

**AREA OF CONCENTRATION IN FORENSIC SCIENCE/Biology Emphasis  
MAJOR WORKSHEET 2005-2007**

*Students wishing to pursue this area of concentration must complete an application available at the following website: [http://www.morris.umn.edu/services/acad\\_affairs/aavarious.html#areaconcentration](http://www.morris.umn.edu/services/acad_affairs/aavarious.html#areaconcentration) . Attach the worksheet below to the application for Area of Concentration. Required signatures must be provided on the Area of Concentration form.*

Objectives – A concentration in forensic science will prepare you for advanced studies in forensic science, toxicology, or forensic biology; or for a career in a crime lab at the bachelor’s degree level. “The majority of positions within a crime lab require a bachelor’s degree in a physical science. . . . The major that you choose should reflect the forensic discipline in which you wish to work” *American Society of Crime Laboratory Directors*. “ “The minimum requirement [to work in the field of criminalistics] is a B.A. in chemistry, biology, physics, molecular biology, or a related science. In the future, an M.A. may be required. Many colleges and universities offer degrees and courses in forensic science. In deciding whether to major in chemistry or biology, or in forensic science, study the courses offered. At least 24 semester hours of either chemistry or biology is required and math is a must. The title of the degree is not as important as the courses taken.” *American Academy of Forensic Sciences*.

Students who are interested in pursuing forensic science at UMM should meet the requirements for an appropriate major while taking elective courses tailored to his or her specific interest in the broad areas of study associated with forensic science. In addition to meeting the requirements for biology with a chemistry minor, a concentration in forensic science requires completion of the courses listed for either an *Anthropology/Sociology* or a *psychology* emphasis, listed following the biology requirements.

**Minimum required credits = 74**  
**Complete Chemistry and Math requirements as soon as possible.**

<b>Required Courses:</b>	<b>Credits</b>	<b>Term</b>
Biol 4211 Biochemistry	4	_____
Biol 4611 Biochemistry Lab	1	_____
Chem 1101 General Chemistry I	4	_____
Chem 1102 General Chemistry II	4	_____
Chem 2301 Organic Chemistry I	4	_____
Chem 2311 Organic Chemistry Lab I	1	_____
Chem 2302 Organic Chemistry II	3	_____
Chem 3101 Analytical Chemistry	4	_____
<i>Highly recommended Chem 3111 Instrumental Analysis)</i>	4	_____
<b>Complete one</b>		
Math 1021 Survey of Calculus	4	_____
Math 1101 Calculus I	5	_____
Biol 1101 Freshman Seminar in Biological Principles	3	_____
Biol 2101 Evolution of Biodiversity	4	_____
Biol 2111 Cell Biology	4	_____
Biol 3101 Genetics	4	_____
Biol 3121 Molecular Biology	5	_____
Biol 3131 Ecology	4	_____
Biol 3701 Biological Communications	1	_____
Biol 4901 Senior Seminar	1	_____
<b>Complete one:</b>		
Stat 1601 Intro to Statistics	4	_____
Stat 2601 Statistical Methods	4	_____

*Continued on Reverse*

**ELECTIVES: - Either 12 additional credits from Biol 4xxx-45xx**

Biol 400x	Topics in Advanced Biology	1-5	_____
Biol 4102	Human Physiology	4	_____
Biol 4111	Microbiology	4	_____
Biol 4121	Herpetology	4	_____
Biol 4131	Vertebrate Natural History	4	_____
Biol 4151	Entomology	4	_____
Biol 4161	Evolution	4	_____
Biol 4171	Plant Systematics & Evolution	4	_____
Biol 4181	Developmental Biology	4	_____
Biol 4191	Freshwater Biology	4	_____
Biol 4211	Biochemistry	4	_____
Biol 4301	Plant Biology	4	_____
Biol 4311	Conservation Genetics	4	_____
Biol 4321	Animal Physiology	4	_____
Biol 4331	Global Change Ecology	4	_____

**or**

8 credits from Biol 4xxx-45xx above plus one course from:

Geol 3111	Intro to Invertebrate Paleontology	4	_____
Psy 3201	Comparative Psychology	4	_____
Psy 3211	Biological Psychology	5	_____

*Anticipated credit total:* \_\_\_\_\_

**For a Anthropology/ Sociology Emphasis:**

Anth 1111 or Soc 1101	Intro Cultural Anthropology or Introductory Sociology	4	_____
Anth 2101	Physical Anthropology	4	_____
Soc 3141	Sociology of Deviance	4	_____

**For a Psychology Emphasis:**

Psy 1051	Introduction to Psychology	4	_____
Psy 3302	Personality	4	_____
Psy 3313	Psychopathology	4	_____

**Additional Recommended Courses for either emphasis:**

Phil 2111	Introduction to Ethics	4	_____
Pol 3263	Political Psychology	4	_____
Soc 2101	Systems of Oppression	4	_____

**Sample Four Year Plan: Area of Concentration in Forensics/Biology Emphasis**

<b>Year</b>	<b>Fall</b>	<b>Spring</b>
<b>One</b>	Anth 2101 Physical Anthropology 4 Biol 1101 Biological Principles 3 Chem 1101 General Chemistry I 4 IS 1001 First Year Seminar <u>2</u> Credits this term = 13	Biol 2101 Evolution of Diversity 4 Chem 1102 General Chemistry II 4 Engl 1011 College Writing 4 Math 1101 Calculus I <sup>1</sup> <u>5</u> Credits this term = 17
<b>Two</b>	Biol 2111 Cell Biology 4 Chem 2301 Organic Chemistry I 4 Chem 2311 Organic Chemistry Lab I 1 Phil 2111 Intro Ethics (Hum) 4 Soc 1101 Introductory Sociology (SS) <u>4</u> Credits this term = 17	Biol 3101 Genetics 4 Chem 2302 Organic Chemistry II 3 Stat 1601 Intro to Statistics 4 GenEd elective (Hist) <u>4</u> Credits this term = 16
<b>Three</b>	Biol 3131 Ecology 4 Biol 4151 Entomology <sup>2</sup> 4 Chem 3131 Analytical Chemistry 4 Soc 3141 Sociology of Deviance <u>4</u> Credits this term = 16	Biol 3121 Molecular Biology 5 Biol 3701 Biological Communications 1 GenEd elective (FA) 4 GenEd elective (Envt/IP/E-CR) 4 Credits this term = 14
<b>Four</b>	Biol 4211 Biochemistry 4 Biochemistry Lab 1 Biol 4901 Senior Seminar 0 Foreign Language I 4 Soc 2101 Systems of Oppression (HDiv) <u>4</u> Credits this term = 13	Biol 4111 Microbiology 4 Biol 4901 Senior Seminar 1 Chem 3111 Instrumental Analysis <sup>3</sup> 4 Foreign Language II 4 GenEd elective (ArtP) <u>1-3</u> Credits this term = 14-16

<sup>1</sup>Math 1201 Survey of Calculus also fulfills this requirement of the Biol major

<sup>2</sup>Offered alternative years, fall. Check current catalog. Analytical Chemistry and Biochemistry are offered every fall. Schedule these three courses to your convenience with the help of your advisor.

<sup>3</sup>Chemistry minor is complete without this course, but it is *strongly* recommended for forensic science.