IGG Fall
WELCOME PACKET

IGG Graduate Group
University of California, Davis

Greetings IGG first year students!

We would like to congratulate you on your admission and welcome you to the IGG program at UC Davis. We received your Statement of Intent to Register (SIR) and look forward to seeing you in the fall at UC Davis!

Established in 1932, students in the Integrative Genetics and Genomics graduate program (formally the Genetics program) have the opportunity to apply genomic, molecular, and classical genetic approaches to study model organisms, a broad range of native and agricultural species, humans, and companion animals. Students experience an unsurpassed breadth of research and instructional opportunities from the most fundamental to applied aspects of genetics. This packet has been designed to help you navigate the program from the first week you arrive to the time you graduate with your degree.

Please read sections A-J very carefully as they contain a lot of important information to help you get prepared before the fall quarter begins. We have included information about setting up computing accounts, orientations and trainings, enrolling in classes, laboratory rotations, finding housing, and other helpful resources. Soon, you will be assigned an academic advisor and graduate student mentor. If you are an international student, you will receive additional information about your student visa application and work closely with Services for International Students and Scholars. The appendices contain general information you will need to know as your progress through the program.

One reminder is that incoming students will not receive their first paycheck until November 1st. We understand this can cause some financial concerns for our students, so we encourage you to start planning for that delay in payment as early as possible. Graduate Studies requires you to provide them with final transcripts including proof of graduation. Information regarding where to send your transcripts can be found on the following website: gradstudies.ucdavis.edu/official-transcripts. If you are a domestic student, but not a California resident, you should begin the process of establishing residency as soon as you arrive in Davis. It takes one full year to establish residency and to be eligible for resident tuition rates.

If you have any questions, please contact the IGG program director Mona Ereiqat mereiqat@ucdavis.edu or one of the Co-Chairs Sean Burgess (smburgess@ucdavis.edu) and Dave Segal (djsegal@ucdavis.edu).

We are excited that you selected the IGG program at UC Davis. We will be in touch!

Best,

Integrative Genetics and Genomics Graduate Group

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Appendices:

HOUSING and TRANSPORTATION

The Graduate Student Guide contains useful information concerning transportation and housing. Once you have a UC Davis email address, you will be placed on the student listservs and you are welcome to send an email message to biosci-ggg-stu@ucdavis.edu (all of the graduate students in our graduate group) if you are interested in finding a roommate/house-mate within the program.

Housing in Davis fills up very quickly, so it is important to start looking as soon as you can. As a friendly reminder: many rentals require the first and last month's rent and/or a security deposit when you sign your lease. Information to obtain California Residency can be found here. It takes one year to obtain California residency so it is important to start this process soon after arriving in the Davis area.

If you are starting to look for housing, here are some helpful websites:

UCD Graduate Student Housing	https://housing.ucdavis.edu/graduate-and-professional-housing/
Davis Wiki – Renting	https://localwiki.org/davis/rental_housing_guide
Community Housing Listing	http://chl.ucdavis.edu/
Sacramento Area Craigslist	https://sacramento.craigslist.org/
UCD Grad and Professional Housing Facebook Group	https://www.facebook.com/groups/286762898448011/?ref=share
UCD Off-Campus Housing Facebook Group	https://www.facebook.com/groups/763250590497811/?ref=share
Davis Housing Facebook Group	https://www.facebook.com/groups/418689684823205/?ref=group_browse
UCD Sublease & Short-Term Housing Facebook Group	https://www.facebook.com/groups/519626841396155/?ref=group_browse

Here are some other useful resources for transportation and furnishings:

UCD Go Club	https://goclub.ucdavis.edu/commuteoptions
UCD Transportation Options	https://taps.ucdavis.edu/transportation
UCD Bike Program	https://taps.ucdavis.edu/bicycle
Davis Wiki – Parking	https://localwiki.org/davis/Parking
Davis Area Rideshare Facebook Group	https://www.facebook.com/groups/243044995791686/?ref=group_browse
UC Davis Sale or Trade Facebook Group	https://www.facebook.com/groups/655874594426741/?ref=group_browse
UC Davis Free and For Sale Facebook Group	https://www.facebook.com/groups/418689691489871/?ref=group_browse

CREATE A COMPUTER ACCOUNT

All new students must establish a campus computing account and a UC Davis email account. Go to the Information Technology website. Follow the instructions for establishing a computing account, Kerberos ID (your campus login ID) and password. It may take up to 48 hours after submitting the Statement of Intent to Register (SIR) before you are able to access this function. This must be completed before registration for orientation and trainings.

ORDER AGGIE CARD

You will need to order your AggieCard (the UC Davis identification card) in order to access certain services on campus. Go to the AggieCard website and follow the steps listed for a graduate student to obtain an AggieCard.

REGISTERING FOR CLASSES

You will soon be assigned an academic faculty advisor and student mentor who can assist you in designing a program of study to meet your specific interests. Advisors can also answer academic questions as they occur during the year and provide official signature, as required. **Please email your academic advisor to schedule a one-on-one meeting before the quarter starts.**

Registration will remain open until September 14th. You can build your Fall quarter schedule through Schedule Builder at any time without requiring a specific appointment time. You should be enrolled in the majority of your courses by **September 6th**. Complete instructions for using SISWEB will be included in the registration materials you will be receiving via email from the Registrar's Office mid-late July. If the system is saying that you are missing prerequisites, please write a petition for exception, which will pop up when you attempt to register-this will save your spot in line. Faculty and staff are unable to approve those exceptions until after mid-August so please be patient.

Fall 2020 Required Courses for PhD students

GGG 201A (5 Units) - Advance Genetic Analysis
GGG 205 (6 Units) - Laboratory Rotations
GGG 291 (1 Unit) - Seminar in the History of Genetics
(Optional seminar GGG 295 (2 units) Molecular Genetics, Canceled due to COVID)
Optional Plant Sciences seminars https://www.plantsciences.ucdavis.edu/plant-sciences-seminars

Fall 2020 Required Courses for MS students

GGG 201A (5 Units) - Advance Genetic Analysis
GGG 205 OR GGG 299 (6 Units) - Laboratory Rotations
GGG 296 (1 Unit) – Scientific Professionalism and Integrity
(Optional seminar GGG 295 (2 units) Molecular Genetics, Canceled due to COVID)
Optional Plant Sciences seminars https://www.plantsciences.ucdavis.edu/plant-sciences-seminars

A description of full degree requirements can be found at https://igg.ucdavis.edu/degrees
A full course-load is 12 units. You will mostly be engaged in course work and rotations during the first two quarters. Typically, you will commence your thesis research the spring quarter of your first year. **We expect that you will continue to work and study during the summers following your first year and that you will remain solely employed as a graduate student during your Ph.D. studies.**

ADVISING AND MENTORSHIP

You are not expected to navigate graduate school on your own. Faculty and student advisors and mentors will provide you with resources to ensure your success. Each student has two official faculty mentors recognized by the Office of Graduate Studies: (1) an academic advisor and (2) a major professor (also known as the dissertation advisor or thesis advisor). Others can serve as mentors, including students in the program. The UC Davis Graduate Council recognizes that the mentoring of graduate students by faculty is an integral part of the graduate experience for both. In general, faculty and students at UC Davis are very friendly and happy to help students be successful.

Major Professor/PI

This person will play the most important role for your time in graduate school. You will carry out your research in your major professor's lab and most likely rely on them for funding your research efforts and paying your stipend (when possible). Most people refer to their major professor as their PI (principal investigator). Major professors serve as a role model and provide formal instruction in a given discipline as well as helping students identify and achieve their individual short and long-term educational goals. Major professors should mentor students in developing writing and presentation skills and promote you in developing a professional network (e.g. by encouraging you to present your work at scientific conferences). Graduate students have important responsibilities to ensure they are open to and accepting of faculty mentoring and articulate their needs effectively. It is recommended that students complete an Individual Development Plan (IDP) to freely discuss expectations of mentors and mentees. See appendix.

Master advisor

The master advisor is the faculty coordinator of the advising team. While your advisor can sign all IGG and Grad Studies forms, other advisors have the authority to do this. You can see the list of all current advisors here: https://grad.ucdavis.edu/programs/gigg. You can petition to change your advisor by contacting the current master advisor, Anne Britt.

Academic advisor

Academic advisors play an essential role in providing graduate students with an excellent, comprehensive educational experience. Academic advisors have program signature authority recognized by Graduate Studies for submitting certain forms, petitions, and nominations of student Committees. That is, every form that requires an advisor's signature will be signed by your advisor. You can expect your advisor will perform the following duties:

- ensure that you have completed any prerequisite for the courses you take
- ensure that required coursework is taken
- monitor your progress in finding your research home (major professor)
- obtain periodic review of progress
- help navigate University bureaucracy
- discuss any difficulties or problems affecting your academic progress
- approve/sign forms and petitions (e.g. late drop/PELP/Advancement to Candidacy/ progress reports)
- get career advice

Please keep your advisor informed if your status in the graduate group changes. This would include changing your degree status, passing your QE, advancing to candidacy, graduating.

You can find links to advising resources here.

LABORATORY ROTATIONS

1st rotation: Wednesday, October 5–Friday, November 6; **Rotation talk 11/4**
2nd rotation: Monday November 9–Friday, December 11; **Rotation talk 12/9**
Fall Quarter instruction ends on December 11; finals are December 14-18.

3rd rotation: Monday, January 4–Friday, February 5
4th rotation: Monday, February 8–Friday, March 12
Winter Quarter instruction ends on March 12; finals are March 15-19.

What are laboratory rotations?
The purpose of laboratory rotations is to find a Major Professor, who will be your mentor for your PhD. Rotations are a wonderful thing. They are a period of time to try out hands-on experimental work in different laboratories. Two of the goals of your rotations are to “learn by doing” and to impress any professors with whom you might want to do a thesis. They are both a means of garnering new technical skills and a dating period to find a lab to commit to. The most important aspect of every rotation is to identify an advisor who can support your research ambitions intellectually, interpersonally, and financially.

What are rotation expectations?
Rotations are a once in a lifetime opportunity to sample different areas of genetics and genomics research and to demonstrate your potential to future mentors and supporters - take full advantage. You should try to be in your rotation lab whenever possible. It may be that nights or weekends are excellent times to conduct research without the distractions of classes. Professors will expect you to be working in the lab a minimum of 20 hours per week, and your funding support is contingent on you actively engaging with a laboratory. Make sure to let your rotation mentor know when you have class or need to prepare for class so they'll know you are serious about being in the lab whenever you can. Training you to work in any specific laboratory environment is a significant commitment and energy investment on the part of your host laboratory, make it worth their while. While it's a tall order to get any significant science done in 5 weeks; focus, careful thinking, and hard work can enable discoveries during a rotation that turn into a thesis.

Where to rotate?
You can rotate with IGG affiliated faculty: https://ggg.ucdavis.edu/faculty , and also with faculty who are willing to join the IGG group. We have also supplied you with survey results from professors indicating whether they are interested in taking rotation students and supporting thesis student research. **Until you have a thesis laboratory confirmed, rotate only in labs that will be able to mentor and support your PhD research.** This list is a good place to start considering labs to contact, but do not restrict yourself to it. We encourage you to contact any UC Davis faculty member whose interest sparks your imagination.

You are responsible for setting up your own rotations. We advise you to begin setting up a first rotation immediately. Look at faculty web sites and read their publications. Contact professors you are interested in working with by email. If you get a response, great! If you do not, wait a week and try again. The first rule of emailing faculty is: a non-response means nothing. We are all incredibly busy. Write short informative messages with optional information attached or postscript. Make it easy for a professor to read and reply to

your email in less than 2 minutes. Do not send this exact email, but feel free to use this template as a reference:

Dear Professor [Surname],

> I am a first-year student in the IGG graduate program. I have laboratory experience with A and B. My curriculum vitae and graduate application are attached. From your website and publications I've seen you are studying D, which I have a keen interest in. Might you have a moment to chat by phone about the possibility of a laboratory rotation?
>
> Sincerely,
> [Your Name]

Your top priority is arranging a first rotation. Contact professors, rank order who you think you would most like to work with and starting with #1, ask if they might be willing to mentor your first rotation. Resist the temptation to commit to further rotations before you arrive. You will learn much more meeting face to face and seeing their lab. When you have committed to a rotation please inform Mona Finucane.

Once you arrive in Davis, your goal is to find at least three more professors with whom you could rotate. You will be enrolled in a course requiring faculty meetings to facilitate and encourage this process. **Meet and talk with as many professors as possible as early as possible.** This should be an active selection process. Approach faculty in whose research you are interested. Ask them if they could recommend specific papers about their current research. You can also ask them if they are open to taking rotation students in the winter and whether they are open to taking a thesis student this year. Do not necessarily commit to a rotation at first meeting, take time to reflect and consider your options before signing on. Before agreeing to a rotation, do some investigating into what spending precious years in their lab might be like. **Talk to people in their labs.** Talk to their lab members privately and see if you could foresee happily spending forty plus hours a week in their company. Ask them in confidence whether they think you could be a good fit in the lab.

Ask the professor how they could financially support you through your thesis. Once rotations are over, your tuition and stipend need to come from somewhere. While you can work as a teaching assistant to support yourself, this will take time away from research. Some but not all students are awarded fellowships. Laboratory supplies are expensive. Think about how much certainty is in a laboratory's funding situation, and how you would feel if their uncertainties became your uncertainties. Four rotations may seem like a plethora of options, but choose wisely. Devote your time to laboratories you would be excited to join. Make these rotations a rich slice of life!

Suggestions for starting a rotation

- Ask the professor with whom you are rotating for background papers to read. The Professor may give you reprints from his/her own lab, may give you a list of references or may just give you some names or topics to search in PubMed or Google Scholar.
- Read the papers and **ask questions** about things you don't understand. Find out when lab meetings are held and go to them. Learn about the general area of your rotation lab's research beyond your individual project.
- Discuss and agree on a project outline with your professor. Make sure you can define the specific problem being addressed and the hypothesis being tested. Don't be satisfied with just doing tasks in lab.
- Start your rotation early, if possible. Eagerness to engage in research never fails to impress.
- **Please complete the mandatory online training course entitled "UC Laboratory Safety Fundamentals" before you start your Fall quarter rotation.** You will need your UC login ID and passphrase. Ask your rotation mentor which safety courses are relevant to your research project and complete them ASAP. Many of these courses are available online. http://safetyservices.ucdavis.edu/training/uc-laboratory-safety-fundamentals
- If you rotate in a lab in the Shriners Hospital in Sacramento, there are extensive background checks that need to be completed before you can rotate. Talk to the professor ASAP to start the process so your rotation starts on time.

How to rotate

Let your enthusiasm for research be palpable. Show up in the lab whenever you can. Take written notes on everything anyone in the lab tells you. Research the subject matter of your notes and come back with further questions. Read, read, read. Think, think, think. Understand what you are doing, what the reagents are, how the instrument works. Plan carefully for experiments. Treat equipment with the utmost care. Nothing will impress as much as experiments carried out thoughtfully and carefully. First impressions make deep imprints. Give these rotations 100% attention and you will be rewarded with an auspicious start to a graduate thesis. Try to speak with current students of the lab about the mentor style of the PI; do they expect to meet daily/weekly/monthly? How hands on or hands off are they in designing experiments and experiments?

Timing

If you find a good match with a lab that has funding for you to do a research project, you may stay there for a second rotation, or join their lab permanently. If you find yourself in a rotation that is obviously not a good match, contact one of us. We may encourage you to move on to a new rotation early. Keep an open mind about what labs would be interesting. Graduate school is a time to broaden your interests and experience. Make the best use of this valuable time, learn passionately!

MENTAL HEALTH RESOURCES

Our program is working to support the efforts of UC Davis to create a culture of student mental health beyond the clinical setting that includes all members of the campus community who regularly interact with and support students. The Graduate Student Association has compiled a comprehensive list of mental health resources available to students that can be found here**.** Additionally, Each Aggie Matters is a mental health movement on campus and provides a calendar of all mental health related activities here. You can find a summary of the state of mental health on-campus and the Mental Health Task Force recommendations here and the full report here. Mental health is an intersectional issue and there are many non-mental health centered student groups who touch on mental health that focus on traditionally marginalized student populations. Below we highlight several of these resources and student interest groups:

Student Health and Counseling Services	https://shcs.ucdavis.edu	SHCS offers two major types of mental health resources: Counseling Services and Psychiatric Services. Counseling Services provides issue focused, short term care, typically eight sessions or less. Within this time, the therapist and student will determine whether a referral to an outside provider is necessary. Psychiatric services include psychiatric assessment, medication management, and medication monitoring. On-line counseling is also available. (www.livehealthonline.com; use coupon code: UCDCOUNSELING).
24-Hour Phone and e-Messaging Hotline	530-752-2349	This phone line and e-messaging service can provide both crisis assessment and counseling services.
LGBTQIA Resource Center	https://lgbtqia.ucdavis.edu	The LGBTQIA Resource Center promotes education as well as space for self-exploration about all sexes, genders and sexualities and their intersections with other identities. The center provides a wide range of resources and support.
Student Disability Center	https://sdc.ucdavis.edu/	The SDC is staffed by a team of professionals who have expertise in the education of students with disabilities. SDC Specialists approve services and coordinate accommodations to ensure equal access to the University's educational programs.
Graduate Diversity Resources	https://grad.ucdavis.edu/about-us/priorities-initiatives/diversity	UC Davis values a diversity of viewpoints, backgrounds, and experiences among its graduate student population and remains committed to facilitating a campus atmosphere well suited to this diversity. As part of this commitment UC Davis offers numerous services, workshops and trainings, and well as key faculty, staff, and students situated to promote and address the needs of diverse students and those allied in this mission.
Aggie Needs Center	https://aggiecompass.ucdavis.edu	The **Aggie Compass** is a comfortable space for students to build community and learn about basic needs resources, pick up fresh fruits and vegetables, receive CalFresh enrollment assistance and help finding stable housing.

*****Information for students in crisis:******
Call 911 for emergencies. Text “RELATE” to 741741 to communicate with someone by text immediately. The Yolo County Suicide hotline can be reached by calling 530.756.5000.

THE FIRST-YEAR CHECKLIST

Checklist:

- Have you calendared all the orientations you will need?
- Have you identified your first rotation or beyond?
- Preparing for “Broketober”
- Basic needs and mental health resources for graduate students
- Are you from out of state? Start working on California residency
- Please ensure you complete the campus Sexual Assault Prevention (SAP) training by October 16
- Campus will be making flu immunizations mandatory for all
- Will you be waiving out of UCD SHIP health insurance?
- Are you worried about the fee payment reminders? See below.
- The Campus Fee Grant – what is that?
- Have you signed up for direct deposit?
- Student ID cards update

APPENDICES:

The following pages provide information on navigating the IGG program once you have settled into classes and rotations. You will want to discuss these topics with your advisors and major professors during your first and third quarter guidance committee meetings. The program description and forms are all available on the IGG web page https://igg.ucdavis.edu/degrees

A. Program requirements for the PhD degree
B. Program requirements for the MS degree
C. Designated Emphases and Fellowships
D. Becoming a teaching assistant (TA)
E. Choosing elective courses

PH.D. DEGREE REQUIREMENTS

The path to a Ph.D. degree involves the completion of a set of Core and Elective courses, passing your Qualifying Examination, Advancement to Candidacy, Dissertation Research, and completion of a written Ph.D. dissertation signed by three committee members.

Detailed degree requirements can be found on the IGG web site (https://programs.gs.ucdavis.edu/api/doc/3064)

Special notes:

- If you are a full-time student, you must enroll in 12 units every quarter. Once you stop taking classes, enroll in 12 units of 299 research units. You do not have to register for the summer. Don't let your registration lapse as you will be administratively dropped from the program and you will have to reapply! You must be either registered or on filing fee the quarter you submit your thesis/dissertation.
- You must receive a B- or better in the required GGG courses and maintain an overall B average. If you receive a B- or lower in a required course you must repeat it.
- Required courses, elective courses, GGG Seminars, and any courses related to GGG must be taken for a grade (not S/U; with the exception of GGG 299, the student conference GGG 290A, and your breadth elective -PhD only).
- You are responsible for arranging regular meetings with your advisor and/or guidance committee. If you are having problems at any time, see your academic advisor first. The GGG program coordinator can also help you with administrative matters.

Qualifying Examination

The QE should be taken by the end of Winter Quarter of the third year. Students typically take it over the summer or in the Fall (7th quarters). Students must take the qualifying exam and advance to candidacy by the 9th quarter to remain eligible for GSRs, TAs. To prepare you for the qualifying exam, a student coordinator who has advanced to candidacy will lead review sessions and practice sessions to prepare second-year students for the qualifying exam (QE). This person also acts a resource to answer or find answers for any questions or concerns that pre-QE students (i.e. first and second year students) may have about the qualify exam. For more information on the QE please see this form.

Advancement to Candidacy
The student must file the appropriate paperwork with the Office of Graduate Studies and pay the candidacy fee in order to be officially promoted to Ph.D. http://gradstudies.ucdavis.edu/gradcouncil/policiesall.html.

Annual Dissertation Committee Reports After passing your QE, you are required to meet with the Dissertation Committee at least once a year. The annual report form will be due by June 30 to Mona Finucane.
Online Graduate Student Progress Assessments. These should be filled out in consultation with your Major Professor and your Advisor by May 30. Ideally you will have had your Dissertation Committee meeting before you submit the report.

M.S. DEGREE REQUIREMENTS

There are two paths to a Master's degree: M.S. Plan I (Thesis) and Plan II (Coursework only). The normative time for a M.S. degree in Integrative Genetics and Genomics for either program is two years.

Plan I (Thesis option). In addition to core courses and electives, research for the Master's thesis is to be carried out under the supervision of a faculty member of the program and must represent an original contribution to knowledge in the field.

Plan II. In addition to core courses and electives, comprehensive final examination in the major subject is required of each candidate. In addition, students will submit a 10-page scientific paper for approval by the examining committee.

Detailed degree requirements can be found on the IGG web site
(https://programs.gs.ucdavis.edu/api/doc/3064)

Special notes:

- If you are a full-time student, you must enroll in 12 units every quarter. Once you stop taking classes, enroll in 12 units of 299 research units. You do not have to register for the summer. Don't let your registration lapse as you will be administratively dropped from the program and you will have to reapply! You must be either registered or on filing fee the quarter you submit your thesis/dissertation.
- You must receive a B- or better in the required GGG courses and maintain an overall B average. If you receive a B- or lower in a required course you must repeat it.
- Required courses, elective courses, GGG Seminars, and any courses related to GGG must be taken for a grade (not S/U; with the exception of GGG 299 and the student conference GGG 290A).
- You are responsible for arranging regular meetings with your advisor and/or guidance committee. If you are having problems at any time, see your academic advisor first. The GGG program coordinator can also help you with administrative matters.

Advancement to Candidacy: A official application for Candidacy for the Degree of Master Science in Integrative Genetics and Genomics after completing one-half of their course requirements and at least one quarter before completing all degree requirements; this is typically the 4th quarter. The Candidacy for the Degree of Master form can be found online at: http://www.gradstudies.ucdavis.edu/forms/. A
Online Graduate Student Progress Assessments. These should be filled out in consultation with your Major Professor and your Advisor by May 30. Ideally you will have had your Dissertation Committee meeting before you submit the report.

DESIGNATED EMPHASES

The Integrative Genetics and Genomics Graduate Group is affiliated with three designated emphasis programs. These are optional programs that provide in depth professional development skills. The students in the Designated Emphasis in Biotechnology (DEB) places students in internships in biotech companies in the Sacramento or the Bay area.

Biotechnology

The DEB provides a nurturing interactive environment to promote integration of multiple disciplinary approaches to the conduct of research and to promote learning in biotechnology. The mission is to prepare well-educated students to approach problems with creativity and fexibility. The program will provide tools for the students to be leaders, visionaries, entrepreneurs, researchers and teachers in the broad area of biomolecular technology.
(see http://www.deb.ucdavis.edu/DEB_Grad_Program/deb_graduate_program.html)

Translational Research

The overarching goal of the initiative is to provide an innovative, cost-effective, and sustainable model for training a new cadre of PhD scientists who will have productive careers in translational and health sciences research.
(see http://www.ucdmc.ucdavis.edu/imbs/designated_emphasis_in_translational_research.html).

Reproductive Biology

The DE in Reproductive Biology offers research opportunities ranging from molecular to organismal, and from basic research to applied studies in agricultural and health related sciences. The astonishing breadth and depth of the campuses research programs in this field have created a dynamic research environment that promotes collaborative investigations and provides outstanding opportunities for graduate education.

(See https://reprobiology.vetmed.ucdavis.edu)

FELLOWSHIPS AND TRAINING PROGRAMS

You should be aware of funding opportunities that can move your research forward or give you funds to present your work at scientific conferences.

Grad studies Internal Fellowships for continuing graduate students (https://grad.ucdavis.edu/financial-support/internal-fellowships) with a January 15th application deadline. These fellowships will require three letters of recommendation. Many of the fellowships have very specific criteria so be sure to read through all of the descriptions.

Travel awards Grad Studies offers awards for attending conferences as do many professional societies (e.g. Genetics Society of America Delill Nasser award for professional development in genetics http://www.genetics-gsa.org/awards/delill.shtml)

NSF Graduate Research Fellowship. This is a prestigious award that covers three years of funding. The life sciences deadline is October 21, 2019 (see eligibility and other information here: https://www.nsf.gov/pubs/2018/nsf18573/nsf18573.htm. You can apply only one time so you might consider applying in your second year.

Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (Parent F31)
This aware enables promising predoctoral students to obtain individualized, mentored research training from outstanding faculty sponsors while conducting dissertation research in scientific health-related fields relevant to the missions of the participating NIH Institutes and Centers. The proposed mentored research training must reflect the applicant's dissertation research project and is expected to clearly enhance the individual's potential to develop into a productive, independent research scientist. For more information see https://grants.nih.gov/grants/guide/pa-files/PA-19-195.html

Training Program in Molecular and Cellular Biology PI-Jim Trimmer
The primary goal of this successful predoctoral Training Program in Molecular and Cellular Biology at UC Davis is to provide Program Trainees with the breadth of knowledge and research training, and career skills, that will prepare them for their own successful careers in the national biomedical workforce. https://mcbtrainingprogram.ucdavis.edu. Students can apply only in their first year and only if their major professor is a trainer. See the web site for more details.

Training program in Environmental Health Sciences PI-Pamela Lein
The objective of this predoctoral program is to train the next generation of environmental health scientists through interdisciplinary research and coursework that address issues of direct relevance to the NIEHS mission.(http://niehs.etox.ucdavis.edu) Applications are on a rolling basis as students complete the program.

You can check out other training programs here: https://biology.ucdavis.edu/grad/support/training-grants

ELECTIVE COURSES

You are required to take three elective courses for letter grades. Two should contribute to depth and one should contribute to breadth.

In addition to your core courses, electives are a way to personalize your educational experience at UC Davis. Choosing elective courses wisely can boost your productivity in the lab by providing advanced instruction in genetics and related fields. Electives are also used to contribute breadth of knowledge. There is an incredible number of courses in life sciences, statistics and computational biology that can satisfy the elective requirement. **You are required to take three electives, all for a letter grade.** Two should be related to your discipline (i.e. for depth) and one should be on a topic outside of your discipline (i.e. for breadth). You are strongly encouraged to take advanced statistics and computational courses, especially those where R is used extensively. You can take one upper division undergraduate course as one of your electives. One word of caution about taking undergraduate courses. The class averages are typically in the B-/C+ range (rather than the A-/B+ range for graduate courses). You must have a grade of B- or greater for the class to be used as an elective

Your academic advisor and major professors should be able to help you find appropriate electives. You can also take one of the IGG seminar courses as an elective as long as you take it for a letter grade. Below is a list of recommended courses suggested by current and former IGG students. You are not limited to these courses. You should contact students directly to get a link to a google docs page with more information that is regularly updated. Use the Class Search Tool to see a description of each course, the name of the instructor and meeting times. https://registrar-apps.ucdavis.edu/courses/search/index.cfm. Department web pages should also have this information along with a list of other classes not listed here.

Animal Biotech Genetics	ABG 211	Animal Biotech Genetics
Bio/psych	PSC217	Behavioral Genetics
Bioinformatics	BIM 289C	Genomic Big Data Analysis
Bioinformatics	BIS180L	Genome biology lab
Bioinformatics	ECS 289N	Computational Genomics and Human
Biotech	DEB263	Biotechnology Fundamentals and Applications
Cell Bio/Biochem	NPB107	Signaling Health/Disease
Computation	STA141	Statistical methods in R
Computation	STA 208	Statistical methods in Machine Learning
Development	BCB 213	Developmental Biology
Ecology/Conservation Policy	ECL 208	Conservation Biology Research
Gene Therapy	GGG225	Gene Therapy
Genomics	GGG 250	Functional Genomics: from bench to bedside
Genomics	PHR241	Advanced topics in canine genetics and genomics
Immunology	IMM201	Intro Immunology
Immunology	IMM201A	Innate immunity
Math	MAT 135A	Probability Theory
Math	MAT 135B	Stochastic Processes
Microbiology	MIC276	Advanced Concepts in DNA Metabolism
Molecular Biology	BCB210	Molecular Genetics & Genomics

Molecular Biology	GGG211	Human Genetics/Genomics
Molecular Biology	GGG212	Human Genetics/Genomics
Molecular Biology	BCB 214	Molecular Biology
Molecular Biology	BCB 257	Cell proliferation and cancer genes
Molecular Biology	BCB 298	Cell and Molecular Biology of Cancer
Molecular Biology	MCB 162	Human Genetics/Genomics
Molecular Techniques	ETX 278	Molecular Techniques
Phylogeny	EVE 103	Phylogeny and Speciation
Plant Science	PLS 205	Experimental Design & Analysis
Population Biology	PBG 200C	Phylogenetics, Speciation, and Local Adaptation
Population biology	PBG200A	Population dynamics, genetics, and genomics
Population biology	PBG200B	Community Ecology
Population genetics	ECL 243	Ecological Genomics
Statistics	PLS 205	Experimental Design & Analysis
Statistics	PSC 204A	Statistical Analysis of Psychological Experiments
Statistics	STA 100	Biostatistics
Statistics	STA 106	ANOVA

COMPUTATIONAL RESOURCES

Genetics and genomics are computationally intensive fields and we expect students will have at least some working knowledge of using a command-line statistical analysis program such as R. There are a number of ways students can gain proficiency in R, including web-based classes such as code academy (https://www.codecademy.com/learn/learn-r) or other hands-on resources (https://d1b10bmlvqabco.cloudfront.net/attach/ighbo26t3ua52t/igp9099yy4v10/igz7vp4w5su9/OReilly_HandsOn_Programming_with_R_2014.pdf) or R for Data Scientists: https://r4ds.had.co.nz/index.html. If you have not had an undergraduate statistics course, consider taking STA 100. If you want to go the next level, STA 106, 108 and 141 are recommended for intensive R instruction.

BECOMING A TEACHING ASSISTANT

PhD students are awarded 5 years of funding that come from block grant money for Q1 and Q2, your PI's grants, fellowship awards, and TAships. Serving as a TA is a requirement for PhD students in IGG. Masters students are also eligible to obtain funding through TAships. Most TA positions are 50% time (your other 50% time is being a student) so you should expect to spend 20 hours a week on these duties. Your TAship will include your stipend and fees so it can also be very helpful for keeping your lab funded during lean times. Aside from the money aspects, being a TA is a rewarding experience and help prepare you for your qualifying exam and inform your career choices down the road. TA's typically participate in teaching large-enrollment undergraduate courses in the life sciences. Typical duties include attending classes, holding office hours, and grading papers, lab reports and exams.

It is expected that you will find appropriate courses to TA based on your research interests. One way to find courses is to go to department web pages and look at the undergraduate course requirements. The web pages will typically have a listing of course descriptions and when they are taught. BIS 101 (Genes and Gene expression) is an excellent course to TA since it covers most of the core topics that will be taught in your classes. In addition, you will gain valuable experience in explaining material to students during office hours (typically 3-4 hours per week).

It is important to start looking for TA positions several quarters in advance as sometimes slots will fill up early. Once you identify the course, you should email the instructor expressing your interest in being a TA. You should also submit an application be a TA through relevant departments (see links below). The Department of Molecular and Cellular Biology accepts applications for the BIS courses that include BIS 101.

Department of Molecular and Cellular Biology:
https://www.mcb.ucdavis.edu/jobs/index.cfm
--follow link to web address and click on the link for "Online TA/Grader Application." There are many classes that fall under the umbrella of this application including all of the BIS courses. Applications can be updated at any time. Application contains many different courses, including some found on the MCB application (listed above). Application should be submitted to the **relevant department(s) annually.**

Department of Evolution and Ecology: (TA-ship info borrowed from Pop Bio Grad Group)
http://www.eve.ucdavis.edu/eve/pbg/ta.htm#Process
--follow link to web address with detailed information about applying for teaching assistance-ships with Evo/Eco.
* Annual application with deadline at the end of March.

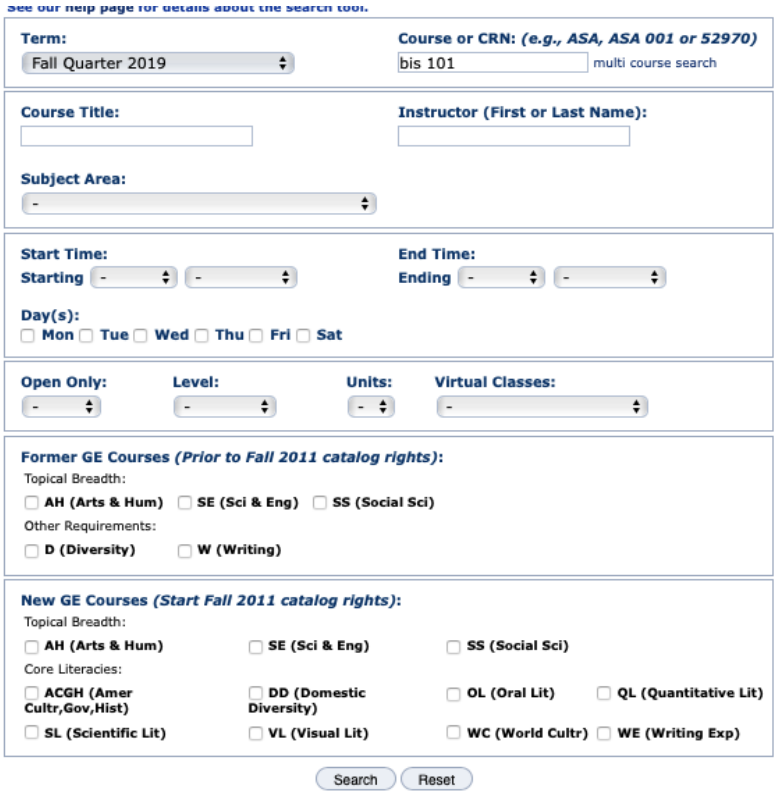
Department of Animal Science: (TA-ship info borrowed from Animal Bio Grad Program)
https://animalbiology.ucdavis.edu/resources/studentresources
--follow link to web address with link to the application.
* Annual application with deadline at the beginning of March.

Department of Plant Biology: (TA-ship info borrowed from Plant Biology Grad Group)

https://pbi.ucdavis.edu/current-student-resource-documents

This Grad Studies handbook for TA's has information that can answer questions about employment as a TA. https://grad.ucdavis.edu/sites/default/files/upload/files/publications/gs200-employmenthandbook.pdf

The Class Search tool is an easy way to see who is teaching a particular class and when the class is held. Typically, professors teach the same class from year to year so Fall 2020 will likely have the same lineup as Fall 2019. https://registrar-apps.ucdavis.edu/courses/search/index.cfm.



See our help page for details about the search tool.

Term: Fall Quarter 2019

Course or CRN: *(e.g., ASA, ASA 001 or 52970)* bis 101 multi course search

Course Title:

Instructor (First or Last Name):

Subject Area: -

Start Time: Starting - -

End Time: Ending - -

Day(s): Mon Tue Wed Thu Fri Sat

Open Only: - **Level:** - **Units:** - **Virtual Classes:** -

Former GE Courses *(Prior to Fall 2011 catalog rights)*:
Topical Breadth: AH (Arts & Hum) SE (Sci & Eng) SS (Social Sci)
Other Requirements: D (Diversity) W (Writing)

New GE Courses *(Start Fall 2011 catalog rights)*:
Topical Breadth: AH (Arts & Hum) SE (Sci & Eng) SS (Social Sci)
Core Literacies: ACGH (Amer Cultr,Gov,Hist) DD (Domestic Diversity) OL (Oral Lit) QL (Quantitative Lit) SL (Scientific Lit) VL (Visual Lit) WC (World Cultr) WE (Writing Exp)

Search Reset

3 CRN's found.

NOTE: Course schedules are subject to change. The course information on this site is "live" and includes changed and canceled course information. Students should verify course schedule information on SISWeb or this site prior to attending class.

CRN *Time/Days*	Course *Location*	Sec. *Seats Avail.*	Title *Former GE Credit* • New GE Credit	Instructor *Course Units*	Detail	Save
34342 *2:10 - 4:00 PM, MW*	BIS 101 *CALIFO 1100*	001 *1*	Genes & Gene Expression *SE* • QL SE SL	Kliebenstein, D *4.0*	view 34342	[+]
34343 *4:10 - 6:00 PM, TR*	BIS 101 *SOCSCI 1100*	002 *0*	Genes & Gene Expression *SE* • QL SE SL	Ellefson Crowder, M *4.0*	view 34343	[+]
34344 *4:10 - 6:00 PM, TR*	BIS 101 *HARING 2205*	003 *0*	Genes & Gene Expression *SE* • QL SE SL	Ross-Ibarra, J *4.0*	view 34344	[+]

INDIVIDUAL DEVELOPMENT PLAN

An Individual Development Plan (IDP) is designed to help graduate students define and achieve their career goals as part of the US biomedical workforce. The National Institutes of Health (NIH) has encouraged institutions to develop and implement IDPs for graduate students supported by NIH awards (http://grants.nih.gov/grants/guide/notice-files/NOT-OD-13-093.html). **Although not yet a requirement of the IGG program, we strongly encourage you complete an IDP and follow this timeline:**

What is an Individual Development Plan?

"*A goal without a plan is a wish*" according to the French writer and aviation pioneer, Antoine de Saint-Exupery (1900-1944). An IDP is an individually-tailored career development tool to set short- and long-term goals and to create a plan of action towards achieving career objectives.

An effective IDP should help graduate students prioritize, set goals, develop and implement a plan of action, and periodically assess progress. An effective IDP would be a dynamic, moving document as goals will likely evolve over time. IDP can also allow graduate students to take ownership of their career, obtain valuable input and feedback from mentors and advisors, and facilitate better communication between trainees and PIs. Trainees can begin IDP at any stage of their graduate career. **IGG recommends all 3rd year students and beyond to develop an IDP annually**.

Overview of the IDP cycle

1. Complete a self-assessment. Assess your current skills and competencies.
2. Formulate goals for the upcoming year.
3. Assess progress at the end of the year.
4. Implement the IDP. Revise as needed.
5. Back to step 1.

Go to http://myidp.sciencecareers.org for extra information on IDPs and other tools for career development. Additional materials at:
http://education.scripps.edu/graduate_programs/career_services/idps.html
http://faseb.org/Professional-Development-and-Diversity-Resources/Professional-Development-and-Career-Resources/My-Individual-Development-Plan--myIDP-.aspx
www.case.edu/provost/ideal/doc/Student_Dev_Plan_Steinmetz-2.doc - *Case Western University*
https://www.grad.umn.edu/current-students-academic-professional-development-building-your-plan/plan