

BIOCHEMISTRY MAJOR CHECKLIST – Effective Fall 2017

Required Major Courses

Course		Grade	Hours	Semester	Comments
___ CHEM 1400/1401 (or 1113/1114 & 1133/1134)	Gen Chem	___	___5___	___	___
___ Organic 1 and 2 lecture CHEM 3451, and CHEM 3491 or 3471 (or CHEM 3311 & 3331)		___	___4___	___	<u>Organic 1 lecture</u>
		___	___4___	___	<u>Organic 2 lecture</u>
___ CHEM 3321 (or CHEM 3361)	Organic Lab 1	___	___	___	___
___ CHEM 3341 (or CHEM 3381)	Organic Lab 2	___	___	___	___
___ CHEM 4400 (or CHEM 4511 and 4531)	Physical Chem	___	___4___	___	<u>Calc 3 is a prerequisite for CHEM 4511</u>
___ CHEM 4700	Biochem 1	___	___4___	___	<u>CHEM 4400 is a prereq</u>
___ CHEM 4720	Biochem 2	___	___4___	___	___
___ CHEM 4740	Biochem 3	___	___4___	___	___
___ CHEM 4761	Biochem Lab	___	___4___	___	___

Required Ancillary Courses

Course		Grade	Hours	Semester	Comments
___ MATH 1300 (or APPM 1350)	Calculus 1	___	___	___	___
___ MATH 2300 (or APPM 1360)	Calculus 2	___	___	___	___
___ PHYS 1110	Physics 1	___	___4___	___	___
___ PHYS 1120	Physics 2	___	___4___	___	___
___ PHYS 1140	Experimental Physics	___	___1___	___	___

At least 17 credit hours of electives including intro biology sequence with labs and three advanced courses:

Intro Biology:

___ Intro biology lecture sequence EBIO 1210 & 1220, or MCDB 1150 (or 1111) & 2150 (or 2222)		___	___6___	___	___
___ Intro biology lab/s EBIO 1230 & 1240, or MCDB 1161, or MCDB 1171, or MCDB 2171		___	___2___	___	___

Three Advanced Major Electives:

___ Elective		___	___	___	___
___ Elective		___	___	___	___
___ Elective		___	___	___	___

Advanced Elective Options: CHEM 4621 - Genome Databases, CHEM 4751 - Current Topics in Biochemical Research, CHEM 4791 - Bioorganic Chemistry in Biotechnology, CHEM 4011 - Inorganic Chemistry, CHEM 4171 – Instrumental Analysis 1, CHEM 4131 – Chemistry of Global Health, CHEM 4181 - Instrumental Analysis 2, CHEM 5341 – Chemical Biology and Drug Design, MCDB 2150 (or 2111) (if not take as part of the intro biology sequence; cannot also count EBIO 2070 as a required ancillary course), MCDB 3145 - Molecular Cell Biology 2, MCDB 3150 - Biology of the Cancer Cell, MCDB 3280 - Molecular Cell Physiology, MCDB 3501 - Structural Methods for Biological Macromolecules, MCDB 3650 - The Brain - From Molecules to Behavior, MCDB 3990 - Introduction to Systems Biology for Biologists, MCDB 4300 – Immunology, MCDB 4310 - Microbial Genetics and Physiology, MCDB 4410 - Human Molecular Genetics, MCDB 4471 - Mechanism of Gene Regulation in Eukaryotes, MCDB 4520 - Bioinformatics and Genomics, MCDB 4650 - Developmental Biology, MCDB 4777 - Molecular Neurobiology, EBIO

2070 – Genetics (cannot also count MCDB 2150 or 2222 as a required ancillary course), EBIO 3400 – Microbiology, EBIO 4530 - Functional Plant Biology, IPHY 3430 - Human Physiology, IPHY 3470 - Human Physiology 1 (restricted to IPHY majors), IPHY 3480 - Human Physiology 2 (restricted to IPHY majors)

Note that the following CORE curriculum requirements will be satisfied by a major course: QRMS and Natural Science.

Notes: Link for career exploration: <https://www.acs.org/content/acs/en/careers.html>