



# New Student Orientation 2021

Connie Firestone, Undergraduate Advisor, MCDB

# Advisor Information



## MOLECULAR, CELL AND DEVELOPMENTAL BIOLOGY

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## MICROBIOLOGY, IMMUNOLOGY AND MOLECULAR GENETICS

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# 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

### 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

### 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)

### 14BL - General and Organic Chemistry Lab I (3)

Prereq: CHEM 14A or 20A(H) (grade C- or better)  
Pre- or Co-requisite: CHEM 14B

### 14C – Structure of Organic Molecule (4)

Prerequisite: CHEM 14B (grade of C- or better)

### 14D – Organic Reactions & Pharmaceuticals (4)

Prerequisite: CHEM 14C (grade of C- or better)

## Physical Science Series

### 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

### 20B(H) - Chemical Energetics and Change (Honors) (4)

Prerequisites: CHEM 20A(H) and MATH 31A (grades of C- or better)

### 20L - General Chemistry Laboratory (3)

Prerequisite: CHEM 14A or 20A (grade of C- or better)  
Pre- or Co-requisite: CHEM 14B or 20B

### 30A – Organic Chemistry I: Structure & Reactivity (4)

Prerequisite: CHEM 20B

### 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

#### 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

OR

### Physical Science Series

#### 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	OR	Physical Science Series
<b>MATH 3A – Calculus for Life Science Students (4)</b> Preparation: Math Diagnostic Test Score of 80% or better or Course 1 (grade of C- or better)		<b>MATH 31A(H)(L) – Differential &amp; Integral Calculus (Honors) (Laboratory) (4)</b> Preparation: Math Diagnostic Test Score of 80% or better (31A), 60%-80% (31AL) or Course 1 (grade of C- or better)
<b>MATH 3B – Calculus for Life Science Students (4)</b> Prerequisite: Math 3A or 31A (grade C- or better)		<b>MATH 31B(H) – Integration &amp; Infinite Series (Honors) (4)</b> Prerequisite: MATH 31A (grade of C- or better)
<b>MATH 3C – Ordinary Differential Equations with Linear Algebra for Life Science Students (4)</b> Prerequisite: Math 3B or 31B (grade C- or better)		<b>MATH 32A(H) – Calculus of Several Variables (Honors) (4)</b> Prerequisite: MATH 31A (grade of C- or better)
<b>STATS 13:</b> Required for MIMG majors ONLY		<b>STATS 13:</b> 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 → <b>Enroll in Math 3B or 31B</b>	Credit for MATH 31A, 31B → <b>Enroll in Math 3C or 32A</b>
4	No credit for Math 3 or 31 series	Credit for Math 31A → <b>Enroll in Math 3B or 31B</b>

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

# 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](https://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



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# Questions?



Additional questions? Send us an email!

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# Thank You