

ELEMENTARY INTEGRATED SCIENCE MAJOR

Revised March, 2006

The Integrated Science major for Elementary Certification consists of 38 credits distributed over three areas of emphasis: Life Science, Earth and Space Science, and Physical Science. The courses must include significant laboratory experiences. Candidates for certification in this major must pass the Michigan Test for Teacher Certification (MTTC) in Elementary Integrated Science – DI (Test #93). You must demonstrate your knowledge in the following categories:

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| 1. Foundations of Scientific Inquiry | 11-20 items |
| 2. Life Science | 11-20 items |
| 3. Earth and Space Science | 11-20 items |
| 4. Physical Science | 11-20 items |

You may access a study guide at the MTTC testing site; the courses below have been selected so that you will be well prepared for the test.

In addition, you are encouraged to take Math 205 and 206, Math for the Elementary Teacher, *which may count toward the General Education requirements.*

LIFE SCIENCE COURSES (16 Credits) - Required

SUBJECT/ COURSE	TITLE	CREDIT HOURS	SEMESTER	GRADE
GEMS 155	History of Biology	4		
Biology 240 OR Gems 161	Cell Biology and Genetics Biotechnology and You	4 4		
Biology 280 OR GEMS 153	Ecology and Evolution Populations in Changing Environments	4 4		
Biology 260 OR GEMS 158	Organismal Biology Human Biology in Health and Disease	4 4		

EARTH AND SPACE SCIENCE COURSES (10 Credits) - Required

SUBJECT/ COURSE	TITLE	CREDIT HOURS	SEMESTER	GRADE
GEMS 157 OR GES 100	The Planet Earth	4		
GEMS 152	The Atmosphere & Environmental Change	4		
GEMS 206	The Night Sky	2		

PHYSICAL SCIENCE COURSES (12 Credits) - Required

SUBJECT/ COURSE	TITLE	CREDIT HOURS	SEMESTER	GRADE
GEMS 151	Science and Technology of Everyday Life	4		
PHYS 105	College Physics I	3		
PHYS 107	College Physics Lab	1		
CHEM 111 & CHEM 113 OR GEMS 160	General Chemistry I & General Chemistry Lab OR The Chemistry of Our Environment	3 1 4		

_____ GPA in Science Composite courses (2.5 is required to qualify for student teaching)

MATH COURSES WHICH WILL STRENGTHEN YOUR INTEGRATED SCIENCE MAJOR

You are encouraged to seriously consider these courses as part of your Liberal Arts Substantive minor.

SUBJECT/ COURSE	TITLE	CREDIT HOURS	SEMESTER	GRADE
MATH 205	Math for Elementary Teachers I	4		
MATH 206	Math for Elementary Teachers II	2		
MATH 207	Software Applications	2		
MATH 208	Problem Solving	2		
MATH 210	Introductory Statistics	4		