



Welcome to the Plant Biology Graduate Program. You have chosen to pursue graduate training in one of the top ranked Plant Biology programs in the nation and we hope that your years here will be enjoyable and exciting. This book provides you with a single source for much of the information you will need to complete the various technical steps toward your degree. Your primary goal must be to establish your scientific career by becoming an expert in your field and publishing your results in highly ranked journals. We expect that will also develop skills that enable you to communicate your results and their importance to both the scientific community and to the general public. You will find this a very rewarding activity. Most people look back on their graduate training as a period of intense learning, discovery, and personal growth, but also lots of fun. Take advantage of the nearby beaches, mountains, and desert, and attend concerts and other cultural events in Riverside or LA. Get involved in department and campus service activities. During graduate school, you will likely make lifelong friendships with other students, postdocs and faculty that can facilitate your future career opportunities. So work hard, but don't forget to have fun.

Dr. Patricia Springer

Chair, Department of Botany and Plant Sciences

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## SECTION 1: INTRODUCTION TO THE PROGRAM, FACILITIES AND RESOURCES

### SECTION 1A. IMPORTANT CONTACTS

**Note:** If you are calling from off-campus, use the area and regional codes. If you are calling from a UCR phone, you can dial 2-(4-digit extension).

#### 1. Chair of the Department of Botany and Plant Sciences

Patricia Springer                      3107B Genomics Building  
[patricia.springer@ucr.edu](mailto:patricia.springer@ucr.edu)              Phone: 951-827-5785

#### 2. Graduate Advisor for Continuing Students

Amy Litt                                      2109 Batchelor Hall  
[amy.litt@ucr.edu](mailto:amy.litt@ucr.edu)                      Phone: 951-827-2113

#### 3. Graduate Advisor for Recruitment

David Nelson                              5488 Boyce Hall  
[david.nelson@ucr.edu](mailto:david.nelson@ucr.edu)              Phone: 951-827-4397

#### 4. Plant Biology Student Services Advisor

Rosalio Cedillo                              CNAS Graduate Student Affairs Office  
[rosalio.cedillo@ucr.edu](mailto:rosalio.cedillo@ucr.edu)              1140 Batchelor Hall

#### 5. Botany and Plant Science Graduate Student Association

Taylor Beaulieu (co-President, EAC Representative)      [tmyhr001@ucr.edu](mailto:tmyhr001@ucr.edu)  
Jolene Saldivar (co-President, GSA Representative)      [jsald023@ucr.edu](mailto:jsald023@ucr.edu)  
Christian Bowman (co-Treasurer, GSA Representative)      [cbowm002@ucr.edu](mailto:cbowm002@ucr.edu)  
Claire Whitaker (co-Treasurer, EAC Representative)      [cwhit064@ucr.edu](mailto:cwhit064@ucr.edu)

#### 6. Vice Chair for Teaching (Department of Botany and Plant Sciences)

Thomas Eulgem                              3243A Genomics Building  
[Thomas.eulgem@ucr.edu](mailto:Thomas.eulgem@ucr.edu)              Phone: 951-827-7740

#### 7. Vice Chair for Cooperative Extension

Donald Merhaut                              4118 Batchelor Hall  
[donald.merhaut@ucr.edu](mailto:donald.merhaut@ucr.edu)              Phone: 951-827-7003

#### 8. Payroll/Personnel Services (CNAS Non-Academic Personnel Services Unit, NAPSU)

Marcella Murillo                              206 College Building North  
[Marcella.murillo@ucr.edu](mailto:Marcella.murillo@ucr.edu)              Phone: 951-827-4892

#### 9. Other contacts

Contacts for research facilities, buildings and emergencies can be found in the appropriate section of the manual.

<http://plantbiology.ucr.edu/people/faculty.html>  
<https://plantbiology.ucr.edu/people/staff>



## SECTION 1B. GENERAL INFORMATION ABOUT THE PLANT BIOLOGY GRADUATE PROGRAM

### 1. Plant Biology Graduate Program Advisory Team

There are many tasks to complete before acquiring a graduate degree in Plant Biology. The Graduate Advisor for Continuing Students and Student Services Advisor for Plant Biology will assist in enabling you to complete many of these tasks.

Many milestones require the submission of specific forms to meet the requirements of the program's Educational Advisory Committee (EAC) and Graduate Division.

All forms specific for the Plant Biology Graduate Program that are described in the Handbook are found in the Appendix, can be downloaded from the Plant Biology Graduate Program site ([http://plantbiology.ucr.edu/graduate\\_programs/current\\_students.html](http://plantbiology.ucr.edu/graduate_programs/current_students.html)), or can be obtained from the Plant Biology Student Services Advisor.

The online forms and petitions required by Graduate Division can be accessed through R'Grad via the icon located on your R'Web.

### 2. Graduate Division Requirements

Many of the policies and procedures used by the Plant Biology Graduate Program are dictated by campus-wide policies for graduate training. Specific items will be called out in sections below.

For information on specific Graduate Division requirements, please refer to the Graduate Studies section of the University of California, Riverside General Catalog and to the Graduate Division's web site (<https://graduate.ucr.edu/>).

## SECTION 1C. THE FIRST STEPS – ESTABLISHING YOUR ROOTS

Welcome to UCR and the Plant Biology Program! Within your first few days at UCR, there is a lot to accomplish to be sure you are ready to launch into our graduate program. Please consult the [CNAS Graduate Student Affairs Center \(GSAC\)](https://cnasgrad.ucr.edu/) website for a checklist of things to do in preparation for your first quarter at UCR: <https://cnasgrad.ucr.edu/>.

### 1. Plant Biology Student Services Advisor

The Student Services Advisor works closely with applicants to provide information on graduate programs, disseminate policies and procedures, and facilitate the application process. After admission, graduate students continue to work with them to ensure they are progressing in their respective program and meeting all deadlines set forth by the university and specific programs. They are responsible for all record keeping associated with a graduate student's career in the Plant Biology Program and will provide information on how to register for classes, drop/add courses, establish guidance/thesis/dissertation committees, as well as other important information you will need during your stay. The SSA will answer any of your questions and will explain your financial package in detail.

### 2. BPSC Payroll and Personnel at Harvest

Another person that you will contact during your first weeks at UCR is Marcella Murillo in the CNAS Non-Academic Personnel Services Unit (NapsupodD), located in Room 204 College Building North. Marcella is responsible for payroll and personnel matters for BPSC. She will contact you to set up an appointment to fill out some paperwork (called onboarding), to get you into the payroll system. For information on the UCR payroll schedule for GSR and TA salary, go to the [Payroll Calendar](http://accounting.ucr.edu/payroll/pay_cal.html) ([http://accounting.ucr.edu/payroll/pay\\_cal.html](http://accounting.ucr.edu/payroll/pay_cal.html)). For information on fellowship stipends, go to the [Registrar's](https://registrar.ucr.edu/calendar#payment_and_disbursement) site: ([https://registrar.ucr.edu/calendar#payment\\_and\\_disbursement](https://registrar.ucr.edu/calendar#payment_and_disbursement)) and click on the "Payment & Disbursement" tab.

### 3. Desk Assignments

For students rotating in faculty laboratories in Batchelor Hall, Mariella Valdivia (BPSC Chair's Assistant) will assign your desk space in an office in Batchelor Hall. Mariella is located in Batchelor Hall Room 2118 (x2-4619). For students rotating in faculty laboratories in the Genomics Building, you will need to contact Jennifer Douglas in Genomics 1206 (x2-7177). For students in Boyce Hall, contact the faculty member you are working with.

#### **4. Planning for Fall Quarter Classes and Laboratory Rotations**

Almost all students will do lab rotations during their first year. You will work out your class schedule for the first quarter with the supervisor of your first rotation (or your major professor if you are not rotating) or the Graduate Advisor for Continuing Students, Dr. Amy Litt (2109 Batchelor Hall, x2-2113, [amy.litt@ucr.edu](mailto:amy.litt@ucr.edu)). The supervisor of your first rotation will also help you identify members for your Guidance Committee, and this committee will help you set your course schedule for future quarters.

Please keep the Plant Biology SSA and Amy Litt informed about your rotations. For more information about laboratory rotations, see Section 2B. Please let Amy and the Plant Biology Student Services Advisor know as soon as you have your committee lined up.

#### **5. Acquire a UCR Connection Card**

UCR students are required to have an R'Card, which is a multi-functional campus ID card. It is the official photo ID of UCR and it provides you with library privileges, access to the Sports Recreation Complex, and other official transactions.

The R'Card provides access to meal plans and secured facilities on campus such as residence halls and lab rooms. It is the medium for connecting users to services such as laundry, library borrowing, vending, printing, and renting laptops and chargers. The R'Card is a campus pass providing access to athletic games and special events. It also grants the holder free bus (RTA) transportation around town. The R'Card can also be programmed to work as a debit card. By adding Bear Bucks dollars, you gain the convenience of expanding purchasing to include items both on and off-campus (e.g., grocery food, fast-food dining, text books, homecare and pharmacy items and even gas).

Before an R'Card may be issued, all users must:

- Present a valid government picture ID (see [complete list](#))
- Have been issued a student ID number (SID) or an employee ID number ([EIN lookup](#))
- Be entered into the University's Student or HR Accounting Systems\*
- Pay any fees for their R'Card. Accepted forms of payment include credit card (Visa, MasterCard, or Discover) or departmental web-recharge. As of July 1, 2017, cash will no longer be accepted.

You should obtain a card as soon as possible after you arrive on campus and register for classes (you need to be an enrolled student to obtain one). Photos are taken at the UCR Card Services Office (see below) for a fee of \$25. Bring a valid form of ID, such as a driver's license or passport. Appointments can be made but are not necessary. The cost of your card is billed directly to your campus student account, so you do not need to bring cash. Your account is activated and ready for you to add value at any time as soon as you have received your UCR Card. Please go to <http://ucrcard.ucr.edu/>. At this site there are also optional UCR card services that you can consider using.

**UCR Card Services Office** (Bannockburn Village I-101)

Monday through Friday 9 a.m. to 4 p.m.

Temporary parking available on the south side of Bannockburn Village

#### **6. Meet with the Graduate Advisor for Continuing Students**

While you will interact most directly with your faculty contact or major professor, you will also want to become acquainted with the Graduate Advisor for Continuing Students, Dr. Amy Litt (2109 Batchelor Hall,

x2-2113, [amy.litt@ucr.edu](mailto:amy.litt@ucr.edu)). The Graduate Advisor acts to facilitate the interaction of the student with the Graduate Division and with the Graduate Program's Educational Advisory Committee, which evaluates graduate student applicants and oversees various aspects of graduate student education and progress. In addition, with controversial issues that may arise, the Graduate Advisor must judge whether a student's request is appropriate, is in the student's best interest, and is feasible under existing regulations. Please feel free to stop by the Graduate Advisor's office to discuss any problems that you encounter.

## **7. Enrolling in Classes**

It is your responsibility to initially enroll in courses and to confirm course enrollment. Failure to enroll by scheduled deadlines may result in the lapse of student status or delay financial aid. Please check the [Registrar's academic calendar](#) for deadlines: <https://registrar.ucr.edu/calendar> and your Degree Audit, available on your R'Web, for detailed information about degree requirements. If you have questions about enrollment or are having difficulties enrolling in classes, please contact the Plant Biology Student Services Advisor.

R'Web is the web service for enrolling in courses. Using R'Web via the Internet, students can enroll in classes, confirm course enrollment, view grades, check their financial aid, billing, degree requirements (through Degree Audit), view their Student ID, change their address or PERM PIN number, update privacy restrictions, and get help via the web. On the internet go to <http://rweb.ucr.edu/>. To use R'Web you must enter your date of birth, Student ID number, and PERM PIN number. Starting in 2019, all students must use the Multifactor Authentication System to access R'Web.

## **8. The Permanent Personal Identification Number and Student ID Number**

Your PERM PIN is a permanent six-digit number that is set by the Office of the Registrar once a student is admitted to the university. Your PERM PIN and Student ID number are located on your Admissions Confirmation Letter.

## **9. Change of Address**

Please keep your local address and phone number current. You must update your addresses (local, billing, next of kin) in R'Web.

Let the Graduate Student Services Advisor know when you move.

## **10. Emergency Contacts**

Please be sure to provide one or two emergency contacts. This is critical; while emergencies do not often occur, when they do arise it is important that the graduate program has someone to speak to.

## **11. Establishing California Residency**

*Domestic non-California resident students **must** establish California residency by the second year of study.* Residency is needed to prevent being billed for non-resident tuition. Students should start planning for this as soon as they arrive. Please consult the [CNAS Graduate Student Affairs Center \(GSAC\)](#) website for information about residency:: <https://cnasgrad.ucr.edu/>.. Contact the [UCR Residency](#) office for more information: <https://registrar.ucr.edu/tuition-fees/residency-for-tuition>.

## **12. International Students and the International Students and Scholars Office**

Students who are not citizens of the U.S. must meet with personnel in the International Students and Scholars Office, Skye Hall (formerly Surge ), Suite 321 (on the 3rd floor). The International Students and Scholars office supports and promotes the success, wellness and personal growth of international students through expert advising, intercultural programming and advocacy. This office creates a safe and welcoming environment that respects cultural diversity and fosters intercultural skills and communication across campus. All UCR students are welcome to get involved with our intercultural programs. This office is also

happy to assist faculty and staff who are exploring ways to support our growing international student population. The center is a valuable resource and the personnel in this office specialize in services for International Students who pursue their studies here at UCR.

The international student advisors can help you with:

- A. Homesickness
- B. Adjusting to American culture
- C. Making decisions and solving problems
- D. Building positive relationships with roommates, classmates and professors
- E. Staying safe
- F. Improving your English
- G. Understanding employment options
- H. Maintaining your immigration status

Call the International Students and Scholars Office at (951) 827-4113 to schedule a one-on-one appointment. If your question is brief, you may want to see an advisor during open advising hours when no appointment is necessary.

Email: [internationalstudents@ucr.edu](mailto:internationalstudents@ucr.edu). You can also download the [International Student Handbook](#).

You may obtain general information about academic advising from the ISSO representative Kelly Hinosawa ([kelly.hinosawa@ucr.edu](mailto:kelly.hinosawa@ucr.edu) Tel: (951) 827-4113). If you would like to schedule a meeting with Kelly to address any of your questions and concerns, please call (951) 827-4113 to make an appointment. The ISSO website (<http://internationalcenter.ucr.edu/>) has a listing of issues that are uniquely encountered by international students (i.e., visa issues, money exchange, etc.). In addition, the site lists many student and regional organizations to aid international students to adapt to UCR and the Riverside area.

## SECTION 1D. HOUSING

If you are still in need of housing when you get to Riverside, there are several possibilities.

### 1. On-Campus Housing

On campus housing is in high demand. Try to secure on-campus housing prior to arrival on the campus. There may be long waiting lists for some of the on-campus housing facilities. If you would like to live on campus, you must add your name immediately to the housing waiting lists by completing an application online at <http://housing.ucr.edu/>. You will need to contact the Housing Office at [housinginfo@ucr.edu](mailto:housinginfo@ucr.edu) to follow up on your application.

For on-campus housing, community living or roommate sharing, please visit UCR's housing website (<http://housing.ucr.edu>) to access online application forms. On-campus housing includes:

- A. Single (unmarried/no dependents) graduate students can choose to live at:
  - Bannockburn Village (<http://housing.ucr.edu/housing-options/campus-apartments/bannockburn.html>),
  - Falkirk (<http://housing.ucr.edu/housing-options/campus-apartments/falkirk.html>),
  - Glen Mor (<http://housing.ucr.edu/housing-options/campus-apartments/glen-mor.html>),
  - International Village (<http://housing.ucr.edu/housing-options/campus-apartments/international-village.html>),
  - The Plaza (<http://housing.ucr.edu/housing-options/campus-apartments/plaza.html>),
  - Stonehaven (<http://housing.ucr.edu/housing-options/campus-apartments/stonehaven.html>)
- B. Married students without children can live at Bannockburn Apartments or University Plaza.
- C. Married students with or without children can live at Oban Family Housing (<http://housing.ucr.edu/housing-options/family-student-housing.html>)

### 2. Moving with Children

The Child Development Center at UC Riverside (<http://ecs.ucr.edu/index.html>) accepts children from age 2 months through six years of age (Kindergarten). Regarding cost and admission, please contact the Child Development Center (3333 Watkins Drive, Riverside, CA 92507; (951) 827-3854). The waiting list can be long. Add your name to the list as soon as possible. Immunization records are required. For families with school-aged children (ages 5-18), all previous academic records and records of immunization will enable enrollment in Riverside schools.

Graduate students who are employed as a GSR or TA may be able to be partially reimbursed for on or off-campus child care as a benefit of their employment. See the following document for details: <https://ucnet.universityofcalifornia.edu/forms/pdf/ase-child-care-reimbursement-program.pdf>

### **3. Check Waiting List Status Routinely**

To request a status check and get a rough idea of when you might be offered a space, please e-mail the enrollment coordinator: Lesley Martinez ([lesley.martinez@ucr.edu](mailto:lesley.martinez@ucr.edu)). Additional contacts for Early Childhood Services can be found at <http://ecs.ucr.edu/about/staff.html>.

### **4. Off-Campus Housing**

If you are interested in off-campus housing, visit the Housing Services. The office is located at 3595 Canyon Crest Drive. For any questions, please call (951) 827-6350 or fax to (951) 827-3807. This office also has a list of private homes and apartments for available for rent.

<http://housing.ucr.edu/help-desk/offcampus-housing.html>

## **SECTION 1D. KEYS, SECURITY IN BUILDINGS AND SAFETY ON CAMPUS**

### **1. Building Security**

Please note that theft is an issue at any "open" institution such as UCR. Science buildings are particularly targeted due to our equipment and high density of computers. Doors to offices and labs should be locked when rooms are unoccupied. Purses, calculators, etc., should be kept in locked drawers.

Doors to Batchelor Hall or Genomics should close automatically. Please be sure that the building entrance doors or stairwells are locked when you leave the building at night or on weekends.

If there is a problem or suspicious activity, please take a few minutes and contact the campus police at x2-5222. Do not open the door of a locked building or lab for people you do not recognize as its normal occupants, and call campus police if you have any concerns.

A secure building is critical for deterring theft of books, computers, and lab equipment. A secure building is also important for the safety of graduate students, postdoctoral fellows, and faculty, who may sometimes work irregular hours alone.

### **2. Access to Batchelor Hall, Genomics, Noel Keen Hall, Boyce Hall**

#### **For students in Batchelor Hall**

Keys to Batchelor Hall (BH) and your BH office and laboratory can be checked out in BH 2142. Complete the Key Authorization form, which is included in this handbook or can be picked up in BH 2142. Your major professor or rotating faculty mentor must sign the form. Give the form to Jackelyn Rodriguez Quinonez in BH 2142 to obtain keys. Please note that if you are mentoring an undergraduate student, they will be allowed to check out keys on an exceptional basis only, with prior approval from the BPS Chair (Dr. Patricia Springer, x2-5785), BPS Financial and Administrative Officer (April Meinzer, x2-3839), or BPS Financial Operations Manager (Maria Sedillo, x2-4435).

### **For students in Genomics**

You will need keys to Batchelor Hall (BH) to access your mail, BH copiers and fax machines (see directions above). To access the Genomics Building, you will need to acquire a fob for building entry and laboratory and keys for your office. Doors to the lobby area (front and back), first floor elevator, first floor hallway, and laboratory will automatically lock at 5 pm and reopen at 7:30 am weekdays; fobs are needed to enter these areas. These areas are to remain locked on weekends and holidays.

The fob and keys to Genomics can be acquired from Jennifer Douglas in Genomics 1206. Complete and sign the fob/Key Authorization form, which can be picked up in Genomics 1206 or downloaded from <http://cores.iigb.ucr.edu/wp-content/uploads/2017/09/fob-application-fy18.pdf>. Your major professor or rotating faculty mentor must sign the form and provide a FAU (an account to charge the fees to). The FAU is needed in the event the fob is not returned by the expiration date. If you are requesting access to the IIGB Core(s), these forms must be stapled together with the Genomics key/fob request (see below). Give the form(s) to Jennifer Douglas to obtain keys and the fob.

Your Genomics fob must be renewed annually. Genomics fobs are issued with annual expiration dates (September 30), and charged at cost to faculty FAUs when not returned by that date. Provide renewal forms to Jennifer Douglas (Genomics 1206) with your major professor's signature. Your fob will be remotely programmed for another academic year.

### **For students in Boyce Hall**

Lab keys are obtained through Batchelor Hall. Complete the Key Authorization form, which is included in this handbook or can be picked up in BH 2142. Your major professor or rotating faculty mentor must sign the form. Give the form to Jackelyn Rodriguez Quinonez in BH2142 to obtain keys. Please note that if you are mentoring an undergraduate student, they will be allowed to check out keys on an exceptional basis only, with prior approval from the BPS Chair (Dr. Patricia Springer, x2-5785), BPS Financial and Administrative Officer (April Meinzer, x2-3839), or BPS Financial Operations Manager (Maria Sedillo, x2-4435). The Boyce building key is obtained from Margarita Flores in Boyce 1447 ([margarita.flores@ucr.edu](mailto:margarita.flores@ucr.edu)).

### **For students using the IIGB Core Facilities in Noel Keen Hall**

If you are using the Genomics Core, Imaging and Microscopy Core, or Proteomics Core, you will need to have your Genomics fob programmed to use of the IIGB facilities or acquire a fob for Noel Keen Hall. Complete and sign the fob Authorization form, which can be picked up in Genomics 1206 or downloaded from <http://cores.iigb.ucr.edu/wp-content/uploads/2017/09/fob-application-fy18.pdf>. Indicate the Groups (B, D, E, F, and G) you would like to have access to. *If you are requesting access to Keen Hall facilities for the first time, Core Manager(s) authorization is required.* Your major professor or rotating faculty mentor must sign the form and provide a FAU (an account to charge the fees to). The FAU is needed if the fob is not returned by the expiration date. Give the form to Jennifer Douglas to obtain keys and the fob.

fobs are issued with annual expiration dates (September 30), and charged at cost to faculty FAUs when not returned by that date. Therefore, access to the IIGB Facilities in Noel Keen Hall must be renewed annually. It is not necessary to obtain Core Manager signatures for Keen Hall fob renewals. Your fobs will be remotely programmed for another academic year.

### **3. Lost Key**

In case of a lost key (any UCR issued keys), immediately notify the department (April Meinzer, [april.meinzer@ucr.edu](mailto:april.meinzer@ucr.edu); Jackelyn Rodriguez Quinonez, [jackelyn.quinonez@ucr.edu](mailto:jackelyn.quinonez@ucr.edu)) so that department can take corrective actions.

### **4. Safety on Campus**

#### **Reporting Suspicious Behavior**

UCR's Police Department works to provide a safe and secure environment at UCR. Our officers value the opportunity to provide service in a manner that is fair, courteous, responsive and efficient. An attitude of respect for, and the protection of, the worth, dignity and rights of all is the foundation of our law enforcement agency. For non-emergencies, call (951) 827-5222 or x2-5222. For emergencies, dial 911.

## **Campus Safety Escort Service**

The Campus Safety Escort Service (CSES) is run through the Women's Resource Center and provides secure escorts to your car or campus destination. Escorts are provided upon request. The CSES dispatches from the foyer of the Tomás Rivera Library and operates Sunday through Thursday, dusk to midnight. To request an escort, call (951) 827- 3772, or use a CSES telephone located in most campus buildings. After midnight, the UCR Campus Police will gladly provide an escort. Call (951) 827-5222.

Robberies and lewd acts do occur on occasion in the area surrounding UCR, particularly late at night. Please exercise an appropriate level of vigilance if walking alone and do not hesitate to request assistance.

## **Call Box - Emergency Call Boxes**

Emergency Call Boxes are in, or adjacent to, most campus parking lots. They are identifiable as blue pillars labeled "Emergency," with a blue light on top. They are connected to the Police Department by cellular telephones, and each one emits an identifier code which alerts the Police Dispatcher of the location of the box being activated. It is important for campus community members to learn the locations of call boxes, especially those located along frequently traveled campus routes (maps are available from UCR Parking Services which denote the locations of call boxes). To use the system:

- Follow the instructions on the box.
- When the call box is opened and the interior button is activated, it immediately alerts the Police Dispatcher that someone has activated the call box.
- Talk to the Police Dispatcher on the cellular telephone.

## **SECTION 1E. COMMUNICATION**

### **1. Mail**

Mailboxes for all Plant Biology graduate students are in Batchelor Hall 2150. Your assigned mailbox will be towards the right in this room. Mail is distributed daily at approximately 10:00 a.m. and 2:30 p.m. Outgoing letters concerning official University business may be placed in the mailbag that hangs on the end of the table in the mailroom.

Please remember that personal mail, even if stamped, may not be placed into this bag. The University mailroom personnel will return such items to the Department; they will not place them into the U.S. mail.

### **2. Telephones**

To call UCR phones while on the UCR campus, just dial 2 and the four-digit extension. A web-based directory of the phone numbers for UCR students, postdoctoral scholars, staff and faculty can be found at the UCR home page at the "find people" link.

To make a local call from a university phone, dial 9 and then the number. To make a long-distance call, dial 9, then 1 and the number. *University telephones are to be used for official University business only* - this means that you should keep to a minimum the use of phones for necessary personal calls. University telephones may not be used for personal calls outside the local dialing area. All long-distance calls made from laboratory phones are billed to the operating accounts of the laboratory head, who receives a monthly listing of when and to where each call was made.

### **3. E-Mail Account (R'mail)**

When you enroll at UCR, you are automatically assigned a UCR R'Mail account on the Student server. Along with your account, you will also receive an electronically generated login name (netID). You cannot change your netID.

Your initial password is your Permanent PIN number. If you forget it you can go to the Registrar's Office. However, we strongly recommend that you change your password as soon as possible. Do not use your Permanent PIN number as your password, because because your academic information and financial aid records may be accessed.

It is very important that you use and read your R-Mail daily. The Registrar's Office, the Student Affairs Center, Graduate Advisors, and course instructors use this account to send you important notifications.

#### **4. iLearn and eLearn**

In the fall of 2021, UCR will be transitioning from a Blackboard-based Learning Management System (iLearn) to one based on Canvas (eLearn). Check with your instructor to determine how to access course materials and information.

#### **UCR Graduate Community Course**

You will be enrolled in the UCR Graduate Community course through iLearn (<https://ilearn.ucr.edu/>) or eLearn (<https://elearnhome.ucr.edu/>). This course is used to post announcements regarding funding opportunities, campus workshops, and events pertinent to graduate students. The discussion boards are also available, including a "student exchange" where you can post items for sale or rooms for rent, etc.

#### **5. FAX**

If you are in Batchelor Hall, you will use the Batchelor Hall fax machine if by some unusual chance you need to send a fax. Its number is (951) 827- 4437, and the Fax machine is in Batchelor Hall 2140. Outgoing faxes require the use of an access code, which you can obtain from your faculty advisor. Directions for its use are posted above the machine. Incoming Faxes are distributed via email to your campus web-mail account.

If you are in the Genomics Building, you will use the Genomics fax machine. Its number is (951)- 827-5155, and the fax machine is in the Genomics first floor stairwell near the loading dock.

Directions for its use are posted above the machine. Incoming faxes are distributed via email to your campus web-mail account.

Outgoing faxes in Batchelor Hall or Genomics require a unique code number. See your major professor to obtain this code number. For entering/rotating grad students, please use the code number of the lab in which you are currently working.

#### **6. Copier Service**

The Department has two copiers located in Batchelor Hall 2140. One of the copiers will also scan documents and email them to your campus web-mail account. Please see Jackelyn Rodriguez Quinonez in Batchelor Hall 2142 for assistance with setting up your email address. If you experience problems with the copiers, please contact Jennifer Reising at X2-5133.

If you are in the Genomics Building, you will use the Genomics copier that is in the Genomics first floor stairwell near the loading dock. If you experience problems with the copiers, please contact Genomics/IIGB Staff at X2-7177.

Faculty and office staff have priority use of the copiers when they need to copy grant proposals, course examinations, or other documents before imminent deadlines. Access to copy machines is through a unique code number. See your faculty advisor to obtain this code number. For entering/rotating grad students, please use the code number of the lab in which you are currently working.

#### **7. Computers, LCD Projectors, and Department Camera**

Graduate students will have access to computers and peripherals within their major professor's laboratory/office space. You should become familiar with the campus policy governing the personal use of campus computers (see the Campus Policies –Student Conduct Section; Section 8). Full policies can be found at <https://fboapps.ucr.edu/policies/index.php?path=viewPolicies.php&policy=400-37>. Two laptop PCs are available from the Department of Botany and Plant Sciences Office and may be checked out for presentation purposes only. Two LCD projectors for computer-generated presentations and a digital camera are also available and may be checked out from the BPS Mariella Valdivia (BH 2118, x2-4619). The campus has general use computer labs in each of the libraries.



## **SECTION 1F. CONFERENCE ROOMS**

All conference rooms on the UCR campus can be reserved using the online Facilities Reservation System (<https://frs.ucr.edu>). In general, students and faculty use the conference rooms in the building in which they reside (for convenience). However, there are times when you will reserve conference rooms in adjacent buildings due to availability.

### **1. Batchelor Hall Conference Rooms**

Students may reserve one of the four conference rooms (2158, 3106, 4141, and 4169) located in Batchelor Hall for exams, meetings, or study groups. Reservations can be requested here: <https://chassintranet.ucr.edu/frs/index.do>. If there is a problem with one of these rooms please contact Mariella Valdivia (Batchelor Hall 2118, x2-4169). If these rooms are not available, you can talk to the Plant Biology Student Services Advisor about other rooms available on campus.

### **2. Genomics Conference Rooms**

Students may reserve one of the four conference rooms (1101, 1202A, 3101, 4101) located in Genomics for exams, meetings, or study groups. Reservations can be requested here: <https://chassintranet.ucr.edu/frs/index.do>. If there is a problem with one of these rooms please contact Genomics/IIGB staff (Genomics 1206, x2-7177). If these rooms are not available, you can talk to The Plant Biology Student Services Advisor about other rooms available on campus.

## **SECTION 1G. TRAVEL AND ENTERTAINMENT**

During a graduate student's studies, you may travel to professional meetings, to research sites, or to a collaborator's laboratory. These expenses are often, but not always, funded by the major professor's research grants. *Before you incur any travel or entertainment expenses*, be sure that your research advisor will refund your travel expenses.

For some expenses (meeting registration, meeting housing and airfare), students can use the advance payment system (see below). The university has complex and strict travel policies.

As a graduate student, you may have the opportunity to take an invited speaker to lunch or dinner. The university has complex and strict entertainment policies. Please read the policies in advance to be sure you can be refunded for these expenses.

Effective January 1, 2017, California law AB 1887 prohibits state-funded travel to a state that has passed a law after June 26, 2015 that: (1) authorizes discrimination based on sexual orientation, gender identity, and gender expression; or (2) voids or repeals existing state or local protections against such discrimination. The law expressly identifies the University of California and the California State University as entities covered by the law. The California Attorney General's Office has published the list of prohibited states: Alabama, Kansas, Kentucky, Mississippi, North Carolina, Oklahoma, South Dakota, Tennessee, and Texas. For additional information, please see <https://oag.ca.gov/ab1887>.

### **1. Contact Person for Questions about Travel and Entertainment**

The program advises that you seek advice prior to leaving on your trip or incurring any expenses. If you need aid with forms or understanding the policies that apply to your travel, speak with Jackelyn Rodriguez Quinonez (2142 Bachelor Hall; X2-4401; [jackelyn.quinonez@ucr.edu](mailto:jackelyn.quinonez@ucr.edu))

### **2. Advance Payment for Airfare and Registration**

Most airfare and registration fees (and sometimes housing for professional meetings) can be covered by the advance payment system. This can be processed through eBuy so that the traveler does not need to use his/her credit card. You will be given instructions regarding receipts and other pertinent information. It

is very important that you are knowledgeable about these campus requirements, or you may find that you cannot be reimbursed for a legitimate expense.

### 3. Funding for Travel to Scholarly Meetings

Funds to support graduate students to travel to present a paper or poster at scholarly meetings are available from the program, UCR Graduate Student Association, and BPSC Mini-GSA. See SECTION 7 for details.

### 4. Reimbursement for Travel

To be reimbursed for travel expenses, all receipts must be original and itemized showing proof of payment. For example, if you have a hotel receipt be sure it shows the last few digits of your credit card or that you have a credit card receipt for the hotel. You need receipts for all of the following:

- Receipts for all airline expenses
- Receipts for all lodging expenses
- Receipts for local transportation
- All rental car expenses

For additional information on the above items, you can go to <http://accounting.ucr.edu>, and click on Travel on the left side of the page. Then click on any of the links for more information.

There are two methods to claim your travel expenses:

- iTravel and UCR's electronic travel system (preferred)
- The paper route using a Travel Reimbursement Form

You will need to enter your data in the iTravel (see below) or fill out a Travel Reimbursement Form after you complete your travel. The Program prefers that students use the iTravel system (<http://itravel.ucr.edu>). Reimbursements via iTravel and generally occur within 2-3 weeks.

Jackelyn Rodriguez Quinonez will let you know if you should use the paper route. The Travel Reimbursement Form is available in the Department Office, BH 2142. Expect slightly longer times for reimbursements (relative to iTravel), if you use the Travel Reimbursement Form. Please plan your finances accordingly.

### 5. iTravel System

To use iTravel, you must know your UCR Net ID and password and have access to the Internet. If you need aid in submitting your travel expenses online, contact Jackelyn Rodriguez Quinonez ([jackelyn.quinonez@ucr.edu](mailto:jackelyn.quinonez@ucr.edu)).

You can access iTravel via R'Space or at [www.itravel.ucr.edu](http://www.itravel.ucr.edu)

- Click on *Travel Planning and Expense Reporting System*
- Click on your *Accountability Structure*
- Click on *Travel Expense Reporting*
- Under the various tabs enter your info

Double check and make sure your information is accurate. Make sure you have receipts for all expenses that require receipts. After completing your information online form (voucher), click submit. Turn in all your original itemized receipts to Jackelyn Rodriguez Quinonez in 2142 BH

### 6. Air Travel

When you book your flights, it is important to consider that the university expects that you are using fellowship and grant funds judiciously. Please note the following regulations:

- **Coach Class-** Coach class or any discounted class shall be used in the interest of economy. This policy applies to all travel (domestic or foreign, or any combination thereof) regardless of the purpose or funding source.

- **U.S. Flag Air Carriers-** Under the Fly America Act, only U.S. carriers shall be used for travel reimbursed from federal grants and contracts.

If advance approval has been obtained from your supervisor and the Chair of the BPSC department, a traveler may use surface transportation for personal reasons even though air travel is the appropriate mode of transportation. Such costs shall not exceed the cost of airfare, based on the lower of the regular coach fare available for the location of travel from a standard commercial air carrier or the campus travel program fare, plus transportation costs to and from the terminals. You should be prepared to provide the costs of air-travel for comparison and verification.

## **7. Shuttle Service**

If approved by your major Professor, students can be reimbursed for the use of Uber/LYFT, or another shuttle service to and from the airport. The round-trip cost may be less than reimbursement of car expenses and parking fees. Please evaluate the most economical mode of travel to and from the airport.

The maximum expenses that can be refunded change annually and are dictated by the UC System. Please check with Jackelyn Rodriguez Quinonez ([Jackelyn.Quinonez@ucr.edu](mailto:Jackelyn.Quinonez@ucr.edu); X2-4401) for details before you travel.

## **8. Rental Cars**

Please read the policy below carefully. The full policy is available at UCR's Accounting website under Travel. If guidelines are not followed, it is possible that only a portion of your expenses will be covered.

A car can be rented when it is more advantageous to the university than other means of commercial transportation (i.e. taxi, train, etc.). When renting a car, travelers are expected to use rental agencies with which the University has contracts. The UC contract rates already provide full coverage of liability insurance. On UC-contract rental vehicles used in the continental U.S., *charges for additional insurance are not allowable*, including any charge for a collision damage waiver (meaning they are not needed and will not be refunded). The rental agency's University identification number should be given to the agency at the time of rental to ensure that the vehicle is covered by physical damage insurance.

## **9. Meals**

Meal costs associated with travel can be covered by grants and fellowships if approved by your major professor. There are strict rules for these expenses, and you may *only* claiming actual expenses. Remember you are using federal, state or agency funds and you must be respectful of this. *Please note:* the expense limitations change annually; check to be sure that the guidelines in the Handbook are currently accurate. Contact Jackelyn Rodriguez Quinonez for details.

## **10. Lodging**

The costs of lodging (rate of the room) should be approved by your major professor prior to travel.

Receipts are mandatory. Be sure that the last four digits of your credit card appear on the receipt or turn in a copy of your credit card receipt. Only the actual hotel expense can be reimbursed.

## **11. Vehicle Checkout**

Vehicles are available from Fleet Services (<http://fleet.ucr.edu>; 2-2277) through the campus on-line Fleet Services registration system on an FAU (re-charge) basis. See your major professor for assistance or access. University vehicles require a valid driver's license and are not to be used for personal business. They are to be returned clean and ready for the next person to use. You must be a University employee to ride or drive in a University vehicle. A car wash and vacuum are available at the garage. If something breaks or is not operating properly, please report to Fleet Services immediately.

## **12. Entertainment Expenses**

During your time in the Plant Biology Program, you will have the opportunity to host an invited speaker to lunch or dinner. You might also be asked to host a student, who we are trying to recruit to the Plant Biology Program. These are considered occasions that support the mission of the University, department, or graduate program and meal expenses can be reimbursed.

### 13. Understand the Entertainment Policies

It is critical that you are approved for entertainment prior to embarking on this path. Because UCR is a public university, expenditures must be cost effective and in accordance with the best use of public funds.

Therefore, there are rigid policies for refunding entertainment expenses. Please acquaint yourself with the policies. The UCR campus policy follows the University-wide policy procedures, and rates described in BUS-79. Please note, these policies and refund rates can change.

To see more on the UCR entertainment policies (BUS-79), you can access this document at <https://policy.ucop.edu/doc/3420364/BFB-BUS-79> or access the document via R-Space:

1. Go to R'Space
2. Click on the Accounting tab
3. Click on the Travel tab
4. Click on Entertainment
5. Click on BUS-79

### 14. CAUTION- Non-refundable Expenses.

- Alcohol expenses (beer, wine, etc.) cannot be refunded.
- There are strict guidelines of the number of people who can join the visit and have their meals refunded. (see below)
- You will not be refunded for expenses that exceed the UC guidelines.

### 15. Claiming Entertainment Expenses.

You can pick up the Entertainment Form on the front door of Jackelyn Rodriguez Quinonez's office (2142 BH) or in the Batchelor Hall Receiving Room (2140 BH). Fill out the form and return the form to Jackelyn Rodriguez Quinonez along with original itemized receipt.

## SECTION 1H. ORDERING SUPPLIES AND REPAIRING EQUIPMENT

**Note:** If your major professor is *not* a member of the Department of Botany and Plant Sciences (BPSC), please discuss lab ordering policies with your major professor, and contact the Purchasing Specialist for your major professor's home department.

**For students in BPSC laboratories,** if you have any questions about ordering or package receipt protocols, please contact Jennifer Reising (2-5133, [jennifer.reising@ucr.edu](mailto:jennifer.reising@ucr.edu)), and she will be happy to walk you through the purchasing process.

### 1. Placing Orders

Items for use in your supervisor's research program may be ordered from a variety of suppliers, including the University Storehouse. For all students who are working in the labs of Botany and Plant Sciences faculty, Jennifer Reising (BH 2138) is the BPS Purchasing Specialist. She is responsible for the procurement of all supplies and services to ensure compliance with applicable UC policy and procedures. Please discuss your lab's procedures for ordering materials with your major professor or lab manager before preparing an order. Storehouse requests should be submitted through your laboratory manager, who has access to the on-line Storehouse system, and will be approved and processed by Jennifer Reising.

Items not available through the Storehouse are processed through UCR's eBUY system. You may submit an order in eBay via your laboratory manager or your lab manager/faculty advisor may grant you access as a "sub-requestor" in eBay. All purchase requests must contain all required information, have a complete

FAU (account billing information), and be approved by your faculty supervisor or designee before the order will be processed. Incomplete requests will be returned to the requestor.

For same day orders/requests, please see Jennifer Reising in person or contact her via phone at 951-827-5133 before noon.

If you have placed an order and have not received it within a reasonable time (which may vary from vendor to vendor and item to item), please check with Jennifer.

## **2. Receiving Packages**

Please check any order immediately for accuracy and for any damage - we only have 10 days from the date of receipt to report any discrepancies or damage to the vendor to have them resolved.

***For laboratories in Batchelor Hall:*** Packages are delivered to 2140 Batchelor Hall. Your PI and any other approved personnel will be notified by email when a package arrives. If a package requiring refrigeration has been delivered, it should be picked up immediately; office staff will try to contact the lab if it is not picked up by 4:00 pm. Follow the instructions on the computer in that room to scan the bar code for each package and accept delivery.

***For laboratories in Genomics:*** Packages are delivered to room 1202, which is connected to the loading dock. Office staff will email the lab to alert you if a package requiring refrigeration has been delivered and should be picked up immediately.

***For laboratories in Boyce Hall:*** Packages are delivered to Boyce 1415A, which is connected to the loading dock. Office staff will call or email the lab to alert you a package requiring refrigeration has been delivered and should be picked up immediately.

## **3. Repair of Equipment**

Repair of laboratory research equipment may be carried out by service persons from the company that built or sold the equipment. Payment for these services must be from funds administered by your research supervisor. Be sure to check with your supervisor *before* you request repair work from outside agencies. For BPSC laboratories, you must obtain a Purchase Order via eBuy from Jennifer Reising (located in BH 2138) before your equipment can be serviced on site or sent out for repair. Please consult your home department for their policies. If the equipment is shared equipment in the Genomics Building, contact Jennifer Douglas (Genomics 4119B; x2-2152; jennifer.douglas@ucr.edu).

## **4. Petty Cash Disbursements (11-12 AM and 1-3 PM daily)**

Purchasing supplies with your own funds should only be considered if you are unable to obtain a department purchase order (PO), or if you need to make an emergency purchase. Your reimbursement must be approved by your major professor in advance. When you have purchased items for reimbursement with a total value of less than \$100 (before taxes are applied) that should be refunded by your laboratory, you can arrange for petty cash reimbursement or the electronic payment process (ePay). For purchases over \$100, you can only be reimbursed via the ePay process. Reimbursement requests for \$500 or more must go through a process that includes obtaining the Dean's approval and signature.

Jackelyn Rodriguez Quinonez (2142 Batchelor Hall) will assist you with the reimbursement. You will find a petty cash and/or ePay form on the front door of her office or in the Receiving Room (2140 Batchelor Hall). Reimbursements for purchases paid by petty cash and/or ePay can only be made for the purpose(s) for which the fund was authorized and must be supported by the original receipt.

Fill out the Petty Cash or ePay form, obtain your supervisor's approval, and include the FAU, then submit the form along with your original itemized receipt directly to Jackelyn for reimbursement during the hours of 11-12 and 1-3 daily. The original reimbursement request form along with your manager's or supervisor's signature and the original receipt are required, and therefore, the form and receipt cannot be submitted electronically to Jackelyn for reimbursement.

You should always consider the UCR PO process for any and all purchases. If you are unsure how to proceed, please contact Jennifer Reising in 2138 BH.

## SECTION 1I. LABORATORY SAFETY

Safety of students and employees is a major concern of the Plant Biology Program, Department of Botany and Plant Sciences, and the University. Several important documents, including the Injury and Illness Prevention Program and the Chemical Hygiene Plan, have been developed by the Department to provide guidelines for safety in research and during emergencies. All students and employees should be familiar with this information, and your major professor will provide copies of these documents for your review.

As a UCR graduate student, you are required to complete the Lab Safety Orientation provided by Environmental Health & Safety (EH&S). You may enroll in a training session via the following website: <http://ucrllearning.ucr.edu/>. If you have any questions or problems accessing the online training, please contact the UCR Learning Center at [ucrllearning@ucr.edu](mailto:ucrllearning@ucr.edu).

Please complete this training as soon as possible as keys will not be issued until you have completed this training. Some graduate students will need to attend additional training depending on their research project. Make sure all records of completed training are given to Marcella Murillo (204 College Building North) to be put into your personnel file.

If you are ill or injured while performing tasks directly related to your studies (i.e. attending class, working in the lab on research for your dissertation on your own time, completing a literature search in the library, etc.), please use the Campus Health Center, which is located in the Veitch Student Center across from parking lot 15. The telephone number is 951-827-3031. If you are injured so badly that you cannot go to the Health Center unassisted and no one is available to transport you there, call the University's Department of Public Safety (POLICE) at ext. 911 or 2-5222.

If you are injured while performing duties for which you are paid (i.e. working as a Graduate Student Researcher (GSR) or as a Teaching Assistant (TA)) and medical treatment is needed, you should obtain treatment at one of the approved Workers' Comp Medical Facilities. Approved Workers' Comp Facilities are listed on the flip chart that should be clearly visible in all research and teaching labs. If you are injured, please complete an Incident Report as soon as possible, but no later than 24 hours from the time of the injury. An Incident Report can be submitted through Mariella Valdivia in Batchelor Hall Room 2118, via email to [workerscomp@ucr.edu](mailto:workerscomp@ucr.edu), or called in to the Workers' Compensation Claim Reporting Hotline (1-877-682-7778). A copy of the Incident Form, a list of approved Medical Facilities, and additional information can be found at <https://risk.ucr.edu/reporting>.

If you are a Teaching Assistant in a class and one of the students in the class is injured (regardless of how slight the injury), report it to the instructor of the class and Student Health Service immediately.

## SECTION 1J. FACILITIES

### 1. Whom to Contact in an Emergency

- **WEEK DAY EMERGENCIES** (8 am-5 pm Monday-Friday): April Meinzer, X2-3839; Physical Plant, X2-4214.
- **NIGHT AND WEEKEND EMERGENCIES**: Steam Plant, X2-4677. Call for mechanical problems (i.e. something dangerous to you, the building, or the project). If you have an emergency and have called the after-hours number, contact April Meinzer (X2-3839) during the following business day. The police department will also help if needed (X2-5222).
- **CHEMICAL SPILLS**: Environmental Health and Safety, X2-5528, X2-5518, X2-6312.
- **PUBLIC SAFETY** (Campus Police): Emergency - 911; Non-emergency - X2-5222.

### 2. Problems with Facilities and Buildings.

- **PHYSICAL PLANT EMERGENCY CALLS** – Matt Ulrich, X2-4421

- **GENERAL BUILDING ISSUES - BATCHELOR HALL** – Jennifer Reising, X2-4401 (i.e. doors, lights, sinks, etc.)
- **GENERAL BUILDING ISSUES - GENOMICS** – Dominica Albitre, X2-2152 (i.e. doors, lights, sinks, etc.)
- **GENERAL BUILDING ISSUES - BOYCE** - Matt Ulrich, X2-4421, (i.e. doors, lights, sinks, etc.)
- **TEACHING FACILITIES** – Kim Steiner, 236-2132, [kim.steiner@ucr.edu](mailto:kim.steiner@ucr.edu)
- **GREENHOUSE & PEST MANAGEMENT SERVICES** –Brian Alvarez Agricultural Operations (Ag Ops), X2-5838.
- **IIGB/CEPCEB CORES (GENOMICS, MICROSCOPY& IMAGING, PROTEOMICS)** [genomics@ucr.edu](mailto:genomics@ucr.edu) (i.e. doors, lights, sinks, etc.). If there is a problem with any of the equipment in the IIGB/CEPCEB Cores, please contact the Director/Academic Coordinator of the Core (<http://www.iigb.ucr.edu>).

### 3. Plant Growth Facilities

The UCR has extensive facilities for growing plants. Greenhouses, lath houses, growth chambers, and culture facilities are available for research and teaching purposes. As your research project develops, you may have need for some of this space. You must confer and get permission from your major professor to acquire plant growth space; often recharges are involved.

Most plant growth chambers, Arabidopsis houses and plant growth rooms in the department are controlled by specific PIs. If you are in need of additional plant growth chamber or plant growth room space for a short or longer period of time, you should speak with your major professor. Often an email to BPSC faculty from your major professor will identify “loaner” space.

College’s Agricultural Operations (AgOps) unit controls and maintains most greenhouses and provides space and services for row crop field projects in Riverside and Coachella. A complete list of their services and roles can be found at <http://agops.ucr.edu/>. AgOps assigns and maintains greenhouses and provides pesticides sprays on a recharge basis. They allocate field space and provide services that include: land preparation, bedding, planting, pre-plant fertilizer, pre-emergent herbicides, planting as seed or transplants, irrigation setup, irrigation, cultivation, pest management, and weed control. AgOps also provides soil for experiments. If you have need of AgOps services, contact your major professor for approval.

To use the plant growth facilities in Greenhouse 2 (Plant Transformation Facility) or the Campus Arabidopsis Facility, contact Dr. Orozco-Cardenas (GH 2, 2-3885; Director, Plant Transformation Research Facility). If you have need of AgOps services, contact your major professor for approval; these spaces incur recharges.

### 4. Botanic Gardens and Herbarium

UCR Botanic Gardens (Dr. Jodie Holt, Director) and Herbarium (Dr. Amy Litt, Director) are available for use in teaching and research.

#### Botanic Gardens

Whether used for research or a leisurely stroll, the Botanic Gardens is a great place to visit. The UCR Botanic Gardens are literally a "living museum" with more than 3,000 plants from around the world exhibited on over 40 acres. The diversity is notable – a result of numerous microclimates created by the combination of variable terrain and Riverside’s subtropical climate. The Gardens are also a wildlife sanctuary with almost 200 bird species officially observed. For more information on using the Botanic Gardens’ resources in your research, contact Jodie Holt, at 951-784-6962 (Schneider House Office), [bgdirector@ucr.edu](mailto:bgdirector@ucr.edu) or visit <https://gardens.ucr.edu>.

#### Herbarium

The UCR Herbarium, a research collection of preserved specimens, is also a major clearinghouse for information regarding plant and lichen species distribution and abundance in the field. UCR Herbarium

records include almost 280,000 specimens from around the world, with a focus on the southwestern U.S. and Mexico. Information on all this material is available in three online databases (SEINet, Consortium of California Herbaria, UCR Herbarium website). UCR is the largest completely data-based plant collection in California and the 5th largest CA collection overall. Records of numerous species have been substantially augmented through UCR Herbarium efforts. In many cases, the bulk of what is known about the range and abundance of a species is from UCR specimens. For more information on using Herbarium resources in your research, contact Andy Sanders (2-3601, [andrew.sanders@ucr.edu](mailto:andrew.sanders@ucr.edu) or <https://herbarium.ucr.edu/>)

## 5. Citrus Variety Collection - Tracy Kahn, Curator

For almost 100 years, as one of the most diverse citrus germplasm collections in the world, the Citrus Variety Collection continues to be used a resource for research, breeding, and educational extension activities on the UC Riverside campus. The collection consists of approximately 2,000 trees representing two trees of each of the more than 1,000 different types of citrus and citrus relatives. Approximately 760 of the accessions are within the sub-genus *Citrus*, the remaining types are included in the other 28 of the 33 related genera in the sub-family Aurantiodeae of the Rutaceae. This diversity is manifested visually by types with fruits of unusual shapes, sizes, colors, and tastes growing on trees of varying heights, forms, and foliage characteristics. These living collections also produce fruit with great variation in the chemical compounds of the rind and flesh which gives the fruit differences in taste, texture and aroma. Underlying all of this visible and tangible diversity is genetic diversity which can and has been used to improve citrus varieties for productivity, taste, and disease and environmental and even to develop new food and horticultural crops.

The Citrus Variety Collection was established in 1909 to provide genetic resources for citrus research in California. The range of diversity within this collection makes it a valuable resource for research for the California Citrus Nursery Industry and for the California Citrus Industry. Currently, the collection serves as a resource for a myriad of research projects from scion and rootstock breeding for the improvement of commercial varieties to the study of the biological activities of citrus limonoids as anticancer agents. Since 1997, more than 40 different projects have utilized trees in the Citrus Variety Collection. For more information about the collection, visit the Citrus Variety Collection web site (<https://citrusvariety.ucr.edu/>) or contact Tracy Kahn at X2-7360.

## 6. Agricultural Land and Natural Reserves

The Department has access to, many hectares of agricultural land and natural reserves, including the Citrus Variety Collection (<https://citrusvariety.ucr.edu/>). Much of this acreage is located near the campus, but agricultural field stations exist throughout the state and are available to us, thus providing facilities for growth of plants in several different environments. Students can also utilize the University of California Natural Reserve System (<http://nrs.ucop.edu/>), a network of 37 field stations throughout California. Should your research require space in any of these facilities, arrangements should be made through your major professor.

UC Riverside administers four major reserves that have research facilities and permanent staff; these are the Deep Canyon, Granite Mountains, Motte, and James Reserves. Another four minor reserves are also part of the UCR reserve network. Within the nearly 11,400 hectares (28,000 acres) included in the UC Riverside-managed reserves is a broad representation of Southern California's flora, fauna, and major ecosystems. These lands are an invaluable outdoor laboratory for teaching and research, used by scientists throughout the world. In addition, many endangered or diminishing species are protected from the urbanization occurring in Southern California on "habitat islands" preserved within reserve boundaries.

## 7. Institute of Integrative Genome Biology (IIGB)

The IIGB is organized around a 10,000-sq. ft. suite of Instrumentation Facilities at Noel T. Keen Hall that serve as a centralized, shared-use resource for faculty, staff and students. The IIGB Cores provide a focal point for broad-based cutting-edge biological research. The Core Facilities and staff offer advanced tools in four areas:

Bioinformatics (Brandon Le, Bioinformatics Coordinator)  
Genomics (TBD, Academic Coordinator)



Metabolomics (Amancio De Souza, Academic Coordinator)  
Proteomics (TBD, Specialist)

The Microscopy and Imaging core facility is located in Keen Hall: <https://microscopycore.ucr.edu/> (David Carter, Academic Coordinator)

Together, the management and staff at the core facilities investigate and encourage interdisciplinary research and training opportunities.

Detailed information about each of the Core Facilities can be found at the IIGB website: <http://cores.iigb.ucr.edu>.

## **8. Plant Transformation Facility**

The Plant Transformation Research Center (PTRC) at the University of California Riverside is a state-of-art facility that provides faculty and students with the expertise and infrastructure for the implementation of molecular biology and genetic engineering technologies for scientific research and teaching purposes (<http://ptrc.ucr.edu>). The Center is equipped with two BL-2 greenhouses, a computerized growth room, three tissue culture rooms, and a laboratory with all the essential equipment for cell and molecular biology, imaging, and biochemical analyses of transgenic plants. The PTRC scientific staff has extensive experience in the use of in vitro plant cell and tissue culture, micropropagation, molecular biology and plant genetic transformation techniques. For more information about the PTRC contact Martha Orozco-Cardenas (Director) at X2-6325 or by email ([mlorozco@ucr.edu](mailto:mlorozco@ucr.edu)). Many services are provided on a recharge basis.

## **9. Other Facilities on the UCR Campus.**

### **Stable Isotope Ratio Mass Spectrometry Facility:**

The Center for Conservation Biology (<http://ccb.ucr.edu/>) provides a students and faculty with facilities for ecological, environmental, and conservation science. The Center maintains the Facility for Stable Isotope Ratio Mass Spectrometry (FIRMS), a stable isotope laboratory dedicated to environmental research. The Center for Conservation Biology's Spatial Eco-Informatics Facility integrates remote sensing, geographic information systems, and global positioning technologies with on-the-ground knowledge of ecosystems, and natural resource management to address relevant environmental issues.

### **Analytical Chemistry Instrumentation Facility (ACIF):**

The ACIF is a campus wide facility housed in the Department of Chemistry (<http://acif.ucr.edu>) and consists of four components, Mass Spectrometry, Nuclear Magnetic Resonance (NMR) Spectroscopy, Optical Spectroscopy and X-ray Crystallography. A faculty director oversees the ACIF as a whole and a support staff of spectroscopists manages and maintains the various facilities (<https://acif.ucr.edu/people>).

### **Central Facility for Advanced Microscopy and Microanalysis (CFAMM):**

CFAMM is a College facility that provides a universal research, service, and consulting laboratory for microscopic characterization of organic and inorganic materials, biological tissue, and minerals applying electron beam techniques. The facility utilizes state-of-the-art equipment. Its personnel conducts research and provides collaborative assistance, training and service to faculty and students at UC Riverside, as well as to clients in industry, government, commerce, forensics and academia. CFAMM is in B116 Bourns Hall (<https://cfamm.ucr.edu>)

### **UCR Macromolecular X-ray Crystallography Core Facility:**

This is a core facility run by the Department of Biochemistry at UCR. Contact Dr. Li Fan (Director, [li.fan@ucr.edu](mailto:li.fan@ucr.edu)) for further information.

## **SECTION 1K. STUDENT LIFE AND SERVICES**

## **1. UCR's Graduate Student Association**

UCR has a campus-wide Graduate Student Association (<https://gsa.ucr.edu/>). The UCR GSA oversees many graduate elements for the campus, including mini-grants that help support student travel to professional meetings (see section 7). Requests for travel awards must be made prior to travel. Keep this in mind as you look for scientific conferences to attend.

All graduate students are automatically members of the Graduate Student Association (GSA), which seeks to represent their views and promote their interests with the faculty and administration, both at the campus level and system-wide. The GSA is responsible for negotiating and reviewing health care insurance coverage. The UCR GSA Grievance Mediation Officer acts as an advocate on grievance matters. For a more detailed description of GSA activities and services, call (951) 827- 3740 or visit their website at <https://gsa.ucr.edu/>.

## **2. The Botany and Plant Science GSA (bGSA)**

Botany and Plant Sciences also has a Graduate Student Association called the BSPC GSA (bGSA). The officers are listed in SECTION 1A. bGSA members will serve on one of the following committees: UCR GSA, BPSC Educational Advisory Committee, and Faculty Search Committees. The bGSA also provides travel awards.

The bGSA serves an important role by being the primary entity that brings together the students and faculty of our diverse department. Every Tuesday morning the bGSA hosts a Coffee Hour in BH 2158. This long running event serves as a great opportunity for members of different labs to take a break from the regular routine and catch up with one another. It also serves as a major fund-raising activity to support the other principal function of the bGSA, travel grants. Everyone is welcome, so be sure to drop by.

Additionally, the bGSA organizes the four annual department wide gatherings: Fall Social, Holiday Party, Yermanos and Gomez Pompa Lectures, and Botany Awards Ceremony. From the wonderful BBQ in the botanic gardens each fall to the stimulating Yermanos or Gomez Pompa lecture these events provide opportunities for various forms of interaction throughout the department. Throughout the year, the bGSA also hosts occasional activities such as citrus collection tours, post-defense and qualifying exam celebratory gatherings, and other pertinent events.

The bGSA and its student members provide several fun and worthwhile opportunities that go a long way in creating a community within the department.

## **3. Health Plan**

Graduate students receive health care from the Campus Health Center, which is located at the Veitch Student Center (x 2-5683). Graduate students are also covered by mandatory health insurance (Graduate Student Health Insurance Plan [GSHIP]). Information regarding policy benefits, comparable coverage exemptions, and optional dependent coverage can be obtained through the Campus Health Center. The insurance is designed to supplement the outpatient care available through the Campus Health Center.

It is important to note that there are limitations to the services that the Campus Health Center can offer. These do not include care of preexisting and chronic conditions and care of any individual beyond his/her date of withdrawal from the University. It should also be noted that limited funds force the Campus Health Center to charge for dentistry and certain other procedures, usually related to treatment, but not diagnosis. Please refer to the Campus Health Center website for more complete information (<http://campushealth.ucr.edu/>).

If you or another student is having difficulty in coping with personal, family or academic problems, feeling depressed, have a drug dependency, or are having other issues with mental well-being, the UCR Counseling and Psychological Services (CAPS) Center (<http://counseling.ucr.edu>) is an excellent resource. As a responsible citizen in the UCR community, we ask that you be proactive for students and colleagues who are struggling emotionally. If you have concerns, a student's major professor, the Graduate Advisor for Plant Biology (Amy Litt) and/or the Student Services Advisor can be contacted to be sure that students in need receive the treatment they deserve. These matters are always addressed promptly and confidentially.

#### 4. Special Services for Disabled Students

UCR's Student Disability Resource Center office ensures that appropriate accommodations are made for employees or students with disabilities. If you have a disability, please visit <https://sdrc.ucr.edu/> for more information about a range of accommodation options. Please keep in mind that accommodations for courses (e.g. exams) typically need to be registered with an instructor at the beginning of the quarter through the SDRC.

#### 5. Help with Emergency Food

UCR has a resource for students in need of aid for food and supplies: R'Pantry (<https://basicneeds.ucr.edu/rpantry>). R'Pantry, located at HUB 269, provides emergency non-perishable food, personal hygiene, household care, and childcare items to both undergraduate and graduate students experiencing food insecurity. They can also connect students to on- and off-campus food resources and provide programs and workshops that improve health and wellness. Visit the website for details.

#### 6. Graduate Success Center

You can find a wide variety of support services for graduate students as part of the GradSuccess program (<http://graduate.ucr.edu/success.html>), including the Graduate Student Resource Center, the Teaching Assistant Development Program, the Mentoring Program, the Graduate Writing Center, and GradQuant (help with mathematical and statistical issues).

#### 7. Student Services

The online UCR Catalog (<http://catalog.ucr.edu>) contains a wealth of information about services and facilities available to UCR students. You are urged to become familiar with this information and to use these services to your best advantage. These links, among others, include a description of the:

- Campus Life Office <https://www.ucr.edu/campus-life>
- International Students and Scholars Office <https://international.ucr.edu/>
- Student Disability Resource Center <https://sdrc.ucr.edu>
- Campus Ombudsperson Office <https://help.ucr.edu/office-ombuds>
- Campus Health Center <http://studenthealth.ucr.edu/>
- Counseling Center <http://counseling.ucr.edu/>
- Learning and Study Skills Center <http://arc.ucr.edu/>
- Housing <http://housing.ucr.edu>
- Food Service <http://dining.ucr.edu/>
- Department of Public Safety (POLICE) <http://police.ucr.edu/>
- Parking Services <http://parking.ucr.edu/>
- Financial Aid Office <http://financialaid.ucr.edu/>
- Educational Opportunity Program/Student Affirmative Action Program <http://admission.universityofcalifornia.edu/campuses/specific-populations/educational-opportunity-program/index.html>
- Career Planning and Placement Center. <https://careers.ucr.edu/>

### SECTION 1L. FACULTY AND STAFF- PHONES AND LOCATIONS

#### 1. Faculty in the Plant Biology Graduate Program.

The faculty participating in the Plant Biology Graduate Program include all faculty in the Botany and Plant Sciences Department as well as cooperating faculty from other departments in the College of Natural and Agricultural Sciences and Bourns College of Engineering. A current listing of the faculty participating in the Plant Biology Graduate program can be found at: <http://plantbiology.ucr.edu/people/faculty.html>.

#### 2. Botany and Plant Sciences Office Staff

Whether you reside in Batchelor Hall, Genomics or Boyce Hall, the BPSC staff are here to help you navigate through our system. Below is a table with current staff and their roles in the department.

<b>BPSC OFFICE STAFF DIRECTORY</b>			
<b>NAME</b>	<b>PHONE</b>	<b>ROOM</b>	<b>MAJOR AREA OF RESPONSIBILITY</b>
Dominica Albitre	2-2152	Genomics 4119B	Research Admin III - Departmental accounting, prepares financial reports, fund reconciliation, prepares grant proposals and budgets.
Jennifer Douglas	2-7177	Genomics 1206	Financial Analyst II in the Institute for Integrative Genome Biology/Center for Plant Cell Biology; provides administrative and financial leadership for all units within the ORU including the development of rates for the Sales and Service activities
TBD	2-2152	Genomics 4119B	Managing Director; Manage the marketing, public relations, central operations, and public information activities for the Institute for Integrative Genome Biology (IIGB) and its Centers, i.e., Center for Plant Cell Biology (CEPCEB), Biotechnology Impacts Center, and Center for Disease-Vector Research.
Jennifer Reising	2-5133	Batchelor Hall 2138	Interim Purchasing Specialist - Procurement of all goods and services; fixed asset management, Microcomputer Support; data connections. Place Physical Plant emergency calls.
Mariam Plowman	2-4435	Batchelor Hall 2132	Research Admin III - Departmental accounting, prepares financial reports, fund reconciliation, prepares grant proposals and budgets.
Jessica Perez	2-3825	Batchelor Hall 2132	Interim Research Admin II - Departmental accounting, prepares financial reports, fund reconciliation, prepares grant proposals and budgets.
Summer Willis	2-4608	Batchelor Hall 2132	Research Admin III - Departmental accounting, prepares financial reports, fund reconciliation, prepares grant proposals and budgets.
Kim Steiner	(951) 236-2132	Greenhouse 16, Room 102 and 104	Teaching Laboratory Coordinator and Departmental Information Technology Specialist; responsible for collection and set up of all materials required for lab courses; maintenance and upgrade of class labs to meet modern teaching requirements; provide IT technical assistance supporting both hardware and software applications.
Maria Sedillo	2-5990	Batchelor Hall 2122	Financial Operations Manager- supervises financial operations, including, Accounting Asst/Travel Coordinator, and Research Admin; prepares monthly financial statements for BPS and PIs; prepares grant proposals and budgets.
Jackelyn Rodriguez Quinonez	2-4401	Batchelor Hall 2142	Accounting Assistant III / Travel Coordinator/ Customer Service Desk, fund reconciliation, prepare recharges and travel vouchers for B&PS; petty cash custodian; order and maintain office supplies; distribute departmental keys.

Marcella Murillo	2-4892	College Building North 206	Payroll Assistant- Processes payroll actions for non- Senate academics, GSRs and TAs for Botany & Plant Sciences, Agricultural Operations, and Mathematics.
April Meinzer	2-3839	Batchelor Hall 2106	Financial & Administrative Officer (FAO) - Management of all business, financial, administrative, and operational activities.
Mariella Valdivia	2-4619	Batchelor Hall 2118	Administrative Specialist – Provides administrative support to the Chair. Manages departmental gift process. Maintains department's website and conference calendars. Provides administrative support for seminar series. Acts as department liaison for all communications.
Carmen McCree	2-2601	Genomics 1206	Financial Service Analyst - Administrative and financial duties for IIGB and CEPCEB; Travel Coordinator; event coordination for seminars, conferences and workshops; website maintenance. Coordinates monthly billing for IIGB S&S activities.

### 3. CNAS Graduate Student Affairs Center (1140 Batchelor Hall)

The Plant Biology Student Services Advisor is the Student Services Advisor that enables the Plant Biology Graduate Program. She is a member of the College of Natural and Agricultural Sciences (CNAS) Graduate Student Affairs Center (GSAC), which supports 15 graduate programs in the sciences (<http://cnasgrad.ucr.edu/>). This office will often be your first stop when you need help or are just looking for a good listener. The office works with Faculty Graduate Advisors and major professors to ensure your success.

While it is courteous to make an appointment to meet with The Plant Biology Student Services Advisor, you can walk in to the Center for assistance. The Center's staff can assist you with class registration, program requirements, Graduate Division policies, and fellowship and employment matters (TA/GSR). You may contact any Center staff member when your Student Services Advisor is unavailable.

A table with the current staff and the programs they support are provided below.

<b>CNAS AFFAIRS OFFICE DIRECTORY</b>				
<b>Name</b>	<b>Role</b>	<b>Programs</b>	<b>Email</b>	<b>Phone</b>
Kathy Redd	Director of Center, Student Services Advisor	Entomology	<a href="mailto:kathy.redd@ucr.edu">kathy.redd@ucr.edu</a>	2-5621
Dawn Loyola	Director of Graduate Student Advising, Student Services Advisor	Statistics; Applied Statistics	<a href="mailto:dawn.loyola@ucr.edu">dawn.loyola@ucr.edu</a>	2-4116
Antonio Knox	Student Services Advisor	Neuroscience; Environmental Toxicology; Biophysics	<a href="mailto:Antonio.Knox@ucr.edu">Antonio.Knox@ucr.edu</a>	2-6746
John Herring	Student Services Advisor	Environmental Sciences; Geological Sciences; Genetics, Genomics	<a href="mailto:john.herring@ucr.edu">john.herring@ucr.edu</a>	2- 2441
Julio Sosa	Student Services Advisor	Cell, Molecular, & Development Biology Biochemistry & Molecular Biology;	<a href="mailto:Julio.sosa@ucr.edu">Julio.sosa@ucr.edu</a>	2-7378
Katherine Van Horn	Student Services Advisor	Evolution, Ecology and Organismal Biology Program; SDSU Joint	<a href="mailto:Katherine.vanhorn@ucr.edu">Katherine.vanhorn@ucr.edu</a>	2-4716
Rosalio Cedillo	Student Services Advisor	Plant Biology	<a href="mailto:Rosalio.Cedillo@ucr.edu">Rosalio.Cedillo@ucr.edu</a>	2-5688

## **SECTION 2: GUIDELINES AND PROCEDURES FOR THE PH.D. PROGRAM IN PLANT BIOLOGY**

**Note:** All forms specific for the Plant Biology Program that are described in the Handbook are found in the Appendix, or can be downloaded from the Plant Biology Graduate Program site ([http://plantbiology.ucr.edu/graduate\\_programs/current\\_students.html](http://plantbiology.ucr.edu/graduate_programs/current_students.html)).

Graduate Division forms and petitions are available online; please access these through R'Grad via the icon located on your R'Web or the Graduate Division website.

### **SECTION 2A. OVERVIEW OF PH.D. PROGRAM MILESTONES**

	<b><i>Student Responsibilities</i></b>	<b><i>Important Dates</i></b>	<b><i>Section</i></b>
<b>Year 1</b>	Meet with major professor or faculty contact	Complete within the first few days of the fall quarter, if not before.	2B
	Nominate and meet with the Guidance Committee	Due by the end of the first quarter	2C.1
	Three 6-week lab rotations	See rotation schedule	2B
	Reach an agreement with a major professor (i.e. join a lab)	See rotation schedule	2B

Years 2-3	Nominate Qualifying Exam Committee (subject to approval by EAC and Graduate Division)	Due at least 3 months before written exam. Exam must be completed before the start of the seventh quarter of their program.	2E.1
	Set dates for written and oral Qualifying Exams	Set date as early as possible after forming Qualifying Exam Committee. Notify the Student Services Advisor of exam dates two weeks before written exam to allow preparation of forms	2E.5
	Submit Dissertation Proposal to Qualifying Exam Committee	Due to Committee at least 4 weeks before written exam	2E.6
	Advance to candidacy	This occurs after a student has completed all required coursework and passed the Qualifying Exam	2E.11
	Nominate Dissertation Committee (subject to approval by EAC and Graduate Division)	Due at the time of passing the Qualifying Exam	2F.1
	Revise Dissertation Proposal for approval by Dissertation Committee	Due within 1 month of passing the Qualifying Exam.	2F.2
	Deliver 3 <sup>rd</sup> -year seminar in BPSC 250	This occurs after passing the Qualifying Exam and submission and approval of the Dissertation Project	2C.5
Year 5	Complete dissertation and submit to Graduate Division	Normative time is 5 years after entering the program. Submit title to Grad Division and defense date to the Student Services Advisor as soon as you know.	2F.3

## SECTION 2B. MAJOR PROFESSORS AND LAB ROTATIONS

### Value of Laboratory Rotations

The rotations consist of small 6 week research projects<sup>1</sup>. The purpose of the rotations is to enable PLBL students to:

- become well acquainted with individual faculty members, postdoctoral fellows and other graduate students in PLBL and other graduate programs
- learn about an area of research
- acquire research techniques and skills
- understand lab dynamics and mentoring styles of a laboratory
- establish a basis for selecting a major professor

### Participation in Laboratory Rotations

Each year, faculty and students will be notified regarding the critical dates for: (1) beginning and ending dates of the three rotations, (2) deadlines for notifying the Graduate Advisor (Amy Litt) of a scheduled rotation and (3) deadline for petitions for exemption from the PLBL rotation policy. This information will be posted at the Current Students section of the PLBL website:

[http://plantbiology.ucr.edu/graduate\\_programs/current\\_students.html](http://plantbiology.ucr.edu/graduate_programs/current_students.html).

<sup>1</sup> New rotation policy was approved 2017-2018

Rotation	Start Date	End Date	Due date of Rotation Evaluations
Rotation I	Sept 22, 2021	Nov 2, 2021	Nov 10, 2021
Rotation II	Nov 3, 2021	Dec 15, 2021	Dec 22, 2021
Rotation III	Jan 3, 2022	Feb 14, 2022	Feb 21, 2022
PhD Advisor Selected	Mar 1, 2022		

During the first year, Plant Biology (PLBL) graduate students engage in three 6-week rotations in three different PLBL laboratories. Exceptions may be made to allow students to join a lab with no rotations. For example, many students in the area of ecology have specifically joined the PLBL program to work with a single PI. In these instances, students and their potential advisor must notify the Graduate Advisor at the start of the fall quarter that the student will not be rotating.

All students and faculty hosting rotating students will submit a brief rotation evaluation on the dates noted above. Links to the forms are below.

### Setting up a Rotation

Students set up their first rotation during the summer prior to the initiation of classes. The second and third rotations should be set up, at the latest, during the fall quarter. A series of faculty mini-talks may be provided in the BPSC 250 seminar series to acquaint students with faculty research areas and future directions.

A faculty member must confirm that they are willing to host a student's specific rotations (first, second, or third) by the appropriate deadlines. It is expected that at the time a student joins a lab (typically at the end of 2nd quarter), they will be supported on funds from the major professor. Funding packages typically include funding from the major professor beginning in the spring (3rd quarter) of the first year. Students should not be expected, and should not expect, to TA every quarter; in addition to the time commitment, which will detract from research time, there are not enough TA positions available. Faculty members must be transparent about their ability to support the student by grant funds in their second to fifth years.

Neither students nor PIs should commit to a student joining a lab prior to completing all three rotations. If a student feels under pressure from a rotation advisor, the student should discuss this matter with the Graduate Advisor. Decisions should be made through consultation between students and potential PIs between February 21 and March 1. Decisions must be made by March 1.

Some PLBL students conduct summer rotations. Such students should participate in a 4th rotation in the winter quarter and follow the schedule above for choosing a permanent lab.

Additional rotations in the spring semester are unusual but may occur if: 1) the rationale for the additional rotation has been discussed with the Graduate Advisor (Amy Litt), and (2) there is a willing faculty host. Additional rotations occur if a student has not found a research home after three rotations or if the student has joined a lab and new research techniques are most easily acquired through an additional rotation. Rotating students should remind their faculty hosts when the rotation end date is approaching and plan to debrief (e.g. locate lab notebooks etc.) before leaving.

### Expectations for the Rotation

At the start of a rotation, students should discuss the PI's specific expectations for the rotation. The PI's expectations may exceed the expectations of the PLBL program. The PLBL program's expectations for laboratory rotations are:

- Regular meetings with PI (preferably weekly)
- Regular or daily meetings with graduate student or postdoc who is guiding research.



- Attendance and participation in lab meetings/journal club
- Keeping excellent laboratory records – Students should expect that the materials and records will be left in the rotation lab. Plan accordingly.
- Time commitment to research.
  - The student should share his/her class schedule with PI and consult with PI for an appropriate research work schedule (hours/week)
  - In general, from 8- 5 PM Monday to Friday, any time not spent in class or seminar should be dedicated to research and reading the literature that supports the project. Students are to learn how to be full-time scholars.
  - Reading for classes and studying for exams should occur in evening hours, unless such activities are approved by the PI.
  - Vacation policy (See handbook)
- At the end of each 6-week rotation, the student may provide a summary of their research (see format below) and a 10-15 oral summation of their rotation in the PI journal club or laboratory meeting.
- Rotating students may be expected to write a brief summary of their rotation project in the format of a scientific paper, with the following sections:
  - Introduction (background, statement of hypothesis)
  - Methods
  - Results
  - Discussion (conclusions)

This document typically does not exceed 2-3 single-spaced pages, excluding figures or tables. This paper should be submitted to the rotation PI a few days BEFORE the rotation presentation. This is intended to help you organize your thoughts and prepare for your oral presentation. Ask your rotation PI for feedback about your writing.

- Following the research presentation, confidential evaluations of the rotation must be provided to the Graduate Advisor using an online questionnaire:
  - The link for the student's evaluation of the rotation is <https://ucrbgsac.wufoo.com/forms/q34b4ur07k4rjj/>
  - The link for the PI's evaluation of the rotation is: <https://ucrbgsac.wufoo.com/forms/qrn2b0601vx4wm/>

## **SECTION 2C. FORMING AN INDIVIDUALIZED COURSE PROGRAM**

### **1. The Guidance Committee**

During the first quarter of the program<sup>2</sup>, students will assemble a Guidance Committee. This Guidance Committee will assist the student with planning a formal course program, which prepares the student for research and the Qualifying Exam.

The Chair of the Guidance Committee is the major professor or faculty contact (often the first faculty member a student does a laboratory rotation with). The Guidance Committee has two other faculty members. To avoid conflicts of interest or the appearance of a conflict of interest, when domestic partners or spouses are a majority of the faculty on a Guidance Committee, another faculty member will be added to the Committee<sup>3</sup>. Students should consult with their major professor/faculty contact about which other

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<sup>2</sup> New graduate program approved policy (Academic Year 2011-2012)

<sup>3</sup> Per Graduate Council (February 16, 2012)

faculty members to ask to serve on the Guidance Committee.

Once Guidance Committee members are identified, the student, major professor /faculty contact, and two Committee members must sign the *Ph.D. Guidance Committee Approval Form*. The Guidance Committee does not need to be approved by the Educational Advisory Committee.

The Guidance Committee should meet with the student during the first quarter of the program to discuss and establish the course program, including the Ph.D. degree option and major/minor areas of specialization (see below). The Guidance Committee will formulate a detailed course program that will be tailored to the specific interests and needs of the student and that meets all general requirements of the Graduate Division as printed in the General Catalog. A list of courses offered by the department for a two-year period is provided in the Appendix. If the Guidance Committee feels any waivers should be requested for any requirements, the Chair should write a memo and send to the Graduate Advisor for Continuing Students (Amy Litt). The Graduate Advisor will either bring it to the Educational Advisory Committee, if it is a Plant Biology Graduate Program requirement, or will draft a memo and send it to Graduate Division, if it is a Graduate Division policy.

Before the Guidance Committee meeting, the student should consult with the Chair of the Guidance Committee to draft the four forms below. The forms must be signed and dated by the Guidance Committee and then be turned in to Plant Biology Student Services Advisor for EAC approval. Students may petition to change the course program or the major/minor areas; these changes must be approved by the Guidance Committee first, and subsequently the EAC. Changes to Committee membership do not require approval but the Graduate Advisor for Continuing Students (Amy Litt, and the Plant Biology Student Services Advisor must be notified.

<b>Forms to complete during the Guidance Committee meeting</b>	<b>Before the meeting</b>	<b>During the meeting</b>
<i>Ph.D. Curriculum Planning Form</i> (individual needs of student)	--	Chair completes after consultation with student and committee (no signatures needed)
<i>Ph.D. Course Program Form</i> <sup>4</sup> (prerequisites, degree option, major/minor area)	Student enters prerequisite information	Committee discusses & completes, indicating 3 courses chosen to support major and minor areas (no signatures needed)
<i>Other Courses Taken That Apply to Degree Form</i>	Student completes; Chair verifies and <u>signs</u>	Committee discusses
<i>Courses Required by the Guidance Committee Form</i>	Student discusses with Chair	Committee discusses, completes, and <u>signs</u>

## 2. EAC Review of Course Program

Course programs designed by the Guidance Committee are examined by the EAC for final approval. The EAC examines course programs to insure consistency and quality in the education of all our graduate students. However, the EAC recognizes that the best graduate education will be achieved when a course program is tailored to meet the needs of a particular student. Therefore, when the EAC reviews a course program, it is important that the needs and plans of the particular student be known. For this reason, the EAC will not consider a course program unless the Guidance Committee submits with the course program the *Ph.D. Curriculum Planning Form*.

The EAC pays particular attention to several points. The course program must 1) include courses that will remove any deficiencies of the student, 2) include the required seminar courses (BPSC 240 and 250), 3) contain courses that will adequately prepare the student for the major and minor areas for the qualifying examination, and 4) provide a background that will enable the student to successfully carry out the

<sup>4</sup> Changes to the *Course Program Form* were approved by BPSC on 5-21-16.

dissertation and further research in their area of specialization.

## 2D. GENERAL REQUIREMENTS FOR THE PH.D. IN PLANT BIOLOGY

### 1. Overview of Coursework Requirements and Registration Guidelines

Students must enroll in at least 12 units every quarter. The Plant Biology Student Services Advisor will work with each student to assure this is achieved each quarter. Please consult your Degree Audit on your R'Web for a detailed list of program requirements.

**Entry Requirements:** All deficiencies in the program's pre-requisite classes must be eliminated. The program requires transcripts for evidence of completion of all deficiencies and prerequisites.

**Professional Development:** All first-year students must enroll in BPSC 200A and BPSC 200B during their first Fall and Spring quarters, respectively.

**BPSC 250:** Students must enroll in BPSC 250 each time that it is offered, until advancement to candidacy (then, students must take it two quarters per year). Grades are S/NC except for the quarter that you present a seminar. In that quarter, the instructor will assign you a letter grade. Students must enroll for credit during the quarter they present their research, in their third year.

**BPSC 240:** All students must complete at least one quarter of BPSC 240 *before* they advance to candidacy.

**Required Classes for the Ph.D. in Plant Biology:** Plant Biology with a concentration in (a) Plant Cell, Molecular, and Developmental Biology, (b) Plant Ecology or (c) Plant Genetics are outlined below. Students choosing the "no concentration" option have greater flexibility in the courses chosen for study.

**BPSC 290 Directed Studies.** BPSC 290 is used for independent or directed studies in a specific subject matter that is *not* covered by a standard course. BPSC 290 can also be used if a required course is unavailable in a reasonable timeframe. This requires agreement with a faculty member, who will act as instructor for the BPSC 290 course. Students must submit a 290 petition prior to registering. BPSC 290 is for instructional purposes only and cannot be used for research.

**Research Classes (BPSC 291, 292, 297, and 299):** Students will be enrolled in research classes each quarter they are enrolled. There is a progression of classes and the Plant Biology Student Services Advisor will assure students are appropriately enrolled.

**BPSC 291:** Individual Study in Coordinated Areas. Enroll in this if you have not yet advanced to candidacy and need more than 6 units of research to reach 12 units. Use 297 first, and then fill in with 291.

**BPSC 292:** Concurrent and Advanced Studies. Enroll in this concurrently with an undergraduate course to receive graduate credit for the course. You will need to do additional, graduate level work beyond what is required for the undergraduate course. Consent of instructor is required and the EAC must approve.

**BPSC 297:** Directed Research. Enroll in this if you are a M.S. or Ph.D. student who has not advanced to candidacy. You can enroll in a maximum of 6 units per quarter.

**BPSC 299:** Research for Thesis or Dissertation. Enroll in this after you advance to candidacy. You can enroll in a maximum of 12 units per quarter.

### 2. Entry Requirements (Prerequisite Courses)

The following courses offered at UCR, or their equivalent in content from another institution, are prerequisites for entry into the Plant Biology Graduate Program. Students may be accepted into the program without having completed all the entrance requirements listed. In that case the deficiencies (as determined by the Guidance Committee or EAC) must be made up as soon as possible after the student begins course work. Deficiencies must be made up before a student can advance to candidacy.

<b>Program Requirement</b>	<b>UCR Course Designations</b>
1 year General Biology	BIOL 5A, 5B, and 5C

1 year General Chemistry	CHEM 1A, 1B, and 1C
1 course in Genetics	BIOL 102
1 course in Calculus	MATH 9A
1 course in Biochemistry or Ecology	BCH 100, 110A, or BPSC 183; or BPSC 146 or BIOL 116
1 course in Statistics	STAT 100A or 110
1 course in General Plant Biology	BPSC 104
1 additional course in Plant Biology	BIOL 107A or BPSC 132, 135, 138, 143, or 146

### 3. Selection of the Ph.D. Degree Option

The Plant Biology Program offers a flexible program to accommodate a student's academic interests and research needs. To this end a student can choose a degree with one of three concentrations, which require a prescribed set of classes, or a degree in Plant Biology with no concentration:

**Plant Biology (no concentration):** Students must complete 11-12 graduate-level units in courses selected to support a student's major research area. This graduate curriculum does not align with any of the concentrations in Plant Biology and is designed to best meet a student's academic needs as determined by the student and Guidance Committee. In this case, a clear rationale of the academic program should appear in Question 2 of the *Ph.D. Curriculum Planning Form*. Three courses (11-12 units)<sup>5</sup> should support the major area and/or minor areas of emphasis (see below).

**Plant Biology with a concentration in Plant Cell, Molecular, and Developmental Biology:** Students must complete BPSC 231, 232, and 237 and one BPSC240.

**Plant Biology with a concentration in Plant Ecology:** Students must complete BPSC 245 and 7 to 8 additional units from EEOB 211, 212, 217, 230; BPSC 225J, 243, 246, 247; ENTM 241; ENSC 218, 232; GEO 260, 268. In addition, one BPSC240 is required.

**Plant Biology with a concentration in Plant Genetics:** Students must complete 11 to 12 graduate-level units relating to Genetics, which must include 2 courses from BPSC 221, 222, 225K, 231, 234; BIOL221/MCBL 221/PLPA 226; EEOB 214, GEN 240A. Additional units can be chosen in an area that supports the concentration. In addition, one BPSC240 is required.

### 4. Major and Minor Areas of Specialization

Students should identify one "major area" and two "minor areas" of specialization at the time of their Guidance Committee meeting. Three graduate-level classes that align with the areas of specialization are taken. Students are examined on their major and minor areas during the Qualifying Examination and are expected to obtain an advanced understanding of the major and minor areas. In choosing these areas of study, students should keep in mind that they will need to form a Qualifying Exam committee that includes at least two members who can examine the student in the major area and at least one member to examine in each of the minor areas.

Students are required to complete a minimum of three graduate-level courses (11-12 units) relevant to their specializations. Additional courses may also be needed to prepare the student for their dissertation research. Graduate courses taken previously may be considered towards fulfilling these requirements. If a student's proposed course program deviates from the Plant Biology Program requirements, the Guidance Committee must provide a rationale for this decision on the Curriculum Planning Form and in memo to the Graduate Advisor, who will bring the request to the EAC.

A student may petition to change the major/minor areas at any time. These changes must be approved in advance by the Guidance Committee, after which a memo should be written to the Graduate Advisor for Continuing Students, who will bring the request to the EAC.

<sup>5</sup> The three graduate-level classes must total 11-12 units. Policy approved Graduate Council for AY2017-18.

## **5. BPSC 250 Seminar Requirements**

Until advancement to candidacy, all students in the Ph.D. Program must enroll in the BPSC 250 Seminar each quarter that it is offered. Upon advancement, Ph.D. candidates must enroll in BPSC 250 two quarters per year until conferral of the degree. Students are encouraged to attend other seminar series on campus that will enhance their breadth of knowledge and expertise in their field of interest; these seminar series will not substitute for the BPSC 250 series<sup>6</sup>.

When attending the BPSC 250 seminar, students will receive an S/NC grade. Students must attend 9 of 10 seminars for a satisfactory grade<sup>7</sup>. If a student cannot attend a specific BPSC 250 seminar during a quarter, he/she should contact the instructor-in-charge of BPSC 250 in advance. If a student cannot attend the BPSC 250 seminar for an entire quarter (two or more seminars) due to a substantive reason, he/she should provide the waiver request and the rationale to the Graduate Advisor for Continuing Students (Amy Litt) two weeks prior to the beginning of the quarter in question.

All Ph.D. students must present two seminars. The first seminar is the 3rd-year seminar, presented as part of the BPSC seminar series. Students must be enrolled in BPSC 250 for credit during the quarter in which they give this presentation. The second seminar is the dissertation defense. When possible, this will be presented in the BPSC 250 seminar series, but if this is not possible, a special seminar may be scheduled for the defense. When a student presents a 3rd-year or Dissertation seminar in the BPSC 250 series, they will receive a letter grade.

Students who receive an MS at UCR and then enroll in the Ph.D. program cannot use a BPSC 250 seminar that they presented while in the Master's program to substitute for the BPSC 250 seminar requirement in the PhD program.

## **6. The BPSC 250 Third-Year Seminar<sup>8</sup>**

### **Purpose of the BPSC 250 Third-Year Seminar**

The purpose of the BPSC 250 "third-year" seminar is to provide each plant biology Ph.D. student an opportunity to present their research proposal and to hone their public speaking skills for a diverse scientific audience. The BPSC 250 third-year seminar should be geared toward scientists with various levels of expertise in the fields of evolution, ecology, genetics, physiology, and molecular/cell biology.

During the BPSC 250 third-year seminar, students should convey: (1) importance of the research, (2) context of the proposed research relative to the field, (3) specific hypotheses and research questions, and (4) anticipated outcomes, findings, and impacts. The goal is to reach the diverse BPSC audience.

### **Timing of the BPSC Third-Year Seminar**

As suggested by its name, the BPSC 250 third-year seminar should be presented shortly after each graduate student has advanced to candidacy. Since Plant Biology graduate students are expected to have a Dissertation Proposal that has been approved by their Dissertation Committee after completion of their oral qualifying exam, it is expected that the third-year seminar will be presented shortly after this time.

After a student has advanced to candidacy, the student and their major professor will be contacted to remind them of the need to schedule their BPSC 250 seminar. The student should work with the BPSC 250 instructor-in-charge to arrange for a date. This seminar will be graded, therefore the student must be enrolled in BPSC 250 for a grade during the quarter in which they give their presentation.

The BPSC 250 third-year seminar typically is given the first quarter after dissertation proposal is approved. In unusual circumstances the BPSC 250 seminar may be delayed but it is recommended that the

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<sup>6</sup> Policy approved by Plant Biology Graduate Program in 2011-12.

<sup>7</sup> Policy added to Handbook 11-30-12.

<sup>8</sup> The guidelines and expectations of the BPSC 3<sup>rd</sup> Year Seminar was approved by the PLBL program on 10-8-12.

requirement be fulfilled as soon as possible after the approval of the dissertation proposal.

### **Guidelines for the Third-Year Seminar.**

Each student's BPSC talk should be 20 min in length<sup>9</sup>. Each BPSC 250 Instructor-in-charge will provide students with best practices for the third-year seminar. In general, the seminar should include:

- An introduction to set the context for the student's research program.
- Clear statement of research hypotheses, specific experiments (completed or proposed), outcomes, and impact in their research on the field.
- Preliminary data when possible. Extensive research accomplishments are not needed for the 3<sup>rd</sup>-year seminar. The goal is to reach the diverse audience, not swamp the audience with detail.
- Summarize your points

It is required that student present their slides to the BPSC 250 instructor-in-charge one week prior to the third-year seminar to assure that the seminar will reach a broad audience. Students are also encouraged to seek comments from a "mock" audience consisting of students representing the breadth of the research expertise in the plant biology program.

### **7. Annual Progress Report<sup>10</sup>**

All Ph.D. students must meet with their Guidance or Dissertation Committees at *least once per year* to review progress, including the years in which they take their Qualifying Exam or defend their dissertation. This meeting is typically held during the Spring quarter. *The Student Progress Report Form*, a 1-2-page research update, and *Annual Research Progress Evaluation* must be submitted promptly to remain in good academic standing. See SECTION 4 for more details.

### **8. Teaching Experience**

Students are required to obtain *at least* one quarter of teaching experience before they graduate. See SECTION 6 for more information about fulfilling this requirement.

## **SECTION 2E. THE QUALIFYING EXAMINATION<sup>11</sup>**

### **1. Purpose of the Examination**

The purpose of the Qualifying Examination (QE) is to evaluate the student's breadth of knowledge in plant biology and preparation to conduct their proposed research. The exam will verify knowledge in the student's major area and two minor areas of specialization but will not be limited to these areas of study and will include the proposed research plan. The major and minor areas should be selected at the time the course program is established by the student with the Guidance Committee.

### **2. Formation of the Qualifying Examination Committee<sup>12</sup>**

The QE Committee should be formed *at least three months before the anticipated written exam date*. This will provide adequate time for study and arrangement of dates for written and oral exams.

The QE must be administered before the start of the seventh quarter of the student's graduate program. The Major Professor, working in consultation with the student, suggests the composition of the Ph.D. QE Committee. The student must speak to each faculty member nominated for the QE Committee and

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<sup>9</sup> Change in length of BPSC 250 3<sup>rd</sup>-year seminar was approved for AY2017-18.

<sup>10</sup> Modified forms for Progress Report (Academic Year 2011-2012, 2013-2014, 2014-2015). In 2016-17, online forms for the *Student Progress Report* and *Annual Research Progress Evaluation* were used.

<sup>11</sup> Qualifying Exam Guidelines were updated and approved in 2011-2012.

<sup>12</sup> New Qualifying Exam procedures and policies approved 2017-2018

confirm willingness to serve in this capacity.

The QE Committee consists of five members and must include at least two members to examine the student in the major area and at least one member to examine in each of the minor areas of specialization. At least three of the members, normally including the Chair, must be members of the Plant Biology Graduate Program. The major professor shall not be a member of the QE Committee. The Committee must also include one outside member. To avoid conflicts of interest or the appearance of a conflict of interest, when domestic partners or spouses are a majority of the faculty overseeing a Qualifying Exam, another faculty member will be added to the Committee.<sup>13</sup>

The primary purpose of the outside member is to ensure fairness in the exam. The outside member must not hold an appointment in the Plant Biology Graduate Program. Special expertise in the area of the student's dissertation is not expected; this member's academic field may be unrelated to the field of study of the student and the other Committee members. For the QE Committee, a cooperating faculty member in the PLBL program cannot be an outside member but can be appointed as a regular member of the student's committee.

In addition to the Committee members, an alternative chair and two alternate members for the Exam Committee must be identified. The student must confirm that a faculty member is willing to serve as an "alternate committee member" in the unusual circumstance that the exam must be held without one or more of the designated Committee members. The availability of alternates for the exam dates should be confirmed.

Once a QE Committee and alternate Committee members have been identified by the student, the *Request for Formation of the PhD Qualifying Examination Committee Form* must be filled out by the student, signed by all of the committee members and alternates. The form is located in the Appendix. The form should be submitted to the Plant Biology Student Services Advisor. The Committee members must be approved by the EAC and subsequently approved by the Graduate Division. This form should be submitted at least three months before the proposed exam date. Students submit the Graduate Division **Form 2** on R'Grad (available on R'Web) after EAC approval.

### 3. Changing Qualifying Exam Committee Members

If there is a change in the composition of the members of the QE Committee, the *Request for Formation of the PhD Qualifying Examination Committee Form* should be revised and a memo of explanation to the Graduate Advisor should be submitted. The EAC must approve the change, and then an updated **Form 2** must be submitted to Graduate Division for approval. Changes should be received in the Graduate Division no later than two weeks before the exam.

If there is an unusual circumstance and a change must be made less than two weeks prior to initiation of the exam, the Plant Biology Graduate Student Services Advisor must be informed of the urgency of the request and the reasons for short notice of these changes.

The change to the Committee membership is not considered final until the change is approved by the Graduate Dean and a signed copy of **Form 2** has been returned to the Program with the Graduate Dean's signature. No exam can take place without this approval.

### 4. Role of the Chair of the Qualifying Exam Committee

Once the Committee has been approved by Graduate Division, the student should meet with the Chair of the Qualifying Exam Committee. The Chair of the Committee will operate under the guidelines described in the *Chair of Exams Procedures* document. The Chair will describe the student's responsibilities for the exam. These responsibilities are:

- Establishing the dates for the written and oral exams
- Finding a room for the exams
- Talking to Committee members to understand expectations for the exam

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<sup>13</sup> Per Graduate Council (February 16<sup>th</sup>, 2012)

- Understanding the format of the written and oral exams

The Chair of the Committee will reserve an internet-disabled departmental computer for written exams if the student would like to type rather than write the answers to their written exams.

Once the exam has taken place, the Chair of the Committee is responsible for conveying to the student and the student's major professor any concerns or deficiencies noted by the Qualifying Exam Committee.

## 5. Setting the Date and Rooms for the Exams

Students are required to take the Qualifying Exam before the start of their 7<sup>th</sup> Quarter as an enrolled student. However, students are strongly encouraged to take the exam during their 6<sup>th</sup> Quarter (typically Spring Quarter of the second year). This is particularly important for international students, because they must pay non-resident tuition if they have not passed by the start of the 7<sup>th</sup> Quarter, and all students must allow three months to retake the exam if they do not pass the first time. Students with exceptional circumstances will need approval from the EAC to delay their exam date.

Once the Qualifying Exam Committee has been approved, the student should consult with the members of the QE Committee to establish specific dates for the written and oral examinations. Students should be aware that it is often difficult to find dates for the oral and written exams due to the busy travel schedules of faculty. An early commitment to exam dates helps to avoid scheduling difficulties.

The student is responsible for identifying and reserving rooms for the written and oral exams (<https://chassintranet.ucr.edu/frs/index.do>). The Plant Biology Student Services Advisor will help the student with room scheduling for the examination if necessary.

The student should let the Committee members know of the date and location as soon as they are established; an email to the Committee will suffice. The student should remind Committee members of the location of the Oral exam a day prior to the exam. It often helps to have this information on the front page of the Research Proposal.

## 6. Preparation for the Examination

Once the EAC and the Graduate Division have approved the QE Committee, the student is encouraged to meet with each of the QE Committee members to discuss the likely emphasis in the written and oral exams. Faculty may direct students to review coursework and/or assign specific reading materials.

In general, students set study plans approximately 3-4 months prior to the exam. The expected time dedicated to preparation for the exam should be discussed with the student's major professor.

**At least 1 month prior to the Written QE, the student is required to provide a research proposal to each member of the QE Committee.** Any delays might cause postponement of the QEs.

If a student intends to display images, videos, or complex graphs in their oral presentation, the visuals must be approved by the Chair of the QE Committee two weeks prior to the written exam (see below).

It is recommended that students participate in one or more "mock" oral exams. The student may wish to invite other students in the program who have successfully completed their QEs. A mock oral exam can be good test of a student's knowledge and ability to "think on your feet".

## 7. Guidelines for the Research Proposal for the Student

### Role of the Major Professor

The research proposal should be a summary of the proposed dissertation research plans and current progress. The proposal should be developed in consultation with the Major Professor. However, the document must be written by the student alone. Although the Major Professor is expected to read and make comments on the research proposal, the Major Professor should not write any part of the proposal.

### General Considerations

Many Major Professors request a draft Research Proposal at the end of the first year of the graduate



program. Other students may have a Research Proposal that was written in BPSC 200B or has been submitted to a funding agency such as NSF, USDA, or EPA. Such proposals can be adapted to the QE Research Proposal format.

The Exam's Research Proposal should summarize the major objectives of the proposed dissertation project. Formatting should follow the guidelines below.

### **Format**

The text, figures and tables of the proposal must be 8-10 pages single-spaced with 1-inch margins and GC Times Roman at 12-point font or Arial 11-point font (or equivalent). Cited literature is not counted in the page limit. Subheadings should be used to organize the sections. Student should consider putting key sentences in bold so that the Committee members can quickly refer to them.

#### **Introduction**

This section introduces the Committee to the proposed area of work and provides a broad statement of the problem. The introduction should also include a brief review of how this research topic has been previously addressed in the literature.

#### **Research Objectives and Hypotheses**

The hypotheses are the heart of the proposal. Many researchers divide their grant proposals into three or four objectives. Regardless of the format, each hypothesis should clearly identify the proposed explanation for an observation and contain an expected research finding.

#### **Rationale and Significance**

How does the research contribute to the field? What are the unique aspects of the proposed research? What is its importance for the scientific community, as well as in the broader context of society?

#### **Progress to Date (if applicable)**

This may be integrated into the Experimental Plan (below) or be a stand-alone section.

#### **Experimental Plan**

The methods section should be briefly outlined and referenced. A student should be prepared to discuss the detailed methods in the exam.

After completion of the Qualifying Exam, the student must revise his/her research proposal based on recommendations by the Qualifying Exam Committee. The revised proposal must be submitted within one month to the student's Dissertation Committee, which will evaluate the revisions. The revisions should be accompanied by a document outlining the revisions recommended by the Qualifying Exam Committee and how they were addressed, to facilitate the ability of the Dissertation Committee to determine whether recommendations have been considered and appropriate changes have been made to the proposal. The Dissertation Committee will inform the student within two weeks if further changes are needed. If so, the student will submit a second revision within two weeks of hearing from the Dissertation Committee.

### **8. The Examination Timeline**

The first portion of the QE usually consists of two consecutive days of Written Examinations. The student must pass the Written Examination to proceed to the Oral Examination. The Oral Examination is usually scheduled one to two weeks after the Written Examination so that the student may meet with their committee members between the two exams.

### **9. The Written Examination**

The written exam is based on coursework and the student's research proposal. All the Qualifying Exam Committee Members except the Outside member must submit questions for the written portion of the examination to the Chair of the Qualifying Exam. The Outside member has the option to contribute questions for the written examination. Students must talk to the Chair and each Committee member about performance in the written exam to identify strengths and weaknesses. Deficiencies identified in the written

exam should be repaired by the time of the oral exam.

Each Committee Member submits questions for a three-hour written examination. Each Committee member grades their submitted questions and relays the outcome of the exam to the Chair of the Committee.

Most Committee members require the student to answer the Written Exam questions without the aid of notes, books, the Internet, or other resources. Each QE Committee Member may waive some or all of these conditions. Cell phones or any other device that can access information are not permitted unless specifically approved by the Committee member whose set of questions is being answered.

The student has two options for recording their answers to the written examination questions. They may write their answers on paper or use a departmental computer that lacks internet access. If drawings, tables or graphs are needed to answer a question, they will need to be hand drawn and referred to in the text.

On each morning of the Written Examinations, the student should go to the Chair of the Committee's office. The student will choose the order of the exams. The Chair will bring the student to the examination room and ensure that only admissible items enter the room. After the student completes the first exam, the student returns the answers to the Chair. The student will then take a break and arrange for a time to begin the second exam.

The Chair will let the student and the Student Services Advisor know the outcome of the exams and direct the student to speak with Committee members. A course of action to remedy any deficiencies in the Written Exam should be discussed with the student.

Students "Pass" or "Fail" this exam; there is no "qualified" pass or fail.

**Written Exam - A Pass:** To proceed to the oral exam, a student may fail no more than one of the written exams.

**Written Exam - A Failure:** If the student fails two or more exams, the QE Committee will determine if the student should be allowed to retake the Written Examination. The Committee will recommend a timeframe for the second attempt. Based on the overall performance, the QE Committee will decide how many and which of the exams will be retaken. A student may retake the Written Exam once. It is expected that the Written Exams will be successfully passed no later than the end of the student's third year. The written exams become part of the student's permanent academic record and can be viewed at the request of the student. Due to exam confidentiality, the exam must be viewed in the presence of a PLBL faculty member. Exams cannot be distributed to the student or copied.<sup>14</sup>

## 10. The Oral Examination

### General Information

The oral examination is a defense of the student's research proposal, and is taken at a single sitting and typically lasts 2.5 to 3 hours. The oral exam usually occurs one to two weeks after successful completion of the written exams.

All the Committee members must be physically present at the Ph.D. Oral Examination<sup>15</sup>. In exceptional circumstances, determined in advance of examination scheduling and approved by Dean of the Graduate Division, one member of the examining committee may participate via video (e.g., Skype) or telephone conferencing. Exceptional circumstances may include (but are not limited to): travel for research, or permanent residence, outside of the United States; participation in academic or research travel within the United States that cannot be shifted to accommodate the intended date of the oral examination or defense; hospitalization or other medical conditions that make it impossible to be physically present.

All Committee members must be in the examination room for the entire exam period. If a Committee member

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<sup>14</sup> Change made 12-11-2013 per Graduate Division request.

<sup>15</sup> Graduate Division policy. April 18, 2013.

must depart, the exam must be paused until the faculty member returns.

### **Student's Oral Presentation**

During the first 15-20 minutes of the oral exam, the student will present an overview of their research proposal, as well as a short introduction to his/her academic training and long-term career goals. This presentation will be a "chalk" talk. The background, hypotheses/goals, and experimental design of the research proposal should be conveyed using the whiteboard. If desired, a student may supplement the chalk talk using an electronic presentation consisting of up to 5 slides but notes are not allowed, whether paper or electronic. The electronic presentation can be used to display essential photographs, videos or complex graphs. There should be minimal text in or associated with the electronic presentation. The content of the electronic presentation must be approved by the Chair of the Qualifying Exam one week prior to the oral exam.

### **Structure of the Oral Exam**

The typical sequence of events for the oral examination is:

- The student may indicate the preferred order of examiners. The Chair of the Committee must deliver his/her questions last.
- The student is asked to leave the room for a few minutes while the Committee discusses the written exam and the student's background.
- The student returns to the room and is asked to make a short (15-20 minutes) presentation on their research. The student usually starts with an introduction of their educational background and career goals.
- Each committee member will have ~20 minutes to ask the student questions.
- There is usually a 5 to 10-minute break after the second or third committee member's questions.
- Each committee member may be given an opportunity to ask additional questions (5-10 min total).
- The student is then asked to leave the room while the committee deliberates on the exam.
- When the committee has reached a decision, the student is asked back into the room and is informed of the committee decision.
- After the exam, the Chair of the Qualifying Exam Committee will convey to the student and the student's major professor any concerns, problems, or deficiencies noted by the Exam Committee. The major professor then becomes responsible for ensuring appropriate revisions and changes are made.
- All Committee members must be in attendance for the entire time.
- The student should not supply refreshments for the committee.

### **Outcome of the Oral Exam**

The Chair of the Committee will relay the outcome of the oral exam (pass or fail) to the major professor as well as to the Graduate Advisor and Student Services Advisor. The strengths and weaknesses in the student's performance should be discussed with the major professor and suggestions for student improvement made. The student should be encouraged to discuss their performance with Committee members within a few days after the exam.

Passing the oral exam requires no more than one failing vote.

If a student has failed the Oral QE, the Committee will make a recommendation for or against a second examination. The Committee will relay the reasons for the failure of the exam and suggest mechanisms to complete the deficiencies, if a second exam is permitted. The second oral examination will be taken no sooner than three months after the first oral exam; this is a Graduate Division rule. The student must pass the second oral exam to remain in the graduate program.

If possible, at the time of passing the Oral Exam, a student should determine the membership of his/her Dissertation Committee (see below).

### **Academic Appeal of an Exam Decision<sup>16</sup>**

There are only two valid grounds for an appeal: (1) a procedural error and/or (2) use of non-academic criteria to evaluate academic work. The non-academic criteria could include personal bias and violations of the campus nondiscrimination policy.

If any member of the committee or the graduate student (the appellant) believes that unfair or improper procedures were followed, the appellant should first seek an informal resolution by contacting the Plant Biology Graduate Advisor for Continuing Students or the Vice Chair of the Department of Botany and Plant Sciences. This process must be initiated within two weeks of the academic decision. A written document outlining the grounds for the appeal and any supporting documentation should be provided. The Graduate Advisor or Vice Chair will seek an appropriate resolution.

If an informal resolution is not reached, the Graduate Advisor or Vice Chair will bring the appeal to the Graduate Educational Advisory Committee (EAC) for consideration. The EAC will determine whether the appeal has valid grounds, referring to the two possible criteria stated above. If the EAC determines that there are valid grounds for an appeal, then the student will be so informed. The EAC will then conduct a hearing by consulting with the student and, separately, with one or more committee members regarding the issues raised in the appeal. After due deliberation, the EAC will make a final decision. There are two possible outcomes. The EAC will decide either that: (1) the appeal was upheld or (2) the appeal was not upheld. If the EAC determines the appeal was upheld by the hearing process, then the exam under contention shall be declared null and void. However, it should be noted that the pass/fail decision cannot be overturned (i.e. a "fail" shall not be overturned to a "pass", nor a "pass" overturned to a "fail"). The EAC will set an appropriate timeline for a replacement qualifying exam and make recommendations regarding committee composition.

The EAC will report the results of the appeal in the form of a memo. The EAC will make every effort to consider the appeal and render a recommendation promptly. Whenever possible, the appellant will be informed of the outcome of the appeal within two weeks. The Graduate Division will be informed promptly of the results of the examinations. The appellant has the right to appeal academic decisions made at the program level to the Graduate Dean ([http://graduate.ucr.edu/dispute\\_resolution.html](http://graduate.ucr.edu/dispute_resolution.html)).

If any member of the EAC has a conflict of interest in the appeal decision, they will be recused from the appeals process. A minimum of four EAC faculty members must be present during the consultations and deliberations involved with an appeal. If it is necessary for more than two EAC members to be recused for the appeals process, then the non-recused EAC members will appoint additional Plant Biology faculty to the appeals committee to assure a prompt and judicious consideration of the appeal. Student EAC members do not participate in the appeal process.<sup>17</sup>

### **11. Advancement to Candidacy**

After successful completion of the Written and Oral Qualifying Examinations and completion of all University and departmental requirements, the student is eligible for formal advancement to candidacy. The graduate program must be sent the "Report of Qualifying Examination for the Degree of Doctor of Philosophy & Nomination of the Dissertation Committee" (Form 3). The student will be billed a handling fee after the degree check has been completed. The student and graduate program will be notified of the formal advancement to candidacy.

## **SECTION 2F. FROM CANDIDACY TO DISSERTATION**

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<sup>16</sup> This section was revised in response to Graduate Council memos dated Jan 19, 2012 and July 5, 2012.

<sup>17</sup> Change made 12-11-2013 per Graduate Division request

## 1. The Dissertation Committee<sup>7</sup>

In consultation with their Major Professor, students must establish a Dissertation Committee.

The Dissertation Committee, with the Major Professor as Chair, usually consists of three members. A majority of the Dissertation Committee members must be from the Plant Biology Graduate Program. To avoid conflicts of interest or the appearance of a conflict of interest, when domestic partners or spouses are a majority of the faculty on a Dissertation Committee, another faculty member will be added to the Committee.<sup>18</sup>

The Dissertation Committee must be established within two weeks of passing the Qualifying Exam; if possible, it is recommended that it be established at the time of the Qualifying Exams. Students should also fill out the *PhD. Dissertation Committee Form* and submit the completed form to the Plant Biology Student Services Advisor. The Dissertation Committee must be approved by the Plant Biology Graduate Advisor. The students must then fill out the Dissertation/Thesis Committee Nomination Form found on the Graduate Division website: [Graduate Division: Petitions and Forms](#), and submit it to Graduate Division.

The Dissertation Committee will guide the student throughout the remainder of a student's career at UCR. The Dissertation Committee will evaluate the Dissertation Proposal (due to the Dissertation Committee one month after the successful completion of the Qualifying Exams) and assist the student in revising the proposal. Ultimately, the Dissertation Committee is responsible for signing off on the final Dissertation and evaluating the student's final oral Dissertation Defense.

The Dissertation Committee will meet at least once per year to evaluate the student's research progress (see SECTION 4). More frequent meetings may be needed near the end of a student's dissertation project.

## 2. Submission and Approval of Dissertation Proposal<sup>19</sup>

Within one month of passing the Qualifying Examination, the student must provide his/her Dissertation Committee with a revised proposal that describes the research project in detail. The proposal should not exceed 10 pages, excluding the literature cited, tables and figures, and should include an introduction relating the project to the existing literature in the subject area, summary of research progress to date, hypotheses to be tested, experimental plans, and expected results. The dissertation proposal is developed in conjunction with the major professor. The front page of the proposal should include the date of submission, as well as the Dissertation Committee member's names and their signatures.

The Dissertation Committee will evaluate the proposal with respect to novelty, impact and likelihood of success, and assist the student in revising the proposal accordingly. The student must complete these revisions and resubmit the revised document to the Dissertation Committee within one month of passing the Qualifying Examination. The committee may ask for additional revisions at that time. The front page of the approved proposal should include the date of approval, as well as the Dissertation Committee member's names and their signatures.

The Dissertation Committee will indicate receipt of the draft proposal on the *Annual Research Progress Evaluation (ARPE) Form* (<https://ucrbgsac.wufoo.com/forms/q1ryd2ac0lr27p4/>). Revisions to the proposal should be similarly noted on the *ARPE Form* in the appropriate year.

A copy of the approved proposal should be provided to the Plant Biology Student Services Advisor. The final approved proposal should be placed in the student's file to serve as a road map for the student and his/her committee. The progress of students who fail to meet this requirement will be considered unacceptable.

## 3. Dissertation Completion

The dissertation may be of conventional format or include manuscripts for publication. In the latter case, candidates must be first author of manuscripts that cover substantive parts of the thesis. The dissertation must include an introductory chapter with a comprehensive literature review, and each research chapter

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<sup>18</sup> Per Graduate Council (February 16, 2012)

<sup>19</sup> Timeline for the submission of the Dissertation Committee approved proposal was changed 2011-2012

should include an introduction with literature review, methods, results, discussion, and conclusions. All sections must be approved by the Dissertation Committee. Candidates are encouraged to incorporate all pertinent data in addenda to the dissertation, if they are not incorporated into manuscripts used as part of the dissertation.

Students should check Graduate Division's specific requirements for the dissertation and the use of manuscripts as part of the dissertation.

Ph.D. students must present their Dissertation Research in a public seminar, in the BPSC 250 series or, if needed, as a special seminar. Often the Dissertation defense immediately follows the defense seminar. The Chair of the Dissertation Committee must be physically present<sup>20</sup>. In exceptional circumstances, determined in advance of examination scheduling and approved by Dean of the Graduate Division, one remaining member of the examining committee may participate via video (e.g., Skype) or telephone conferencing. Exceptional circumstances may include (but are not limited to): travel for research, or permanent residence, outside of the United States; participation in academic or research travel within the United States that cannot be shifted to accommodate the intended date of the oral examination or defense; hospitalization or other medical conditions that make it impossible to be physically present.

### SECTION 3: GUIDELINES AND PROCEDURES FOR THE M.S. PROGRAM IN PLANT BIOLOGY

Note: All forms described are found in the Appendix, can be downloaded from the Plant Biology Graduate Program site, or can be obtained from the Plant Biology Student Services Advisor.

#### SECTION 3A. OVERVIEW OF M.S. PROGRAM MILESTONES

The specific requirements for conferral of the Plan I (Thesis) and Plan II (Comprehensive Exam) Master's degree are substantively different in Plant Biology.

Quarter 1-2	Meet with Major Professor or faculty contact. Students may do up to three 3- to 4-week rotations. Reach an agreement with Major Professor at the beginning of the second quarter.	
	Nominate a Guidance Committee. Select Plan I (Thesis) or Plan II (Comprehensive Exam)	
	<b>PLAN I (THESIS)</b>	<b>PLAN II (COMPREHENSIVE EXAM)</b>
	Plan a course program. Submit to EAC by end of first quarter.	Plan a course program. Submit to EAC by end of first quarter.
Q 3-4	Annual Guidance Committee Meeting	Annual Guidance Committee Meeting
	Nominate Thesis Committee	Nominate Comprehensive Exam Committee
Q 5	Review of Research Progress. Due by end of 5 <sup>th</sup> quarter. Degree check by Student Services Advisor. File <i>Advancement to Candidacy Form</i> using R'Grad	Review of Research Progress. Due by end of 5 <sup>th</sup> quarter. Degree check by Student Services Advisor. File <i>Advancement to Candidacy Form</i> using R'Grad
Q 6-7	Deliver BPSC 250 Seminar Write Thesis. Approved by Thesis Committee.	Deliver BPSC 250 Seminar Prepare Research Report or Critical Literature Review. Distribute to Comprehensive Exam Committee at least two weeks prior to written exam. Report approved by Committee.
		Pass written exam & oral exams.
	M.S. is awarded.	M.S. is awarded

#### 3B. MAJOR PROFESSORS AND LAB ROTATIONS

Most M.S. students enter the Plant Biology program with a Major Professor already selected; therefore rotations are unusual. However, the Department does allow M.S. students to rotate through up to three

<sup>20</sup> Graduate Division Policy (April 18, 2013).

different faculty laboratories during their first two quarters before coming to an agreement with a Major Professor. Each rotation lasts for three to four weeks. This allows the student to reach an agreement with a Major Professor by the end of the 2nd week of their second quarter (at the latest). Students are expected to complete all M.S. Program requirements within seven full-time quarters in residence or its unit equivalence for part-time students.

### 3C. FORMING AN INDIVIDUALIZED COURSE PROGRAM

#### 1. The Guidance Committee

During the first quarter of the program, a student will assemble a Guidance Committee. The Guidance Committee helps the student establish a program of courses and guides thesis research. A list of courses offered by the department for a two-year period is provided in the Appendix.

The Chair of the Guidance Committee is the Major Professor or faculty contact (often the first faculty member a student does a laboratory rotation with). The Guidance Committee has two other faculty members. At least one of these members must be from the Plant Biology Graduate Program. Students should consult with their Major Professor about which other faculty members to ask to serve on the Guidance Committee.

Once Guidance Committee members are identified, the student, Major Professor/faculty contact, and two Committee members must sign the *M.S. Guidance Committee Approval Form*, and the signed form should be submitted to the Plant Biology Student Services Advisor.

The Guidance Committee should meet with the student during the first quarter of the program to discuss and establish the course program for the M.S. Plan I (Thesis) or Plan II (Comprehensive Exam) option. The detailed course program considers the specific interests of the student and must meet all general requirements of the Graduate Division as printed in the General Catalog. Note: students who choose Plan II will need to choose one major and one or two minor areas of study (see below). If the Guidance Committee feels any waivers should be requested for any requirements, the Chair should write a memo and send to the Graduate Advisor for Continuing Students (Amy Litt). The Graduate Advisor will either bring it to the Educational Advisory Committee, if it is a Plant Biology Graduate Program requirement, or will draft a memo and send it to Graduate Division, if it is a Graduate Division policy.

Before the Guidance Committee meeting, the student should consult with the Chair of the Guidance Committee to draft the four forms listed below. The forms can be found in this Handbook's Appendix, at the program's web site, or can be obtained from the Plant Biology Student Services Advisor. The forms must be signed and dated by the Guidance Committee and then be turned in to The Plant Biology Student Services Advisor for EAC approval. Students may petition to change the course program or the major/minor areas; these changes must be approved by the Guidance Committee first, and subsequently the EAC. Changes to Committee membership do not require approval but the Graduate Advisor for Continuing Students (Amy Litt), and the Plant Biology Student Services Advisor must be notified.

FORMS TO COMPLETE DURING THE GUIDANCE COMMITTEE MEETING	BEFORE THE MEETING	DURING THE MEETING
<i>M.S. Curriculum Planning Form</i> (individual needs of student)	--	Chair completes after consultation with student and committee
<i>M.S. Course Program Form</i> (prerequisites, degree option, major/minor area)	Student enters prerequisite information	Committee discusses and completes, indicating 3 courses chosen to support major/minor areas
<i>Other Courses Taken That Apply to Degree Form</i>	Student completes; Chair verifies and <u>signs</u>	Committee discusses

<i>Courses Required By the Guidance Committee Form</i>	Student discusses with Chair	Committee discusses, completes, and signs form
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## 2. EAC Review of Course Program

Course programs designed by the Guidance Committee are examined by the EAC for final approval. The EAC examines course programs to insure consistency and quality in the education of all our graduate students. The EAC also recognizes that the best graduate education will be achieved when a course program is tailored to meet the needs of a particular student. Therefore, when the EAC reviews a course program, it is important that the needs and plans of the particular student be known. For this reason, the EAC will not consider a course program unless the Guidance Committee submits with the course program the *M.S. Curriculum Planning Form*.

The EAC pays particular attention to several points. The course program must:

1. include courses that will remove any deficiencies of the student;
2. include the required seminar courses (BPSC 240 and 250);
3. contain courses that will adequately prepare the student for successfully carrying out the thesis research
5. include the appropriate numbers of classes from Sections I-V of the *M.S. Course Program Form*.

### SECTION 3D. GENERAL REQUIREMENTS FOR THE M.S. IN PLANT BIOLOGY (PLANS I & II)

#### 1. Overview of Coursework Requirements and Registration Guidelines for the M.S.

Students must enroll in 12 units every quarter. The Plant Biology Student Services Advisor will work with each student to assure this is achieved each quarter.

**Entry Requirements:** All deficiencies in the program's pre-requisite classes must be eliminated. The program requires transcripts for evidence of completion of all deficiencies and prerequisites.

**Professional Development:** Students are highly encouraged to enroll in BPSC 200A and BPSC 200B during their first Fall and Spring quarters, respectively. These classes count toward Section II course requirements.

**BPSC 240:** Students must complete at least one quarter of BPSC 240<sup>21</sup>.

**BPSC 250:** Students must enroll in BPSC 250 each time that it is offered. Grades are S/NC except for the quarters that you present a seminar. In those quarters, the instructor will assign you a letter grade.

**BPSC 290 Directed Studies.** BPSC 290 is used for independent or directed studies in a specific subject matter that is *not* covered by a standard course. BPSC 290 can also be used if a required course is unavailable in a reasonable timeframe. This requires agreement with a faculty member, who will act as instructor for the BPSC 290 course. Students must submit a 290 petition prior to registering. BPSC 290 is for instructional purposes only and cannot be used for research.

**BPSC 292 – Concurrent and Advanced Studies.** Used for students who are concurrently enrolled in an undergraduate course to receive graduate credit for the course. The student will need to do additional, graduate level work beyond what is required for the undergraduate course. Consent of instructor is required and the EAC must approve.

**Research classes (BPSC 291, 292, 297, and 299).** Students are typically enrolled in research units each quarter they are enrolled. There is a progression of the research classes and the Plant Biology Student Services Advisor will assure that students are appropriately enrolled.

**BPSC 291 – Individual Study in Coordinated Areas.** Used for students who have not yet advanced

<sup>21</sup> Approved in 2017, M.S. students must only take one BPSC 240.



to candidacy and need more than 6 units of research to reach 12 units. Use 297 first, and then fill in with 291. Note, BPSC 291 units will not count as part of the required 36 units towards the MS degree.

**BPSC 297** – Directed research. M.S. or Ph.D. students performing research and who have not advanced to candidacy enroll in this class. Maximum of 6 units per quarter.

**BPSC 299** – Research for Thesis or Dissertation. M.S. or Ph.D. students performing research enroll in this class after advancement to candidacy. Maximum of 12 units per quarter.

**Upper Division Undergraduate Courses (Section I):** Three courses (typically 12 units) from the following: BPSC 104, BPSC 112, BPSC 132, BPSC 133, BPSC 134, BPSC 135, BPSC 138, BPSC 143, BPSC 146, BPSC 148, BPSC 150, BPSC 153, BPSC 155, BPSC 158, BPSC 165, BPSC 166, BPSC 170, BPSC 183, BPSC 185 (when offered), BIOL/MCBL/PLPA 120 and BIOL/PLPA 134. Students who have taken comparable courses from Section I during their baccalaureate training may have all or a portion of the Section I requirement waived. In such instances, however, their program may include increased units in courses from Sections II and/or III. Guidance Committee recommendations for waivers of one or more Section I classes should be clearly explained and alternative courses should be specified in a memo for consideration and approval by the EAC.

**Graduate & Upper Division Undergraduate Courses in Related Departments or Programs and Professional Development Courses (Section II):** Six units are required. Applicable courses include the professional development classes (BPSC 200A and BPSC200B). No more than 4 units may be from professional development classes. Only one course cross-listed with other departments may be used. Students cannot use a cross-listed course already used in Section I or Section III.

**Graduate Courses in the Department (Section III):** *The requirements for Plan I and II are distinct.* For Plan I at least 6 units and for Plan II 11-12 units of classes from the following must be taken: BPSC 201 (E-Z; for a maximum of 2 units), BCH/CMDB/GEN/MCBL/PLPA 205, BPSC/CEE 208, BPSC 221, BPSC 222, BPSC 225 (E-Z), BPSC 230, BPSC 231, BPSC 232, BPSC 234, BPSC 237, BPSC 239, BPSC 240 (only if taken in addition to the required units, see Seminar Requirements), BPSC 243, BPSC 244, BPSC 245, BPSC 246, and BPSC 247.

**Courses Required for Plan II only (Section IV):** At least 6-12 units for a literature review (BPSC 290; 1-6 units) or research project (BPSC 297; 1-6 units).

**Courses Required for Plan I only (Section V):** Not more than 12 units from BPSC 299. If a student takes research courses (BPSC 290 or BPSC 297) from section IV, not more than 6 units may be applied to the degree. In this case, not more than 12 units of BPSC 297/299 can be used towards the degree.

## 2. Entry Requirements Prerequisite Courses

The following courses offered at UCR, or their equivalent in content from another institution, are prerequisites for entry into the Plant Biology Graduate Program. Students may be accepted into the program without having completed all the entrance requirements listed. In that case the deficiencies are identified (as determined by the Guidance Committee or EAC), these entry requirements must be made up as soon as possible after the student begins course work. Deficiencies in the course requirements must be eliminated and transcripts for evidence of completion of all deficiencies and prerequisites are required.

<i>Program Requirement</i>	<i>UCR Course Designations</i>
1 year General Biology	Biology 5A, 5B, and 5C
1 year General Chemistry with laboratories	Chemistry 1A, 1B, and 1C with laboratories
1 course in Genetics	Biology 102
1 course in Calculus	Math 9A
1 course in Biochemistry or Ecology	Biochemistry 100, 110A, or BPSC 183, or BIOL 116 or BPSC 146
1 course in Statistics	Statistics 100A or 110

1 course in General Plant Biology	BPSC 104
1 additional course in Plant Biology	Biology 107A or BPSC 132, 135, 138, 143, or 146

### 3. Major and Minor Areas of Specialization (Plan II only)

Students in Plan II will select one major area and one or two minor areas for specialization. Students are examined on their major and minor areas during the Comprehensive Examination and are expected to obtain an advanced understanding of these areas. Suggested major areas are in the left-hand column below. Minor areas can be selected from either column but cannot be sub-disciplines of the chosen major area. Alternative major/minor areas will be approved if adequate justification is provided in a memo.

<i>Major Area</i>	<i>Sub-Disciplines</i>
Plant Physiology	Whole Plant Physiology Physiological Ecology Plant Biochemistry Plant-Soil-Water Interactions Crop Physiology Postharvest Physiology
Ecology and Conservation Biology	Conservation Biology Plant Ecology
Plant Cell Biology and Development	Plant Cell Biology Plant Development
Plant Genetics	Cytogenetics Population Genetics Quantitative Genetics Genomics
Plant Molecular Biology	Plant Molecular Biology
Systematics and Evolution	Ethnobotany Systematics Evolution
Anatomy and Morphology	Anatomy Morphology
Applied Plant Genetics	Biotechnology Conservation Genetics Plant Breeding
Applied Ecology	Conservation Biology Restoration Ecology Conservation Genetics Invasion Biology
Pest Management	Weed Science Plant Pathology Entomology Nematology

### 4. BPSC 250 Seminar Requirement<sup>22</sup>

All full-time students in residence in the M.S. Program must enroll in the BPSC 250 Seminar each quarter it is offered. Part-time students must take one BPSC 250 Seminar for every 12 units of courses. Grades are S/NC except for the quarters in which a student presents a seminar. In those quarters, the instructor will assign a student a letter grade (see below).

All M.S. students must present one BPSC 250 seminar prior to degree conferral. Students making a presentation receive a letter grade for this course during that quarter. There is no requirement for a

<sup>22</sup> The Plant Biology BPSC 250 policies for MS students changed in 2011-2012.

M.S. thesis defense seminar. M.S. students in the thesis track (Plan I) will also typically present a BPSC 250 seminar on their thesis research, but this is not required for the degree. Students cannot enroll in BPSC 250 while on filing fee and, therefore, the seminar should be completed before going on filing fee.

Students are encouraged to attend other seminar series on campus that will enhance their breadth of knowledge and expertise in their field of interest; these seminar series will not substitute for the BPSC 250 series. If a student cannot attend the BPSC 250 seminar for an entire quarter due to a substantive reason, he/she should provide the waiver request with a strong rationale and a supporting memo from their major professor to the Graduate Advisor for Continuing Students (Amy Litt) two weeks prior to the beginning of the quarter in question. If a student cannot attend a specific BPSC 250 seminar during a quarter, he/she should contact the instructor-in-charge of BPSC 250 in advance for a one-time waiver.

If a Plan I (Thesis) student cannot present their seminar as part of the BPSC 250 series, the student must petition the EAC to approve use of a special seminar as meeting the BPSC 250 requirement. This memo should explain why the presentation cannot be made as part of the BPSC 250 series. Valid reasons are the BPSC250 series is not offered during the quarter the student is ready to present, or that no slots are available and delaying would cause financial problems. The EAC will consider other explanations.

## **5. Annual Progress Report<sup>23</sup>**

All M.S. students must meet with their Guidance (Plan I and II) or Thesis (Plan I only) Committees at least once per year to review progress, including years in which they take their Comprehensive Exam or present their thesis. The *Student Progress Report Form* and a one-page research update must be submitted promptly to remain in good academic standing. See SECTION 4 for more details.

## **6. Teaching Experience**

There is no requirement for M.S. students to acquire teaching experience.

## **SECTION 3E. M.S. REQUIREMENTS - PLAN I (THESIS)**

### **1. Advancement to Candidacy and the Thesis Committee**

After completion of the M.S. course program as defined by the Guidance Committee, the student will apply to the Graduate Division for Advancement to Candidacy. After advancement, a Thesis Committee will advise the student on research and thesis preparation. Ordinarily, the Guidance Committee will become the Thesis Committee, unless changes are recommended to the EAC by the Guidance Committee.

The Thesis Committee must have at least three members. The Chair and at least one other member must be from the Plant Biology Program. The Thesis Committee will sign the approval page of the thesis when the course program, study and research, and thesis have been completed to their satisfaction. Candidates are required to present at least one BPSC250 seminar to the Department in which they discuss their thesis research.

If requested to do so by the Ph.D. Program or by the student, the Thesis Committee (for Plan I students) will provide an opinion concerning the candidate's suitability for the Ph.D. in Plant Biology. Contact the Plant Biology Student Services Advisor in the CNAS Graduate Student Affairs Center for the required forms. Once completed, return the form to the Plant Biology Student Services Advisor.

### **2. Plan I Thesis Format**

The thesis may be of conventional format or include manuscripts for publication (<http://graduate.ucr.edu/dissertation.html>). The thesis must include an introductory chapter with a comprehensive literature review, and each research chapter should include an introduction with literature review, methods, results, discussion, and conclusions. All sections must be approved by the Thesis

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<sup>23</sup> The Student Progress Report Form was revised 2011-2012 and 2013-2014.

Committee. Candidates are encouraged to incorporate all pertinent data in addenda to the thesis, if they are not incorporated into manuscripts used as part of the thesis.

Students should check Graduate Division's specific requirements for the thesis and the use of manuscripts as part of the thesis. Students should consult with the CNAS Graduate Student Affairs Center regarding deadlines for submission of the rough and final drafts of the Thesis. Students should contact Graduate Division for thesis formatting requirements.

There is no requirement for a thesis defense seminar (in addition to the mandatory BPSC 250 seminar), although a seminar presenting the student's accomplishments is encouraged.

### **3. Optional Transfer to the Ph.D. Program**

Students who would like to consider a switch to the Ph.D. program may petition to do so after the first year or after completion of the M.S. In the latter case, the Plan I M.S. thesis cannot be used as a part of the Ph.D. dissertation. Students wishing to change to the Ph.D. program should confer with their major professors and submit a request to the EAC using forms available in the Graduate Affairs Office.

## **SECTION 3F. M.S. REQUIREMENTS - PLAN II (COMPREHENSIVE EXAM)**

### **1. Purpose & Timing of the Comprehensive Examination**

The purpose of the M.S. Comprehensive Examination is to evaluate the student's breadth of knowledge in plant biology. The exam will verify knowledge in the student's major area and two minor areas of specialization (that are not sub-disciplines of the major area) and the content of the M.S. report (see item 7 below). The major and minor areas should be selected at the time the course program is established by the student with the Guidance Committee. Areas and sub-disciplines are listed on the *Request for Formation of M.S. Comprehensive Examination Committee Form*. The M.S. report shall not be the full focus of the examination.

### **2. Formation of the Comprehensive Exam Committee<sup>24</sup>**

It is recommended that the major professor and student suggest members and alternates for Comprehensive Exam Committee. Committee membership should be determined by the major and minor areas of emphasis and the research report. The Comprehensive Exam Committee consists of three members. The Chair and at least one other member of the Committee must be members of the Plant Biology Graduate Program. The Major Professor will not be a member of the Comprehensive Examination Committee.

It is recommended that an MS student *select the Comprehensive Exam Committee three months prior to initiation of the written exams*. This is to ensure adequate time for identifying exam dates. The student must speak to each faculty member nominated for the Comprehensive Exam Committee and one alternate to confirm willingness to serve in this capacity. The student must confirm that a faculty member is willing to serve as an alternate committee member in the unusual circumstance that the exam must be held without one or more of the designated Committee members. The availability of Committee members and alternates for the exam dates should be confirmed. To avoid conflicts of interest or the appearance of conflicts of interest, when domestic partners or spouses are on a Comprehensive Exam Committee, another faculty member will be added to the Committee.

Students must fill out the *Request for Formation of M.S. Comprehensive Examination Committee Form<sup>25</sup>*. The form requires the signatures of each Committee member and the alternate, the student and Major Professor. The form should be submitted to the Plant Biology Student Services Advisor. The EAC will approve the members of the Committee. *The form should be submitted at least three months prior to the proposed exam date.*

### **3. Changing Comprehensive Exam Committee Members**

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<sup>24</sup> M.S. Comprehensive Exam policy changes approved 10-29-12.

<sup>25</sup> Change made 12-11-2013 per Graduate Division request.

If there is a change in the composition of the members of the Comprehensive Exam Committee, a new *Request for Formation of the M.S. Comprehensive Examination Committee Form* should be filled out and a memo of explanation to the Plant Biology Student Services Advisor should be submitted as soon as possible. The EAC and Graduate Division must approve the proposed changes. Changes should be received in the Graduate Division no later than two weeks before the exam.

If there is an unusual circumstance and a change must be made less than two weeks prior to initiation of the exam, the Plant Biology Graduate Student Services Advisor must be informed of the urgency of the request and the reasons for short notice of these changes.

The change to the Committee membership is not considered final until the change is approved by the Graduate Dean and a signed copy of *Dissertation/Thesis Committee Nomination/Change Form* form has been returned to the Program with the Graduate Dean's signature. *No exam can take place without this approval.*

#### **4. Role of the Chair of the Comprehensive Exam Committee**

Once the Committee has been approved by Graduate Division, the student should meet with the Chair of the Comprehensive Exam Committee. The Chair of the Committee will operate under the guidelines described in the *Chair of Exams Procedures* document. The Chair will describe the student's responsibilities for the exam. These responsibilities are:

- Establishing the dates for the written and oral exam.
- Finding a room for the exams
- Talking to Committee members to understand expectations for the exam
- Understanding the format of the written and oral exams

The Chair of the Committee will reserve an internet-disabled departmental computer for written exams if the student would like to type rather than write the answers to their written exams.

#### **5. Setting the Date and Rooms for the Exams**

Once the Comprehensive Exam Committee has been approved, the student should consult with the members of the Committee to establish specific dates for the written and oral examinations. Once dates are set, the student should reserve rooms for the written and oral exams through the Facilities Reservation System (<https://chassintranet.ucr.edu/frs/index.do>). If assistance is needed contact the Plant Biology Student Services Advisor.

The student should let the Committee members know of the date and location as soon as they are established; an email to the Committee will suffice. The student should remind Committee members of the location of the Oral exam a day prior to the exam. It often helps to have this information on the front page of the Research Report.

#### **6. Preparation for the Examination**

Once the Graduate Educational Advisory Committee and the Graduate Division have approved the Comprehensive Exam Committee, the student is encouraged to meet with each of the Committee members to discuss the likely emphasis in the written and oral exams. Faculty may direct students to review coursework and/or assign specific reading materials.

In general, students set study plans approximately 3 months prior to the exam. The expected time dedicated to preparation for the exam should be discussed with the student's major professor.

At least 1 month prior to the written exam, the student is required to provide a hard copy of the MS research report to each member of the Comprehensive Exam Committee. Any delays might cause postponement of the written and oral exams.

*The report must be approved by the Committee prior to initiation of the Written and Oral Exams.*

If a student intends to display images, videos, or complex graphs in their oral presentation, the visuals must be approved by the Chair of the Committee two weeks prior to the written exam (see below).

It is recommended that students participate in one or more “mock” oral exams. The student may wish to identify Ph.D. students in the program who have successfully completed their qualifying exams. A mock oral exam can be good test of a student’s knowledge and ability to “think on your feet”.

## **7. Guidelines for the M.S. Plan II Comprehensive Examination Research Report**

### **Role of the Major Professor**

The research report should be a summary of a directed research project or a critical literature review. The report should be developed in consultation with the Major Professor. However, the document must be written by the student alone. Although the Major Professor is expected to read and make comments on the research report, the Major Professor should not write any part of the proposal. The reports from a directed research project and critical literature review have different guidelines as described below.

### **Evaluation of the Written Report**

Prior to initiation of the written and oral exams, the report will be evaluated on a pass/fail basis by the members of the Comprehensive Examination Committee. The Committee members will individually report the results to the Chair of the Examination Committee. The Chair will convey the results to the student who must revise the report to the satisfaction of the Examination Committee prior to the oral examination. The Chair makes the final decision. It should be noted that this report cannot be used as part of a Ph.D. dissertation in Plant Biology at UCR.

### **Length, Content and Format of the Written Report**

Reports and literature cited should follow the format of a research or review article, respectively, of a journal appropriate to the subject matter. The text (not including the literature cited, tables, or figures) is anticipated to be a minimum length of 15 double-spaced pages for a report from a directed project and 20 double-spaced pages for a critical literature review. A portion of the written and oral exams will focus on the content of the M.S. report.

A report from a directed research project should include the following:

- 250-word abstract
- Introduction that critically reviews the relevant literature
- Hypotheses tested
- Methods
- Results
- Discussion (may be combined with the results)
- Literature cited

A critical literature review should include:

- 250-word summary
- Introduction to the problem
- Hypotheses to be tested by reviewing the literature
- Critical literature review
- Conclusion
- Literature cited

## **8. Comprehensive Exam Timeline**

The Comprehensive Examination includes a written and oral exam, as well as a Report from a directed research project or a critical literature review, involving a minimum of six units of graduate research work (BPSC 297). The Report is due to the members of the Comprehensive Examination Committee 1 month before the scheduled start of the written examination (see SECTION 3F.7). *The report must be approved by the Committee prior to initiation of the Written and Oral Exams.*

The written exams usually span one day. The Oral Exam usually occurs one to two weeks after the written exam so the student may meet with their Committee members between their two exams.

## 9. The Written Examination<sup>26</sup>

The written examination will consist of three 1.5- to 2-hr sets of written questions from each Committee member. The Committee members will grade their exams and relay the student's performance to the Chair of the Committee.

Most Committee members require the student to answer the Written Exam questions without the aid of notes, books, the Internet, or other resources. Each Comprehensive Examination Committee Member may waive some or all of these conditions. Cell phones or any other device that can access information are not permitted unless specifically approved by the committee member whose set of questions is being answered.

The student has two options for recording their answers to the written examination questions. They may write their answers on paper or use a departmental computer that lacks internet access. If drawings, tables or graphs are needed to answer a question, they will need to be hand drawn and referred to in the text.

The morning of the written exams, the student should go to the Chair of the Committee's office. The student will choose the order of the exams. The Chair will bring the student to the examination room and ensure that only admissible items enter the room. After the student completes the first exam, the student returns the answers to the Chair. The student takes a break between exams and arranges for a time to begin subsequent exams with the Chair.

After the written exams are evaluated, the committee will decide whether the candidate has passed, failed with no possibility of reexamination, or failed with option of reexamination. The Chair will let the student know the outcome of the exams and direct the student to speak with Committee members. A course of action to remedy any deficiencies in the Written Exam should be discussed with the student.

Students "Pass" or "Fail" this exam; there is no "qualified" pass or fail.

- *Written Exam - A Pass*: To proceed to the oral exam, a student must pass two of three written exams.
- *Written Exam - A Failure*: If the student fails two or more exams, the Committee will determine if the student should be allowed to retake the written exams. The Committee will recommend a timeframe for the second attempt. Based on the overall performance, the Committee will decide how many and which of the exams will be retaken. A student may retake the written exam once. The written exams become part of the student's permanent academic record and can be viewed at the request of the student. Due to exam confidentiality, the exam must be viewed in the presence of a PLBL faculty member. Exams cannot be distributed to the student or copied.<sup>27</sup>

## 10. The Oral Exam

### General Information

The oral examination is taken at a single sitting and typically lasts 2 hours. The oral exam usually occurs one to two weeks after successful completion of the written exams.

All the Committee members must be physically present at the Oral Examination<sup>28</sup>. In exceptional circumstances, determined in advance of examination scheduling and approved by Dean of the Graduate Division, one member of the examining committee may participate via video (e.g., Skype) or telephone conferencing. Exceptional circumstances may include (but are not limited to): travel for research, or permanent residence, outside of the United States; participation in academic or research travel within the United States that cannot be shifted to accommodate the intended date of the oral examination or defense; hospitalization or other medical conditions that make it impossible to be physically present.<sup>29</sup>

All Committee members must be in the examination room for the entire exam period. If a Committee member must depart, the exam must be paused until the faculty member returns.

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<sup>26</sup> Changes to the M.S. Comprehensive Exam were approved 10-29-12.

<sup>27</sup> Change made 12-11-13 per Graduate Division request.

<sup>28</sup> Change made 4-18-13 per Graduate Division policy.

<sup>29</sup> Change made 12-11-2013 per Graduate Division request.

## **Student's Oral Presentation**

During the first 10 minutes of the oral exam, the student will present an overview of their research proposal, as well as a short introduction to his/her academic training and long-term career goals. This presentation will be a "chalk" talk. The background, hypotheses/goals, and experimental design of the research proposal should be conveyed using the whiteboard. If desired, a student may supplement the chalk talk using an electronic presentation of up to 5 slides. The electronic presentation can be used to display essential photographs, videos or complex graphs. There should be no text in or associated with the electronic presentation. The electronic presentation (content of and number of images) must be approved by the Chair of the Comprehensive Exam two weeks prior to the oral exam.

## **Structure of the Oral Exam**

The typical sequence of events for the oral examination is:

- The student may indicate the preferred order of examiners. The Chair of the Committee must deliver his/her questions last.
- The student is asked to leave the room for a few minutes while the Committee discusses the written exam and the student's background.
- The student returns to the room and is asked to make a short (10 minutes) presentation on their research. The student usually starts with an introduction of their educational background and career goals.
- Each committee member will have ~20 minutes to ask the student questions.
- There is usually a 5 to 10-minute break after the second or third committee member's questions.
- Each committee member may be given an opportunity to ask additional questions (5-10 min total).
- The student is then asked to leave the room while the committee deliberates on the exam.
- When the committee has reached a decision, the student is asked back into the room and is informed of the committee decision.

## **Outcome of the Oral Exam**

The Chair of the Committee will relay the outcome of the oral exam (pass or fail). The strengths and weaknesses in the student's performance should be discussed and suggestions for student improvement made. The student should discuss their performance with Committee members within a few days after the exam.

There are two outcomes of the exam: Pass or Fail. With a three-member Committee, a student must be given two positive votes to pass the oral exam. If a student has failed the oral exam, the Committee will make a recommendation for or against a second examination. The Committee will relay the reasons for the failure of the exam to the student and major professor. If a second exam is recommended, the Committee will suggest mechanisms to complete the deficiencies. If a second exam is permitted, the student should consult with the Graduate Advisor for Continuing Students for the timing of the retake exam. Per Graduate Division rules, the second oral examination will be taken no sooner than four weeks after the first oral exam. The student must pass the second oral exam to remain in the graduate program.

When an exam is completed, a memo should be sent to the Student Services Advisor and the Graduate Advisor reporting the vote of Comprehensive Exam Committee Members and the outcome of the exam. There is no online form; the memo will be forwarded to Graduate Division.

If the M.S. student has asked for a recommendation for continuation to the UCR Plant Biology Ph.D. program, the M.S. Comprehensive Exam Committee members should provide this recommendation and its rationale on the memo.



### **Academic Appeal of an Exam Decision<sup>30</sup>**

There are only two valid grounds for an appeal: (1) a procedural error and/or (2) use of non-academic criteria to evaluate academic work. The non-academic criteria could include personal bias and violations of the campus nondiscrimination policy.

If any member of the committee or the graduate student (the appellant) believes that unfair or improper procedures were followed, the appellant should first seek an informal resolution by contacting the Plant Biology Graduate Advisor for Continuing Students or the Vice Chair of the Department of Botany and Plant Sciences. This process must be initiated within two weeks of the academic decision. A written document outlining the grounds for the appeal and any supporting documentation should be provided. The Graduate Advisor or Vice Chair will seek an appropriate resolution.

If an informal resolution is not reached, the Graduate Advisor or Vice Chair will bring the appeal to the Graduate Educational Advisory Committee (EAC) for consideration. The EAC will determine whether the appeal has valid grounds, referring to the two possible criteria stated above. If the EAC determines that there are valid grounds for an appeal, then the student will be so informed. The EAC will then conduct a hearing by consulting with the student and, separately, with one or more committee members regarding the issues raised in the appeal. After due deliberation, the EAC will make a final decision. There are two possible outcomes. The EAC will decide either that: (1) the appeal was upheld or (2) the appeal was not upheld. If the EAC determines the appeal was upheld by the hearing process, then the exam under contention shall be declared null and void. However, it should be noted that the pass/fail decision cannot be overturned (i.e. a "fail" shall not be overturned to a "pass", nor a "pass" overturned to a "fail"). The EAC will set an appropriate timeline for a replacement qualifying exam and make recommendations regarding committee composition.

The EAC will report the results of the appeal in the form of a memo. The EAC will make every effort to consider the appeal and render a recommendation promptly. Whenever possible, the appellant will be informed of the outcome of the appeal within two weeks. The Graduate Division will be informed promptly of the results of the examinations. The appellant has the right to appeal academic decisions made at the program level to the Graduate Dean ([http://graduate.ucr.edu/dispute\\_resolution.html](http://graduate.ucr.edu/dispute_resolution.html)).

If any member of the EAC has a conflict of interest in the appeal decision, they will be recused from the appeals process. The four EAC faculty members must be present during the consultations and deliberations involved with an appeal. If it is necessary for more than two EAC members to be recused for the appeals process, then the non-recused EAC members will appoint additional Plant Biology faculty to the appeals committee to assure a prompt and judicious consideration of the appeal. Student EAC members do not participate in the appeal process.<sup>31</sup>

### **11. Optional transfer to the Ph.D. program**

If requested to do so by the Ph.D. Program or by the student, the Comprehensive Examination Committee (for Plan II students) will provide an opinion concerning the candidate's suitability for the Ph.D. in Plant Biology. This may occur after the first year or after passing the Comprehensive Exam. This recommendation will be reported on the *Report of the MS Comprehensive Examination*.

## **SECTION 4: ANNUAL RESEARCH PROGRESS EVALUATION**

### **SECTION 4A. GENERAL INFORMATION**

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<sup>30</sup> This procedure was modified on 10-8-2012 in response to Graduate Council memos dated 1-19-2012 and 7-5-2012.

<sup>31</sup> Change made 12-11-2013 per Graduate Division request

All graduate students in the Plant Biology Program are evaluated annually. Submission of the materials associated with the annual progress evaluation is essential for remaining in good academic standing.

Two distinct forms are required for the annual committee meeting: (1) the Annual Progress Report, filled out in advance by the student, and (2) the Annual Research Progress Evaluation (ARPE), filled out by the committee at the end of the annual meeting.

The ARPE is due at the end of the Spring quarter. An announcement about time and mechanisms for the ARPE will be provided to both graduate students and major professors.

## **SECTION 4B. ANNUAL MEETING WITH GUIDANCE, DISSERTATION OR THESIS COMMITTEE**

### **1. Meeting Frequency and Time**

Students *must meet* at least once per year with their major professor and Guidance, Thesis, or Dissertation Committee. This includes years in which the student takes the Qualifying or Comprehensive Exam, or presents the Thesis or Dissertation. These Committees can meet more frequently if needed to assure the student's timely progression to the degree.

The student should complete the online *Annual Research Report* at least one week before a face-to-face meeting between the student and all members of his/her Guidance, Thesis, or Dissertation Committee.

The meeting can involve Zoom if necessary. The *only* Committee members who do not need to be present are those who are on sabbatical. If a faculty member on sabbatical cannot make the annual meeting, this should be indicated on the ARPE.

### **2. Materials to be Submitted to Student Services Advisor <sup>32</sup>**

Three documents must be submitted to complete the annual evaluation of student performance:

- The 1-2-page research summary: An up-to-date 1-2-page summary of course plan, research progress to date, work remaining to complete the degree, and plans for completing the research and degree.
- The online Student's *Annual Research Report* from the academic year under evaluation.
- The Committee's *Annual Research Progress Evaluation* (ARPE).

The Graduate Advisor for Continuing Students must approve the completed materials for the student to remain in good academic standing.

### **3. Student Responsibilities for the Annual Meeting**

- Students should contact members of their committee at least three to four weeks in advance of the report deadline and arrange for a meeting time.
- Students must reserve a conference room for the meeting.
- One week before the annual meeting, students should provide committee members the 1-2 page summary of research progress.
- Students should fill out the online *Annual Research Report* form at least one week prior to the meeting. A link to this form will be provided by Graduate Advisor for Continuing Students. Students should forward a pdf of the *Annual Research Report*, as well as the *previous year's Annual Research Report* to all Committee members.
- Students should prepare a short but informative presentation (typically 30 min) his/her coursework and research progress to date, work remaining to complete the degree, and plans for completing the research and degree.

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<sup>32</sup> The hard-copy forms for the annual Student Progress Report were updated in AY2011-12. These forms were replaced by an on-line Wufu form for the AY2016-17 evaluation.

- If there are reasons for slow progress or impediments to timely degree completion, they should be discussed in this meeting.

It is to the student's advantage to have all members of the Committee present at this meeting. Students must plan to assure this is possible. If the travel plans of faculty do not allow a meeting with the full Guidance, Thesis, or Dissertation Committee, it is possible to obtain a due-date extension from the Graduate Advisor.

#### **4. Major Professor and Committee Member Responsibilities**

The Major Professor should organize his/her thoughts about the student's research discoveries, work habits, and progression toward the degree. His/her in-depth knowledge may be needed to complement the Committee members' knowledge of the student.

The online *Annual Research Progress Evaluation* (APRE) and a signature page should be filled out during the face-to-face meeting between the student and all members of his/her Guidance, Thesis, or Dissertation Committee. This section documents research progress and provides recommendations for the future.

The link to the ARPE and specific directions for this process will be provided in a memo from the Graduate Advisor for Continuing Students announcing the Annual Progress meeting procedures.

#### **5. Graduate Advisor Responsibilities**

The Graduate Advisor will:

- announce the call for the annual progress reports.
- read and sign all annual reports and have follow up with conservation with students in difficulty.
- notify students who are not making acceptable progress toward the degree.

### **SECTION 4C. STANDARDS FOR MAKING ACCEPTABLE PROGRESS TOWARDS DEGREE OBJECTIVE**

#### **1. Definition of Normative Time.**

Students must be making acceptable progress toward their degree objective. By Graduate Council definition, students are expected to finish their Ph.D. in a total of five years, which is considered normative time. For most M.S. students, acceptable progress is represented by enrollment for not more than two years.

Students beyond normative time plus one year (total of six years for the Ph.D., three years for the M.S.) may not be considered by the Department for financial support. Ph.D. students beyond their 6<sup>th</sup> year will also have lower priority for TAs assignments.

#### **2. Criteria for making acceptable progress.**

Acceptable progress towards the degree objective is determined by evaluating:

- Progress towards completing required coursework as outlined on the student's Course Plan.
- Evidence of research achievement, which may include publications or presentations authored or co-authored by the student and the awarding of grant support for their research.
- Successful completion of Qualifying Examinations (written and oral) by the end of their second year in the Ph.D. program. When this is not the case, the Progress Report should state why this has not been possible.
- Submission and revision of the Ph.D. candidate's research proposal to the Dissertation Committee within one month of the date that the Qualifying Examination was passed.

## SECTION 5. GRADUATE STUDENT SUPPORT

Graduate students are supported from a variety of financial sources and the timing of distribution of funds depends on whether the students is: (1) receiving fellowship or scholarship funding or (2) employed as a teaching assistant (TA) or as a Graduate Student Researcher (GSR). For this reason, *it is critical for students to meet with the Student Services Advisor* in the first few weeks of arrival to UCR and regularly after that time to be sure students understand the source of their funding and timing of payments.

In the first year, most students are supported by a financial package that combines funds from the Graduate Division, the Plant Biology Program and a student's major professor. Fellowship and scholarship funds are distributed in one lump sum at the beginning of the quarter. Please consult the Student Services Advisor for information on when funds are disbursed.

During the spring and summer of the first year, most graduate students are employed as GSRs. In the UC system, all employees are paid in arrears, which means that students receive their first check *after* their first month of work. Students must plan for this change in the timing of funding. Please consult the payroll calendar for information on when salary from GSR or TA is paid: [http://accounting.ucr.edu/payroll/pay\\_cal.html](http://accounting.ucr.edu/payroll/pay_cal.html).

During the second year, most Ph.D. students are a TA for one quarter, and two quarters and summer salary are paid by the major professor. Funding from the major professor (or other extramural support such as NSF fellowships) is expected to be the primary source of funding during years two through five. Students should consider whether faculty are able to provide funding support in their decision to join a lab, as TA support cannot be guaranteed. If a major professor is unable to support a graduate student due to a break in grant support, the major professor and student should contact the Vice-Chair of Botany and Plant Sciences (Thomas Eulgem: [Thomas.eulgem@ucr.edu](mailto:Thomas.eulgem@ucr.edu)) as soon as possible. Every effort will be made to find a TAship or Plant Biology Program funding for students in dire need of financial support. This funding is extremely limited. Only students within normative time can be considered for Plant Biology Program funding.

To receive financial support from any source, it is critical that students maintain a cumulative grade point average (GPA) in courses in the major area of  $\geq 3.0$ . Definitions of support sources and other terminology can be found in SECTION 5B below.

### SECTION 5A. TAX INFORMATION FOR GRADUATE STUDENTS

Teaching Assistantships, Research Assistantships, and fellowships are considered taxable income. Taxes are withheld from TAs and GSRs. Taxes are not withheld from fellowships and scholarships and students must plan accordingly.

Refer to the UCR Graduate Student Handbook for more information (at UCR's Graduate Division website). Each year the Rivera Library and the Graduate Division have IRS publication materials available to students. Graduate Division runs workshops about taxation. International students should visit the International Students and Scholars website for information about tax workshops and filing help.

### SECTION 5B. SOURCES OF GRADUATE STUDENT SUPPORT AND DEFINITIONS

#### 1. Graduate Division Stipend

A Graduate Division Stipend is usually awarded as part of a larger fellowship package; this includes Provost, Chancellor's, ECRA and Distinguished Deans Fellowships. These dollars go directly from Graduate Division to the student through the Financial Aid System in one lump sum at the beginning of the quarter. Keep in mind that if a student is switching between a stipend or fellowship payment to a GSR or TAship there is a potential one-month delay in payment scheduling; this often occurs after the Spring quarter of the first year. Please consult the Registrar's website for information on when fellowships are

disbursed: <http://registrar.ucr.edu/registrar/academic-calendar/>. In addition, please consult with The Plant Biology Student Services Advisor to see if this is likely to happen to you.

## 2. Graduate Student Researcher (GSR)

The GSR is an employment title for graduate students conducting research (either independent or directed). Campus policy prohibits students from working more than 49% during the academic year. During academic breaks and the summer students may be employed up to 100%. Students employed as a GSR in BPSC are hired at the following percent of time:

Year in Program	GSR Level
Year 1	GSR, Step IV 49%
Year 2 to Advancement to Candidacy	GSR, Step V 49%
Advanced to Candidacy through Normative Time	GSR, Step VI 49%
Past Normative Time	No guarantee of department support

GSR appointments at 25% or more during the academic year are entitled to GSHIP and PFR (see below). Financial support for GSR employees is provided primarily by faculty extramural grants. Please consult the payroll calendar for information on when salary from GSR are disbursed: [http://accounting.ucr.edu/payroll/pay\\_cal.html](http://accounting.ucr.edu/payroll/pay_cal.html). Students should refer to their approved financial charts (talk to the Plant Biology Student Services Advisor), if any questions regarding their support package arise.

## 3. Teaching Assistant (TA)

TAs are also known as **Academic Student Employees (ASE)**; the ASE terminology is used in the United Auto Workers Union contract. A TA is the employment title for graduate students who are teaching part of a course under the guidance of a faculty member/instructor. Students may not be appointed at more than 50% during an academic quarter. If they are appointed at 25% or more time during an academic quarter, they are entitled to GSHIP and PFR (see below).

There are many rules that are associated with the TA title due to the employee contract. See the United Auto Workers Union Contract for more information at the website:

<https://ucnet.universityofcalifornia.edu/labor/bargaining-units/bx/contract.html>

Life Science TAships must be applied for each academic year. There is a quarterly call for applications. For details and application procedures visit: <http://taonline.ucr.edu/taship/startpage>.

## 4. Partial Fee Remission (PFR)

Students who are appointed at 25% or more time during an academic quarter as a GSR or TA are entitled to PFR. This entitlement pays part (but not all) of the students' mandatory university fees. The Graduate Student Services Advisor has to provide Graduate Division with a list of the students who are eligible for this entitlement before the student bills are printed. If an award is placed on the system after bills are printed, the student's bill will not reflect the correct fees they owe.

## **5. Graduate Student Health Insurance (GSHIP)**

Students who are appointed at 25% or more time during an academic quarter as a GSR or TA are entitled to have their GSHIP fees paid for them. The Graduate Student Services Advisor will provide the Graduate Division with a list of the students who are eligible for this entitlement before the student bills are printed. If an award is placed on the system after bills are issued, the student's bill will not reflect the correct fees they owe. The actual dollar amount of GSHIP changes as the insurance prices change from year to year. Students who have private Health Insurance comparable to the University's coverage can apply for waivers of the GSHIP fees.

## **6. Non-Resident Tuition Remission (NRT OR NRTR)**

Non-Resident students normally receive a tuition fellowship to pay tuition fees in years 1 and 2. Tuition fees are waived after the student advances to candidacy. The Graduate Student Services Advisor will provide the Graduate Division with a list of the students who are eligible for this entitlement before the student bills are printed. If an award is placed on the system after bills are issued, the student's bill will not reflect the correct fees they owe. When a Ph.D. student advances to candidacy, their NRT is reduced to zero for a period of three years (nine quarters). Domestic non-resident students must establish California residency during their first year of enrollment.

## **7. Fee Differential**

Fee Differential is part of the mandatory fee amount that cannot be paid as part of the PFR and GSHIP and NRTR entitlement. This dollar amount changes as GSHIP and PFR increase. Most students have to pay this at the beginning of each quarter.

## **8. Single Document Fee**

The Single Document Fee is a one-time assessment for all standard Registrar services to students and alumni. The single document fee is assessed to new students and covers the cost of several services for the entirety of their student career and beyond as an alumni of UCR. The BPSC department is paying this fee for new graduate students. Continuing students and alumni as of Fall 2018 will be grandfathered in and will not be charged the single document fee.

## **9. Departmental Grant-In-Aid (DGIA)**

Some fund sources will not allow payment of student fees, therefore faculty may sometimes use a different source to cover expenses. This is treated as a fellowship award through a Departmental Grant-In-Aid. The Student Services Advisor will provide the Graduate Division with a list of the students who are to receive these awards indicating the account and fund information.

DGIA awards are paid to the student through the Financial Aid System.

## **10. Graduate Student Financial Chart**

Students that received a financial support package will be paid in accordance with the approved chart. Students must be making acceptable progress to be eligible to receive financial support. Most support offers include some department support that typically includes one or two quarters of TAship. In addition, students may be asked to TA while they are being supported by their major professors. Procedures on how to request these TAships is included in section above under Teaching Assistant (TA).

## **SECTION 5C. APPLYING FOR EXTRAMURAL SUPPORT**

The Plant Biology Program strongly encourages students to be proactive and submit individual applications for their own support. There are many opportunities for graduate students from outside funding sources from federal agencies and private foundations. UCLA offers a comprehensive database called GRAPES (Graduate and Post doctorate Extramural Support): <http://www.gdnet.ucla.edu/grpinst.htm>

## **1. National Science Foundation – Fall Quarter Deadline**

Graduate students may only apply once for the National Science Foundation Graduate Student Fellowship Program (GRFP). The program recommends that all qualified students apply for this funding during their second year. This will allow sufficient time to develop a strong research project. The Graduate Division often provides training for developing a successful NSF applications. The Plant Biology program has had numerous successful NSF GRFP recipients, as well as students with honorable mention. The GradSuccess center sponsors NSF and Ford Foundation workshops to assist students with these applications: <http://graduate.ucr.edu/success.html>.

The NSF application materials can be found at: [www.nsf.gov/grfp](http://www.nsf.gov/grfp).

## **2. USDA NIFA**

The Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship Grants Program (NNF) is designated for graduate degree (masters and doctoral) programs and postgraduate training of the next generation of policy makers, researchers, and educators in the food and agricultural sciences. Functioning collaboratively with eligible higher education institutions, this competitive grants program develops intellectual capital to ensure the preeminence of U.S. food and agricultural systems. Further information can be found at:

<https://nifa.usda.gov/program/national-needs-graduate-and-postgraduate-fellowship-grants-program-funding-opportunity-nnf>

## **3. FORD foundation**

The Ford Foundation Fellowship Program, offered through the National Academy of Sciences, seeks to increase faculty diversity at US colleges and universities. Fellowships are made at the predoctoral, dissertation, and postdoctoral levels to students who demonstrate academic excellence, a commitment to pluralism, and a strong interest in teaching and research. Eligible applicants include citizens, nationals, and permanent residents of the United States, as well as individuals granted deferred action status under the Deferred Action for Childhood Arrivals program. Further information can be found at:

<https://www.fordfoundation.org/work/our-grants/>

## **SECTION 5D. GRADUATE DIVISION SPONSORED FELLOWSHIPS**

For more information see <https://graduate.ucr.edu/funding>.

### **1. Dissertation-Year Fellowship Programs- GRMP and DYP**

The Graduate Research Mentoring Program (GRMP) award is intended to enhance the mentoring of domestic Ph.D. students entering their 3rd, 4th, or 5th years of graduate school who are actively engaged in research. The Dissertation Year Program (DYP) Award is intended for MFA or Ph.D. students who expect to complete their degree program the year in which the award is received. The DYP and GRMP provide stipends and cover fees from 1 to 3 quarters.

Graduate Division determines the number of students who can be nominated for DYP/GRMP annually. Graduate Division sends a “call” for fellowships in the fall quarter. This announcement is forwarded by the Plant Biology Graduate Program. Applications are typically due in early January and are sent to the Graduate Advisor for Continuing Students. Applications are prioritized for funding recommendations by the Educational Advisory Committee (EAC).

### **2. Dissertation Research Grants**

Dissertation Research Grants provide funds to doctoral candidates for research expenses associated with the dissertation (up to \$1000 annually). Applicants must be advanced to candidacy and plan to be registered

during the period of the award. These funds may not be used for preparing the dissertation copy or as a stipend for personal support.

Deadlines to apply for Dissertation Research Grant funding are usually in October, January, and April. The Graduate Division sends announcements by email with deadlines and application instructions.

## **SECTION 5E. CNAS FELLOWSHIPS AND SCHOLARSHIPS**

Applications for these fellowships are typically announced during Winter Quarter, see SECTION 7 for more details.

1. James and Margaret Lesley Annual Prize: Biology or agriculture students with completed, original research in biological or agricultural science.
2. James Merrill and Adeline Wallace Annual Prize: Biological or agricultural sciences students with completed original research in citrus virology or citrus pathology. 1000-word report required.
3. Charles W. Coggins Jr. Endowed Scholarship Fund: Graduate students who demonstrate academic excellence, quality research, and benefit to the citrus industry.
4. Homer and Daisy Chapman Endowed Scholarship in Citrus/Soil and Plant Nutrition Research: Assists undergraduates and graduates wishing to pursue studies in citrus research as well as soil and plant nutrition (preference given to citrus research).
5. Dr. Janet M. Boyce Memorial Endowed Fund for Women Majoring in the Sciences: Female undergraduate and graduate students majoring in the sciences. Minimum 3.5 GPA.

## **SECTION 5F. OTHER SOURCES OF FUNDING**

Here are a few links to other sources of funding. The Research Office may also have search engines to enable your search for appropriate funding sources.

- California Student Aid Commission Home Page: <http://www.csac.ca.gov/>
- Fellowship Office National Research Council: <http://sites.nationalacademies.org/pga/fellowships/>
- Financial Aid Information Page: <http://www.finaid.org> (check FASTWEB)
- National Science Foundation: <http://www.nsf.gov/>
- U.S. Department of Education Student Guide, Financial Aid: <https://studentaid.ed.gov/sa/resources>
- The Foundation Center's Home Page: <https://fconline.foundationcenter.org/>
- Purdue University (includes general listings): <http://www.purdue.edu/DFA/>

## **SECTION 6. HOW TO BE A TEACHING ASSISTANT**

### **SECTION 6A. TA APPOINTMENTS AND TIME COMMITMENTS**

Teaching Assistant (TA): Teaching Assistants at UCR are represented by the United Auto Workers Union (UAW) and all students appointed as TAs will receive a copy of this contract from the Union. TAs are expected to work 20 hours a week on average, however a TA may be expected to work more hours some weeks and fewer hours other weeks. The assigned workload may never exceed more than 40 hours per week and 220 hours per quarter (see contract for more detailed information). Some TAs are appointed at 25% time and are expected to work 10 hours per week (110 hours per quarter). Plant Biology graduate students are expected to complete a 50% time TA appointment. Those graduate students who are appointed at 25% time are expected to seek out a second 25% time appointment to meet the 50% time TA requirement.



## **SECTION 6B. ELIGIBILITY**

To be eligible to apply for employment as a TA, students must:

- Be in good academic standing
- Complete the Teaching Assistant Development Program (TADP) Training
- Any student whose native language is not English must pass the VERSANT test.

For up-to-date information regarding TA duties, qualifications, and appointments check the graduate division's webpage <http://graduate.ucr.edu/teaching.html>.

TAonline provides information about the qualifications needed for each life science TA at: <http://taonline.ucr.edu> . See SECTION 6F below.

## **SECTION 6C. WHEN IS THE BEST TIME TO BE A TA?**

Most Plant Biology graduate students are TAs during their second year of their graduate program. Students who have had the opportunity to TA before taking the oral qualifying exam have benefited from this experience. Specifically, the Program has observed that international students who have passed the VERSANT test do better on their qualifying exams. Moreover, experience that graduate students obtain by serving as TAs improves: their performance on the Ph.D. oral qualifying examination; their ability to give seminars at UCR, at scientific meetings and when interviewing for a position after graduation; and the quality of instruction that they provide their own students in the future.

Therefore, we encourage all international students (or domestic students if appropriate) to take and pass the VERSANT test early in their programs at UCR. Similarly, when a student's course program permits, we encourage all students to TA early in their programs.

## **SECTION 6D. TEACHING ASSISTANT DEVELOPMENT PROGRAM (TADP)**

UCR has a long history as a distinguished teaching campus and regards Teaching Assistant (TA) training as a crucial part of graduate instruction. Graduate students must complete the New Teaching Assistant (TA) Orientation before or during their first academic-year quarter as a TA. TA Orientation is offered every fall and winter quarters (<https://tadp.ucr.edu/ta-training/orientation>). If a student misses one of the scheduled orientations or misses the deadline to register for the orientation, contact [tadp@ucr.edu](mailto:tadp@ucr.edu). You will receive an email from the GradSuccess center containing information about these trainings.

Per Graduate Division regulations, if a TA's weighted scores in the "Instruction" or "Rapport" categories of student evaluations of their teaching fall to 4.0 or below, the TA is required to complete continuing training in order to receive approval to continue serving as a Teaching Assistant at UCR. Plant Biology students who score low on their evaluations must prepare an Action Plan for improvement, in consultation with the graduate advisor and Vice Chair for Teaching. Students who score low on their English language skills must attend a communication workshop and schedule six half hour sessions to use language software in the TADP Office. Registration is available on the TADP home page beginning Monday of the first full week of classes for the current quarter.

TADP provides services for more experienced TAs as well, including a teaching resource library, teaching portfolio development and assessment consultations, and seminars on professional development as well as a University Teaching Certificate. Contact TADP (951-827-3386, [tadp@ucr.edu](mailto:tadp@ucr.edu)) for further information on training requirements and upcoming seminars. You may also visit their website: <https://tadp.ucr.edu/>

## **SECTION 6E. THE VERSANT TEST**

The faculty of the Plant Biology Program considers teaching among its highest priorities and spends considerable time and energy to ensure the quality of BPSC courses. To this end, a Teaching Assistant must be adequately prepared to teach the specific course he/she requests to TA. A VERSANT test is required by students whose native language is not English. This test measures a student's ability to communicate in English, which is a critical skill for the Ph.D. or M.S.

The Program has observed that international students in the Ph.D. program who have passed the VERSANT test and serve as TAs do better on their qualifying exams.

International students must take the VERSANT test before being a TA. Failure to pass the VERSANT test will prevent a student from being a TA and you will have to find other financial support for one quarter. In addition, the VERSANT test must be passed for an international student to fulfill the teaching requirement for the Ph.D.

Patrick Napier from Graduate Division administers the VERSANT test. For information about the VERSANT test or to enroll, email Patrick ([patrick.napier@ucr.edu](mailto:patrick.napier@ucr.edu)) with your name and SID.

### 1. Who Needs to Take the VERSANT Test?

To be appointed a TA, any student **whose native language is not English** must pass an English proficiency exam. This includes not only international students but also **any** student whose first language is not English.

### 2. Time and Place of the VERSANT Test

Contact Patrick Napier to schedule a VERSANT test ([patrick.napier@ucr.edu](mailto:patrick.napier@ucr.edu)). We encourage students to take this test as soon as possible after joining the program (see SECTION 4 below).

### 3. Cost of the VERSANT Test and Notification of Results

The cost of the VERSANT test is \$40. The Plant Biology Program will pay for students to take the VERSANT test one time. If a student needs to take the test more than once, it will be the student's financial responsibility.

Graduate Division sends out VERSANT scores to the departments within two weeks of receiving them from UC Extension. Students will receive an email with the results of the VERSANT test.

### 4. VERSANT Test Scores

If a student fails to pass the VERSANT test at this time or any other time, they **MUST** enroll in Conversational English classes the following quarter through UCR Extension's ESL program <https://extension.ucr.edu/internationaleducationprograms/programpages/englishlanguageprograms>. Specific information and instructions will be provided.

Those who score a conditional pass can be appointed as a TA but are required to participate in the appropriate English language classes at the Extension Center and retake the test. Individuals in this range may be appointed as TAs for up to two quarters on a probationary basis with the approval of the Graduate Dean. For those students within the probationary range, a determination of their continuing eligibility to serve as TAs will be made by the Graduate Dean on the basis of:

- Departmental recommendation, including an assessment of the student's academic ability;
- Student teaching evaluations;
- Other evidence of commitment to/performance in teaching (e.g., faculty evaluations or statements of support, videotapes);
- Evidence of a good-faith effort to improve English skills; and Relative proximity to the level of competence represented by a clear pass

Most Plant Biology Ph.D. candidates TA in their 2<sup>nd</sup> year to fulfill the teaching requirement for the Ph.D., therefore international students **MUST** pass the VERSANT test **before or in September of your second year**. Failure to pass the VERSANT test will prevent a student from being a TA and you will have to find other financial support for one quarter (the Plant Biology program will not be able to support you).

## **SECTION 6F. SEEKING A TA APPOINTMENT**

Each quarter, the College of Natural and Agricultural Sciences issues a request for applications for TA positions. The application is web-based (<http://taonline.ucr.edu>). A list of Life Sciences courses requiring TAs and the requirements for appointment as a TA for each course will be available on the website.

The Plant Biology program encourages graduate students to:

- Look over the list of BPSC and other courses in the life sciences that require TAs.
- Determine which classes you are qualified for and would like to be a TA for.
- Contact the instructor for the course(s) for which you are interested in being a TA. The course instructor will be able to advise you as to whether your previous coursework or proposed course program is sufficient preparation or whether you should audit or take a course in preparation to TA in the future.
- Your chance of being awarded a particular TAship is significantly enhanced if the instructor requests you as a TA.
- Submit an online and complete application. Provide evidence of your expertise by indicating the full complement of courses that you have taken at UCR or at other institutions.

## **SECTION 6G. DURING A TA APPOINTMENT**

There are courses and resources outside of TADP for pedagogical development including but not limited to BIOL 301 (Teaching Biology at the College Level) and BPSC 240 classes focused on teaching and mentorship when available.

At the end of the appointment TAs will be evaluated by the students through iEval. These evaluations allow help to guide the TA to improve in the future as well as notify TADP of any problems that need to be addressed (see TADP section). Every year exceptional TAs are recognized with the Outstanding Teaching Assistant award.

## **SECTION 7: SCHOLARSHIPS, AWARDS, AND MINIGRANTS**

### **SECTION 7A. BPSC ANNUAL AWARDS FOR GRADUATE STUDENTS**

In general, instructions on these awards are made available towards the end of the Winter or Spring quarters. These are not application based, but students must be nominated by faculty or fellow students.

Awards are announced at the Botany and Plant Sciences Award Ceremony (typically that last seminar of the spring quarter).

#### **1. UCR Outstanding Teaching Assistant**

This is awarded by Graduate Division, but the monetary award and certificate is sponsored by Botany and Plant Sciences. Title: Amount: \$500 with a framed certificate. The student's name is added to the Department Outstanding Teaching Award plaque.

#### **2. The W. W. Thomson Award for Outstanding Research**

Administered by the Department of Botany and Plant Science, this award acknowledges outstanding research accomplishments. Students receive a framed certificate and a monetary award. Nominations for the W.W Thomson Award are submitted by faculty members and graduate students.

#### **3. Graduate Student Achievement Award**

The annual Botany & Plant Sciences Graduate Student Achievement Award is provided by an endowment fund administered by T.J. Close. Students receive a framed certificate and a monetary award. Nominations for the Graduate Student Achievement Award are submitted by faculty members and graduate students.

#### **4. Annual Student Poster Awards**

At the annual Gomez-Pompas or Yermanos lectures, there is a graduate student poster session, in which any student may present their work. Poster presentations are evaluated by a faculty committee. Students receive monetary awards for first, second and third place.

## **SECTION 7B. TRAVEL AWARDS**

### **1. BPSC GSA (bGSA) Coffee Hour Travel Grant**

The bGSA Coffee Hour Travel Grant is available to all graduate students in the Plant Biology Program who have recently presented or plan to present their research at a scientific conference. Funding for Travel Grants comes from bGSA funds (coffee hour donations, fund raising events, etc ...).

#### **Criteria for Submission**

1. You cannot receive more than one travel grant within an academic year.
2. Applications consist of a signed one page application describing your presentation and the meeting you will be attending. Make sure to include the name, location and date of the meeting. Presentations should reflect your current or proposed research in the Department and be of a quality consistent with Departmental standards.
3. Requests for applications are sent out at the start of each quarter. Applications can be completed and submitted electronically to bGSA.
4. Applications for conference attendees without presentations will still be considered for this award at a lower priority.

Travel award amounts are dictated by the bGSA funds that are available. Receipts for travel expenses should be submitted by award recipients by the end of the academic quarter in which the award was received.

### **2. Department of Botany and Plant Sciences Travel Awards**

Reimbursement for travel to present a paper or poster at scholarly meetings is available from the Department and the UCR Graduate Student Association. The Department will provide up to \$200 (limited to one trip per year) to match equivalent funds provided by your Major Professor or any other sources.

Please submit your travel voucher including original receipts and documentation of matching funds to Jackie Quinonez for approval.

### **3. UCR's Graduate Student Association Mini-Grants**

UCR's Graduate Student Association works to make UC Riverside a more enjoyable and exciting place for graduate research and life. The GSA is in Highlander Union Building Suite 203.

Students should make sure that they are signed up for the GSA-UCR mailing list. Important documents and announcements are sent periodically.

The UCR GSA provides the bGSA funds each year to support programs, speakers, or even just snacks at your monthly meeting.

The UCR GSA provides Mini-Grants to support participation at professional meetings. Application deadlines can be obtained from the Graduate Student Association <https://gsa.ucr.edu/>. Due to California Assembly Bill AB1887, we are currently unable to offer travel grants for conferences/events in states for which CA state funding cannot be used: <https://oag.ca.gov/ab1887>. Please refer to the GSA webpage for any future changes

**Conference Travel Grant Awards** – see <https://gsa.ucr.edu/ctg/> for guidance on amount of funding available

## **SECTION 8: CAMPUS POLICIES – STUDENT CONDUCT**

### **SECTION 8A. PLAGIARISM AND ACADEMIC DISHONESTY (from UCR’s Graduate Division)**

Academic dishonesty will not be tolerated at the University of California, Riverside. The consequences range from receiving an “F” for the assignment, an “F” for the course, to dismissal from the University.

According to Webster’s Dictionary, **plagiarism is the act of stealing and passing off as one’s own the ideas or words of another.**

**Submitting the same paper twice or fulfilling the requirements of two subjects with one paper is academically dishonest unless approved beforehand.**

In short, one can plagiarize oneself and be sanctioned for the violation. You may use the ideas and words from other sources, but you must document their use with citations, usually in the form of footnotes, endnotes, or text notes. By citing your sources, you indicate the extent of your research, thereby improving your paper.

It is academically dishonest to manufacture or deliberately alter data submitted about lab reports, term papers, or written material. Not only is this practice dishonest, it undermines the entire academic process.

Collaboration occurs when a student works with other students to study, do lab work, review books, or develop a presentation or report. Students must receive very clear permission from the instructor to participate in collaborations. Unauthorized collaboration is an example of an academically dishonest act. What one instructor may view as collaboration may be seen as cheating by another. The important thing to note is that if the limits of collaboration are not clear, it is the student’s responsibility to ask the instructor for very clear and specific direction.

### **SECTION 8B. COMPUTER USE ETHICS (UC’s Electronic Communications Policy Guidelines)**

UCR encourages the use of electronic information resources to conduct the University's business. UCR also recognizes that core University principles relating to freedom of speech and respect for privacy and confidentiality must hold important implications for the management and use of electronic communications. A copy of the UC Electronic Communications Policy (ECP):

<https://fboapps.ucr.edu/policies/index.php?path=viewPolicies.php&policy=400-31>

#### **1. Overview of Student ECP Guidelines**

*By using UCR campus electronic resources you are agreeing to abide by the ECP.*

The following is an abridged guide to the UC Electronic Communications Policy (ECP) which governs use of campus electronic resources including, but not limited to, computer labs, Webmail, ILearn and eLearn, wireless network, proxy server, and virtual private network (VPN).

#### **Allowed uses of UCR Electronic Resources:**

- Instructional and research related purposes
- Sending and receiving e-mail
- Accessing the Internet
- Creating web sites

#### **Uses of the UCR Electronic Resource that are NOT allowed:**

- Illegal activities
- Violations of University policies
- Use of electronic communications resources for commercial benefit or personal financial gain
- Utilizing the University’s name and/or seal without appropriate approvals
- Giving the impression that you are representing or otherwise making statements on behalf of UCR or any department, unit, or sub-unit of the university unless appropriately authorized to do so
- Causing excessive strain on any campus electronic communications resource or unwarranted or unsolicited interference with others’ use of electronic communications

## **2. What you can expect as an Electronic Communications user at UCR**

- Access and access restrictions
- Policy enforcement
- Security, confidentiality, and privacy

## **3. What is considered acceptable use of UCR electronic resources**

### **Instructional and research related purposes**

UCR electronic resources are primarily intended for instructional and research purposes, including class-related activities, academic research, and administrative tasks that support instruction and research. For example, students may use iLearn and eLearn to obtain class materials, complete coursework, and interact with classmates and instructors on class-related topics for academic purposes. Students may, and are expected to, use resources such as GROWL and Webmail for administrative tasks such as financial aid and managing enrollment.

### **Sending and receiving e-mail**

UCR students may use campus electronic resources for sending and receiving e-mail. This includes the use of Webmail, and the use of the campus network to access Webmail or other e-mail accounts. Use of campus resources for sending and receiving e-mail is limited by federal, state, and local laws, as well as other University policies. E-mail activities that are prohibited include using UCR e-mail accounts or servers to send spam, for harassment, or for commercial purposes such as selling textbooks and other items or operating a business.

### **Accessing the Internet**

UCR students may use campus Internet resources, including the wireless network, Internet access provided by the campus computer labs, and residential Internet connections provided in the residence halls and some off-campus housing. Access to the Internet is subject to individual departmental policies of the department providing the service, as well as federal, state or local laws, other parts of the ECP, or other University policies. Internet activities that are prohibited include using the UCR network to illegally download copyrighted materials such as movies or music, excessive bandwidth usage that is significant enough to adversely affect campus network performance, and deliberately or unknowingly spreading computers worms or viruses over the Internet.

### **Creating websites**

Students may post websites on campus servers. For example, students may post personal websites on their student accounts. Student groups may post websites on departmental web servers with the permission of the hosting department. Use of campus web servers is limited by the policies of the individual departmental owners of any specific web server, as well as other sections of the ECP. Websites hosted on campus servers may not be operated for either commercial purposes or financial gain, such as operating a business or offering services for profit. Furthermore, student or student organization web sites may not imply that they represent UCR without appropriate authorization.

### **Uses of Electronic Resources that are Prohibited Illegal activities**

All relevant federal, state, and local laws apply when using University electronic communications. This includes laws that prohibit cyberstalking, digital copyright infringement, disrupting the Internet/UCR intranet networks and systems (for example by transmitting viruses, sending spam, or hacking into others' transmissions or files), and tapping telephones.

## **4. Activities that violate University policies**

All relevant University policies apply when using UCR electronic resources. This includes policies on sexual harassment, other forms of harassment, and intellectual property. For example, campus resources may not be used to obtain or re-distribute the intellectual property of others without authorization, including research, presentations, etc. Campus e-mail and iLearn/eLearn may not be used to send spam or other harassing e-

mails. In addition, individual departmental resources may only be used in accordance with departmental policies and with appropriate authorization.

Campus electronic resources may not be used for commercial benefit or personal financial gain. For example, student websites may not be used to sell products or services. iLearn/eLearn may not be used to sell textbooks.

**Activities that utilize the University's name and/or seal without appropriate approvals.**

Users of UCR electronic resources must abide University policies regarding the use of the University's name, seal, or trademarks. The University's name, seal, or trademarks may not be used without appropriate authorization. For example, students may not include the University seal on their websites without authorization.

**Activities that imply representation on behalf of UCR**

Users of campus electronic resources may not give the impression that they are representing or otherwise making statements on behalf of UCR or any department, unit, or subunit of the university unless appropriately authorized to do so. For example, the University name may not be included in advertisements for products or services without authorization to imply University affiliation or endorsement.

**Activities that cause excessive strain on campus electronic communications**

University electronic communications resources shall not be used in a manner that could reasonably be expected to cause excessive strain on any campus electronic communications resource or unwarranted or unsolicited interference with others' use of electronic communications resources. For example, campus electronic resources may not be used to send spam, or engage in denial of service attacks. In addition, excessive bandwidth usage that adversely affects campus network services is prohibited and may result in restrictions on access.

**Operation of personal web servers**

Students may not operate personal web servers on campus or use campus resources to do so. This includes, but is not limited to, the establishment of web servers for commercial purposes, personal websites, or student organization websites.

**SECTION 8C. WHAT YOU CAN EXPECT OF ELECTRONIC COMMUNICATIONS AT UCR**

**1. Access and Access Restrictions**

**Duration of Access**

In general, students' access to electronic communication services will remain active for three academic quarters after graduation (or the last quarter of enrollment).

**Accessibility**

All electronic communications resources intended to accomplish the academic and administrative tasks of the university shall be accessible to users with disabilities in compliance with law and UC policies.

**Access Restrictions**

Access to campus electronic resources may be restricted when there is substantial reason to believe that violations of law or University policies have taken place, or when time-dependent, critical operational circumstances exist. Violations of law or University policies include, but are not limited to, excessive bandwidth use enough to cause network performance degradation, continued off-campus complaints with no response from on-campus responsible parties, verified open proxy or open mail servers, attacks observed by Computing & Communications' network monitoring systems, and verified DMCA violations.

## **Backups and Data Retrieval**

Electronic communications are routinely backed-up. However, this is only for purposes of system integrity and reliability, to support data restoration in cases of disk failure, and is not designed to provide for future information retrieval.

## **2. Policy Enforcement**

Violations of the ECP may result in revocation of access to a single resource, a combination of resources, or all campus electronic resources, depending upon the violation.

UCR in general cannot be the arbiter of the contents of electronic communications. Moreover, the University cannot always protect users from receiving electronic communications they might find undesirable or offensive.

## **3. Security, Confidentiality and Privacy**

UCR does not routinely collect information about an individual's web use or sites visited. Under U.C. policy, the university is not permitted to monitor the websites students visit or their web use in general except when tracking a reported crime. UCR does not routinely inspect, monitor, or disclose electronic communications without the holder's consent. UCR only permits the inspection, monitoring, or disclosure of electronic communications records without the consent of the holder of such records when one or more of the following apply AND when appropriate campus approvals have been obtained when:

- required by and consistent with law.
- there is substantiated reason to believe that violations of law or of University policies have taken place.
- there are compelling circumstances for which failure to act might result in significant bodily harm, significant property loss or damage, loss of significant evidence relating to violations of law or UC policies, or significant liability to UCR or to the members of the university community.
- there are time-dependent, critical operational circumstances and when failure to act could seriously hamper the university's ability to function administratively or to meet its teaching or research obligations.

## **SECTION 8D. REFERENCES:**

[UCR Overview and Implementation of the Electronic Communications Policy](#)

[UC Electronic Communications Policy](#)

[Digital Millennium Copyright Act \(DMCA\)](#)



SECTION 9: APPENDICES

KEY REQUEST FORM



Key Request Form

Please complete this form and have your PI or lab manager sign at the bottom. You must bring your completed form when you come in to pick up your keys.

Date: \_\_\_\_\_

Name: _____	Email: _____
-------------	--------------

PI you are working with:

Check one:	<input type="checkbox"/> Faculty	<input type="checkbox"/> Staff	<input type="checkbox"/> Post-Doctoral Scholar	<input type="checkbox"/> Graduate Student	<input type="checkbox"/> Undergraduate Student
------------	----------------------------------	--------------------------------	------------------------------------------------	-------------------------------------------	------------------------------------------------

Batchelor Hall room number(s): \_\_\_\_\_

PI or Lab manager authorization *(Signature)*: \_\_\_\_\_

**Please Read and Sign:**

1. Return your keys by your past paid working day or the last day of instruction of the quarter you leave UCR.
2. The Dept. of Botany & Plant Sciences will bill for reimbursement of re-keying costs or key replacement costs for non-returned keys.
3. This key loan agreement is non-transferable.

I have read the above and agree to these terms:

\_\_\_\_\_  
*(Key Recipient's signature)*

## TENTATIVE COURSE OFFERINGS Fall 21 - Spring 23

Undergraduate Level Classes - 2021-2022	Graduate Level Classes - 2021-2022
<b>Fall 2021 (odd)</b>	<b>Fall 2021 (odd)</b>
BPSC 021 California's Cornucopia: From Field to Table (5) Walling	BPSC 200A Plant Biology Core (2) Litt/Nelson
BPSC/BIOL 143 Plant Physiology (lab) (4) Giraldo	*PLPA/BPSC/CMDB/GEN 230 Molecular Plant-Microbial Interactions (3) Jin/Kaloshian
BPSC/BCH 183 Plant Biochemistry and Pharmacology (4) Eulgem	BPSC 237 Plant Cell Biology (4) Yang/Rasmussen
	BPSC 240 (2) Special Topics, Larios
	*BPSC 245 Advanced Plant Ecology (4) Li
	BPSC 250 Seminar (1) Jenerette
	* Class is offered on alternate years.
<b>Winter 2022 (even)</b>	<b>Winter 2022 (even)</b>
BPSC 011 Plants and Human Affairs (disc) (4) Rasmussen	BPSC 231 The Plant Genome (4) Bailey-Serres/Nagel/Koenig
BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) Nability	BPSC 240 Sp. Topics Seminar (2) Nagel (The Circadian Clock and Gene Regulation in Plants)
BPSC/BIOL 132 Plant Anatomy (lab) (4) Springer	*BPSC 246 Landscape Ecology (4) Jenerette
BPSC 135 Plant Cell Biology (disc) (4) Yang	BPSC 250 Seminar (1) Xu
BPSC 148 Quantitative Genetics (4) Xu	* Class is offered on alternate years.
BPSC 165 Restoration Ecology (4) Larios	
BPSC 193 Senior Seminar in Plant Biology (2) Nability/Walling	
<b>Spring 2022 (even)</b>	<b>Spring 2022 (even)</b>
BPSC 011 Plants and Human Affairs (4) Seymour	BPSC 200B Plant Biology Core (2) TBA
BPSC 021 California's Cornucopia: From Field to Table (5) Ellstrand	Agricultural and Biological Applications (3) Bailey-Serres, Blanch
BPSC 031 Spring Wildflowers (lab) (4) Ezcurra	*BPSC 221 Advanced Plant Breeding (4) TBA
BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) Van Norman	BPSC 232 Plant Development (4) Reddy/Ray
	BPSC 240 Sp. Topics Seminar (2), Shizhong Xu (QTL Mapping)
BPSC 133 Taxonomy of Flowering Plants (lab) (5) Litt	*BPSC 243 Plant Physiological Ecology (disc) (4) Santiago
BPSC 150 Genes, Selection, and Populations (disc) (4) TBA	*BPSC 244 Species Distribution Modeling (disc, activities) (4) Franklin
BPSC/BIOL 155 Chromosomes (4) Lukaszewski	*BPSC 246 (4) Jenerette
*BPSC 166 Environmental Physiology (lab) (4) Santiago	BPSC 250 Seminar (1) Giraldo
BPSC 191 Sem Ag Careers in 21st Century (1) Rasmussen	BPSC 200C Plant Biology Core (2) TBA
* Class is offered on alternate years.	* Class is offered on alternate years.
<b>Undergraduate Level Classes - 2022-2023</b>	<b>Graduate Level Classes - 2022-2023</b>
<b>Fall 2022 (even)</b>	<b>Fall 2022 (even)</b>
BPSC 011 Plants and Human Affairs (disc) (4) TBA	BPSC 200A Plant Biology Core (2) Litt, Nelson
BPSC 021 California's Cornucopia: From Fields to Table (5) Walling/Ellstrand	*BPSC 234 Statistical Genomics (4) Jia
BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) TBA	BPSC 237 Plant Cell Biology (4) Rasmussen/Yang
BPSC/BIOL 143 Plant Physiology (lab) (4) Giraldo	BPSC 240 Sp. Topics (2) TBA
Eulgem	*BPSC 247 Theoretical Ecology (4) Li
NASC 093 Freshman advising seminar (1) TBA	BPSC 250 Seminar (1) TBA
	BPSC 200B Plant Biology Core (2) TBA
<b>Winter 2023 (odd)</b>	<b>Winter 2023 (odd)</b>
BPSC 011 Plants and Human Affairs (disc) (4) Rasmussen	*BPSC 201 Applied Ecological Modeling Lab (1) Jenerette
BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) TBA	*BPSC 222 Origins of Agriculture and Crop Evolution (3) Ellstrand
BPSC 109 Epigenetics (3) Chen	*BPSC 225J Applied Ecological Modeling (2) TBA
BPSC/BIOL 132 Plant Anatomy (lab) (4) Springer	BPSC 225P Nanobiotechnology (2) Giraldo
BPSC 135 Plant Cell Biology (disc) (4) Reddy	BPSC 231 The Plant Genome (4) Bailey Serres/Koenig/Nagel
BPSC 145 Geospatial Analytics (4) Franklin	BPSC 240 Spec. Topics (2) TBA
BPSC 148 Quantitative Genetics (4) Xu	BPSC 250 Seminar (1) TBA
BPSC 149 Nanobiotechnology (3) Giraldo	* Class is offered on alternate years.
BPSC 165 Restoration Ecology (4) Larios	
BPSC 193 Senior Seminar in Plant Biology (2) Nability/Walling	
<b>Spring 2023 (odd)</b>	<b>Spring 2023 (odd)</b>
BPSC 011 Plants and Human Affairs (disc) (4) Seymour Ellstrand	BPSC 200B Plant Biology Core (2) Ezcurra, Close
BPSC 031 Spring Wildflowers (lab) (4) Ezcurra	BPSC 232 Plant Development (4) Reddy/Ray
	BPSC 240 Spec. Topics (2) TBA
BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) Van Norman	Agricultural and Biological Applications (3) Bailey-Serres, Blanch
BPSC 133 Taxonomy of Flowering Plants (lab) (5) Litt	BPSC 250 Seminar (1) TBA
BPSC 145 Geospatial Analytics (lecture/Lab) (4) Franklin	BPSC 252 Seminar (1) Fieldwork Leadership Larios
BPSC 146 Plant Ecology (4) TBA	
BPSC 150 Genes, Selection, and Populations (disc) (4) TBA	
BPSC/BIOL 155 Chromosomes (4) Lukaszewski	
BPSC 191 Sem Ag Careers in 21st Century (1) Nelson	

**Ph.D. GUIDANCE COMMITTEE APPOINTMENT FORM**

**This form is to be completed by the end of the first quarter.**

(Please type or print)

Name \_\_\_\_\_ Date \_\_\_\_\_

I would like to request the following members be appointed to my Guidance Committee. They have all agreed to serve on this committee.

---

Major Professor Print name

Signature

---

Print name

Signature

---

Print name

Signature

**Note:** Per 2012 Graduate Council, if two Committee members are spouses/partners, a fourth Committee member should be appointed.

**Ph.D. CURRICULUM PLANNING FORM**

Name of Student: \_\_\_\_\_

Guidance Committee Members:

\_\_\_\_\_ (Chair)

\_\_\_\_\_

\_\_\_\_\_

1. If the student has not met the Department course requirements, please provide an explanation of any deficiencies, and an indication of how the student will make up the coursework. If the Guidance Committee feels courses taken at other Universities meet the requirement, please provide a brief summary of the topics covered in the courses.

2. A short statement of the educational and career goals of the student:

**Ph.D. COURSE PROGRAM FORM**

Name of Student \_\_\_\_\_ Program Entry Date \_\_\_\_\_

**Ph.D. Plant Biology - circle one of the following:**

- **Concentration in Plant Cell, Molecular, and Developmental Biology:** must complete BPSC 231, 232, and 237.
- **Concentration in Plant Ecology:** must complete BPSC 245 and 8 additional units from EEOB 211, 212, 217, 230; BPSC 225J, 243, 247; ENTM 241; ENSC 218, 232; GEO 260, 268.
- **Concentration in Plant Genetics:** must complete 11-12 graduate-level units relating to Genetics, which must include 2 courses from BPSC 221, 222, 225K, 231, 234; BIOL221/MCBL 221/PLPA 226; EEOB 214; GEN 240A. Additional units can be chosen in an area that supports the concentration.
- **No Concentration:** must complete 11-12 graduate-level units in courses selected to support a student's major/minor research areas

This is to certify that the above named student has completed all departmental entrance requirements in the following specified manner:

UCR REQUIREMENTS	Units	Equiv. Course Number and Title*	Year	Institution
BCH 100 (Elementary) or BPSC 183 or BCH 110A (Biochemistry) OR BPSC 146 or BIOL 116 (Ecology)	4-5			
BIOL 5A (General)	4			
5B (General)	4			
5C (General)	4			
BIOL 102 (Genetics)	4			
CHEM 1A (General)	4			
1B (General)	4			
1C (General)	4			
MATH 9A (Calculus)	4			
STAT 100A or STAT110	4			
BPSC 104	4			
One core Plant Biology course: BIOL 107A, BPSC 132, BPSC 135, BPSC 138, BPSC 143, BPSC 146	3-5			

\*Please provide syllabus or description of equivalent course

Major area: \_\_\_\_\_

Minor Area 1: \_\_\_\_\_

Minor Area 2: \_\_\_\_\_

Three Graduate Courses relevant to specializations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

BPSC 240: \_\_\_\_\_ (QTR/YR; form does not need to be updated if 240 ends up being taken a different quarter)

Qualifying Examinations Completed: Written: \_\_\_\_\_ Oral: \_\_\_\_\_

3<sup>rd</sup> Year Seminar (BPSC 250): \_\_\_\_\_ (Quarter/Year)

Proposed Dissertation Title: \_\_\_\_\_

Dissertation Research Seminar (Date Completed): \_\_\_\_\_

**COURSES REQUIRED BY the GUIDANCE COMMITTEE FORM**

Name of Student: \_\_\_\_\_

**Note:** A Student should be enrolled in 11-12 units of graduate-level classes each quarter, and can sign up for BPSC 291 or 297 or both; there is a six credit limit on each.

Fall Quarter _____				Winter Quarter _____				Spring Quarter _____			
COURSE #	COURSE TITLE	UNITS		COURSE #	COURSE TITLE	UNITS		COURSE #	COURSE TITLE	UNITS	
BPSC 200A	Plant Biology Core	2.0		BPSC 250	Seminar	1.0		BPSC 200B	Plant Biology Core	2.0	
BPSC 250	Seminar	1.0		BPSC 297	Directed Research			BPSC 250	Seminar	1.0	
BPSC 297	Directed Research			BPSC 291	Individual Study			BPSC 297	Directed Research		
BPSC 291	Individual Study							BPSC 291	Individual Study		
	Prerequisites										
		12.0									
Fall Quarter _____				Winter Quarter _____				Spring Quarter _____			
COURSE #	COURSE TITLE	UNITS		COURSE #	COURSE TITLE	UNITS		COURSE #	COURSE TITLE	UNITS	
BPSC 250	Seminar	1.0		BPSC 250	Seminar	1.0		BPSC 250	Seminar	1.0	
BPSC 297	Directed Research			BPSC 297	Directed Research			BPSC 297	Directed Research		
BPSC 291	Individual Study			BPSC 291	Individual Study			BPSC 291	Individual Study		

Major Professor \_\_\_\_\_ Date \_\_\_\_\_ Guidance Committee Member \_\_\_\_\_ Date \_\_\_\_\_ Guidance Committee Member \_\_\_\_\_ Date \_\_\_\_\_

### OTHER COURSES TAKEN THAT APPLY TO DEGREE FORM

**Instructions:** List all other classes that you have taken at your former institution(s) that contribute to your knowledge in biological sciences.

Course Number and Name      Units      Grade      Date      Institution

<u>Course Number and Name</u>	<u>Units</u>	<u>Grade</u>	<u>Date</u>	<u>Institution</u>

Coursework verified by Guidance Committee:

\_\_\_\_\_  
Signature of Guidance Committee Chair

**REQUEST FOR FORMATION OF THE PH.D. QUALIFYING EXAMINATION COMMITTEE<sup>1</sup>**

**Instructions:** Return the signed form to The Plant Biology Student Services Advisor in the CNAS Grad. Student Affairs Office (1140 Batchelor Hall).

**Student's Name** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Major Area** \_\_\_\_\_

**Minor Area 1** \_\_\_\_\_

**Minor Area 2** \_\_\_\_\_

**Chair of the Qualifying Exam Committee (from the Plant Biology Program):**

Faculty Member Name	Examination Area	Signature
_____	_____	_____

**Additional Members (at least two from the Plant Biology Program):**

Faculty Member Name	Examination Area	Signature
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Committee Member from Outside of the Plant Biology Program:**

Faculty Member Name	Examination Area	Signature
_____	_____	_____

**Two Alternate Faculty Members:**

Faculty Member Name	Examination Area	Signature
_____	_____	_____
_____	_____	_____

**Student Signature** \_\_\_\_\_

**Major Professor Signature** \_\_\_\_\_

<sup>1</sup> Minor adjustments to form 9/2014 and 9/2017.



**PH.D. DISSERTATION COMMITTEE FORM**

Within 2 weeks of successful completion of the Plant Biology Qualifying Exams, a student must select members of a Dissertation Committee. The Dissertation Committee is selected in consultation with the student's Major Professor, who will serve as the Dissertation Committee Chair. Dissertation Committees usually have three members. A majority of the Committee members must be from the Plant Biology Program.

Students should complete this form and have Dissertation Committee members initial and date next to their names. Graduate students should retain a copy of this form for their records.

**Note:** To avoid conflicts of interest or the appearance of a conflict of interest, when domestic partners or spouses are a majority of the faculty on a Dissertation Committee, another faculty member will be added to the Committee.

**The completed form must be submitted to the Plant Biology Graduate Student Services Advisor.** The Dissertation Committee must be approved by the Plant Biology Graduate Advisor and Graduate Division.

**Student Name:** \_\_\_\_\_ **Signature:** \_\_\_\_\_

**Dissertation Title:**  
\_\_\_\_\_  
\_\_\_\_\_

<u>Committee Members (Print Name)</u>	<u>Committee Member Initials</u>	<u>Date</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Approval:**  
**Graduate Advisor:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**M.S. GUIDANCE COMMITTEE APPROVAL FORM**

***It is recommended that the Guidance Committee meet to establish a student's course program during the Fall quarter so opportunities for alternate year classes are captured. This form is to be completed no later than the end of the eighth week of the second quarter.***

**Note:** To avoid conflicts of interest or the appearance of conflicts of interest, when domestic partners or spouses are a majority of the faculty on a Thesis or Comprehensive Exam Committee, another faculty member will be added to the Committee.

(Please type or print)

Name \_\_\_\_\_ Date \_\_\_\_\_

I would like to request the following members be appointed to my Guidance Committee. They have all agreed to serve on this committee.

\_\_\_\_\_, \_\_\_\_\_ Major Professor  
Print name Signature

\_\_\_\_\_, \_\_\_\_\_  
Print name Signature

\_\_\_\_\_, \_\_\_\_\_  
Print name Signature

Approved: \_\_\_\_\_  
Graduate Advisor Signature

**M.S. CURRICULUM PLANNING FORM**

\_\_\_\_\_  
Name of Student

\_\_\_\_\_  
Date

**Guidance Committee:**

\_\_\_\_\_ Chair

\_\_\_\_\_ Member

\_\_\_\_\_ Member

1. If the student has not met the Department course requirements, please provide an explanation of any deficiencies, and an indication of how the student will make up the coursework. If the Guidance Committee feels courses taken at other Universities meet the requirement, please provide a brief summary of the topics covered in the courses.

2. A short statement of the educational and career goals of the student:

**M.S. PROGRAM – COURSE PROGRAM FORM**

Name of Student \_\_\_\_\_ Date Entered Program \_\_\_\_\_  
 Plan I (Thesis)  Plan II (Comp. Exam)

This is to certify that the above-named student has completed all departmental entrance requirements in the following specified manner:

UCR REQUIREMENTS	UNITS	EQUIVALENT CLASS	YEAR	INSTITUTION
BCH 100 (Elem. Biochemistry) or	5			
BCH 110A, BPSC 138, BIOL 116, BPSC 146	4			
BIOL 5A (General)	4			
5B (General)	4			
5C (General)	4			
BIOL 102 (Genetics)	4			
CHEM 1A (General)	4			
1B (General)	4			
1C (General)	4			
MATH 9A (Calculus)	4			
STAT 100A or STAT 110	4			
BPSC 104	4			
One core Plant Biology course: BIOL 107A, BPSC 132, BPSC 135, BPSC 138, BPSC 143, BPSC 146	3-5			

**For Plan I:** PROPOSED THESIS TITLE: \_\_\_\_\_

**For Plan II:** MAJOR AREA \_\_\_\_\_  
 MINOR AREA 1 \_\_\_\_\_  
 MINOR AREA 2 \_\_\_\_\_(optional)  
 WRITTEN EXAM DATE \_\_\_\_\_  
 ORAL EXAM DATE \_\_\_\_\_

**For Plan I and II:**  
 BPSC 250 SEMINAR PRESENTATION: \_\_\_\_\_ (Quarter/Year)  
 BPSC 240: \_\_\_\_\_ (Quarter/Year)

**Section I** - Three courses from the following list are required. Students who have taken courses comparable to these during their baccalaureate training may have a portion or all of this section waived.

- |               |          |                    |
|---------------|----------|--------------------|
| BPSC 104      | BPSC 112 | BIOL/MCBL/PLPA 120 |
| BPSC 132      | BPSC 133 | BPSC 134           |
| BIOL/PLPA 134 | BPSC 135 | BPSC 138           |
| BPSC 143      | BPSC 146 | BPSC 148           |
| BPSC 150      | BPSC 153 | BPSC 155           |
| BPSC 158      | BPSC 165 | BPSC 166           |
| BPSC 170      | BPSC183  |                    |

Course	Grade	Units	Qtr/Year

**Section II –** Graduate and upper-division undergraduate courses in related departments or programs and professional development courses (ie., BPSC 200A-B). Applicable courses are approved by the Graduate Educational Advisory Committee. A minimum of 6 units of course work is required. No more than 4 units may be from professional development classes. Only one course cross-listed with other departments may be used. Students cannot use a cross-listed course already used in Section I above or used in Section III below:

Course	Grade	Units	Qtr/Year

**Section III - Thesis Plan -** At least 6 units from the following list.

**- Comprehensive Exam Plan -** At least 12 units from the following list.

- |                                                                         |              |          |
|-------------------------------------------------------------------------|--------------|----------|
| BPSC 201E-Z (2 unit max)                                                | BPSC 205     | BPSC 221 |
| BPSC 222                                                                | BPSC 225 E-Z | BPSC 230 |
| BPSC 231                                                                | BPSC 232     | BPSC 234 |
| BPSC 237                                                                | BPSC 239     | BPSC 243 |
| BPSC 245                                                                | BPSC 246     | BPSC 247 |
| BPSC 240 ( <u>only if taken in addition to required seminar units</u> ) |              |          |

Course	Grade	Units	Qtr/Year

**Section IV: Plan II Only (Comprehensive Exam Plan) –** A total of 6 to 12 units from BPSC 290 (literature review; 1- 6 units) or BPSC 297 (research project; 1- 6units). The outcomes of this research should be described in the Comprehensive Exam Report that is submitted for evaluation by the Comprehensive Examination Committee.

**Plan II: Date Research Project Submitted (mm/dd/yy):** \_\_\_\_\_

Course	Grade	Units	Qtr
BPSC			
BPSC			
BPSC			

**Section V. Thesis Plan Only** - A total of 6 to 12 units of BPSC 299, 297 or 290 may apply toward the degree. If BPSC 297 and BPSC 290 are used, no more than 6 units total may be derived from these classes.

Course	Grade	Units	Qtr
BPSC 299			
BPSC			
BPSC			

**Additional Units** – please list any additional units needed to meet the 36-unit requirement for the degree. BPSC 291 does not apply.

Course	Grade	Units	Qtr







## REQUEST FOR FORMATION OF M.S. COMPREHENSIVE EXAMINATION COMMITTEE

The Major Professor, working in consultation with the student, suggests the composition of the M.S. Comprehensive Examination Committee, which is then approved by the Educational Advisory Committee. The purpose of this form is to assist the student and his/her Major Professor in requesting formation of the Comprehensive Examination Committee.

The Comprehensive Examination Committee consists of three members. The Chair and one other member of the Committee must be from the Plant Biology Graduate Program. The Major Professor should not be a member of the Comprehensive Examination Committee.

The purpose of the comprehensive examination is to evaluate the student's understanding of botany and plant sciences, with an emphasis on one major area and one or two minor areas that are not sub-disciplines of the major area. Minor areas can be selected from either column below, and need not match the degree program. Alternative areas (within Botany and Plant Science or in other disciplines) will be approved if adequate justification is provided in a memo. For example, a student in the Botany program could choose Plant Physiology as the major area and Plant Ecology and Crop Physiology as two minor areas, but Plant Biochemistry would not be an acceptable minor area because it is listed as a sub-discipline of the major area. The student will be expected to have an advanced (graduate level) understanding of the major and minor areas, but not necessarily of every sub-discipline of the major area.

### **Major Area**

Plant Physiology

Ecology and Conservation Biology

Plant Cell Biology and Development

Plant Genetics

Plant Molecular Biology

Systematics and Evolution

Anatomy and Morphology

Applied Plant Genetics

Plant Physiology

Applied Ecology

Pest Management

### **Sub-disciplines**

Whole Plant Physiology, Physiological Ecology, Plant Biochemistry

Conservation Biology, Plant Ecology

Plant Cell Biology, Plant Development

Cytogenetics, Population Genetics, Quantitative Genetics, Genomics

Plant Molecular Biology

Ethnobotany, Systematics, Evolution

Anatomy, Morphology

Biotechnology, Conservation Genetics, Plant Breeding

Whole Plant Physiology, Plant/Soil/Water Interaction, Crop Physiology, Crop Production, Postharvest Physiology

Conservation Biology, Restoration Ecology, Conservation Genetics, Invasion Biology

Weed Science, Plant Pathology, Entomology, Nematology

To request formation of the Comprehensive Examination Committee, indicate the student's program and enter the major and minor areas. List the suggested faculty members and at least two alternates, and specify the area in which each committee member will examine the student. Before submitting the form, the student should contact each prospective committee member and determine that they are willing to examine the student in the specified area.

Both the student and the major professor should sign the completed form, which should then be given to the Student Services Advisor for consideration by the Educational Advisory Committee. After the EAC approves the committee, the student will complete Form 2 on R'Grad

M.S. COMPREHENSIVE EXAMINATION COMMITTEE REQUEST FORM

**Student Name (Print):** \_\_\_\_\_

**Major Area** \_\_\_\_\_

**Minor Area** \_\_\_\_\_

**Second Minor Area (optional)** \_\_\_\_\_

**Committee Composition:**

EXAMINATION AREA	SUGGESTED FACULTY MEMBER	ROLE
		Chair
		Member
		Member
		Alternate
		Alternate

\_\_\_\_\_  
 Graduate Student Signature      Date

\_\_\_\_\_  
 Major Professor Signature      Date