Mechanisms of Pathogenesis (BIOL 4703), Basic Immunology (BIOL 4713, 4711L), General Virology (BIOL 4753), BIOL 490V Special Topics in Microbiology, Food Microbiology (BIOL 4124), Special Topics in Microbiology (BIOL 490V).

**Group 3 Zoology**  Mechanics of Human Movement (BIOL 3353), Comparative Physiology (BIOL 4234), Cell Physiology (BIOL 4263), Ecological Genetics (BIOL 4353), Principles of Evolution (BIOL 4433) Physiological Ecology (BIOL 4463), Population Ecology (BIOL 4513/4511L), Vertebrate Embryology (BIOL 4544), Developmental Biology (BIOL 4554), Primate Adaptation and Evolution (BIOL 4613), Protistology (BIOL 4724/4720L), Fish Biology (BIOL 4743/4740L), Ornithology (BIOL 4763), Mammalogy (BIOL 4783), Intro to Neurobiology (BIOL 4793), Limnology (BIOL 4814), Animal Behavior (BIOL 4833), Community and Ecosystem Ecology (BIOL 4844), Field Ecology (BIOL 485V), Analysis of Animal Populations (BIOL 4863), Special Topics in Zoology (BIOL 490V, 4933)
Senior Writing Requirement: The college writing requirement for majors in biology can be fulfilled by

1. Completion of an honors thesis, or
2. Completion of a senior thesis (BIOL 498V) supervised by a faculty member in biological sciences, or
3. Completion of required term paper with a grade of B or above in a BIOL course numbered above 3000 on a topic approved by the instructor, or
4. Completion of a paper, supervised by a Biological Sciences faculty member in Special Problems (BIOL 480V)

Note: A student exercising option 3 or 4 may not use the same paper written for that option for credit in BIOL 498V

8 Hour Rule: Up to 8 hours may be applied towards a degree from the following departments:

AEED AGAD EXED HLSC MILS PEAC RECR VOED
AERO DEAC ETEC ITED OFSM PHED UNIV

No more than four of the eight hours may be applied from AERO, MILS, PEAC, or DEAC, unless a student completes an ROTC program and receives a commission.

40 Hour Rule: You must present for degree credit at least 40 hours of work in courses numbered 3000 and above. Included in this 40 hours can be courses numbered 2000 if each has a specific course designated as a prerequisite. The following courses are excluded: MILS 2001 AND 2011, AERO 2001 and 2011, and foreign language courses numbered 2003 and 2013. The courses presented to meet this requirement may be from other colleges or universities; however, don't forget the college residency requirement, specifically the 24-Hour Rule.

24 Hour Rule: You must complete at least 24 hours of 3000 and 4000 level courses from departments within Fulbright College.
You must have a minimum cumulative GPA of 2.00 to graduate from Fulbright College.

A minimum of 124 is required for graduation. For more information on graduation requirements, including elective, advanced and upper level credit requirements, students should consult their advisor and the Catalog of Studies. See appropriate Catalog of Studies for requirements from previous years.

For more information on Biology, contact the Department of Biological Sciences:
- SCEN 601
- (479)-575-3251
- http://biology.uark.edu

**This form is NOT a substitute for the Catalog of Studies. Students should verify this information with their advisor, their degree audit, and the Catalog of Studies.**

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