

WORKSHEET FOR SELECTING A COURSE SEQUENCE

Mathematical Biology Concentration

Please complete this form and return it, along with the Student Information Form (found in the Biology Major Manual), to the Biology Academic Office, Leidy Lab, room 102. When you are provisionally admitted to the major, you will be assigned to an advisor and these documents will be part of your major file.

You will be discussing your course selections with your major advisor. The aim is to construct a combination that closely reflects your specific interests. Once your major advisor has approved this form, retain a copy for yourself and return the original form, along with your major file, to the Biology Academic Office, Leidy Lab, room 102. You may make changes in your course plan, even after your advisor has signed the course plan, however, it is your responsibility to ensure that your new course choices fulfill the concentration requirements.

Concentration Requirements (17.5-18.5 CU)

Introductory Biology (2-3 CU) Semester Year

Track 1 (2 CU)

BIOL 1121/1123 1.5 CU _____ _____

BIOL 1124 0.5 CU _____ _____

OR Track 2 (3 CU)

BIOL 1101 1.5 CU _____ _____

BIOL 1102 1.5 CU _____ _____

Chemistry OR Physics (1.5 CU)

(Circle Appropriate Course)

CHEM 1011 or 1012
or 1151 w/1101(1.5 CU) _____ _____

CHEM 1021 or 1022
or 1161 w/1102 (1.5 CU) _____ _____

CHEM 2411 (1.5 CU) _____ _____

CHEM 2421 (1.5 CU) _____ _____

PHYS 0101, 0150 or
0170 (1.5 CU) _____ _____

Math (2 CU)

(Circle Appropriate Course)

MATH 1400 (1 CU) _____ _____

STAT 1110 or
BIOL 2510 (1 CU) _____ _____

Introductory Math Core (3 CU)

MATH 1410 or 1510 (1 CU) _____ _____

MATH 2400 (1 CU) _____ _____

MATH 3200 (1 CU) _____ _____

Intermediate Biology (4 CU)

(See List on Second page for appropriate electives)

BIOL 2210 (1 CU) _____ _____

BIOL 2410 (1 CU) _____ _____

BIOL _____ (1 CU) _____ _____

BIOL _____ (1 CU) _____ _____

Capstone Courses (2 CU)

BIOL 4536 (1 CU) _____ _____

BIOL 3999 (1 CU) _____ _____

Mathematical Biology Electives (3 CU)

(See List on second page)

BIOL _____ _____ _____

BIOL _____ _____ _____

BIOL _____ _____ _____

STUDENT NAME _____

PENNID _____

Intermediate Biology Electives

BIOL 2810 Biochemistry (1 cu) (Note: CHEM 2510 can be used in place of BIOL 2810)
BIOL 2010 Cell Biology (1 cu)
BIOL 2311 Human Physiology (1 cu)
BIOL 3310 Principles of Human Physiology (1 cu)
BIOL 2110 Molecular and Cellular Neurobiology (1 cu)
BIOL 2610 Ecology: From Individuals to Ecosystems (1 cu)
BIOL 3054 Developmental Biology (1 cu)
BIOL 4010 Advanced Evolution (1 cu)
BIOL 4517 Theoretical Population Biology (1 cu)
BIOL 4825 Biochemistry and Molecular Genetics Superlab (1 cu)
BIOL 4231 Genome Science and Genomic Medicine (1 cu)
BIOL 4010 Advanced Cell Biology (1 cu)
BIOL 4235 The RNA World: A Functional and Computational Analysis (1 cu)

Mathematical Biology Electives

CIS 2620 Automata, Computability and Complexity (1 cu)
CIS 3200 Introduction to Algorithms (1 cu)
CIS 3340 Advanced Topics in Algorithms (1 cu)
CIS 5450 Big Data Analytics (1cu)
PHYS 2280 Physical Models of Biological Systems (1 cu)
CHEM 2410 Organic Chemistry (1 cu)
MATH 2410 Calculus, Part IV (1 cu)
MATH 3140 Advanced Linear Algebra (1 cu)
MATH 3600 Advanced Calculus (1 cu)
MATH 3610 Advanced Calculus (1 cu)
MATH 3700 Algebra (1 cu)
MATH 4200 Ordinary Differential Equations (1 cu)
MATH 4250 Partial Differential Equations (1 cu)
STAT 4300 Probability (1 cu)
STAT 4310 Statistical Inference (can be counted as elective only if NOT taken for the Introductory Math and Statistics requirement)
STAT 4330 Stochastic Processes (1 cu)
STAT 4710 Modern Data Mining (1 cu)
STAT 5100 Probability (1 cu)
BIOL 5536 Fundamentals of Computational Biology (1 cu)