

**AREA OF CONCENTRATION IN FORENSIC SCIENCE/Chemistry 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. 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 chemistry, a concentration in forensic science requires completion of the courses listed for either an *Anthropology/Sociology* or a *psychology* emphasis, listed following the chemistry requirements.

Minimum required credits =

Required Courses	Credits	Term
Chem 1101 General Chemistry I	4	_____
Chem 1102 General Chemistry II	4	_____
Chem 2301 Organic Chemistry I	4	_____
Chem 2302 Organic Chemistry II	3	_____
Chem 2311 Organic Chemistry Lab I	1	_____
Chem 2321 Intro to Research	2	_____
Chem 3101 Analytical Chemistry	4	_____
Chem 3501 Physical Chemistry I	4	_____
Chem 3502 Physical Chemistry II	4	_____
Chem 3511 Physical Chem Lab I	1	_____
Chem 3901 Chemistry Seminar I	1	_____
Chem 4901 Chemistry Seminar II	1	_____
Math 1101 Calculus I	5	_____
Math 1102 Calculus II	5	_____
Phys 1101 General Physics I	5	_____
Phys 1102 General Physics II	5	_____
ELECTIVES - Complete two courses from the following:		
Chem 3111 Instrumental Analysis	4	_____
Chem 3701 Inorganic Chemistry	3	_____
Chem 3801 History of Chemistry	3	_____
Chem 3811 Macromolecules	3	_____
<i>or</i>		
Other courses numbered 43xx-47xx	3	_____

Continued on Reverse

For Anthropology/Sociology Emphasis in Forensic Science:

Choose one:

Anth 1111	Introduction to Cultural Anthropology	4	_____
<i>or</i>			
Soc 1101	Introductory Sociology	4	_____
Anth 2101	Physical Anthropology	4	_____
Soc 3141	Sociology of Deviance	4	_____

For Psychology Emphasis in Forensic Science

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

Other recommended electives for Forensic Science:

Phil 2111	Introduction to Ethics	4	_____
Pol 3262	Political Psychology	4	_____
Soc 2101	Systems of Oppression	4	_____
Biol 2111	Cell Biology	4	_____
Biol 2102	Human Anatomy	3	_____
Biol 3121	Molecular Biology	5	_____
Biol 4111	Microbiology	4	_____
Biol 4102	Human Physiology	4	_____

See Sample Four-Year Plan following

Sample Four Year Plan: Area of Concentration in Forensic Science/Chemistry Emphasis

Year	Fall	Spring
One	Chem 1101 General Chemistry 4 Engl 1011 College Writing 4 IS 1001 First Year Seminar 2 Math 1101 Calculus I <u>5</u> Credits this term = 15	Chem 1102 General Chemistry II 4 Math 1102 Calculus II 4 Physics 1101 Physics I 4 GenEd elective (Hist) <u>4</u> Credits this term = 16
Two	Chem 2301 Organic Chemistry I 4 Chem 2311 Organic Chemistry Lab I 1 Foreign Language I 4 Phys 1102 Physics II 4 Soc 1101 Intro to Sociology (SS) <u>4</u> Credits this term = 17	Chem 2302 Organic Chemistry II 3 Chem 2321 Introduction to Research 2 Foreign Language II 4 GenEd elective (Global Village) 4 <u>4</u> Credits this term = 16
Three	Anth 2101 Physical Anthropology 4 Chem 3101 Analytical Chemistry 4 Stat 2601 Statistical Methods ¹ 4 GenEd elective (Hum) <u>4</u> Credits this term = 16	Chem 3111 Instrumental Analysis <i>or</i> Chem 4552 Molecular Spectroscopy ² 4 Chem 3901 Chemistry Seminar I 1 GenEd elective (ArtP) 1 GenEd elective (FA) 4 Forensic elective <u>4</u> Credits this term = 14
Four	Biol 4211 Biochemistry ³ 4 Biol 4611 Biochemistry Lab 1 Chem 3501 Physical Chemistry 4 Chem 4901 Chemistry Seminar II 1 Soc 3141 Sociology of Deviance (E/CR) <u>4</u> Credits this term = 14	Chem 3111 Instrumental Analysis <i>or</i> Chem 4552 Molecular Spectroscopy ² 4 Chem 3502 Physical Chemistry II 4 Chem 353511 Physical Chemistry Lab 1 Forensic elective <u>4</u> Credits this term = 13

¹Stat 2601 – not required for a Chem major but is strongly recommended

²These two elective are offered in alternate spring terms

³Biol 4211 – not required for a Chem major but is strongly recommended