MCDB & MIMG ORIENTATION 2020

Congratulations on being accepted to one of the top research institutions in the entire nation!

Molecular, Cell, and Developmental Biology

Connie Firestone and Maggie Schmall
128 and 126 Hershey Hall, Phone: 310-825-7109 and 310-267-5908
MCDB Home Page: www.mcdb.ucla.edu
Email: cfire@mcdb.ucla.edu; mschmall@lifesci.ucla.edu; or undergradmcdb@lifesci.ucla.edu

Microbiology, Immunology, and Molecular Genetics

Joy Ahn
1602B Molecular Sciences Building, Phone: 310-825-8482
MIMG Home Page: www.mimg.ucla.edu
Email: undergrad@microbio.ucla.edu

Always include your UID in emails to advisors.

Departmental EMAIL Service – Sign up today

The MCDB and MIMG advisors use Google Groups to send important information to students.

You will have access to announcements regarding major and course requirements, scheduling updates, career and internship opportunities, and other items of interest. If you do not subscribe, you are choosing to be uninformed and at a disadvantage compared to your peers. **Sign up today.**

We recommend that you use a "g.ucla.edu" or "gmail.com" account to sign-up for the 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**

You will receive an email from the group. Open the email and select "Join the Group". You will be directed to the Google Groups website. A box will appear that says "Apply to join the MCDB or MIMG group. Check the settings options, and hit the "Apply to join this group" button. After joining the group, you will receive an email CONFIRMATION that your request has been approved. Please note that you may receive this email several days after applying to join the group.

UCLA Life Sciences

ADVISOR CONTACT INFO

Biomedical Research Minor

220B Hershey Hall, www.biomedresearchminor.ucla.edu, (310) 825-0237

-Biomedical Research Minor

Jayro Ramos - bmdresminor@lifesci.ucla.edu

Computational and Systems Biology

102 Hershey Hall, www.casb.ucla.edu, (310) 825-5152

-CaSB Major

-Mathematical Biology Minor

-Structural Biology Minor

-Systems Biology Minor

Annelise Werhel - casb@lifesci.ucla.edu

Ecology and Evolutionary Biology

101 Hershey Hall, www.eeb.ucla.edu, (310) 825-1680

-Biology Major

-Ecology, Behavior, and Evolution Major

-Marine Biology Major

-Conservation Biology Minor

-Evolutionary Medicine Minor

Eileen Mansoorian, Jessica Angus, Jess Gonzalez, or Melissa Carrillo - Please use Message Center via MyUCLA.

Institute of the Environment and Sustainability

2308 Life Science Building, www.ioes.ucla.edu/minor, (310) 206-9193

-Environmental Systems and Society Minor

Royce Dieckmann - rdieckmann@ioes.ucla.edu

Institute for Society & Genetics

3360C Life Science Building, www.socgen.ucla.edu, (310) 206-1890

-Human Biology and Society, B.A. or B.S.

-Society and Genetics Minor

Maverick Santos - santosmaverick@socgen.ucla.edu

Integrative Biology & Physiology

125 Hershey Hall, www.physci.ucla.edu, (310) 825-3892

-Physiological Science Major

Inna Gergel - gergel@physci.ucla.edu

Microbiology, Immunology, and Molecular Genetics

1602B Molecular Sciences Bldg, www.mimg.ucla.edu*, (310) 825-8482*

-MIMG Major

Joy Ahn - undergrad@microbio.ucla.edu

Molecular, Cell, and Developmental Biology

126 and 128 Hershey Hall, www.mcdb.ucla.edu, (310) 825-7109 or *(310) 267-5908*

-MCDB Major

Connie Firestone or Maggie Schmall - undergradmcdb@lifesci.ucla.edu

Neuroscience
1339 Gonda Center, www.neurosci.ucla.edu, (310) 206-2349
-Neuroscience Major
-Neuroscience Minor
Aftin Whitten - awhitten@mednet.ucla.edu

Psychology
1531 Franz Hall, www.psych.ucla.edu, (310) 825-2730
-Psychology Major
-Psychobiology Major
-Cognitive Science Major
-Cognitive Science Minor
-Applied Developmental Psychology Minor
Melina Dorian - undergraduate@psych.ucla.edu

Science Education Minor
1037 and 1039 Young Hall, www.cateach.ucla.edu/?q=content/science-education-minor, (310) 794-2191
-Science Education Minor
Marlena Raimey - cateach@chem.ucla.edu

Each of these majors requires all, or most of, the Life Sciences Core Curriculum, detailed on the next three pages.

LIFE SCIENCE CORE CURRICULUM

Life Sciences (All Courses required)
LS 7A – Cell & Molecular Biology (5)
LS 7B – Genetics, Evolution & Ecology (5) Prerequisite: 7A
LS 7C – Physiology & 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 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	**OR**	**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 Molecules (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)

ADDITIONAL Chemistry (Not required for the major)		
These courses are recommended for students planning to attend professional school.		
LIFE SCIENCE SERIES		**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	**OR**	**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.

LIFE SCIENCE CORE CURRICULUM, Continued

Mathematics

The Life Science Core Office manages and teaches the Life Science courses (7A/B/C, 23L), as well as calculus for Life Science students which is acceptable for professional schools.

Mathematics for Life Sciences (recommended)
Life Science 30A – Mathematics for Life Scientists (4)
Life Science 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

If you do not choose the LS series detailed above, you can choose from one of the math series, offered by the Math department:

Mathematics (Offered by the Math Department)		
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
NOTE: AP Calculus may give you credit for either 31A or 31A and 31B – see below.		

Course Credit for AP Calculus (math courses offered by the math department ONLY):

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**

LIFE SCIENCE CORE CURRICULUM, Continued

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

Please note:

- All Life Science Core Curriculum courses, as well as the courses taken to satisfy the Major requirements, **MUST be taken for letter grades and passed with a grade of C- or better.**
- A considerable amount of the Life Science series must be completed prior to taking any upper division MIMG or MCDB course. EXCEPTION: MIMG 105 which requires Physics 5C only.
- Physics may be completed in the third year.

Scheduling Tips

First Quarter Recommendations: We recommend that you take no more than two science courses in your first quarter. You can take any combination of Chemistry, Math, or Life Science: Chemistry 14A and LS 30A, or LS 7A and LS 30A. In addition, you will take one non-science class (ENG COMP or a GE, for example).

If you feel unprepared for college-level chemistry, please consider…

- Taking a self-diagnostic test located at **https://ccle.ucla.edu/course/view/chemdiag** to help you determine if you are ready for CHEM 14A, or take **Chemistry 17 -** Chemical Principles.

If you feel unprepared for college-level calculus, please consider taking:

- Taking a diagnostic test located at **https://www.math.ucla.edu/ugrad/diagnostic,** or take **MATH 1 -** Precalculus.

The sample schedules on the next page are intended to help you plan your science classes in order to graduate within four years. That being said, they are not meant to be followed exactly. There is not a single, “right” class plan.

UCLA College Life Sciences

CURRICULUM OPTIONS FOR BIOLOGICAL SCIENCES MAJORS

Biology First Path

For students generally interested in a biological sciences major, preferably with at least two AP or honors courses in math, biology or chemistry

Fall	Winter	Spring
LS 30A (or MATH 3A or MATH 31A) LS 7A Plus other courses	LS 30B (or MATH 3B or MATH 31B) LS 7B Plus other courses	STATS 13 or LS 40 LS 7C LS 23L
Fall	**Winter**	**Spring**
CHEM 14A LS 110 or upper div biology class Plus other courses	CHEM 14B CHEM 14BL Plus other courses	CHEM 14C PHYSICS 5A Plus other courses
Fall	**Winter**	**Spring**
CHEM 14D LS 107 Plus other courses	CHEM 153A PHYSICS 5B Plus other courses	PHYSICS 5C Plus other courses
Fall	**Winter**	**Spring**
Electives and remaining requirements as needed for graduation	Electives and remaining requirements as needed for graduation	Electives and remaining requirements as needed for graduation

Biology Exploration Path

For students considering a biological sciences major with one AP or honors course in math, biology, or science

Fall	Winter	Spring
LS 20 * Non-majors biology class Plus other courses	LS 30A (or MATH 3A or MATH 31A) LS 7A Plus other courses	LS 30B (or MATH 3B or MATH 31B) LS 7B Plus other courses
Fall	**Winter**	**Spring**
LS 7C CHEM 17 LS 23L	CHEM 14A STATS 13 or LS 40 LS 110	CHEM 14B CHEM 14BL Plus other courses
Fall	**Winter**	**Spring**
CHEM 14C LS 107 Plus other courses	CHEM 14D PHYSICS 5A Plus other courses	CHEM 153A or CHEM 14D PHYSICS 5B Plus other courses
Fall	**Winter**	**Spring**
PHYSICS 5C Electives and remaining requirements as needed for graduation	Electives and remaining requirements as needed for graduation	Electives and remaining requirements as needed for graduation

* LS 15, EEB 25, EEB 87, PHYSCI 7, MCDB 40, MIMG 5

Chemistry Early Path

For biological sciences majors with a strong interest in chemistry and with at least two AP classes in chemistry/math.

Fall	Winter	Spring
CHEM 14A LS 30A (or MATH 3A or MATH 31A) Plus other courses	CHEM 14B LS 30B (or MATH 3B or MATH 31B) Plus other courses	CHEM 14BL LS 7A STATS 13 or LS 40
Fall	**Winter**	**Spring**
CHEM 14C LS 7B Plus other courses	CHEM 14D LS 7C LS 23L	PHYSICS 5A CHEM 153A LS 107
Fall	**Winter**	**Spring**
PHYSICS 5B Electives and remianing requirements as needed for graduation	PHYSICS 5C Electives and remaning requirements as needed for graduation	Electives and remaining requirements as needed for graduation
Fall	**Winter**	**Spring**
Electives and remaining requirements as needed for graduation	Electives and remaining requirements as needed for graduation	Electives and remaining requirements as needed for graduation

Physics Early Path

For biological sciences majors with a strong interest in physics and with at least two AP classes in physics, chemistry or math.

Fall	Winter	Spring
LS 30A (or MATH 3A or MATH 31A) LS 7A Plus other courses	LS 30B (or MATH 3B or MATH 31B) LS 7B Plus other courses	CHEM 14A PHYSICS 5A (or LS 40 or STATS 13) Plus other courses
Fall	**Winter**	**Spring**
CHEM 14B LS 40 or STATS 13 (or PHYSICS 5A) Plus other courses	LS 7C LS 23L CHEM 14C	CHEM 14BL PHYSICS 5C *(pre-req for Neurosci M101A)** Plus other courses
Fall	**Winter**	**Spring**
PHYSICS 5B CHEM 14CL Plus other courses	CHEM 14D Plus other courses	CHEM 153A Plus other courses
Fall	**Winter**	**Spring**
Electives and remaining requirements as needed for graduation	Electives and remaining requirements as needed for graduation	Electives and remaining requirements as needed for graduation

* Physics does not require 5B as a pre-requisite for Physics 5C

ENROLLMENT PROBLEMS YOU MAY ENCOUNTER

If you want to enroll in a class that has a requisite class that you took somewhere other than UCLA, you may be prevented from enrolling. This is because the enrollment system **does not recognize transfer coursework**. That is, you may be **BLOCKED** from enrolling into a class that has a requisite that you took somewhere other than UCLA. Before your enrollment appointment begins, check the requisites for a course. If you are blocked from enrolling, you need to contact the advisor of the department offering the course for help enrolling. Who can help you? Advisors can ONLY enroll students in courses offered by their department:

YOUR MCDB ADVISOR:

- CAN enroll any student, from any major, in an MCDB course (like MCDB 138)
- CANNOT enroll any student (not even an MCDB student) in a class offered by ANOTHER dept (like Life Science 107)

YOUR MIMG ADVISOR:

- CAN enroll any student, from any major, in an MIMG course (like MIMG 101)
- CANNOT enroll any student (not even an MIMG student) in a class offered by ANOTHER dept (like Life Science 107)

When you need help with enrollment, contact the appropriate advisor via email. You must provide ALL the information the contact person will need in order to enroll you. Please be efficient… you should not assume that advisors have the time to look up each individual student, course, or section for you. Therefore make certain your request includes ALL of the following information:

- **Your full name**
- **Your 9-digit University ID number (UID)**
- **The department and course number. For example: CHEM 14C; MCDB 138; MIMG 101, etc.**
- **The 9-digit Student Records System (SRS) NUMBERS for at least two discussion/lab sections that will work with your schedule, listed in order of preference.** The SRS numbers are found on the course's page on the Schedule of Classes, under the title "Class ID."

Chemistry

4006 Young Hall
www.chemistry.ucla.edu
E-mail: ugrad@chem.ucla.edu

Life Sciences

2305 Life Sciences Building
www.lscore.ucla.edu
E-mail: lscore@lifesci.ucla.edu

Mathematics

6356 Math Sciences Building
www.math.ucla.edu
E-mail: ugrad@math.ucla.edu

Physics

1-707A Physics and Astronomy Building
www.pa.ucla.edu
E-mail: jazminev@physics.ucla.edu
Online Form:
https://computing.pa.ucla.edu/webform/contact-physics-astronomy-undergraduate-office

Statistics

8117 Math Sciences Building
www.statistics.ucla.edu
E-mail: Please use Message Center via MyUCLA.

Tips for New Students

The Quarter System – *Quarter vs. Semester* – One of the toughest adjustments, especially for transfer students.

The quarter system is very different from the semester system—it moves a lot faster and more is required of students in a relatively short period of time. Transitioning from the semester to the quarter system requires a significant adjustment. Don't be discouraged if you find that it takes some time to get used to the faster pace. Being organized and planning your study time greatly helps with the adjustment.

Course Load -- *How many classes should I enroll in for my first quarter?*

Not more than three. As you are just starting out at UCLA, it is a good idea to begin with a conservative schedule until you get your bearings. We recommend two classes for the major and one non-science class (English Comp or a GE, for example). Don't take more than two major classes in your first quarter! And do not take more than three courses total. (But if you like, you can take three courses plus a Fiat Lux seminar or University Studies 10 or 20.) Once you get a feel for the kind of course load you can handle, you can adjust your schedule accordingly for future quarters.

Prerequisites & Sequence of Courses
Do classes have to be taken in a particular order?

Pre-requisites, also called simply "requisites", are courses that you must take *before* taking a particular course. For example, you must take LS 7A before you can take LS 7B, so LS 7A is a *requisite* for LS 7B. It is essential that you familiarize yourself with the requisites for all courses you plan to take. Requisites are established for a reason and are strictly enforced. You must have the proper requisites completed before taking any MCDB or MIMG classes! The UCLA General Catalog and the Schedule of Classes contains course descriptions with requisites. It is your responsibility to assure that required classes are completed before trying to enroll in a particular course.

When to Seek Advice – *When should I see an advisor?*

Your best source for obtaining important (and accurate) information about degree or major requirements is from an academic advisor. It is recommended that you see your MCDB or MIMG departmental advisor to go over your Degree Audit Report **at least once a year**, more often if needed. Wise students do not wait until the day before their first enrollment pass to see an advisor. Check with an advisor to see when they will be available. The first two weeks of every quarter are very busy, so if you want to plan future quarters or discuss career/grad school, it is best to come *after* the first two weeks. Questions can also be emailed -- undergradmcdb@lifesci.ucla.edu (for MCDB) or undergrad@microbio.ucla.edu (for MIMG).

Never depend on your friends or even professors for accurate academic information!

College vs. Departmental Advisors – *Which advisor should I go to?*

For any questions or concerns you may have regarding the requirements pertaining to the *major,* see your departmental advisor (Joy Ahn for MIMG; Connie Firestone and Maggie Schmall for MCDB). For any other concerns (IGETC, the American History and Institutions requirement, the English Composition requirement, GEs, etc.), check with College Academic Counseling (A-316 Murphy Hall**)**; or an Honors advisor if you are in College Honors; or an AAP counselor if you are in the Academic Advancement Program (AAP).

Professors' Office Hours – *Why should I go to office hours?*

Attending professors' office hours is an excellent way to supplement your class notes. It has been our observation that students who regularly attend office hours do better on exams and in classes overall. Not only will it serve as a useful aid in preparing for exams, but it can give you and the professor an opportunity to get to know each other on a more individual basis.

Keeping the University Updated – *Why is my current contact info important?*

It is crucial that you maintain up-to-date records with the Registrar's Office. If any of your contact information (address, phone number, email address, etc.) changes, you should enter the changes into the University's Record System through the www.my.ucla.edu website. Failure to do so can result in the delay of important messages to you regarding record holds, financial aid, etc.

Be Your Own Person! – *Should I constantly compare myself to my classmates?*

A competitive edge can be just the thing one needs to stay on top of his or her studies and to excel academically. However, it is equally important to keep things in perspective. The only person you really need to compete with is you. Try not to compare yourself with others too much (easier said than done, we know). Oftentimes, one's perception of his or her own progress compared to friends, roommates, or classmates can be skewed. Try to concentrate primarily on your own goals and do what you need to do for yourself to attain those goals.

Medical School Requirement Guidelines

Please note that these guidelines are subject to change at any time and are based on the UCLA School of Medicine requirements. The Career Center and the admissions offices of your top five or ten medical schools are the best sources for updated requirements.

"Pre-Health at UCLA" is a campus-wide initiative aimed to improve the pre-health experience at UCLA by bringing together information and opportunities for pre-health students:

1. http://prehealth.ucla.edu - Information about pre-health services, application timelines and processes, and health professions.
2. http://facebook.com/prehealthUCLA | @PreHealthUCLA - Follow for upcoming events and opportunities on and off campus.
3. Pre-Health at UCLA Newsletter – Sign up for this bi-weekly newsletter by creating a Handshake account with the UCLA Career Center and indicating "Healthcare" as one of your Industry Interests when setting up your profile.

Students planning to apply to medical school should take:

- Three quarters of English at the college level (AP does not apply), two quarters should be English composition (WI & WII, or 2 WII's). At least one course should be a literature course.

- At least 3 quarters of **math** at the college level (AP does not apply), **including one course in statistics (lower or upper division; can take Biostats 100A which counts on the major)**. If an additional quarter of math is needed, any college course will fulfill the requirement, you need not take an extra calculus course.

- The Life Sciences series fulfills the requirement for one year of **biology with lab** at the college level (AP does not apply). This is covered by Life Sciences 7A, 7B, 7C, and 23L.

- The 14 or the 20/30 series plus CHEM 153A fulfills the **chemistry with lab** requirement at the college level (AP does not apply). Students who choose to take the 20/30 series should also complete CHEM 30C to finish all of the organic chemistry topics required by med schools. Some schools do not specifically require biochemistry lab, but all these courses are what medical schools expect to see from UCLA applicants.

- **Physics** is covered by your major.

- **Spanish** is highly recommended. (This need not have been taken at the college level. If you take it at UCLA, you should complete it through Spanish 3). Other foreign languages will also fill this requirement.

Students should also be able to show a commitment to the following:

- **Community service and/or Experience in a health care setting.** This is an indication of your commitment to helping others. Your community service doesn't have to be through UCLA; it can be in your home community, through a church group, etc., but your record of service should show a genuine commitment.

- **Knowledge as to how healthcare is delivered and/or financed in the United States**.

- **Research.** Some admissions committees don't consider this absolutely necessary, but most schools will expect you to have done some kind of research if you were an undergraduate at UCLA. There is no minimum number of quarters of research involvement required. Research in the Humanities is also acceptable.

Getting Involved in Research - MIMG and MCDB Majors

Both the MIMG and MCDB majors allow students to apply up to 12 units (three quarters) of upper division independent research (MIMG or MCDB 196, 199A-C, & 198A-C) to their major requirements.

Each department has their own rules as to how and when these research courses are completed, as well as their own list of approved research faculty mentors. **It is important that you meet with either the MIMG or MCDB Undergraduate Advisor to discuss the details.**

There is also information on each department's website:

MCDB: https://www.mcdb.ucla.edu/undergraduate/undergraduate-research

MIMG: https://www.mimg.ucla.edu/path-2/

Getting Started in Research

Here are some organizations or opportunities on campus related to independent research:

Biomedical Research Minor This minor is designed to help students to become involved in laboratory research from an early point in their college career. After initial training courses, students are placed in a laboratory in the College or Medical School for a minimum of four quarters of research. In addition to their research, students complete courses in analysis of research literature, oral presentation of research data, science policy and ethics, and history or philosophy of science. Students who complete the Biomedical Research Minor should be well trained in both the process of scientific research and the social issues facing science today. Entrance into the Minor is competitive. Students should apply no later than the first quarter of their junior year. Students from any major with a UCLA GPA of at least 3.0 are eligible to apply. Before applying to the minor, students must take one of three introductory courses: BMD RES 5HA or 10H, or Honors Collegium 70A (entering transfer students should be enrolled in the introductory course in the same quarter they apply).

The Life and Physical Sciences Undergraduate Research Center (URC) *(2121 Life Sciences Building),* administers undergraduate research-related programs, including the ***Student Research Program (SRP)***, open to all undergraduates to enable them to begin working with faculty members on research projects. UCLA's Student Research Program is one of the largest programs of its kind in American higher education. The Undergraduate Research Center also provides ***workshops*** for students interested in participating in SRP; helps students identify ***faculty mentors***; provides ***research stipends*** for some undergraduates; sponsors ***The Undergraduate Science Journal;*** and maintains an ***undergraduate research website*** at http://www.ugresearchsci.ucla.edu/default.htm

Information Specific to:

MOLECULAR, CELL, AND DEVELOPMENTAL BIOLOGY

MOLECULAR, CELL AND DEVELOPMENTAL BIOLOGY MAJOR 2020 – 2021

Preparation for the Major			
	Life Science Series		**Physical Science Series**
Chemistry	14A or 14A, 14B or 14BE, 14BL, 14C, 14CL★, 14D	**OR**	20A, 20B, 20L, 30A, 30AL, 30B, 30BL★
Math	3A, 3B, 3C **or** **Life Sci 30A, 30B, Stats 13 or LS40**		31A, 31B, 32A
Physics	5A, 5B, 5C		1A, 1B, 1C, 4AL, 4BL
Life Science	**7A** (Cell & Molecular Biology), **7B** (Genetics, Evolution, & Ecology), **7C** (Physiology & Human Body) **23L** (Intro to Lab & Scientific Method)		

IMPORTANT NOTES – Preparation for the Major

★ **Chem 14CL or Chem 30BL is not required on the major, but most pre-health professional schools and possibly some graduate schools still require an organic lab class.**

- Students must earn a grade of C- or better in each prep course, and achieve an overall GPA of 2.0 in the major prep.
- Students receiving grades below C- in two prep courses, either separate courses or repetitions of the same course, are **subject to dismissal from the major**.
- Students who complete Chem 20A can move to the 14 series starting with 14B, or after taking 20A, 20B, 20L may take Chem 14C, 14CL*, and 14D.
- The Chemistry 14 series is unique to UCLA - there are no equivalents at other schools and must be taken in its entirety at UCLA.

UPPER DIVISION MAJOR REQUIREMENTS

Upper Division Core Requirements	
Biochemistry	**Chem 153A** Biochem: Intro to Structure, Enzymes & Metabolism (4 units)
Genetics	**Life Science 107**: Genetics (5 units) *(not required if you completed LS4)*
Cell Biology Course	**MCDB 165A** Biology of the Cell (5 units)
Developmental Bio Course	**MCDB 138** Developmental Biology (5 units)
Molecular Biology Course	**MCDB 144** Molecular Biology of Cellular Processes (5 units)

	Laboratory Requirement (choose from #1 – 5)		
1.	**MCDB 104AL** (5 units) Research Immersion Lab in Developmental Biology		
	OR		
2.	**MCDB 187AL** (5 units) Research Immersion Lab in Genomic Biology		
	OR		
3.	**MCDB 150AL** (5 units) Research Immersion Lab in Plant-Microbe Ecology		
	OR		
4.	**MCDB 196B**◆ (4 units) Research Apprenticeship II (2nd qtr.)	**+**	**MCDB 180B*** (2 units) Scientific Analysis & Communication II
5.	**MCDB 196B, 198B/C, or 199B/C**** (4 units) Research Apprenticeship II (2nd qtr.)	**+**	**MCDB 145** (4 units) Scientific Analysis & Communication II
* MCDB 180B is taken CONCURRENTLY with 196B (same for 196A and 180A).			
◆ 196A/180A is a pre-requisite for 196B/180B. The second quarter (196B) is applied to your laboratory requirement. 196A/180A/180B (8u) are applied toward the 20 units of electives.			
** MCDB 145 (offered in Spring only) Students must apply for the MCDB 145 seminar during Winter quarter. It must be taken with an MCDB upper division independent research course.			

Upper Division Elective Requirement for the Major	
20 units of Approved Upper Division Electives (see attached list of electives)	**5 units must be MCDB dept. course/s (category 1), 5 units may be taken from category 1 or 2, and 10 units can be taken from category 1, 2, or 3.**

★★**Please see the next page for important notes pertaining to course restrictions and what counts or does NOT count toward the major requirements or electives.**★★

IMPORTANT NOTES PERTAINING TO MAJOR REQUIREMENTS

- **Any single course can be used in only ONE category on the major.**
- **Courses applied toward the prep and major requirements must be taken for a letter grade.**
- **MCDB majors are required to earn a letter grade of C in each MCDB Core Course (LS107, Chem 153A, MCDB 138, 144, 165A), and achieve a minimum overall GPA of 2.0 in the major.**
- **Students receiving grades below C in two required core courses, either in separate courses or repetitions of the same course, are subject to dismissal from the major.**

➢ Life Science 7A, 7B, 7C, 23L, AND **LIFE SCIENCE 107** are pre-requisites for all MCDB upper division coursework except MCDB 165A (pre-reqs: 14D or 30B and 7A, 7B, 7C).

➢ Any upper division MCDB course will be accepted as an MCDB elective, **EXCLUDING** MCDB 100, 104AL, 138, 144, 150AL, 165A, 187AL, 187C, 187D, 190A-C, 192A, 192B, 193, 194A, and 199.

➢ The MCDB department does not approve Biochemistry/MCDB or MIMG/MCDB double major petitions.

➢ A maximum of 4 units of approved seminar course credit may be applied to the ELECTIVES requirement. (e.g., MCDB 145, 180A, 180B, 191).

➢ **APPLYING INDEPENDENT RESEARCH TO MCDB MAJOR REQUIREMENTS**: To enroll in MCDB 196A/B, 199A-D, or 198A-D, students MUST be conducting research in an MCDB approved lab. A list of approved faculty mentors is available in the MCDB undergraduate office (128 Hershey Hall), and on the MCDB Undergraduate website https://www.mcdb.ucla.edu/undergraduate-research/

➢ **APPLYING INDEPENDENT RESEARCH TO THE LAB REQUIREMENT (196A/B, 180A/B):** Students may apply for these courses during their third or fourth year. See the MCDB website for application materials and instructions: https://www.mcdb.ucla.edu/undergraduate/undergraduate-research/mcdb-196a-and-196b .

➢ **A maximum of 12 units of research (MCDB 196A – B, MCDB 199A – C, MCDB 198A – C) may be applied to the major requirements.** Please note: MCDB 196B (4u) is applied to the upper division laboratory requirement and MCDB 196A (4u) plus MCDB 199C (4u) is applied toward the ELECTIVES requirement.

➢ If a Research Immersion laboratory (i.e. MCDB 104AL, 150AL, 187AL) is completed, 12 units of MCDB 199A-C, or MCDB 198A-C may **ALSO** be applied to the electives. If a student takes MCDB 104BL it will be applied to the MCDB electives as well.

➢ Elective credit is granted for **either** Biostats 100A or Stats 100A, but not both.

Requirements for the B.S. degree established by the College of Letters & Science are listed in the UCLA General Catalog. A total of 180 quarter units are required for the degree; 60 of these 180 units must be upper division (course numbers 100-199). Check your DAR to determine your allotted maximum number of quarter units. **NOTE: The MCDB major UD requirements satisfy between 48 – 50 upper division units.**

SCHEDULING TIPS

➢ Not all electives are offered every year. Please consult the Schedule of Classes or the appropriate department.

➢ When making a course plan to meet your major requirements, please make sure you have planned for all prerequisites for any upper division course in which you plan to enroll. To enroll in MCDB 168, you must have already completed MCDB 165A and MCDB 138. Courses, which count on the MCDB major, may have upper division prerequisites.

➢ Some electives are restricted to the home department's own majors during first pass. If you want to get into, for example, MIMG 185A, you will need to wait until your second pass because you are not an MIMG major.

Upper Division Elective Requirement for the Major:
The categories below correspond to the elective categories on your Degree Audit Report.

CATEGORY 1		
FIVE UNITS OF MCD BIOLOGY UPPER DIVISION ELECTIVES		
Course #	**Course Name**	**Units**
MCDB 104BL	Advanced Research Analysis in Developmental Biology	4
MCDB M140	Cancer Cell Biology	5
MCDB C141	Molecular Basis of Plant Differentiation and Development	5
MCDB 145	Appreciation and Critical Review of Biomedical Research	4
MCDB 146	Metabolism & Disease	5
MCDB CM156	Human Genetics	5
MCDB 160	Principles of Light Microscopy	4
MCDB 168	Stem Cell Biology	5
MCDB M175A	Neuroscience: From Molecules to Mind	5
MCDB M175B	Neuroscience: From Molecules to Mind	5
MCDB M175C	Neuroscience: From Molecules to Mind	5
MCDB 180A	Scientific Analysis and Communications I *(formerly 188A)*	2
MCDB 180B	Scientific Analysis and Communications II *(formerly 188B)*	2
MCDB 191	Variable Topics in Molecular, Cell, and Developmental Biology	2
MCDB 196A	Research Apprenticeship I (1st qtr.)	4
MCDB 198A-C	Honors Research in MCDB	4/qtr
MCDB 199A-C	Directed Research in MCDB	4/qtr
CATEGORY 2		
FIVE UNITS OF UPPER DIVISION ELECTIVES FROM MCD BIOLOGY AND ACCEPTABLE LIST OF OUTSIDE ELECTIVES		
MCD BIO Courses:		
Any additional MCDB course listed above that was NOT taken to fulfill category 1		
Course Dept. & #	**Course Name**	**Units**
Chemistry & Biochemistry		
CHEM C100	Genomics and Computational Biology	5
CHEM 153B	**NOT ACCEPTED ON THE MAJOR – DO NOT TAKE THIS COURSE**	
CHEM 153C	Biochemistry: Biosynthetic & Energy Metabolism & Its Regulation	4
CHEM 153L	Biochemistry Laboratory	4
CHEM C159	Mechanisms in the Regulation of Transcription I	4
CHEM CM160A	Introduction to Bioinformatics	4
Computer Science/Computational and Systems Biology		
COM SCI CM124	Computational Genetics	4
COM SCI CM186	Computational Systems Biology: Modeling & Simulation of Biological Systems	5
Ecology & Evolutionary Biology		
EE BIOL 184	Evolution, Development, and Disease	4
Microbiology, Immunology & Molecular Genetics		
MIMG 100L	Microbiology Lab for Professional Schools	3
MIMG 101	Introductory Microbiology	4
MIMG 102	Virology	4

Category 2 continues on the next page.		
MIMG 105	Biological Microscopy	4
MIMG 132	**NOT ACCEPTED ON THE MCDB MAJOR**	
MIMG 158	Microbial Genomics	5
MIMG 168	Molecular Parasitology	4
MIMG C185A	Immunology	5
CATEGORY 2, Continued		
Physiological Sciences		
PHY SCI 121	Disease Mechanisms and Therapies	5
PHY SCI 125	Molecular Systems Biology	5
PHY SCI C130	Sex Differences in Physiology and Disease	4
PHY SCI 174	Cell Biophysics in Physiology and Disease	5

CATEGORY 3		
TEN UNITS OF UPPER DIVISION ELECTIVES FROM MCD BIOLOGY AND ACCEPTABLE LIST OF ADDITIONAL OUTSIDE COURSES		
CATEGORY 1 OR 2 COURSES:		
Any additional MCDB or approved outside elective course/s listed above that were NOT taken to fulfill category 1 or 2.		
Course Dept. & #	**Course Name**	**Units**
Biostatistics		
BIOSTATS 100A	Intro to Biostatistics	4
Ecology & Evolutionary Biology		
EEB 110	Vertebrate Morphology	6
EEB 121	Molecular Biology and Evolution	4
EEB 162	Plant Physiology	4
Human Genetics		
HUM GEN C144	Genomic Technology	4
PHY SCI 166	Animal Physiology	6
Statistics		
STATS 100A	Introduction to Probability Theory	4
NOTE: Elective credit is granted for **either** BIOSTATS 100A or STATS 100A, but not both.		

Course number designations:

C = Course is offered concurrently to undergrad and graduate levels in the same class.

M = Listed through multiple departments (may have different numbers in each department).

CM = Offered concurrently to undergrad and grad, and offered through multiple departments.

COMPUTING SPECIALIZATION IN MCDB

Majors in Molecular, Cell and Developmental Biology may receive a specialization in computing by:

1. Satisfying all the requirements for a bachelor's degree in the major and;
2. Completing the following course requirements:

- Programs in Computing 10A, 10B, and 10C
- Programs in Computing 16 (Python)
- Stats 13 or Life Science 40 (Stats)
- One upper division course from:
    - Computer Science CM124
    - Computer Science CM186
    - Chemistry & Biochemistry C100
    - Chemistry & Biochemistry CM160A
    - MCD BIO 187AL*
    - Physiological Science 125

Students may overlap the upper division course for the specialization with an elective or lab requirement for the major.
*Space in 187AL is extremely limited and computing specialization students are not guaranteed a space in 187AL simply because they plan to complete the specialization.

Students must earn a letter grade of C or better in each required course for the computing specialization and a combined GPA of at least 2.0 in these courses to graduate with the specialization in computing.

Information Specific to:

MICROBIOLOGY, IMMUNOLOGY, AND MOLECULAR GENETICS

Rules for the MIMG Department

Students who do not pass Life Sciences 7C prior to Winter quarter of the third year (or first year for transfer students) will result in immediate dismissal from MIMG.

No more than two total repeats are allowed in any of the lower or upper division major classes.

Students must maintain a pre-major and major GPA of 2.00. Failure to do so may result in dismissal from the major.

Any single course can be used in only ONE category on the major.

Advising

Meeting with the department advisor every other quarter or so will ensure you are on track to graduating, we highly encourage it in the department! For any questions or concerns you have, please feel free to reach out to the Student Affairs Officer (aka Student Advisor) by emailing undergrad@microbio.ucla.edu

Appointments and Drop-in counseling is available to undergraduates at the Student Affairs Office during the following times:
Monday thru Friday
9:00 AM – 4:30 PM
The Student Affairs Office is closed every day 12:00 – 1:30 p.m.
Appointments are preferred. Students without appointments may be asked to come back later, particularly during weeks 1-3 of the quarter.

FOR REMOTE COUNSELING DURING FALL QUARTER 2020:
You can receive academic counseling during the fall quarter in the following ways:

1. Phone Appointment. Please put your phone number to be reached (US only) in the reason for visit.
2. Zoom Appointment. If you don't specify a phone appointment, I will reach out to you after you book the appointment with the zoom link to connect on.
3. I am always available by email if you just prefer to ask a quick question.

Book appointments here: **https://mimg.youcanbook.me/**

MIMG Major Requirements

All students entering the MIMG major start under Path 1. To be admitted to Path 2, the student must be researching in an MIMG or MCDB lab, have a GPA of at least 3.0, and submit an application. Deadline to apply to Path 2 is Winter quarter of 3rd year, to begin Path 2 in Spring. Exceptions may be made for transfer students.

Department Academic Policies

- All courses for the major must be taken for a letter grade and passed with at least a C–.
- No more than two repeats allowed in any of the lower or upper division major classes.
- Students must maintain a 2.0 overall and major GPA or will be subject to dismissal from the program.
- Classes do not have to be taken in the order outlined on this page.

PATH 1

Foundation Courses

Quarter	Class	Units
All	Chem 153A- Biochemistry	4
All/S	Chem 153B **OR** MIMG 132	4
All	Life Science 107	5
F, W	MIMG 101- Intro Microbio	4
W, S	MIMG 185A- Immunology(Sr. yr)	5

Lab Courses
Select 1 series.

Quarter	Class	Units
F+W; Sp +F	MIMG 103AL + 103BL Virus	5+4
F+W; W+Sp	MIMG 109AL + 109BL Bacteria	5+4

Focus Electives
Choose 2 courses.

Quarter	Class	Units
All	CHEM 153L- Biochem Lab	4
All	MCDB 138- Developmental Bio	5
All	MCDB 165A- Biology of Cells	5
W	MIMG 102- Virology	4
F	MIMG 105- Biol Microscopy	4
Sp	MIMG 132- Cell Bio of Nucleus	4
W	MIMG CM156- Human Genetics	4
W	MIMG 158- Microbial Genomics	4
F	MIMG 168- Parasitology	4
All	Chem 153B - Biochem: DNA/RNA	4

General Electives
Complete 4 units.

Quarter	Class	Units

Options:

1. Continue taking Focus Electives.
2. These MIMG courses:

Sp	MIMG C122 and/or MIMG 185B	2
W	MIMG 191H- Honors Seminar	2
All	MIMG 198- Dept. Honors Research*	4
All	MIMG 199- Research*	4

**May use 1 quarter max of research toward requirement*

3. Approved classes from other departments

PATH 2

Foundation Courses

Quarter	Class	Units
All	Chem 153A- Biochemistry	4
All/S	Chem 153B **OR** MIMG 132	4
All	Life Science 107	5
F, W	MIMG 101- Intro Microbio	4
W, S	MIMG 185A- Immunology (Sr. yr)	5

Lab Courses
Complete all courses.

Quarter	Class	Units
W+Sp;Sp+F	MIMG 196A + MIMG 180A	4+2
W+Sp;Sp+F	MIMG 196B + MIMG 180B	4+2

Focus Electives
Choose 2 courses.

Quarter	Class	Units
All	CHEM 153L- Biochem Lab	4
All	MCDB 138- Developmental Bio	5
All	MCDB 165A- Biology of Cells	5
W	MIMG 102- Virology	4
F	MIMG 105- Biol Microscopy	4
Sp	MIMG 132- Cell Bio of Nucleus	4
W	MIMG CM156- Human Genetics	4
W	MIMG 158- Microbial Genomics	4
F	MIMG 168- Parasitology	4
All	Chem 153B - Biochem: DNA/RNA	4

General Electives
Complete 4 units.

Quarter	Class	Units

Options:

1. Continue taking Focus Electives.
2. These MIMG courses:

Sp	MIMG C122 and/or MIMG 185B	2
W	MIMG 191H- Honors Seminar	2
All	MIMG 198- Dept. Honors Research*	4
All	MIMG 199- Research*	4

**May use 1 quarter max of research toward requirement*

3. Approved classes from other departments

Approved General Elective Courses

Class availability is subject to change, courses may have restrictions to majors on the first pass or pre-requisites that are not part of the MIMG program. Always refer to the Schedule of Classes for the most up-to-date information.

Department		Course	Units
BIOENGR	100	Bioengineering Fundamentals	4
	CM145	Molecular Biotechnology for Engineers	4
	CM178	Intro to Biomaterials	4
BIOSTAT	100A	Intro to Biostatistics	4
CHEM & BIOCHEM	103	Environmental Chemistry	4
	110A	Physical Chemistry: Chemical Thermodynamics	4
	M117	Structure, Patterns & Polyhedra	5
	136	Organic Structural Methods	5
	C140	Bionanotechnology	4
	153B	Biochem: DNA, RNA, and Protein Synthesis	4
	153C	Biochem: Biosynthetic Energy Metabolism & Regulation	4
	153L	Biochemical Methods I	4
	154	Biochemical Methods II	5
	156	Physical Biochemistry	4
	CM160A	Intro to Bioinformatics and Genomics	4
	C161A	Plant Biochemistry	4
	171	Intermediate Inorganic Chemistry	4
	C172	Advanced Inorganic Chemistry	4
	C179	Biological Inorganic Chemistry	4
	C181	Polymer Chemistry	4
COM SCI	**CM121**	Introduction to Bioinformatics	4
	CM122	Algorithms in Bioinformatics and Systems Biology	4
	CM124	Computational Genetics	4
EE BIOL	**121**	**Molecular Evolution**	4
	C135	**Population Genetics**	4

	137	**Chemical Communication**	4
	162	**Plant Physiology**	4
EPIDEM	**100**	**Intro to Epidemiology**	4
HUM GEN	**C144**	**Genomic Technology**	4
MCDB	**100***	Intro to Cell Biology (no credit if MCDB 165A completed)	5
	104AL	Research Immersion Lab in Developmental Biology	5
	138	Developmental Biology	5
	M140*	Cancer Cell Biology	5
	C141	Molecular Basis of Plant Differentiation & Development	5
	143	Dev. Biology: Genetic control of organogenesis	5
	144*	Molecular Bio of Cellular Processes	5
		(no credit if CHEM 153B completed)	
	C150	Plant Chemical & Molecular Communication	4
	165A	Biology of Cells	5
	168*	Stem Cell Biology	5
	172	Genomics & Bioinformatics	5
	M175A	Neuroscience: From Molecules To Mind	5
	M175B	Neuroscience: From Molecules To Mind	5
	M175C	Neuroscience: From Molecules To Mind	5
	187AL	Research Immersion Lab in Genomic Biology	5
PHYSCI	**CM103**	Basic Human Bio for Bioengineers	4
	121	Disease Mechanisms & Therapies	4
	124	Molecular Biology of Aging (dept consent required)	4
	125	Molecular Systems Biology (dept consent required)	4
Neuroscience	**M101A**	Cellular and Systems Neuroscience	4
	M101B	Molecular and Developmental Neuroscience	4
	M101C	Behavioral and Cognitive Neuroscience	4

STATS	**100A**	Introduction to Probability	4
	100B	Introduction to Mathematical Statistics	4

MIMG LABORATORY REQUIREMENTS OVERVIEW

The Competency-based Research Laboratory Curriculum (CRLC) is designed to provide in-depth research opportunities for all students in the major. Laboratory requirements may be completed as follows:

Path 1: Students may choose one of three laboratory courses referred to as *Research Immersion Labs* (Path 1 AL courses). The process of discovery is demonstrated through a guided, inquiry-based experience organized around team research project objectives. Activities span two consecutive quarters with each *Research Immersion Lab* followed by an *Advanced Research Analysis* course (Path 1 BL courses). The first course offers hands-on experience collecting data, analyzing preliminary results, and reading the scientific literature, and the second course emphasizes rigorous quantitative and computational analysis of data, oral presentation and discussion of research ideas, and formal written documentation of research accomplishments. All Path 1 students share their research achievements with peers and faculty by presenting a poster at a symposium at the end of BL.

Path 2: Students interested in pursuing an independent research experience in a faculty mentor's laboratory may fulfill departmental major requirements by completing at least two consecutive quarters of letter-graded laboratory research (Path 2 course 196A/B) coupled to participation in concurrent research seminars (180A and 180B). This Path is suited for third-year students who maintain a 3.0 grade-point average in their major and who develop an interest in research while participating in a *Research Acquaintance* experience in an MIMG, MCDB or Biological Chemistry faculty mentor's laboratory. Path 2 students should acquire in-depth and broad knowledge about their research project by evaluating relevant scientific literature, orally presenting and formally writing about their research progress. Eligible students must apply and be approved for enrollment in Path 2 by departmental curriculum committees. Those who complete all course requirements for Path 2 are exempt from participating in Path 1. All Path 2 students share their research achievements with peers and faculty by presenting a poster at a symposium at the end of 180B.

Honors: Path 2 students may substitute course 198A/B/C for 196A/B.
Biomedical Research Minor: Path 2 students may apply two courses required for Minor to the Major requirements.

OTHER COLLEGE REQUIREMENTS TO KEEP IN MIND

- Students must receive credit for 180 quarter units **minimum** to graduate from UCLA
- Of those units, **60 units must come from upper division coursework** (courses numbered 100-199)
- As an MIMG major, you are required to take (at least) 43 units of upper division credit for Path 1 or 46 units for Path 2. This leaves a balance of 14-17 upper division units that you must take in order to satisfy the College requirement for upper division units. These 14-17 units can come from **ANY** upper division courses that you wish to take. Please feel free to go outside of the science to make up those 14-17 units and to balance the heavy science course load in your 3rd and 4th years.

JOIN THE MIMG MAILING LIST - DON'T BE LEFT OUT!

Receive announcements about the MIMG department and courses, also information about internships, job opportunities, research positions, workshops etc., Send an email to undergrad@microbio.ucla.edu with your email address in the body of the email and send. You will receive a confirmation message after your request has been received.

FOR ACADEMIC ADVISING, CONTACT THE MIMG STUDENT AFFAIRS OFFICER VIA EMAIL:

undergrad@microbio.ucla.edu

My Schedule

	FALL	WINTER	SPRING	SUMMER
Year 1				
Year 2				
Year 3				
Year 4				

NOTE: _____

_____

_____