

Degree Progress Guide for Majors + Minors

Summer Fast Pass for Majors and Minors serves as a guide for how undergraduate students with a major and a minor can utilize summer to effectively manage their course schedule and make significant degree progress. It is intended to show what is possible with the inclusion of the summer term in a student's academic journey

The course options listed under each major + minor pairing were selected based on previous summer course offerings and major/minor requirements outlined on each individual department's website. Several course options are listed under each year to provide maximum flexibility for student scheduling and to encourage students to create their own personalized fast pass.

This specific guide is designed for undergraduate students admitted as a freshman who are **majoring in MCD Biology and minoring in Biomedical Research**.

Disclaimer: Please note, the Summer Fast Pass for Majors + Minors serve as a **general guide ONLY**. Final enrollment decisions will ultimately depend on a student's current progress in the major and/or minor. It is a student's responsibility to ensure they meet the prerequisites for any courses prior to enrolling. Please defer to the major and/or minor's department for degree specific questions.

For each year, select 1-2 courses from Category A + 1 course from Category B:

YEAR 1

CATEGORY A (MCD Biology Summer Courses Offered)

CHEMISTRY COURSES

CHEM 14A: General Chemistry for Life Scientists I (4 units)

CHEM 14B: General Chemistry for Life Scientists II (4 units)

CHEM 14BL: General and Organic Chemistry Laboratory I (3 units)

CHEM 14C: Structure of Organic Molecules (4 units)

CHEM 14CL: General and Organic Chemistry Laboratory II (4 units)

OR

CHEM 20A: Chemical Structure (4 units)

CHEM 30A: Organic Chemistry I: Structure and Reactivity (4 units)

May satisfy lower division Chemistry course requirements for the MCD Biology major.

MATH COURSES

MATH 31A: Differential and Integral Calculus (4 units)

MATH 31B: Integration and Infinite Series (4 units)

MATH 32A: Calculus of Several Variables (4 units)

May satisfy lower division Math course requirements for the MCD Biology major.

CATEGORY B (Biomedical Research Minor Summer Courses Offered)

LIFE SCIENCE COURSES

LIFE SCI 7A: Cell and Molecular Biology (5 units)

LIFE SCI 7B: Genetics, Evolution, and Ecology (5 units)

LIFE SCI 7C: Physiology and Human Biology (5 units)

LIFE SCI 23L: Introduction to Laboratory and Scientific Methodology (3 units)

May satisfy lower division Life Science course requirements for the MCD Biology major.

MCD BIO 60: Biomedical Ethics (5 units)

Satisfies one of the lower division course requirements for the Biomedical Research minor.

YEAR 2

CATEGORY A (MCD Biology Summer Courses Offered)

LIFE SCIENCE COURSES

LIFE SCI 30A: Mathematics for Life Scientists (5 units)

LIFE SCI 30B: Mathematics for Life Scientists (5 units)

LIFE SCI 40: Statistics of Biological Systems (5 units)

May satisfy lower division Math course requirement for the MCD Biology major.

PHYSICS COURSES

PHYSICS 1A: Physics for Scientists & Engineers: Mechanics (5 units)

PHYSICS 1B: Physics for Scientists & Engineers: Oscillations, Waves, Electric & Magnetic Fields (5 units)

PHYSICS 1C: Physics for Scientists & Engineers: Electrodynamics, Optics, & Special Relativity (5 units)

PHYSICS 4AL: Physics Laboratory for Scientists & Engineers: Mechanics (2 units)

PHYSICS 4BL: Physics Laboratory for Scientists & Engineers: Electricity & Magnetism (2 units)

OR

PHYSICS 5A: Physics for Life Sciences Majors: Mechanics & Energy (5 units)

PHYSICS 5B: Physics for Life Sciences Majors: Thermodynamics, Fluids, Waves, Light, & Optics (5 units)

PHYSICS 5C: Physics for Life Sciences Majors: Electricity, Magnetism, & Modern Physics (5 units)

May satisfy lower division Physics course requirements for the MCD Biology major

STATS 13: Introduction to Statistical Methods for Life and Health Sciences (5 units)

May satisfy one of the lower division course requirement for the MCD Biology major.

CATEGORY B (Biomedical Research Minor Summer Courses Offered)

PHILOS 155A: Medical Ethics (4 units)

May satisfy one of the upper division course requirements in History of Science or Philosophy of Science for Biomedical Research minor.

HIST 179B: History of Medicine: Foundations of Modern Medicine (4 units)

May satisfy one of the upper division course requirements in History of Science or Philosophy of Science for Biomedical Research minor.

YEAR 3

CATEGORY A (MCD Biology Summer Courses Offered)

LIFE SCI 107: Genetics (5 units)

Satisfies one of the upper division core course requirements for the MCD Biology major.

MCD BIO 138: Developmental Biology (5 units)

Satisfies one of the upper division core course requirements for the MCD Biology major.

MCD BIO 144: Molecular Biology of Cellular Processes (5 units)

Satisfies one of the upper division core course requirements for the MCD Biology major.

MCD BIO 165A: Biology of Cells (5 units)

Satisfies one of the upper division core course requirements for the MCD Biology major.

CHEM 153A: Biochemistry: Introduction to Structure, Enzymes, and Metabolism (4 units)

Satisfies one of the upper division core course requirements for the MCD Biology major.

CATEGORY B (Biomedical Research Minor Summer Courses Offered)

ENGR 183EW: Engineering & Society (4 units)

May satisfy one of the upper division course requirements in History of Science or Philosophy of Science for Biomedical Research minor.

PSYCH 188B: Special Courses in Psychology (4 units)

May satisfy one of the upper division course requirements in History of Science or Philosophy of Science for Biomedical Research minor.

PUB HLT M106: Health in Chicano/Latino Population (4 units)

May satisfy one of the upper division course requirements in History of Science or Philosophy of Science for Biomedical Research minor.

YEAR 4

CATEGORY A (MCD Biology Summer Courses Offered)

MCD BIO 187AL: Research Immersion Laboratory in Genomic Biology (5 units)

Satisfies an upper division lab requirement for the MCD Biology major.

MIMG 102: Introductory Virology (4 units)

May satisfy one of the upper division elective requirements for the MCD Biology major.

MIMG 158: Microbial Genomics (4 units)

May satisfy one of the upper division elective requirements for the MCD Biology major.

PHYSCI 121: Disease Mechanisms and Therapies (4 units)

May satisfy one of the upper division elective requirements for the MCD Biology major.

PHYSCI 166: Animal Physiology (6 units)

May satisfy one of the upper division elective requirements for the MCD Biology major.

BIOSTAT 100A: Introduction to Biostatistics (4 units)

May satisfy one of the upper division elective requirements for the MCD Biology major.

EE BIOL 162: Plant Physiology (4 units)

May satisfy one of the upper division elective requirements for the MCD Biology major.

STATS 100A: Introduction to Probability (4 units)

May satisfy one of the upper division elective requirements for the MCD Biology major.

CATEGORY B (Biomedical Research Minor Summer Courses Offered)

SOC GEN 180: Special Courses in Society and Genetics (4 units)

May satisfy one of the upper division course requirements in History of Science or Philosophy of Science for Biomedical Research minor.

PUB HLT C150: Fundamentals of Public Health (4 units)

May satisfy one of the upper division course requirements in History of Science or Philosophy of Science for Biomedical Research minor.