



DEGREE: CHEMISTRY - MEDICAL SCIENCES

| <i>Chemistry Core Requirements</i> | <i>Completed</i> | <i>Credit</i> | <i>College Core Requirements</i> | <i>Completed</i> | <i>Credit</i> |
|--|------------------|---------------|--|------------------|---------------|
| Chemistry Core (27 semester hours) | | | English Composition (6 semester hours) | | |
| CHE 141 General Chemistry I | _____ | 4 | ENG 101 | _____ | 3 |
| CHE 142 General Chemistry II | _____ | 4 | ENG 102 | _____ | 3 |
| CHE 303 Organic Chemistry I | _____ | 3 | Literature (6 semester hours - choose two) | | |
| CHE 313 Organic Chemistry I Lab | _____ | 2 | ENG 211/212/213 | _____ | 3 |
| CHE 304 Organic Chemistry II | _____ | 3 | | _____ | 3 |
| CHE 314 Organic Chemistry II Lab | _____ | 2 | History (6 semester hours - choose one pair) | | |
| CHE 310 Quantitative Chemical Analysis | _____ | 4 | HIS 101 and 102/HIS 103 and | _____ | 3 |
| CHE 317 Chemical Dynamics | _____ | 4 | 104/HIS 211 and 212 | _____ | 3 |
| CHE 431 Chemistry Seminar | _____ | 1 | Bible (6 semester hours) | | |
| Physics (8 semester hours) # | | | BIB 110 | _____ | 3 |
| PHY 251 Fund. of Physics I | _____ | 4 | BIB 120 | _____ | 3 |
| PHY 252 Fund. of Physics II | _____ | 4 | Social Sciences (6 semester hours - choose two) | | |
| Mathematics (6 semester hours) | | | ECO 131 (or 231)/*SOC 205/ | _____ | 3 |
| MAT 121 Cal. w/Analytic Geometry I | _____ | 3 | PLS 201/*PSY 201/PHI/MLG 205 | _____ | 3 |
| MAT 122 Cal. w/Analytic Geometry II | _____ | 3 | Fine Arts (3 semester hours - choose one) | | |
| Technology (3 semester hours - choose one) | | | ART 125/MUS 125/THE 125 | _____ | 3 |
| CSC 114 Introduction to Computer Science | _____ | 3 | Physical Education Activity (3 semester hours) | | |
| CSC 115 Foundations of CS (preferred) | _____ | | PED | _____ | 1 |
| Communications (3 semester hours) | | | PED | _____ | 1 |
| COM 203 Professional Com. Skills | _____ | 3 | PED | _____ | 1 |
| COM 304 Public Speaking or participation in a minimum of three hours of research w/an oral presentation at a professional meeting. | | | Writing Proficiency Exam | | |
| | | | ENG 099 | _____ | 0 |
| | | | Chapel (4 semesters) | | |
| | | | Chapel I | _____ | 0 |
| | | | Chapel II | _____ | 0 |
| | | | Chapel III | _____ | 0 |
| | | | Chapel IV | _____ | 0 |
| | | | Science - Contained in major | | |
| | | | Mathematics - Contained in major | | |
| | | | Modern Languages - Not required | | |
| | | | Technology - Contained in major | | |
| | | | Electives: | | |
| | | | _____ | _____ | _____ |
| | | | _____ | _____ | _____ |
| | | | _____ | _____ | _____ |
| | | | To Graduate: | | |
| | | | 130 Hours | _____ | _____ |
| | | | 39 Hours of 300-400 level courses | _____ | _____ |
| | | | 30 Hours of Chemistry | _____ | _____ |

DEGREE: CHEMISTRY/MEDICAL SCIENCES

A minimum of 4 semester hours - chosen from:
(CHE 418 and 419 Recommended for Medical & Dental School)

| | | |
|-------------------------------------|-------|---|
| CHE 418 Biochem. I: Macromolecules | _____ | 3 |
| CHE 419 Biochem. II: Metabolism | _____ | 3 |
| CHE 420 Bioanalytical Chemistry Lab | _____ | 1 |
| CHE 421 Biophysical Chemistry Lab | _____ | 1 |
| Biology (8 semester hours) | | |
| BIO 111 Biology I | _____ | 4 |
| BIO 112 Biology II | _____ | 4 |

Notes:

PHY 151 - 152 may substitute

* PSY 201 and SOC 205 recommended for Medical School

MAT 207 Statics is required for UMMC Dental School

** Students planning to continue their education in a professional school should consult those schools for specific admission requirements.

***Qualified Students are encourage to participate in an independent research project or the Honors Program (see advisor for details)

For More Information:

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Major: Chemistry - Medical Sciences

| <u>FIRST YEAR - FALL</u> | <u>HRS</u> |
|---|------------|
| CHE 141 ^{F, S1} General Chemistry I with lab | 4 |
| MAT 121 Calculus w/ Analytical Geometry I | 3 |
| BIO 111 ^F Biology I with lab | 4 |
| ENG 101 English Composition | 3 |
| Core | 3 |
| Chapel (Freshman Experience) | <u>0</u> |
| | 17 |

| <u>SECOND YEAR - FALL</u> | |
|--|----------|
| CHE 303 ^{F, S1} Organic Chemistry I | 3 |
| CHE 313 ^{F, S1} Organic Chemistry II lab | 2 |
| CHE 310 ^{F, Sp} Quantitative Chem. Analysis | 4 |
| BIO 305 ^{F, Sp, S1} Cell Biology * | 3 |
| Elective | 2 |
| CSC 115 ^{F, Sp} Technology Core | 3 |
| Chapel | <u>0</u> |
| | 17 |

| <u>THIRD YEAR - FALL</u> | |
|---|----------|
| CHE 317 ^F Chemical Dynamics | 4 |
| PHY 252 ^F Fundamentals of Physics II | 4 |
| Biology Course (BIO 403, 404, 412, OR 425) * | 5 |
| Core | <u>3</u> |
| | 16 |

| <u>FOURTH YEAR - FALL</u> | |
|---|----------|
| CHE 418 ^{F, S1} Biochemistry I: Metabolism | 3 |
| Chemistry, Biology or Elective | 7 |
| Core | <u>6</u> |
| | 16 |

Additional Chemistry Courses

| | |
|---|-------|
| CHE 318 ^{Sp} Chemical Energetics | 4 |
| CHE 402 ^F Advance Organic Chemistry | 4 |
| CHE 410 ^{Sp} Instrumental Analysis * | 4 |
| CHE 411 ^{Sp} Advanced Inorganic Chem. | 3 |
| CHE 415 Synthetic Inorganic Chemistry | 3 |
| CHE 417 ^{Sp} Theoretical Chemistry (Odd Numbers) | 3 |
| CHE 419 ^{Sp, S2} Biochemistry II: Metabolism * | 3 |
| CHE 420 ^F Biochemistry II Laboratory | 1 |
| CHE 421 ^{Sp} Biochemistry II Laboratory | 1 |
| CHE 451 OR 452 ^{F, Sp, S1, S2} Ind. Studies and Research | 3 |
| CHE 361, 462, 463 ^{F, Sp, S1, S2} Honors Sequence * | 1,2,3 |

* Recommended.

May-14

| <u>FIRST YEAR - SPRING</u> | <u>HRS.</u> |
|---|-------------|
| CHE 142 ^{Sp, S2} General Chemistry II with lab | 4 |
| MAT 122 Calculus w/ Analytical Geometry II | 3 |
| BIO 112 ^{Sp} Biology II with lab | 4 |
| ENG 102 or 103 English Composition II | 3 |
| Core | 3 |
| Chapel | <u>0</u> |
| | 17 |

| <u>SECOND YEAR - SPRING</u> | |
|--|----------|
| CHE 304 ^{Sp, S2} Organic Chemistry II | 3 |
| CHE 314 ^{Sp, S2} Organic Chemistry II lab | 2 |
| PHY 251 ^{Sp} Fundamentals of Physics I | 4 |
| BIO 306 ^{F, Sp, S1} Genetics * | 3 |
| Core | 4 |
| Chapel | <u>0</u> |
| | 16 |

| <u>THIRD YEAR - SPRING</u> | |
|---------------------------------|----------|
| Chemistry, Biology, or Elective | 8 |
| Core | <u>7</u> |
| | 15 |

| <u>FOURTH YEAR - SPRING</u> | |
|---|----------|
| CHE 419 ^{Sp, S2} Biochemistry II: Metabolism * | 3 |
| CHE 431 ^{Sp} Chemical Seminar | 1 |
| Chemistry, Biology or Elective | 8 |
| Core | <u>4</u> |
| | 16 |

Suggested Biology Courses

Consult catalog for prerequisite(s).

| | |
|-------------------------------|---|
| Bio 403 Vertebrate Histology | 5 |
| Bio 404 Pharmacology 1 | 5 |
| Bio 410 Human Gross Anatomy * | 8 |
| Bio 412 Medical Physiology * | 6 |
| Bio 425 Human Neuroanatomy | 5 |

Key

F= Fall Semester

Sp = Spring Semester

S1 = First 5 week summer term

S2 = Second week summer term