General Education (40 credits)

A. Communication Skills (9cr)
- SPCOM 100 Speech (3cr)*
- ENGL 101 or 111 Composition I (3cr)*
- ENGL 102, 112, or 113 Composition II (3cr)*

B. Analytical Reasoning & Natural Science (10cr)
- MATH 153 Calc I (4cr) P:Math 121
- STAT 320 Stats (3cr) P:Math 120
- Physical Science (CHEM or PHYS) (3cr)

C. Arts and Humanities (6cr)
- Any Literature Course (3cr)
- Any Creative & Performing Arts Course (1-3cr)
- Any Arts & Humanities Course (0-2cr)

D. Social & Behavioral Science (6cr)
- PSYC 110 General Psych (3cr)
- ANTH 220 Cultural Anthro (GLP, RES B) (3cr)

E. Contemporary Issues (3cr)
- BIO 111 Science, Environ, & Sustain (GLP) (4cr)

F. Social Responsibility and Ethical Reasoning (3cr)
- EDUC XXX Multiculturalism (RES A) (3cr)* P:BI

General Education Selective (3cr)
- (BIO 111 from Category E for one credit)
- Any General Education Course (2cr)

Professional Education (40 credits)

- STMED 101 Intro Math & Sci Ed (2cr)* (Fall Only)
- STMED 185 Pre-Student Teaching (1cr) (Spr Only)
- EDUC 326 Foundations of Education (2cr)*
- STMED 260 Curric, Methods, & Assess (3cr)*
- EDUC 303 Educational Psych (3cr)*
- SPED 430 Inclusion (3cr)*
- RDGED 382 Secondary Read & Lang Dev (2cr)* P:BI
- STMED 360 Pre-Student Teaching (1cr) P:BI
- STMED 390 Lab and Classroom Mgmt (3cr)* P:BI
- STMED 460 Teaching Methods (3cr)* P:BI
- STMED 401 Capstone (1cr)* (Fall Only) P:BI
- SCIED 409-424 Student Teaching (16cr) P:BII

Science (40 credit minimum)

Students must complete one major and at least one other major or minor science certification.

Major Teaching Certifications:

1. Broadfield Science Major Certification 601 (28 credits)
   - BIO 135 Organismal Bio (4cr)* (Fall Only)
   - CHEM 135 College Chem I (5cr)* P:Math 120
   - CHEM 136 College Chem II (5cr)* P:Chem 135
   - PHYS 241 College Phys I (5cr)* P:Math 153
   - PHYS 242 College Phys II (5cr) P:Phys 241
   - PHYS 255 Meteorology (2cr)*
   - PHYS 258 Intro Geology (2cr)*

2. Biology Major Certification 605 (28 credits)
   - BIO 135 Organismal Biology (4cr)* (Fall Only)
   - BIO 136 Molecular Cell (5cr) (Spr Only)
   - BIO 332 Genetics (3cr) P:Bio 135
   - BIO 350 Ecology (3cr) P:Bio 135
   - Additional 13 credits of approved biology electives.

3. Chemistry Major Certification 610 (28 credits)
   - CHEM 135 College Chem I (5cr)* P:Math 120
   - CHEM 136 College Chem II (5cr) P:Chem 135
   - CHEM 201 Organic (4cr) P:Chem 135
   - CHEM 331 Quant (3cr) (Fall Only) P:Chem 136
   - Additional 11 cr of approved chemistry electives.

4. Physics Major Certification 625 (28 credits)
   - PHYS 241 College Physics I (5cr)* P:Math 153
   - PHYS 242 College Physics II (5cr) P:Phys 241
   - PHYS 151 Astronomy (3cr)
   - ELEC 260 Elec Circ (3cr) P:Phys 241, Math 153
   - Additional 12 cr of approved physics electives.

Minor Teaching Certifications:

1. Biology Minor Certification 605 (18 credits)
   - BIO 135 Organismal Biology (4cr)* (Fall Only)
   - BIO 136 Molecular Cell (5cr) (Spr Only)
   - Additional 9 cr of approved biology electives.

2. Chemistry Minor Certification 610 (18 credits)
   - CHEM 135 College Chem I (5cr)* P:Math 120
   - CHEM 136 College Chem II (5cr) P:Chem 135
   - Additional 8 cr of approved chemistry electives.

3. Physics Minor Certification 625 (18 credits)
   - PHYS 241 College Physics I (5cr)* P:Math 153
   - PHYS 242 College Physics II (5cr) P:Phys 241
   - Additional 8 cr of approved physics electives.

4. Earth & Space Sci Minor Certification 635 (18 credits)
   - PHYS 151 Astronomy (3cr)
   - PHYS 255 Meteorology (2cr)*
   - PHYS 258 Introductory Geology (2cr)*
   - PHYS 358 Soil Con (4cr) P:Chem-135, Phys-258
   - GEOG-251 Intro to Geography & GIS (4cr)
   - Additional 3 cr of approved earth & space science electives.

5. Environmental Sci Minor Certification 615 (18 credits)
   - BIO-242 Botany (4cr)
   - BIO 350 Ecology (3cr)
   - BIO-351 Ecology Laboratory (2cr)
   - PHYS-258 Introductory Geology (2cr)*
   - PHYS-358 Soil Con (4cr) P:Chem-135, Phys-258
   - Additional 3 cr of approved env. sci. electives.

Minimum Credits for Graduation: 120

*Minimum grade of C or better is required.
Approved Science Electives (2012)
The following courses are approved as electives for the biology, chemistry, physics, environmental science, and earth and space science certifications.

### Biology (605) Certification

**Highly Recommended Electives:**
- BIO 332 Genetics (3cr) *(Required for Major Certification)*
- BIO 350 Ecology (3cr) *(Required for Major Certification)*
- BIO 489 Advanced Biology Experience (1-4cr)
- BIO 234 Anatomy & Physiology (4cr)
- BIO 242 Botany (4cr)
- BIO 306 General Microbiology (4cr)

**Recommended Electives:**
- BIO 132 Human Biology (4cr)
- BIO 210 Biotechnology (2cr)
- BIO 235 Molecular Cell II (4cr)
- BIO 252 Zoology (4cr)
- BIO 255 The Biology of Fly Fishing (2cr)
- BIO 260 Ichthyology (4cr)

*Note: You CANNOT receive credit for both BIO 132 and BIO 234.*

### Chemistry (610) Certification

**Highly Recommended Electives:**
- CHEM 201 Organic (4cr) *(Required for Major Certification)*
- CHEM 331 Quantum (3cr) *(Fall Only)* *(Required for Major Certification)*
- CHEM 489 Advanced Chemistry Experience (1-4cr)
- CHEM 301 Physical Chem Lecture (3cr)
- CHEM 303 Physical Chem Lab (1cr)
- CHEM 311 Biochemistry (4cr)
- CHEM 335 Instrumental Methods (3cr)
- CHEM 353 Environmental Chem (3cr)

**Recommended Electives:**
- CHEM 204 Organic II Lecture (3cr)
- CHEM 206 Organic II Lab (1cr)
- CHEM 315 Food Chemistry (3cr)
- CHEM 341 Chemistry of Materials (4cr)
- NANO 101 Intro to Nanotechnology (2cr)

### Physics (625) Certification

**Highly Recommended Electives:**
- PHYS 151 Astronomy (3cr)
- PHYS 489 Advanced Physics Experience (1-4cr)
- ELEC 204 Electricity/Electronics (3cr)
- ELEC 260 Electrical Circuits (3cr)
- TRANS 204 Energy Technology (2cr)
- TRANS 205 Energy Technology Lab (1cr)
- PHYS 321 Statics & Strength of Materials (4cr)
- MECH 290 Mechanics of Solids (3cr)
- MECH 293 Engineering Mechanics (3cr)

**Recommended Electives:**
- PHYS 327 Solid State Physics (3cr)
- PHYS 329 Atomic & Nuclear Physics (3cr)
- MFGE 275 Thermodynamics & Heat (2cr)
- POWER 103 Power Mechanics (2cr)
- POWER 260 Intro to Fluid Power (2cr)
- ELEC 272 Solid State Electronics (3cr)
- ELEC 281 Circuit Devices and Logic (3cr)
- MECH 291 Mechanics of Solids II (3cr)
- MECH 294 Mechanics of Materials (3cr)

*Note: You CANNOT receive credit for both PHYS 321 and MECH 290.*

### Environmental Science (615) Certification

**Highly Recommended Electives:**
- BIO-252 Zoology (4cr)
- BIO-352 Plant Ecology (4cr)
- BIO-444 Problems in Env. Sustainability (3cr), P: BIO 350
- BIO-489 Advanced Experience (1-4cr) *(Related to Env. Sci.)*
- GEOG-251 Intro to Geography and GIS (4cr)
- CHEM-353 Environmental Chemistry (3cr)

**Recommended Electives:**
- BIO-255 The Biology of Fly Fishing (2cr)
- BIO-260 Ichthyology-Wisconsin Fishes (4cr)
- BIO-322 Plant Pathology (3cr)
- BIO-324 Vascular Plant Taxonomy (3cr)
- BIO-343 Plant Physiology (4cr)

### Earth and Space Science (635) Certification

**Highly Recommended Electives:**
- GEOG-104 World Geography (3)
- GEOG-351 Intermediate GIS (4cr), P: GEOG-251
- PHYS-489 Advanced Experience (1-4) *(Related to Earth & Space Science)*