**Curriculum: Forensic Chemistry (Min. 180 total credits; 60 upper division)**

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| --- | --- | --- |
|  **Fall** | **Winter** | **Spring** |
| USEM 101 University Seminar (4) \_\_\_CH 195 Chemical Problem Solving (1) \_\_\_CH 201 General Chemistry (3) \_\_\_CH 204 General Chemistry Lab (2) \_\_\_BI 211 Principles of Biology (4) \_\_\_BI 211L Principles of Biology Lab (0) \_\_\_MTH 111 Precalc I (4) or MTH 112 Precalc II (4) or MTH 251 Calc I (4) (math placement test)\* \_\_\_ **Total: 18 credits** | USEM 102 University Seminar (4) \_\_\_CH 196 Chemical Problem Solving (1) \_\_\_CH 202 General Chemistry (3) \_\_\_CH 205 General Chemistry Lab (2) \_\_\_BI 212 Principles of Biology (4) \_\_\_BI 212L Principles of Biology Lab (0) \_\_\_MTH 112 Precalc II (4) or MTH 251 Calc I (4) \_\_\_**Total: 18 credits** | USEM 103 University Seminar (4) \_\_\_CH 197 Chemical Problem Solving (1) \_\_\_CH 203 General Chemistry (3) \_\_\_CH 206 General Chemistry Lab (2) \_\_\_BI 213 Principles of Biology (4) \_\_\_BI 213L Principles of Biology Lab (0) \_\_\_MTH 251 Calc I (4) or MTH 252 Calc II (4) \_\_\_**Total: 18 credits** |
| CH 334 Organic Chemistry (3) \_\_\_CH 337 Intro to Organic Chem Lab (2) \_\_\_CH 337R Intro Organic Lab Recitation (0) \_\_\_CH 344 Organic Chemistry Workshop (1) \_\_\_PH 221 General Physics I (4)\_\_\_PH 221R General Physics Recitation (0) \_\_\_PH 224 General Physics Lab I (2) \_\_\_**Total: 12 credits** | CH 335 Organic Chemistry (3) \_\_\_CH 340 Organic Spectroscopy (3) \_\_\_CH 340L Organic Spectroscopy Lab (0) \_\_\_CH 345 Organic Chemistry Workshop (1) \_\_\_PH 222 General Physics II (4)\_\_\_PH 222R General Physics Recitation (0) \_\_\_PH 225 General Physics Lab II (2) \_\_\_**Total: 13 credits** | CH 336 Organic Chemistry (3) \_\_\_CH 341 Organic Chem Lab (2) \_\_\_CH 341R Intro Organic Lab Recitation (0) \_\_\_CH 346 Organic Chemistry Workshop (1) \_\_\_PH 223 General Physics III (4)\_\_\_PH 223R General Physics Recitation (0) \_\_\_PH 226 General Physics Lab III (2) \_\_\_CCJ 251 Criminal Law (4) \_\_\_**Total: 16 credits** |
| CH 421 Analytical Chemistry (3) \_\_\_CH 422 Analytical Chem Lab (1) \_\_\_CH 371 Computer Applications (3) \_\_\_CH 441 Physical Chemistry (3) \_\_\_CH 314 Chemical Research Comm (1) \_\_\_COMM 310 Adv. Public Speaking (4) \_\_\_**Total: 15 credits** | CH 425 Instrumental Analysis (3) \_\_\_CH 426 Instrumental Analysis Lab (1) \_\_\_CH 315 Chemical Research Comm (1) \_\_\_Hum./Soc Sci Explorations (4) \_\_\_Hum./Soc Sci Explorations (4) \_\_\_MTH 243 Elementary Statistics (4) \_\_\_**Total: 17 credits**  | CH 316 Chemical Research Comm (1) \_\_\_CH 464 Forensic Toxicol./Arson (4) \_\_\_CH 464L Forensic Toxicol./Arson Lab (0) \_\_\_Hum./Soc Sci Explorations (4) \_\_\_Hum./Soc Sci Explorations (4) **Total: 13 credits** |
| CH 497 Senior Project (1) \_\_\_CH 451 Biochemistry (3) \_\_\_BI 341 Genetics (4) \_\_\_BI 341L Genetics Lab (0) \_\_\_CCJ 321 Criminal Investigation (4) \_\_\_Strand H/I/J Upper div course (4) \_\_\_**Total: 16 credits** | CH 498 Senior Project (1) \_\_\_CH 452 Biochemistry (3) \_\_\_CH 454 Biochemistry Lab (1) \_\_\_CH 460 Forensic Serology/DNA (4) \_\_\_CH 460L Forensic Serology Lab (0) \_\_\_CCJ 412 Criminal Evidence (4) \_\_\_**Total: 13 credits**  | CH 499 Senior Project (1) \_\_\_CH 453 Biochemistry (3) \_\_\_CH 455 Biochemistry Lab (1) \_\_\_Hum./Soc Sci Explorations (4) \_\_\_Strand H/I/J Upper div course (4) \_\_\_Strand H/I/J Upper div course (4) \_\_\_**Total: 17 credits** |

\*It is recommended that students starting with MTH 111 take MTH 252 (Calc II) during the summer of their first year.

Years 3 and 4 are interchangeable based on whether CH 460 or CH 464 is being offered – see your advisor!

**SOU Chemistry Program Skill/Knowledge Outcomes**

**March 2016**

**Skill 1: Chemical Information and Technology.**

Students will demonstrate competency in the theory, application, and use of spectroscopic, chromatographic, electrochemical, and analytical instrumentation.

**Means of assessment:**

Standardized examination in instrumental chemistry as developed by the American Chemical Society Examination Committee.

**Skill 2: Information Literacy**

Students will be able to access, evaluate, and use information resources in an effective, ethical, and balanced manner.

 **Means of assessment:**

 **Course Performance**: Students will adequately perform all assignments in CH 314, 315, and 316.

**Knowledge 1-5: Subject Mastery**

Students will demonstrate mastery of biochemistry, organic, analytical, physical, and inorganic chemistry.

**Means of assessment:**

Standardized examinations in biochemistry, organic, analytical, physical, and inorganic chemistry as developed by the American Chemical Society Examination Committee.

**Knowledge 6: Synthesis**

Students will be able to synthesize chemical knowledge across sub-disciplines of the chemical sciences and test the integration of that knowledge in applied situations.

 **Means of assessment:**

Graduating seniors are given the Diagnostic of Undergraduate Chemistry Knowledge (DUCK) examination developed by the American Chemical Society Examination Committee