

**Biology Concentration**  
**Effective Fall 2013**

**IUPUI – FORENSIC AND INVESTIGATIVE SCIENCES PROGRAM**

**These courses are required for all students in the FIS program, [www.forensic.iupui.edu](http://www.forensic.iupui.edu)**

Required: SCI-I 120 Windows on Science. With permission another Learning Community may be substituted.	1 cr. _____	FIS 40301 Forensic Biology Lab II	2 cr. <u>SP</u>
		FIS 41500 Forensic Science and the Law	3cr. _____
		FIS 49000 Capstone in Forensic Science	2 cr. <u>FA</u>
<b>CORE COMMUNICATION - 9 cr.</b>		<u>Required Biology Courses</u> - 26 credits	
(Grade of a C or better in each composition course)		BIOL-K 101 Concepts of Biology I	5 cr. _____
English Composition (Core 30)		BIOL-K 103 Concepts of Biology II	5 cr. _____
ENG-W 131 (ENG-W 140) English Composition I		BIOL-K 322 Genetics & Molecular Biology	3 cr. _____
Speech Communication – (Core 30)		BIOL-K 323 Genetics & Molecular Biology Lab	2 cr. <u>FA</u>
COMM-R 110 Speech Communication		BIOL-K 338 Introductory Immunology*	3 cr. _____
Advanced Composition- (SOS)		BIOL-K 339 Immunology Lab*	2 cr. _____
ENG-W 132 (ENG-W 150), ENG-W 231 or TCM 32000		BIOL-K 483 Biological Chemistry	3 cr. _____
		BIOL-K 484 Cellular Biochemistry	3 cr. <u>SP</u>
<b>FOREIGN LANGUAGE</b>		<u>Required Chemistry Courses</u> - 10 credits	
A foreign language is not required for <b>BS</b> degrees.		CHEM-C 341 Organic Chemistry I	3 cr. _____
<b>CULTURAL UNDERSTANDING—3 cr.</b>		CHEM-C 343 Organic Chemistry Lab I	2 cr. _____
Cultural Understanding (Core 30)		CHEM-C 342 Organic Chemistry II	3 cr. _____
		CHEM-C 344 Organic Chemistry Lab II	2 cr. _____
<b>ARTS/HUMANITIES (AH) AND SOCIAL SCIENCES (S)—9 cr.</b>		<u>Required Statistics Course</u> - 3 credits	
AH (Core 30): _____		STAT 30100 Elementary Statistical Methods	
S (Core 30): _____		3 cr. _____	
AH or S (Core 30): _____			
<b>LIFE AND PHYSICAL SCIENCES—10 cr.</b>		<u>Advanced Science Courses</u> – Choose 12 credits (minimum)	
PHYS-P 201 General Physics I (Core 30/SOS)		Check prerequisites at <a href="http://www.bulletin.iupui.edu">www.bulletin.iupui.edu</a> .	
PHYS-P 202 General Physics II (Core 30/SOS)		<i>Faculty Recommended Course:</i>	
		FIS 30600 Forensic Microscopy	
		3cr. _____	
		ANTH-B 426 Human Osteology	
		3cr. <u>varies</u>	
		ANTH-B 426 Forensic Anthropology	
		3cr. <u>varies</u>	
		BIOL-K 324 Cell Biology	
		3cr. _____	
		BIOL-K 325 Cell Biology Laboratory	
		2cr. <u>SP</u>	
		BIOL-K 356 Microbiology	
		3cr. _____	
		BIOL-K 357 Microbiology Laboratory	
		2cr. _____	
		BIOL-K 341 Principles of Ecology and Evolution	
		3cr. _____	
		BIOL-N 217 Human Physiology	
		5cr. _____	
		BIOL-N 261 Human Anatomy	
		5cr. _____	
		CHEM-C 310 Analytical Chemistry	
		3cr. <u>SP/SS</u>	
		CHEM-C 311 Analytical Chemistry Lab	
		1cr. <u>SP/SS</u>	
		CHEM-C 360 Elementary Physical Chemistry	
		3cr. <u>SP</u>	
		CHEM-C 410 Prin. of Chemical Instrumentation	
		3cr. <u>FA</u>	
		CHEM-C 411 Prin. of Chemical Instrumentation Lab	
		2cr. <u>FA</u>	
		CHEM-C 430 Inorganic Chemistry	
		3cr. <u>SP</u>	
		CHEM-C 435 Inorganic Chemistry Lab	
		1cr. <u>SP</u>	
		CHEM-C 484 Biomolecules and Catabolism	
		3cr. <u>FA</u>	
		CHEM-C 485 Biosynthesis and Physiology	
		3cr. _____	
		CHEM-C 486 Biological Chemistry Lab	
		2cr. _____	
		FIS 40100 Forensic Chemistry I	
		3cr. <u>FA</u>	
		FIS 40101 Forensic Chemistry I Lab	
		1cr. <u>FA</u>	
		FIS 40400 Forensic Chemistry II	
		3cr. <u>SP</u>	
		FIS 40401 Forensic Chemistry II Lab	
		1cr. <u>SP</u>	
		GEOL-G 306 Earth Materials	
		3cr. _____	
<b>ANALYTICAL REASONING—6 cr.</b>		<b>ELECTIVES</b>	
MATH 23100 Calculus for Life Science I (Core 30/SOS)		FIS requires no electives. Total: 126 cr.	
MATH 23200 Calculus for Life Sciences II (Core 30/SOS)			
3 cr. _____			
<b>COMPUTER SCIENCE PROGRAMMING—3 cr.</b>			
<b>Select from the following:</b>			
CSCI-N 201, N 207, N 211, N 301, or N 199 ONLY topic:			
Computer Programming Principles (SOS)		3 cr. _____	
<b>MAJOR COURSES--75 cr.</b>			
Students must have a grade of C- or higher for courses listed in the major courses area <b>except</b> FIS courses (see below)			
<u>Required Forensic Science Courses</u> - 24 credits			
(Grade of C or better in each FIS course; No grade below C accepted)			
FIS 20500 Concepts of Forensic Science I		3 cr. <u>FA</u>	
FIS 20600 Concepts of Forensic Science II		3 cr. <u>SP</u>	
FIS 30500 Professional Issues in Forensic Science		3 cr. <u>SP</u>	
FIS 40200 Forensic Biology I		3 cr. <u>FA</u>	
FIS 40201 Forensic Biology Lab I		2 cr. <u>FA</u>	
FIS 40300 Forensic Biology II		3 cr. <u>SP</u>	
		* BIOL-K 324 Cell Biology and BIOL-K 325 Cell Biology Lab may be substituted for Immunology. Immunology may be taken for Advanced Science.	

## GENERAL INFORMATION

1. Independent Study (correspondence) courses may be used for general electives up to a maximum of 12 credit hours. All independent study courses must be approved by the associate dean for academic programs and student development in the School of Science.
2. Courses taken on the Pass/Fail option are applied only as general electives and do not count toward any degree area requirements of the school or department.
3. A minimum of 120 credit hours must be completed for graduation. This total must include at least 32 credit hours in courses at the 300-level or above taken at the IUPUI campus. Residence (not living but taking courses on the IUPUI campus) of at least two semesters at the IUPUI campus is also required for graduation.
4. Some of the courses listed may have prerequisites that are not part of the required course list. Check with the FIS advisor to make sure you have the necessary prerequisites.
5. The following are acceptable substitutes. Always check with your advisor before officially choosing a substitute.  
MATH 16500 & 16600 – Can substitute for MATH 23100 & 23200  
MATH 22100 & 22200 – Can substitute for MATH 23100 & 23200  
PHYS 15200 & 25100 – Can substitute for PHYS-P 201 & P 202
6. Students must maintain a minimum **2.5 GPA** for the FIS degree
7. To contact the FIS Academic Advisor, call 317-274-6882 or email [forsci@iupui.edu](mailto:forsci@iupui.edu). To schedule an appointment with the FIS Academic Advisor go to <http://science.iupui.edu/advising>.

### Cultural Understanding

AFRO-A 140 Intro to African Amer & African Diaspora Studies

AFRO-A 150 Surv Cultr of Black Americans  
AFRO-A 152 Introduction to African Studies  
ANTH-A 103 Human Origins & Prehistory  
ANTH-A 104 Cultural Anthropology  
ASL-A 131 Intensive Beg Amer Sign Lang I  
CLAS-L 131 Beginning Latin I  
EALC-C 117 Basic Chinese I  
EALC-J 131 Beginning Japanese I  
EDUC-E 201 Multicult Educ/Global Awarens  
FREN-F 117 Beginning French I  
FREN-F 131 Intensive Beginning French I  
GER-G 117 Beginning German I  
GER-G 131 Intensive Beginning German I  
HER-H 221 Art Past And Present  
INTL-I 100 Intro To International Studies  
ITAL-M 117 Basic Italian  
MUS-M 394 Survey Of African American Music  
NELC-A 131 Beginning Arabic I  
PSY-B 203 Ethics And Diversity In Psy  
SPAN-S 117 Beginning Spanish I  
SPAN-S 131 Intensive Beginning Spanish I  
SWK-S 102 Undrst Diversity in a Pluralistic Society

### Arts and Humanities (AH)

ART 21000 Hist of Architecture I  
COMM-T 130 Introduction to Theatre  
ENG-L 105 Appreciation of Literature  
ENG-L 115 Literature for Today  
HER-E 101 Beginning Drawing I  
HER-E 105 Beginning Painting I  
HER-E 109 Color and Design For Non-Art Majors  
HER-E 201 Photography I  
HER-E 209 Drawing for Interior Design  
HER-E 214 Visual Learning: From the Simpsons to the Guerrilla Girls  
HER-H 100 Art Appreciation  
HER-H 101 History of Art I  
HER-H 102 History of Art 2  
HER-H 210 The Art of Art History  
MUS-E 241 Intro to Music Fundamentals  
MUS-M 174 Music for The Listener  
MUS-Z 201 History of Rock And Roll Music  
PHIL-P 110 Introduction to Philosophy  
PHIL-P 120 Ethics  
PHST-P 105 Giving & Volunteering in Amer

REL-R 133 Introduction to Religion  
REL-R 212 Comparative Religions

### Social Sciences (S)

BUS-F 260 Personal Finance  
(Note: Bus-F 260=F-151, F-152, and F-153, Combined)  
BUS-F 151 Personal Finances of the College Student  
BUS-F 152 Basic Financial Planning and Investment  
BUS-F 251 Managing Personal and Financial Risk  
BUS-W 200 Intro To Business & Management  
BUS-X 100 Bus Administration: Intro  
COMM-C 180 Intro To Interpersonal Comm  
COMM-M 150 Mass Media & Contemp Society  
ECE 32700 Engineering Economics  
ECON-E 101 Survey of Economic Iss & Prob  
ECON-E 201 Intro to Microeconomics  
ECON-E 202 Intro to Macroeconomics  
EDUC-P 251 Educ Psy for Elem Tchrs  
ENG-Z 104 Language in Our World  
FOLK-F 101 Introduction to Folklore  
GEOG-G 110 Intro to Human Geography  
GEOG-G 130 World Geography  
HIST-H 105 American History I  
HIST-H 106 American History Ii  
HIST-H 108 Perspectives: World To 1800  
HIST-H 109 Perspectives: World 1800–Pres  
HIST-H 113 History of Western Civiliz 1  
HIST-H 114 History of Western Civiliz 2  
INF-I 202 Social Informatics  
POLS-Y 101 Introduction to Political Science  
POLS-Y 103 Intro to American Politics  
POLS-Y 217 Intro to Comparative Politics  
POLS-Y 219 Intro to Intl Relations  
PSY-B 110 Introduction to Psychology  
SOC-R 100 Introduction to Sociology  
SOC-R 121 Social Problems  
SPEA-J 101 American Criminal Justice Sys  
SPEA-V 170 Intro to Public Affairs  
SPEA-V 221 Nonprofit & Voluntary Sector  
SPEA-V 222 Principles of Sustainability  
SWK-S 221 Human Growth and Development in the Social Environment  
SWK-S 251 Hist & Analysis of Social Welfare Policy  
WOST-W 105 Intro to Women's Studies