UCLA College | Life Sciences Molecular, Cell & Developmental Biology

UCLA College | Life Sciences Microbiology, Immunology & Molecular Genetics

New Student Orientation 2022

Connie Firestone & Maggie Schmall, Undergraduate Advisors, MCDB

Advisor Information

MOLECULAR, CELL AND DEVELOPMENTAL BIOLOGY

Connie Firestone and Maggie Schmall

Email: undergradmcdb@lifesci.ucla.edu

Website: www.mcdb.ucla.edu

MICROBIOLOGY, IMMUNOLOGY AND MOLECULAR GENETICS

To Be Announced

Email: undergrad@microbio.ucla.edu

Website: www.mimg.ucla.edu

Life Science Core Curriculum

- LIFE SCIENCES
- CHEMISTRY
- MATHEMATICS
- PHYSICS

Life Sciences

Life Sciences (All Courses Required)
LS 7A – Cell and Molecular Biology (5)
LS 7B – Genetics, Evolution & Ecology (5) Prerequisite: 7A
LS 7C – Physiology and Human Biology (5) Prerequisite: 7B
LS 23L – Intro to Laboratory and Scientific Methodology (3) Prerequisite: 7B

Chemistry

Life Science Series		Physical Science Series
14A(E) – General Chemistry for Life Scientists I (Enhanced) (4) Co-requisite: LS 30A or MATH 3A or 31A, or place into MATH 3A/31A by taking the Math Diagnostic Test		**20A(H) - Chemical Structure (4) (Honors)** Prep: Min 1 yr high school (HS) chemistry, 3.5 yrs HS math, (recommended) HS physics Co-req: MATH 31A
14B(E) - General Chemistry for Life Scientists II (Enhanced) (4) Prerequisite: CHEM 14A(E) or 20A (grade of C- or better; Co-Req: LS 30B or MATH 3B or 31B (grade of C- or better)		**20B(H) - Chemical Energetics and Change (Honors) (4)** Prerequisites: CHEM 20A(H) and MATH 31A (grades of C- or better)
14BL - General and Organic Chemistry Lab I (3) Prereq: CHEM 14A or 20A(H) (grade C- or better) Pre- or Co-requisite: CHEM 14B		**20L - General Chemistry Laboratory (3)** Prerequisite: CHEM 14A or 20A (grade of C- or better) Pre- or Co-requisite: CHEM 14B or 20B
14C – Structure of Organic Molecule (4) Prerequisite: CHEM 14B (grade of C- or better)		**30A – Organic Chemistry I: Structure & Reactivity (4)** Prerequisite: CHEM 20B
14D – Organic Reactions & Pharmaceuticals (4) Prerequisite: CHEM 14C (grade of C- or better)		**30AL - General Chemistry Laboratory II (4)** Prerequisites: CHEM 20B(H), 20L, 30A(H) (grades of C- or better)
		30B – Organic Chem II: Reactivity, Synthesis, & Spectroscopy (4) Prerequisite: CHEM 30A (grade of C- or better)

OR

Chemistry

ADDITIONAL Chemistry (Not Required for the Major)		
These courses are recommended for students planning to attend professional schools.		
Life Science Series	**OR**	**Physical Science Series**
14CL - General & Organic Chemistry Lab II (4) Prerequisites: CHEM 14B, 14BL or 20B, 20L (grades of C- or better) Pre- or Co-requisite: CHEM 14C		**30BL - Organic Chemistry Laboratory I (3)** Prerequisites: CHEM 30A(H), 30AL, 30B (grades C- or better)
		30C - Organic Chemistry III: Reactivity and Synthesis, and Biomolecules (4) Prerequisite: CHEM 30B (grade C- or better)

IMPORTANT NOTE: After Completing CHEM 20A, students can move to the 14 Series starting with 14B, or after taking CHEM 20A, 20B, 20L may take Chem 14C, 14CL, 14D. Students who wish to switch from the 14 series to the 20/30 series after taking CHEM 14A, 14B, and 14BL, can take CHEM 30A, 30AL, 30B.

Mathematics

Mathematics for Life Sciences (Recommended)
LS 30A – Mathematics for Life Scientists (4)
LS 30B - Mathematics for Life Scientists (4) Prerequisite: LS 30A
Life Science 40 – Statistics of Biological Systems (5) Prerequisite: LS 30A **OR** **Stats 13 – Introduction to Statistical Methods for Life and Health Sciences (5)**
Note: The math diagnostic test is NOT required to start this series.

OR…

Mathematics

Life Science Series		Physical Science Series
MATH 3A – Calculus for Life Science Students (4) Preparation: Math Diagnostic Test Score of 80% or better or Course 1 (grade of C- or better)		**MATH 31A(H)(L) – Differential & Integral Calculus (Honors) (Laboratory) (4)** Preparation: Math Diagnostic Test Score of 80% or better (31A), 60%-80% (31AL) or Course 1 (grade of C- or better)
MATH 3B – Calculus for Life Science Students (4) Prerequisite: Math 3A or 31A (grade C- or better)	OR	**MATH 31B(H) – Integration & Infinite Series (Honors) (4)** Prerequisite: MATH 31A (grade of C- or better)
MATH 3C – Ordinary Differential Equations with Linear Algebra for Life Science Students (4) Prerequisite: Math 3B or 31B (grade C- or better)		**MATH 32A(H) – Calculus of Several Variables (Honors) (4)** Prerequisite: MATH 31A (grade of C- or better)
STATS 13: Required for MIMG majors ONLY		**STATS 13:** Required for MIMG majors ONLY

Mathematics

NOTE: AP Calculus may give you credit for either 31A or 31A and 31B – see below.

Score	AB Exam	BC Exam
5	Credit for MATH 31A → **Enroll in Math 3B or 31B**	Credit for MATH 31A, 31B → **Enroll in Math 3C or 32A**
4	No credit for Math 3 or 31 series	Credit for Math 31A → **Enroll in Math 3B or 31B**

Math Diagnostic Test

Score	Placement
80% +	MATH 31A / MATH 3A
60 – 80%	MATH 31AL
30% +	MATH 1

Remember that the Math for Life Science series (LS 30A, 30B, STATS 13/LS40) does not require the Math Diagnostic Test.

Physics

Life Science Series		Physical Science Series
5A – Physics for Life Science Majors: Mechanics and Energy (5) Prerequisite: MATH 3A, 3B, 3C, or MATH 31A, 31B, 32A or LS 30A, 30B		**1A(H) - Physics for Scientists and Engineers: Mechanics (Honors) (5)** Prerequisites: MATH 31A and 31B Pre- or Co-requisite: MATH 32A
5B – Physics for Life Science Majors: Thermodynamics, Fluids, Waves, Light and Optics (5) Prerequisite: PHYSICS 5A		**1B(H) - Physics for Scientists and Engineers: Oscillations, Waves, Electric and Magnetic Fields (Honors) (5)** Prereq: PHYSICS 1A, MATH 31B, 32A Pre- or Co-requisite: MATH 32B
5C – Physics for Life Science Majors: Electricity, Magnetism, and Modern Physics (5) Prerequisite: PHYSICS 5A	**OR**	**1C(H) - Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity (Honors) (5)** Prereq: PHYSICS 1A, 1B, MATH 32A, 32B Pre- or Co-requisite: MATH 33A
Labs: Each course in the 5 series includes both lecture and laboratory.		**Labs:** **4AL - Physics Lab for Scientists and Engineers: Mechanics (2)** Prerequisite: PHYSICS 1A(H) Co-Req: PHYSICS 1B(H) **4BL - Physics Lab for Scientists and Engineers: Electricity and Magnetism (2)** Prerequisite: PHYSICS 1A(H), 1B(H) Co-Requisite: PHYSICS 1C

Tips for New Students

- The Quarter System
- Course Load
- Prerequisites and Sequence of Courses
- When to Seek Advice
- College vs. Departmental Advisors
- Professors' Office Hours
- Current Contact Information

Scheduling Tips

FIRST QUARTER RECOMMENDATIONS

- No more than 2 science classes
- Any combination of Life Science, Chemistry, and Math
  - CHEM 14A and LIFESCI 30A
  - LIFESCI 7A and LIFESCI 30A
- 2 science classes + 1 non-science class (ex: ENG COMP 3, GE)

Medical School Requirements

- 3 quarters of college **English** (AP does not apply)
- 3 quarters of college **math** (AP does not apply) including Statistics
- 1 year of **biology with lab** (LIFESCI 7A, 7B, 7C, 23L)
- CHEM 14 series or CHEM 20/30 series + CHEM 153A fulfills the **chemistry with lab** requirement (AP does not apply)
- **Physics** is covered by the major
- **Spanish** is highly recommended

Stay informed about all things Pre-Health at UCLA

prehealth.ucla.edu
information, services, and resources

PreHealthUCLA
upcoming events and opportunities

Getting Involved in Research

- Biomedical Research Minor
  - Introductory course required to apply - BMD RES 5HA, BMD RES 10H, HNRS 70A
- Undergraduate Research Center
- Consult with your MCDB or MIMG advisor for major-specific information

Join our Listserv

To subscribe to MCDB:

Send an email to **MCDBIO-L+subscribe@lists.ucla.edu**

To subscribe to MIMG:

Send an email to **MIMG+subscribe@lists.ucla.edu**

Questions?

Additional questions? Send us an email!

undergradmcdb@lifesci.ucla.edu

undergrad@mimg.ucla.edu

Thank You