B.S. in Science Education Program Plan (2009)

General Education Requirements (41 credits)

A. Communication Skills (8cr)
SPCOM 100 Fund of Speech (2cr)
ENGL 101 or 111 Freshmen Comp (3cr)
ENGL 102, 112, or 113 Freshmen Lit (3 cr)

B. Analytical Reasoning (7cr)
MATH 153 Calculus I (4cr) [Pre: Math 121]
STAT 320 Statistical Methods (3cr) [Pre: Math 120]

C. Health & Phys Well-being (2 cr)
Any Approved Course (2 cr)

D. Humanities and Fine Arts(9cr)
HIST 210 Modern World (3 cr)
LIT XXX Any Lit Course (3cr)
Other Creative/Performing Arts (1-3cr)
Other Humanities and Fine Arts (0-2cr)

E. Social &Behavioral Sci (9cr)
PSYC 110 General Psych (3cr)
POLS 210 Government (3cr)
Other Social & Behavioral (3cr)

F. Natural Sciences (4cr)
BIO 111 Science, Society, and Environ (4cr)
Note: Students must complete one life science and one physical science course.

G. Technology (2cr)
Any Approved Course (2 cr)
Note: BIO 210 Biotech and NANO 101 Intro to Nanoscience are highly recommended.

Science Courses (36-46 credits)
Students must complete at least one major and one different minor science certification.

Major Certifications:

1. Broadfield Science MAJOR Certification (28 credits)
BIO 135 Organismal Biology (4cr) (Fall Only)
CHEM 135 College Chem I (5cr) [P:Math 120]
CHEM 136 (5cr) [P: Chem 135]
PHYS 241 College Physics I (5cr) [P:Math 153]
PHYS 242 College Physics II (5cr) [P:Phys 241]
PHYS 255 Meteorology (2cr)
PHYS 258 Intro Geology (2cr)

2. Biology MAJOR Certification (28 credits)
BIO 135 Organismal Biology (4cr) (Fall Only)
BIO 136 Molecular Cell (5cr) (Spring Only)
BIO 332 Genetics (3cr) [P:Bio 135]
BIO 350 Ecology (3cr) [P:Bio 135]
Additional 13 credits of approved biology electives above the intro level.

3. Chemistry MAJOR Certification (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) [P:Chem 136] (Fall Only)
Additional 11 credits of approved chemistry electives above the intro level.

4. Physics MAJOR Certification (28 credits)
PHYS 241 College Physics I (5cr) [P:Math 153]
PHYS 242 College Physics II (5cr) [P:Phys 241]
PHYS 250 Light&Color (3cr) [P: Math 118]
ELEC 260 Elec Circ (3cr) [P:Phys241&Math153]
Additional 12 credits of approved physics electives above the intro level.

Minor Certifications:

1. Biology MINOR Certification (18 credits)
BIO 135 Organismal Biology (4cr) (Fall Only)
BIO 136 Molecular Cell (5cr) (Spring Only)
Additional 9 credits of approved biology electives above the intro level.

2. Chemistry MINOR Certification (18 credits)
CHEM 135 College Chem I (5cr) [P:Math 120]
CHEM 136 College Chem II (5cr) [P:Chem 135]
Additional 8 credits of approved chemistry electives above the intro level.

3. Physics MINOR Certification (18 credits)
PHYS 241 College Physics I (5cr) [P: Math 153]
PHYS 242 College Physics II (5cr) [P: Phys 241]
Additional 8 credits of approved physics electives above the intro level.

Professional Education Courses (13 credits)
EDUC 303 Educational Psych (3cr)
EDUC 326 Foundations of Education (2cr)
EDUC 336 Multiculturalism (2cr)
EDUC 376 Cross-cultural Exp (1cr) [P:BMI]
EDUC 382 Read & Lang Dev (2cr) [P:BMI]
SPED 430 Inclusion (3cr)

Science, Tech, and Math Ed Courses (30 credits)
STMED 160 Intro (3cr) (Fall Only)
STMED 260 Methods, Curr, and Assess I (3cr)
Professional Semester (Taken concurrently):
STMED 360 Presutudent Teaching (1cr) [P:BMI]
STMED 390 Lab and Clsrm Mgmt (3cr) [P:BMI]
STMED 460 Meth, Curr, Asses II (3cr) [P:BMI]
SCIED 401 Capstone: Sci Ed (1cr) [P:BMI](Fall Only)
SCIED 409 Student Teach (16cr) [P:BMII]
Note: Students must receive a C or higher in ALL education courses (EDUC, SPED, STMED, & SCIED).

Total Credits for Graduation: 120-130

Recommended and Pre-Approved Science Electives (2009)

The following science courses are highly recommended and pre-approved as electives for the biology, chemistry, and physics certifications. Other science courses not listed below may be approved on an individual basis by the program director for science education.

Biology Certification

Highly Recommended Electives:
BIO 234 Anatomy & Physiology (4cr)
BIO 242 Botany (4cr)
BIO 306 General Microbiology (4cr)
BIO 489 Advanced Biology Experience (1-4 cr)
Other Pre-Approved 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)

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

Chemsitry Certification

Highly Recommended Electives:
CHEM 301 Physical Chem Lecture (3cr)
CHEM 303 Physical Chem Lab (1cr)
CHEM 311 Biochemsitry (4cr)
CHEM 335 Instrumental Methods (3cr)
CHEM 353 Environmental Chem (3cr)
CHEM 489 Advanced Chemistry Experience (1-4cr)
Other Pre-Approved 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 Certification

Highly Recommended Electives:
PHYS 321 Statics & Strength of Mat (4cr)
MECH 290 Mechanics of Solids (3cr)
TRANS 204 Energy Technology (2cr)
TRANS 205 Energy Technology Lab (1cr)
PHYS 489 Advanced Physics Experience (1-4cr)
Other Pre-Approved Electives:
PHYS 151 Astronomy (3cr)
PHYS 327 Solid State Physics (3cr)
PHYS 329 Atomic & Nuclear Physics (3cr)
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)

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