

# SOUTHERN UTAH UNIVERSITY

## College of Science & Engineering – B.S. in Chemistry/Education (2012-2013)

### GENERAL EDUCATION (CORE COURSE REQUIREMENTS)

**English Requirements (C): (6)**

- \_\_ ENGL 1010
- \_\_ ENGL 2010

**Quantitative Literacy Requirements (C): (4)**

- \_\_ MATH 1210 (*Must Take*)

*Pre-req: MATH 1050 & 1060 or H.S. background*

**Information Literacy Requirement (C): (1)**

- \_\_ LM 1010

**Computer Literacy Requirement (C): (3)**

- \_\_ CSIS 1000

**American Institutions Requirement (I): (3)**

- \_\_ HIST 1700 *or* POLS 1100 *or* ECON 1740

### GENERAL EDUCATION (KNOWLEDGE AREA REQUIREMENTS)

**Fine Arts (F): (3)**

- \_\_ Select one

**Humanities (H): (3)**

- \_\_ Select one

**Social and Behavioral Sciences (S): (3)**

- \_\_ Select one

**Life Science (L): (3)**

- \_\_ Select one

**Physical Science (P): (4)**

- \_\_ CHEM 1210/1215\* (*Recommended*)

*Pre-req: MATH 1050 or 2 yrs H.S. Algebra*

**TOTAL: 33 CREDITS**

### EXPERIENTIAL EDUCATION (3 credits)

- \_\_ UNIV 1010 – Introduction to Experiential Education (1)
- \_\_ UNIV 3925 – Experiential Education Proposal (1)
- \_\_ UNIV 4925 – Experiential Education Synthesis & Reflection (1)

Students will choose one of five Experiential Engagement Tracks to work in to complete this requirement. These include Global, Community, Leadership, Outdoor, & Creativity and Innovation.

### CHEMISTRY REQUIREMENTS (47 credits)

- \_\_ CHEM 1210/1215\* Principles of Chemistry I/Lab (5) (F/M)

*Pre-req: MATH 1050 or 2 years H.S. Algebra*

- \_\_ CHEM 1220/1225 Principles of Chemistry II/Lab (5) (S/M)

*Pre-req: C or better in CHEM 1210/1215*

- \_\_ CHEM 2010 Chemical Laboratory Safety (1) (F odd)

*Pre-req: CHEM 1210/1215*

- \_\_ CHEM 2310/2315 Organic Chemistry I/Lab (5) (F/M)

*Pre-req: C or better in CHEM 1220/1225*

- \_\_ CHEM 2320/2325 Organic Chemistry II/Lab (5) (S/M)

*Pre-req: C or better in CHEM 2310/2315*

- \_\_ CHEM 3000/3005 Quantitative Analysis/Lab (4) (F)

*Pre-req: C or better in CHEM 1220/1225*

- \_\_ CHEM 3160 Intermediate Inorganic Chemistry (3) (F even)

*Pre-req: C or better in CHEM 2310/2315*

- \_\_ CHEM 3610/3615 Physical Chemistry I/Lab (4) (F)

*Pre-req: C or better in CHEM 1220/1225 & MATH 1220*

- \_\_ CHEM 3620/3625 Physical Chemistry II/Lab (4) (S)

*Pre-req: C or better in CHEM 3610/3615*

- \_\_ CHEM 4240 Analysis Lab (2) (S)

*Pre-req: C or better in CHEM 4230 or Instructor Permission*

- \_\_ CHEM 4990 Chemistry Literature/Seminar (1) (S)

*Pre-req: C or better in CHEM 2320 or any upper-division CHEM*

- \_\_ MATH 1220 Calculus II (4) (F/S)

*Pre-req: C or better in MATH 1210 or AP Calculus Exam*

- \_\_ PSCI 4900 Teaching Science in the Secondary School (2) (S)

- \_\_ PSCI 4980 Student Teaching in Physical Sci. (2) (As Needed)

### REQUIRED EDUCATION COURSES (37-40 credits)

See Education Advisor: This major requires the student to complete the course work for the Secondary Teaching Certificate.

Please note that this degree does not include the requisite number of upper division hours. Students completing this degree will fill the upper division requirement with their minor requirements or their Secondary Teaching Certificate coursework.

### Bachelor of Science Degree Requirements (12 credits)

Students must take at least 12 credits of mathematics/ laboratory science courses. These are generally fulfilled by your degree requirements.

### Additional Information

**Students must complete all coursework with a C grade or above.**

**All Chemistry majors must successfully complete an exit exam before graduation.**

**Students must have 120 total credits/ 40 upper-division credits to graduate.**

**F:** Fall courses

**S:** Spring courses

**M:** Maymester/Summer courses

**Pre-Requisites and the semester that courses are offered are subject to change. Please check the current catalog for updates.**

*\* Courses that fulfill both Gen. Ed. and major requirements*

### A MINOR IS REQUIRED

This degree requires a teaching minor in one of the physical sciences (geography teacher education, geology teacher education, or physics teacher education) or mathematics (mathematics minor emphasis in education).

**GEOGRAPHY TEACHING MINOR (20 credits)**

- \_\_\_ **GEOG 1000/1005\*** Physical Geography/Lab (4) (**F even**)
- \_\_\_ **GEOG 1300\*** World Regional Geography (3) (**S**)
- \_\_\_ **GEOG 3600** Geography of Utah (3) (**S**)
- \_\_\_ **GEOG 4900** Teaching Methods in Geography (2) (**S odd**)

**Select 8 credits of the following:**

- \_\_\_ **GEOG 1400** Human Geography (3) (**F odd**)
- \_\_\_ **GEOG 3110/3115** Intro to Remote Sensing/Lab (4) (**S odd**)
- \_\_\_ **GEOG 3220/3225** Weather and Climate/Lab (4) (**S even**)
- \_\_\_ **GEOG 3300** World Political Geography (3) (**F even**)
- \_\_\_ **GEOG 3350/3355** Geomorphology/Lab (3) (As needed)  
*Pre-req: GEO 1110 or GEOG 1000*
- \_\_\_ **GEOG 3400** Environmental Geography (3) (**S even**)
- \_\_\_ **GEOG 3500/3505** Intro to Cartography/Lab (4) (**F odd**)
- \_\_\_ **GEOG 3550/3555** Principles of GIS/Lab (5) (**F**)  
*Pre-req: CSIS 1000*
- \_\_\_ **GEOG 3620** Geography of North America (3) (**F odd**)
- \_\_\_ **AGSC 3560/3565** Soils/Lab (4) (**F**)  
*Pre-req: College chemistry or equivalent*

**MATHEMATICS TEACHING MINOR (16 credits)**

- \_\_\_ **MATH 1220** Calculus II (4) (**F/S**)  
*Pre-req: C or better in MATH 1210 or AP Calculus Exam*
- \_\_\_ **MATH 2270** Linear Algebra (3) (**F/S**)  
*Pre-req: MATH 1220*
- \_\_\_ **MATH 3120** Transition to Advanced Mathematics (3) (**S**)  
*Pre-req: MATH 1220 & 2270*
- \_\_\_ **MATH 3130** Modern Geometries (3) (**S**)  
*Pre-req: MATH 3120*
- \_\_\_ **MATH 3700** Probability & Statistics (4) (**F**)  
*Pre-req: MATH 1220*
- \_\_\_ **MATH 4900** Methods Teaching Sec. School Math. (3) (**F**)  
*Pre-req: MATH 1210*

**GEOLOGY TEACHING MINOR (18 credits)**

- \_\_\_ **GEO 1110/1115\*** Physical Geology/Lab (4) (**F**)
- \_\_\_ **GEO 1220/1225** Historical Geology/Lab (4) (**S**)  
*Pre-req: GEO 1110/1115*
- \_\_\_ **GEO 1500** Hand Sample Rock Identification (2) (**F**)  
*Pre-req: GEO 1010/1015 or equivalent*
- \_\_\_ **GEO 3210/3215** Mineralogy/Lab (4) (**F**)  
*Pre-req: GEO 1110/1115, CHEM 1210/1215, & Instructor permission*
- \_\_\_ **PSCI 4900** Teaching Science in the Secondary School (2) (**S**)

**Select 4 credits of the following:**

- \_\_\_ **GEO 3010/3015** Environmental Geology/Lab (4) (**S odd**)  
*Pre-req: Admission to program*
- \_\_\_ **GEO 3110/3115** Paleontology/Lab (4) (**S even**)  
*Pre-req: GEO 1220/1225 & admission to program; zoology/botany rec.*
- \_\_\_ **GEO 3170/3175** Oceanography/Lab (4) (**S odd**)  
*Pre-req: GEO 1110/1115 & admission to program*
- \_\_\_ **GEO 3410/3415** Sedimentology & Stratigraphy/Lab (4) (**F odd**)  
*Pre-req: GEO 4990, 1220/1225 & admission to program*
- \_\_\_ **GEO 3510/3515** Structural Geology/Lab (4) (**F even**)  
*Pre-req: MATH 1050 & 1060, PHYS 2210/2215, & GEO 1220/1225, 4990*
- \_\_\_ **GEO 4000** Selected Field Trips (0.5-3) (**F/S**)  
*Pre-req: Instructor permission & admission to program*
- \_\_\_ **GEO 4070** Applied Geochemistry (3) (**S odd**)  
*Pre-req: C or better in GEO 1110/1115, GEO 3210/3215, & CHEM 1220/1225; & admission to program*

**PHYSICS TEACHING MINOR (22 credits)**

- \_\_\_ **PHYS 2210/2215\*** Phys. for Scientists & Eng. I/Lab (5) (**F/S**)  
*Pre-req: MATH 1210; co-req MATH 1220 & PHYS 2230*
- \_\_\_ **PHYS 2230** Phys. For Scientists & Eng. I Recitation (1) (**F/S**)  
*Co-req: MATH 1220 & PHYS 2210/2215*
- \_\_\_ **PHYS 2220/2225** Phys. for Scientists & Eng. II/Lab (5) (**F/S**)  
*Pre-req: PHYS 2210/2215 & MATH 1220; Co-req PHYS 2260*
- \_\_\_ **PHYS 2260** Phys. For Scientists & Eng. II Recitation (1) (**F/S**)  
*Co-req: PHYS 2220/2225*
- \_\_\_ **PHYS 3310** Quantum Physics I (3) (As needed)  
*Pre-req: PHYS 2220/2225*
- \_\_\_ **PHYS 3320** Quantum Physics II (3) (As needed)  
*Pre-req: PHYS 3310*
- \_\_\_ **ENGR 2250/2255** Electric Circuits/Lab (4) (**S**)  
*Pre-req: MATH 2250 & PHYS 2220/2225*
- \_\_\_ **PSCI 4900** Teaching Science in the Secondary School (2) (**S**)