

Biochemistry and Molecular Biology (Chemistry track): Four Year Plan Pharmacy

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Updated (add month/year) Dr. Haemig, hhaemig@gustavus.edu

First Year: Fall

BIO 110 Principles of Biology & BIO 111 Lab

**CHE 110 General Chemistry & CHE 111 General Chemistry Lab OR CHE 105 Foundations of Chemistry I (PCAT) & CHE 106 Foundations of Chemistry I Lab*

**Before you can register for CHE 110, you are required to take the Chemistry placement exam. (CHE 105/106 offered Fall only and CHE 107/108 offered Spring only) taking both are equivalent to CHE 110. Find out more about the CHE placement exam, [click here](#).*

FTS 100 First Term Seminar (Writing Intensive course- WRIT)

Elective (within the area of psychology, sociology, anthropology)

First Year: Spring

BIO 120 Organismal Biology & BIO 121 Lab

CHE 120 Organic Chemistry I & CHE 121 Organic Chemistry I Lab (offered Fall and Spring)

**CHE 107 Foundations of Chemistry II & CHE 108 Foundations of Chemistry II Lab *(CHE 105/106 offered Fall only and CHE 107/108 offered Spring only) taking both are equivalent to CHE 110)*

PSY 100 Introduction to Psychology (MCAT) (offered both Fall and Spring; flexible either semester, first or second year)

MCS 121 Calculus I (PCAT)

Second Year: Fall

CHE 220 Organic Chemistry II & CHE 221 Organic Chemistry II Lab (It is possible to take Che 220 in Fall of third year and take Che 270 in the Spring of third year)

BIO 250 Cell and Molecular Biology & BIO 251 Lab

HES 230 Human Anatomy & Physiology I & HES 231 Human Anatomy & Physiology I Lab (offered Fall only)

COM 120 Public Discourse

Second Year: Spring

CHE 230 Inorganic Chemistry I & CHE 231 Inorganic Chemistry I Lab (offered Spring only)

MCS 122 Calculus II

HES 240 Anatomy & Physiology II & HES 241 Anatomy & Physiology II Lab (offered Spring only)

Third Year: Fall

CHE 270 Biochemistry & CHE 271 Biochemistry Lab

PHY 200 Physics for Scientists and Engineers I & PHY 201 Physics for Scientists and Engineers I Lab (physics with calculus)

MCS 142 Statistics

COM 120 Public Discourse or other speech approved course

CHE 399 Chemistry Seminar*

Third Year: Spring

PHY 210 Physics for Scientists and Engineers II & PHY 211 Physics for Scientists and Engineers II Lab (physics with calculus)

BIO 368 Molecular Genetics & BIO 369 Lab (or CHE 370/371 Proteins or BIO 360/361 Microbiology as the recommended BIO elective for the BMB major)

Elective (within the area of psychology, sociology, anthropology)

BIO 388 Molecular Genetics (or CHE 360 Proteins or CHE elective for the BMB major) BIO 388 Molecular Genetics (or CHE 360 Proteins or CHE elective for the BMB major)

CHE 399 Chemistry Seminar*

Fourth Year: Fall

CHE elective for the BMB major (if not yet taken)

CHE 360 Physical Chemistry I and CHE 361 Lab

CHE 399 Chemistry Seminar*

E/M 108 Principles of Microeconomics

Fourth Year: Spring

CHE 370 Proteins & CHE 371 Lab (or BIO 368/369 Molecular Genetics)

CHE 399 Chemistry Seminar*

English composition 200 level (recommended)

*a total of four semesters of CHE 399 is required for the BMB major. Students could enroll in CHE 399 as early as spring of sophomore year.

** These courses are flexible in the Junior or Senior year This is a general plan of study including only the requirements for Pharmacy and the BMB –chemistry track Major. Please speak with your faculty advisor about if this is the best layout of classes for you, if you are off-track from this 4-year plan and/or about fitting in your general liberal arts education courses. It is important to note the minimum grade needed for any course to satisfy any pre-requisites in Biology and Chemistry. This is outlined in the academic catalog.