

BIOLOGY AND EDUCATIONAL STUDIES: *DEPARTMENT-SPECIFIC REQUIREMENTS CHART (UPDATED 6/25/26)*

	Course Major: Biology and Educational Studies	Major: Biology and Educational Studies with Secondary Biology Teacher Certification	Biology Major and Educational Studies Minor with Secondary Biology Teacher Certification	Educational Studies Major Secondary Biology Teacher Certification
Biology Requirements (BIOL)	Total: 6 credits¹ - BIOL 001 Cellular and Molecular Biology - BIOL 002 Organismal and Population Biology - BIOL -1-Cellular and Molecular Biology Elective - BIOL-2- Organismal Biology Elective - BIOL-3-Population Biology Elective - Biology elective* *CHEM 038 Biochemistry may be used for an elective.	Total: 6 credits¹ - BIOL 001 Cellular and Molecular Biology - BIOL 002 Organismal and Population Biology - BIOL -1-Cellular and Molecular Biology Elective - BIOL-2- Organismal Biology Elective - BIOL-3-Population Biology Elective - Biology elective* *CHEM 038 Biochemistry may be used for an elective.	Total: 9 credits¹ - BIOL 001 Cellular and Molecular Biology - BIOL 002 Organismal and Population Biology - BIOL -1-Cellular and Molecular Biology Elective - BIOL-2- Organismal Biology Elective - BIOL-3-Population Biology Elective (1) Seminar course above BIOL 100 (2) Biology electives * - BIOL 097: Themes in Biology *CHEM 038 Biochemistry may be used for an elective.	Total: 6 credits¹ - BIOL 001 Cellular and Molecular Biology - BIOL 002 Organismal and Population Biology - BIOL -1-Cellular and Molecular Biology Elective - BIOL-2- Organismal Biology Elective - BIOL-3-Population Biology Elective - Biology elective* *CHEM 038 Biochemistry may be used for an elective.
Comprehensive (EDUC/BIOL)	Total: 1-2 credits, options for course majors include: - 1 or 2 CR thesis. These are advised by both EDUC and BIOL. - 2 CR EDUC Honors seminar paper. Topic must be approved in advance by BIOL department chair; paper supervised by seminar instructor.	Total: 1-2 credits, options for course majors include: - 1 or 2 CR thesis. These are advised by both EDUC and BIOL. - 2 CR EDUC Honors seminar paper. Topic must be approved in advance by BIOL department chair; paper supervised by seminar instructor.	BIOL 097: Themes in Biology	Total: 1-2 credits, options for course majors include: - 1 or 2 CR EDUC thesis. - 2 CR EDUC Honors seminar paper. Topic must be approved in advance by seminar instructor.
Additional Departmental Requirements	Total: 4 credits² - CHEM 010 General Chemistry - MATH 015 Calculus - STAT 011 Statistics - NSE Elective** ** Any one of the following courses may be used to fulfill the NSE elective requirement: ASTR 014 or above, CHEM 015 or above, CPSC 021 or above, PHYS 003 or above (except 029), ENGR 005 or above (except 007 or 010), above MATH 015 (except 015X, 015SP, or 020), above STAT 011, ECON 031 or 035	Total: 4 credits² - CHEM 010 General Chemistry - MATH 015 Calculus - STAT 011 Statistics - NSE Elective** ** Any one of the following courses may be used to fulfill the NSE elective requirement: ASTR 014 or above, CHEM 015 or above, CPSC 021 or above, PHYS 003 or above (except 029), ENGR 005 or above (except 007 or 010), above MATH 015 (except 015X, 015SP, or 020), above STAT 011, ECON 031 or 035	Total: 5 credits² - CHEM 010 General Chemistry - MATH 015 Calculus - STAT 011 Statistics (2) NSE Electives** ** Any one of the following courses may be used to fulfill the NSE elective requirement: ASTR 014 or above, CHEM 015 or above, CPSC 021 or above, PHYS 003 or above (except 029), ENGR 005 or above (except 007 or 010), above MATH 015 (except 015X, 015SP, or 020), above STAT 011, ECON 031 or 035	Total: 4 credits² - CHEM 010 General Chemistry - MATH 015 Calculus - STAT 011 Statistics - NSE Elective** ** Any one of the following courses may be used to fulfill the NSE elective requirement: ASTR 014 or above, CHEM 015 or above, CPSC 021 or above, PHYS 003 or above (except 029), ENGR 005 or above (except 007 or 010), above MATH 015 (except 015X, 015SP, or 020), above STAT 011, ECON 031 or 035
Strongly Recommended	N/A	- Work as Science Associate or lab assistant for 1 semester - EDUC 075 Introduction to Science Pedagogy	- Work as Science Associate or lab assistant for 1 semester - EDUC 075 Introduction to Science Pedagogy	- Work as Science Associate or lab assistant for 1 semester - EDUC 075 Introduction to Science Pedagogy
Educational Studies Requirements	Total: 5 credits in Educational Studies	Total: 9.5 credits in Educational Studies Refer to description of general Educational Studies Secondary Certification Requirements.	Total: 9.5 credits in Educational Studies Refer to description of general Educational Studies Secondary Certification Requirements.	Total: 9.5 credits in Educational Studies Refer to description of general Educational Studies Secondary Certification Requirements.

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Footnotes:

¹Advanced Placement: A score of 5 on the Advanced Placement or equivalent counts in place of BIOL 001 or BIOL 002 as 1CR. This counts as 1CR of the total 6CR BIOL required for completion.

²Advanced Placement is sufficient to fulfill the CHEM 010 and/or MATH 015 and/or STAT 011 requirements.

Additional Notes:

1. This chart describes the specific subject area requirements for majors in Biology and Educational Studies and for secondary biology certification.
2. Descriptions of specific required Educational Studies courses are listed elsewhere.
3. Occasionally departments have special offerings that may fulfill the required content.
Please discuss such possibilities with your advisor or department chair.
4. The Department of Educational Studies works closely with each individual student to determine a semester- by-semester plan.
5. Please see the Chair of the Department of Educational Studies to design a plan that includes Honors.

Mission Statement

The Secondary Biology certification program engages students in the investigation of educational theory, policy, research and practice. Candidates for certification develop their pedagogical content knowledge in biology as well as their general knowledge of the subject. The program encourages undergraduates to think critically and creatively about the processes of teaching and adolescent learning and about the place of education in society. The program is committed to preparing students to employ evidence-based practice. Instructional practice, including the use of technology and assessments, are designed to enable preservice teachers to meet the needs of all students, including those with learning differences, and with consideration for racial, ethnic, linguistic and/or social economic diversity.