

**GENERAL STUDIES COURSE REQUIREMENTS
SECONDARY SCIENCE EDUCATION**

B.A. Certification Program and M.A.Ed. Program in Curriculum & Instruction

Student: _____ Program Advisor _____

Subject Area Requirements for Specific Secondary School Teaching Endorsements

Science

To teach biology, chemistry, earth and space science (geology), or physics in secondary schools, students must satisfy the requirements listed below. Students who are accepted into the M.A.Ed. program with deficiencies must satisfy these requirements before they are eligible to apply for licensure. Students must also pass PRAXIS I and II.

Total number of semester credit hours in:

Biology	Chemistry	Earth Space Science	Physics	
_____	_____	_____	_____	Math _____

Biology

		<u>Course Number</u>	<u># of Credits</u>
1.	A major in Biology (a minimum of 37 hours). In meeting the major requirements, students must include instruction in:		
	Botany	_____	_____
	Zoology	_____	_____
	Ecology	_____	_____
	Physiology	_____	_____
	Evolution	_____	_____
	Genetics	_____	_____
	Cell Biology	_____	_____
	Microbiology	_____	_____
	Biochemistry	_____	_____

	Human Biology	_____	_____
2.	Two inorganic chemistry courses with labs (8 credit hours):	_____	_____
	Two organic chemistry courses with labs (8 credit hours):	_____	_____
3.	A course in physics (4 credit hours):	_____	_____
	At least one calculus course	_____	_____

Chemistry

		<u>Course Number</u>	<u># of Credits</u>
1.	A major in Chemistry (a minimum of 38 semester hours).		
	Required Chemistry course work/instruction in:		
	Inorganic Chemistry	_____	_____
	Organic Chemistry	_____	_____
	Analytical Chemistry	_____	_____
	Physical Chemistry	_____	_____
	Biochemistry	_____	_____
2.	A minimum of 16 hours in non-chemistry sciences, including at least		
	one biology course	_____	_____
	one physics course	_____	_____
3.	At least one course in calculus	_____	_____

Earth Science

		<u>Course Number</u>	<u># of Credits</u>
1.	A major in Geology (a minimum of 38 semester hours)		
2.	At least one course in each of the following:		
	Astronomy (e.g., Physics 176)	_____	_____
	Oceanography (Geology 306)	_____	_____
	Meteorology	_____	_____

	Natural Resources	_____	_____
3.	A minimum of 16 hours in non-geology sciences, including at least one biology course	_____	_____
	one chemistry course	_____	_____
	one physics course	_____	_____
4.	At least one course in calculus	_____	_____

Physics

		<u>Course Number</u>	<u># of Credits</u>
1.	A major in Physics (a minimum of 32 semester hours). In fulfilling the physics major requirements, students must include the study of:		
	Classical mechanics	_____	_____
	Electricity & Magnetism	_____	_____
	Thermodynamics	_____	_____
	Waves	_____	_____
	Optics	_____	_____
	Atomic and Nuclear physics	_____	_____
	Radioactivity	_____	_____
	Relativity	_____	_____
	Quantum Mechanics	_____	_____
2.	A minimum of 16 hours in non-physics sciences, including at least		
	a course in Biology	_____	_____
	a course in Chemistry	_____	_____
3.	At least one course in		
	Calculus and introductory differential equations.	_____	_____