

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, 205, 301, 302, 303, 310, 311, 382. FR 340, or FR, GER, or SP 498 are when topics focus on French, German or Spanish Literature.

HIST \_\_\_\_\_ ART, COMM, FILM, MU or TAD \_\_\_\_\_

Two courses from Arts & Humanities disciplines: AMST, ART, COMM, ENG, FILM, FR, GER, HIST, JRN, ML, MU, PHIL, SP, TAD or an approved interdisciplinary course (designated 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 (designated IDSS).

\_\_\_\_\_  
\_\_\_\_\_

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 (designated IDSM).

BIO \_\_\_\_\_ PHYSICAL SCIENCE \_\_\_\_\_

\*MATH 151: CALCULUS I \_\_\_\_\_ \*MATH 152: CALCULUS II \_\_\_\_\_

## II. MAJOR REQUIREMENTS

### 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	___
CHEM _____	___ 4_	Pre-requisites for courses may also apply to the Science/Math Gen. Ed. requirements	
CHEM _____	___ 4_		

### III. ELECTIVES:

Pick 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.

## 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 ELECTIVES (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 220: Organic Chemistry I	___ 3_	PHYS 241: University Physics I	___ 4_
CHEM 224: Organic Chemistry I/Lab	___ 2_	PHYS 242: University Physics II	___ 4_
CHEM 222: Organic Chemistry II	___ 3_	PHYS 245: University Physics III	___ 4_
CHEM 226: Organic Chemistry II/Lab	___ 2_	PHYS 260: Electronics	___ 4_
CHEM 251: Quantitative Analysis	___ 3_	PHYS 342: Modern Physics	___ 3_
CHEM 255: Quantitative Analysis/Lab	___ 2_	PHYS : ELECTIVE	___ 1_
CHEM 341: Physical Chemistry I		ASTR 307: University Astronomy	___ 3_
CHEM 345: Physical Chemistry I Lab <b>OR</b>			
CHEM 342: Physical Chemistry II	___ 3_		
CHEM 346: Physical Chemistry II/Lab	___ 2_		

\* requires a minimum of three hours of field work in the schools or service learning,

#### 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

ESEC320: 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\_