

**KEENE STATE COLLEGE
BACHELOR OF SCIENCE
CHEMISTRY-PHYSICS**

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

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

I. GENERAL EDUCATION

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 _____
 Any English course other than 101, 202, 203, 204, 208, 301, 302, 303, 304, 308, 312.
 FR, GER, or SP 498 are acceptable when topics focus on French, German or Spanish Literature.

HIST _____ ART, COMM, FILM, MU or TAD _____
(A US History is required for teacher certification.)

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

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 or an approved interdisciplinary course (WS 201* or IDSS). **(A Geography course is required for teacher certification.)**

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).

BIO _____ PHYSICAL SCIENCE (covered by major reqs)
(BIO 153/154 are required for teacher certification)

MATH 151: CALCULUS I _____ MATH 152: CALCULUS II _____

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

II. **MAJOR REQUIREMENTS:**

III.

PROFESSIONAL OPTION: (47 credits)

CHEM 111: General Chemistry I	___ 3	PHYS 241: University Physics I	___ 4
CHEM 115: General Chem I/Lab	___ 1	PHYS 242: University Physics II	___ 4
CHEM 112: General Chemistry II	___ 3	PHYS 245: University Physics III	___ 4
CHEM 116: General Chem II/Lab	___ 1	PHYS 260: Electronics	___ 4
CHEM 220: Fund. Organic Chem	___ 3	PHYS Electives: 300 level & up	
CHEM 224: Fund. Org. Chem/Lab	___ 1	PHYS _____	___ 3
CHEM 341: Physical Chemistry I	___ 3	PHYS _____	___ 3
CHEM 345: Phys. Chemistry I/Lab	___ 2	MATH 251: Multivariate Calculus	___ 3
CHEM Electives _____	___ 4	Note: Prerequisites for courses may also apply	
CHEM Electives _____	___ 4	to the Science/Math Gen. Ed. requirements	

FOR TEACHER CERTIFICATION

In order to meet state standards, courses selected within the general education requirements should include a U.S. History course and a Geography course. By completing the Teacher Education option, students are prepared for certification as physical science teachers in secondary schools. Those individuals interested in teaching physics should contact the Keene State Certification officer for more information. In addition, BIO 153 & BIO 154 are required courses for this major and may be used to fulfill General Education requirements. Additional certification in Physical Science may be obtained by choosing two additional courses from: GEOL 201, GEOL 202, GEOL 206, or MET 225.

TEACHER CERTIFICATION OPTION: (58 credits)

CHEM 111: General Chemistry I	___ 3	CHEM 401: Biochemistry	___ 3
CHEM 115: General Chemistry I/Lab	___ 1	CHEM Elective (300-level or above)	
CHEM 112: General Chemistry II	___ 3	CHEM : _____	___ 3
CHEM 116: General Chemistry II/Lab	___ 1	PHYS 210: History of Science	___ 3
CHEM 221: Organic Chemistry I	___ 3	PHYS 241: University Physics I	___ 4
CHEM 225: Organic Chemistry I/Lab	___ 1	PHYS 242: University Physics II	___ 4
CHEM 222: Organic Chemistry II	___ 3	PHYS 245: University Physics III	___ 4
CHEM 226: Organic Chemistry II/Lab	___ 1	PHYS 260: Electronics	___ 4
CHEM 251: Quantitative Analysis	___ 3	PHYS 342: Modern Physics	___ 3
CHEM 255: Quantitative Analysis/Lab	___ 2	PHYS Elective	
CHEM 341/345: Physical Chemistry I/Lab	___ 5	PHYS : _____	___ 1
OR			ASTR 307:
University Astronomy	___ 3		
CHEM 342/346: Physical Chemistry II/Lab	___ 5	MATH 251: Multivariate Calculus	___ 3

TEACHER EDUCATION REQUIREMENTS: (34 credits)

Orientation

ESEC 100: Intro to Teaching ___ 1

Learners

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

ESEC 250: Development, Exceptionality and Learning II ___ 3

Fundamentals

*ESEC 282: Literacy in the Content Areas ___ 3

Settings

ESEC 320: Ed. Environments/Practices ___ 3

Methodology

ESEC 385: Methods: Secondary ___ 3

ESEC 386: Methods: Field Experience ___ 3

Systems

ESEC 450: Seminar: Ed. Principles ___ 3

Practice

ESEC 460: Student Teaching ___ 12

The following course is highly recommended

Pedagogy

ESEC 387: Creating Soc.Context for Lrng ___ 3

* Requires a minimum of three hours of field work in the schools or service learning.

III. **ELECTIVES:**

Select additional courses of your choice to bring your total number of credits earned to 126.

If you wish to use transferred courses toward major/minor requirements you must use the Course Substitution process. Contact the Academic and Career Advising Center for more information.

6/04/01