

## ELEMENTARY INTEGRATED SCIENCE MAJOR

*Revised April, 2011*

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:

<b>Subarea</b>	<b>Approximate % of Questions on Test</b>
1. Foundations of Scientific Inquiry	25%
2. Life Science	25%
3. Earth and Space Science	25%
4. Physical Science	25%

You may access a study guide at the MTTC testing site; the courses below have been selected and designed 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
HIST 295 OR GEMS 295 <small>(GEMS 295 will become a 4 cr. course in 2010-2011.)</small>	History of Evolution  History of Science (2 cr.) <u>AND</u> Independent Study (2 cr.) with Jonathan Hagood for 2009-2010.	4  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		