

**KEENE STATE COLLEGE
BACHELOR OF SCIENCE
BIOLOGY**

It is the student's responsibility to follow the **official** requirements of the degree, found in the Keene State College catalog. This planning sheet is for **advising** purposes only.

Name: _____ Student I.D.# _____
 Institution(s) Attended: _____ Credits: _____
 _____ Update: _____ =

I. **GENERAL EDUCATION** 42 crs. minimum

A. **English Language Competence:** ENG 101 is required of all students.

ENG 101: _____

B. **Arts & Humanities:** A minimum of five courses totaling at least 15 credits as follows:

One course in Literature _____

One course in literature, which may be any 200 or 300-level English course except 202, 203, 204, 208, 301, 302, 303, 304, 308, 312. French 303 and Spanish 303 may also be used to fulfill this requirement.

HIST _____ ART, FILM, MU or TAD _____

(for teacher certification, a US History course is required)

Two courses from Arts & Humanities disciplines: AMST, ART, COMM, FILM, ENG, FR, GER, HIST, JRN, ML, MU, PHIL, SP or TAD. One course may be an interdisciplinary course (WS 201* or an IDAH course).

C. **Social Sciences:** A minimum of four courses totaling at least 12 credits in **three** or more of the Social Science disciplines: ECON, GEOG, POSC, PSYC, SOC. One course may be an approved interdisciplinary course (WS 201* or an IDSS course). **(For teacher certification, a geography course is required.)**

D. **Sciences/Math:** **A minimum of four courses totaling at least 12 credits as follows: One course in BIOLOGY. One course in a PHYSICAL SCIENCE (ASTR, CHEM, GEOL, MET, PHYS). Two courses from Sciences/Math disciplines: ASTR, BIO, CHEM, CS, ENST, GEOL, MATH, MET, PHYS or an approved interdisciplinary course (IDSM). **(For teacher certification, GEOL 201 is required.)**

BIO _____ PHYSICAL SCIENCE _____

*WS 201 may be used only once, to fulfill either an Arts & Humanities or Social Sciences General Education requirement.

**See General Education eligible requirements for the major on back.

MAJOR REQUIREMENTS (79-80 credits) *Asterisked courses may apply toward Science/Math Gen. Ed. requirements. Credits count once toward graduation. Complete BIO 151/152 & 153/154 in the first year.

A. **Introductory Sequence** (8 crs.)

*BIO 151/152: Life: Diversity/Lab	___	3/1
*BIO 153/154: Life: Processes/Lab	___	3/1

("C" or better required to progress to upper level courses)

Junior/Senior Core Courses (7 cr.)

BIO 401: Biochemistry	___	3
BIO 403: Experimental Biochemistry	___	2
BIO 495: Biology Seminar	___	2

Sophomore Core Courses (16 - 17 crs.)

BIO 251: Genetics	___	3
BIO 252: Ecology and Evolution	___	3
BIO 254: Cell Biology	___	3

Organismal Courses: Choose One (4 crs.)

BIO 322: Flowering Plant Biology	___	4
BIO 333: Invertebrate Zoology	___	4
BIO 334: Vertebrate Zoology	___	4
BIO 351: Ornithology	___	4
BIO 352: Entomology	___	4
BIO 365: Plant Evolution	___	4
BIO 415: Microbial Diversity	___	4

One from the Following (3-4 crs.)

BIO 232/233: Human Anat. & Physiology II/lab	___	4
BIO 253: Physiology of Plants and Animals	___	3

Two from the Following: (4 crs.)

BIO 255: Experimental Genetics	___	2
BIO 256: Experimental Ecology & Evolution	___	2
BIO 257: Experimental Physiology	___	2
BIO 280: Research Rotations	___	3

Choose ONE of the following courses or course pairs: (5 crs)

BIO 405: Molecular Biology	___	5	
BIO 408: Developmental Biology	___	5	
BIO 409: Neurobiology	___	5	
BIO 451: Population Ecology	___	3	and
BIO 452: Community & Ecosystem Ecology	___	3	and
BIO 454: Ecological Physiology	___	3	and
			OR
BIO 455: Comparative Animal Physiology	___	3	and
			BIO 457: Research Meth: Ecology
			___ 2
			and
			BIO 457: Research Meth: Ecology
			___ 2
			and
			BIO 457: Research Meth: Ecology
			___ 2
			OR
			BIO 458: Research Meth: Physiology
			___ 2
			and
			BIO 458: Research Meth: Physiology
			___ 2

Biology Electives: minimum of 7-8 credits at 300-level or higher, to bring total Biology credits to 48

_____	___	___	_____	___	___
_____	___	___	_____	___	___

B. **Related Science/Math Courses:** Complete Intro Chemistry sequence in the first year.

*CHEM 111/115: General Chemistry I/Lab	___	3/1	*PHYS 141: College Physics I	___	4
*CHEM 112/116: General Chemistry II/Lab	___	3/1	*PHYS 142: College Physics II	___	4
CHEM 221/225: Organic Chemistry I/lab	___	3/1	*MATH 141: Introductory Statistics	___	3
CHEM 222/226: Organic Chemistry II/lab	___	3/1	*MATH 151: Calculus I	___	4

III. **ELECTIVES:**

Pick additional courses of your choice to bring your total number of credits earned to 126. Students interested in environmental biology should include the following: CHEM 352/356 and GEOL 201 and 202. If you wish to use transfer credits toward major/minor requirements you must use the Course Substitution process. Contact the Academic and Career Advising Center for more information.

FOR TEACHER CERTIFICATION: Courses selected within the General Education requirements must include a U.S. history course, a geography course, and GEOL 201.

Orientation

ESEC 100: Intro to Teaching	___	1_
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Learners

**ESEC 150: Development, Exceptionality and Learning I	___	3_
ESEC 250: Development, Exceptionality and Learning II	___	3_

Fundamentals

•**ESEC 282: Literacy in Content Areas	___	3_
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Settings

•ESEC 320: Ed. Environments/Pract.	___	3_
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Methodology

•ESEC 385: Methods: Secondary	___	3_
•ESEC 386: Methods: Field Experience	___	3_

Systems

•ESEC 450: Seminar: Ed. Principles	___	3_
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Practice

•ESEC 460: Student Teaching	___	12_
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The following course is highly recommended

Pedagogy

•ESEC 387: Creating Social Context for Learning	___	3_
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• Admission to Teacher Education required for these courses.

** Courses marked with an asterisk require a minimum of one to three hours of field work in school or service learning.