

**Recommended Academic Plan for Science B.S., Earth and Space Science Pre-certification Option
(SCNBD at Penn State Erie, Behrend College) Revised Summer 2003**

Semester 1	Credits	Semester 2	Credits
ENGL 015 or 030 (GWS) Rhetoric & Composition	3	Social and Behavioral Sciences (GS)	3
MATH 140 (GQ) Calculus w. A. Geometry I	4	MATH 141 (GQ) Calculus w. A. Geometry II	4
Humanities (GH)	3	Arts (GA)	3
CHEM 110 (GN) Chemical Principles I	3	CHEM 112 (GN) Chemical Principles II	3
CHEM 111 (GN) Experimental Chemistry I	1	CHEM 113 (GN) Experimental Chemistry II	1
First-Year Seminar	1	Health & Physical Activity (GHA)	1.5
Total Credits:	15	Total Credits:	15.5
Semester 3	Credits	Semester 4	Credits
CAS 100 (GWS) Effective Speech	3	Social and Behavioral Sciences (GS)	3
Foreign Language 1*	4	GEOSC 20 (GN) Planet Earth	3
BIOL 110 Biology: Basic Concepts & Biodiversity (GN)	4	ASTRO 10 & 11 (GN) Elementary Astronomy	3
PHYS 250 (or PHYS 211)(GN) Intro Physics I	4	PHYS 251 (or PHYS 212) Intro Physics II	4
		Humanities (GH)	3
Total Credits:	15	Total Credits:	16
Semester 5	Credits	Semester 6	Credits
ASTRO 291 or GEOG 010	3	BIOL 220W or 230W or 240W: Biology	4
ENGL 202C (GWS) Effective Writing: Technical	3	METEO 003 Introductory Meteorology	3
GEOSC 002 Historical Geology	3	Foreign Language 2*	4
Arts (GA)	3	ASTRO 292 or GEOSC 010	3
PHYS 213, 214 General Physics, or elective	3 - 4	Health & Physical Activity (GHA)	1.5
Total Credits:	15 - 16	Total Credits:	15.5
Semester 7	Credits	Semester 8	Credits
CMPS 121 Intro. to Programming Techniques	3	Science Supporting Course [#]	3
Science Supporting Course [#]	3	Program List Course ^{**}	3
Geoscience	3	Geoscience	3
Program list course ^{**}	3	GEOSC 040 The Sea Around Us	3
Program list course ^{**}	3	Elective – if needed	1
Total Credits:	15	Total Credits:	13

- A grade of C or better is required for each 300 or 400 level course in the major field.
- # - For Science Supporting Courses, select 6 credits at the 400 level in category a, b, c, or d below.
(a) computer sciences (b) life sciences (c) mathematical sciences (d) physical sciences
- * If a student places into the second course of a foreign language by placement action, elective courses may be used to meet the credit requirement.
- **Program List Courses (choose at least 6 credits at the 400 level) Student may select supporting courses from nearly the entire range of the University's course offerings, **excluding** the following: BIOL 011, 012, BI SC 001, 002, 003, 004, B M B 001, CHEM 001, 003, 101, 108, CMPS 001, 100, 110, ENGL 004, 005, LL ED 005, 010, MATH 001, 002, 003, 004, 017, 018, 021, 026, 030, 035, 036, 040, 081, 082, 083, 110, 111, 200, MICRB 106, 107, 120, 121A, 121B, 150, any MICRB 151x, PHYS 001, 150, 151, SPCOM 04, 126, STAT 100.