Welcome to the Plant Biology Graduate Program! You are embarking on 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. I hope that you will also develop skills that enable you to communicate your results and their importance to the general public. As scientists, this is one of our most important responsibilities, but one that too few of us meet. You will probably find this a very rewarding activity. Most faculty 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, 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. In a few words – work hard but don't forget to have fun.

Dr. Mikeal Roose

Chair, Department of Botany and Plant Sciences

Cover Photo Acknowledgments:

Top Left photo: The Sonoran Desert of Baja California. Plants shown are cirio (*Fouquieiria columinaris*; center) along with cardón (*Pachycereus pringlei*; right), pitaya agria (*Stenocereus gummosus*; left), and Shaw's agave (*Agave shawii*; bottom right). Photo provided by Benjamin Wilder (Ezcurra Lab)

Top right photo: Hybridization as exemplified by wild radish. Photo provided by the Ellstrand Lab.

Middle left photo: Genetic Diversity in Cowpea (*Vigna unguiculata*). The image shows a range of seed coat patterns in domesticated cowpea. UCR houses the world's 3rd largest cowpea (blackeyed pea) germplasm collection and maintains a breeding program for drought-prone production areas in California and sub-Saharan Africa. Photo taken January 2005 by Dr. Jeffrey Ehlers, Specialist, UC Riverside. Photo provided by TJ Close.

Bottom left photo: Migration of the WUSCHEL (WUS) protein mediates stem cell homeostasis in the Arabidopsis shoot apex. Shown here is the top view of a 3D-reconstructed shoot apical meristem that expressed GFP-tagged WUS (green), and was stained with the membrane-specific FM4-64 dye (red) to label cell outlines. WUS is expressed in the organizing center of the shoot apical meristem, whereas it activates the transcription of negative regulator, CLAVATA3, in adjacent cells by binding to its promoter thereby restricting its own accumulation. (Photo courtesy: Ram Kishor Yadav and G. Venugopala Reddy).

Bottom right photo: Asparagus harvest Zachary Thomas records spear grade and weight data for the UCR asparagus breeding program using a hand-held computer. The asparagus breeding program at UC Riverside is directed by Neil Stone (background) under the supervision of Dr. Mikeal Roose in the Department of Botany and Plant Sciences. The field pictured is located on the UC Riverside Agricultural Experiment Station. Photo taken by Robert Lennox

BPSC Staff photo Acknowledgements: Photos were taken by Mariella Valdivia.

Version: Plant Biology Handbook updated 09-25-2014

PLANT BIOLOGY GRADUATE PROGRAM HANDBOOK
TABLE OF CONTENTS

SECTION 1: INTRODUCTION TO THE PROGRAM, FACILITIES AND RESOURCES

I. 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).

Chair of the Department of Botany and Plant Sciences

Mikeal Roose — 4121 Batchelor Hall
bpschair@ucr.edu, Phone: 951-827-4137

Graduate Advisor for Continuing Students

Linda Walling — 3107A Genomics Building
linda.walling@ucr.edu; Phone: 951-827-4687

Graduate Advisor for Recruitment

Timothy Close — 4157 Batchelor Hall
timothy.close@ucr.edu, Phone: 951-827-3318

Plant Biology Staff Student Affairs Officer

Jammy Yang — CNAS Graduate Student Affairs Office, 1140C Batchelor Hall
jammy.yang@ucr.edu; Phone: 951-827-5688

Botany and Plant Science Graduate Student Association

Amanda Swanson, Co-Chair — amanda.swanson@email.ucr.edu
Cara Fertitta, Co-Chair — cara.fertitta@email.ucr.edu

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

Edith Allen — 2129 Batchelor Hall
edith.allen@ucr.edu; Phone: 951-827-2123,

Vice Chair for Cooperative Extension

Milt McGiffen — 4101 Batchelor Hall
milt.mcgiffen@ucr.edu; Phone: 909-560-0839

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

Cathy Olson — 2605 Life Sciences-Psychology Building
NAPSUpodE@ucr.edu; Phone: 951.827.7112

Other contacts

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

II. 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.

A. Contact Jammy Yang (Plant Biology Student Affairs Officer)

Jammy Yang

When you first arrive on campus, you should contact Jammy (Jay-Me) Yang in the CNAS Graduate Student Affairs Center. Jammy is located in room 1140C Batchelor Hall. Jammy and the staff at the Center 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 and add courses, establish guidance and thesis or dissertation committees, as well as other important information you will need during your stay. Jammy will answer any of your questions and will explain in detail your financial package.

B. Contact Cathy Olson (BPSC Payroll and Personnel)

Cathy Olson

The next person you will need to contact is Cathy Olson in the CNAS Non-Academic Personnel Services Unit (NAPSU), located in Room 2605 Life Sciences-Psychology Building. Cathy is responsible for payroll and personnel matters. You will need to fill out some paperwork here to get you into the payroll system. When you switch from fellowship support to becoming a Teaching Assistant (TA) or Graduate Student Researcher (GSR), you will be required to complete additional important employment documents. Cathy will contact you to remind you of this requirement when it is closer to the time of your pay transition.

C. Contact Mariella Valdivia or Jennifer Douglas for 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).

D. Planning for Fall Quarter Classes and Laboratory Rotations

Some of you have already met your major professor/faculty contact; if not, Jammy Yang will introduce you to this person. If you have already identified a major professor, he/she will help you select your first quarter's classes, and you will begin to work together to identify a Guidance Committee (Section 5). As soon as you select your Guidance Committee, please let Jammy know.

If you have not selected a major professor and will be rotating through several labs, you will work out your class schedule with your faculty contact or the Graduate Advisor for Continuing Students, Dr. Linda Walling (3107A Genomics Building; linda.walling@ucr.edu; X2-4687). Please keep Jammy informed about your rotations. For more information about laboratory rotations, see Section 3.

E. Acquire a UCR Connection Card

UCR students are required to have a UCR Connection Card, 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.

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 Office in the Highlander Union Building (HUB, Suite 249) from 9:00 am - 4:00 pm (Monday - Friday) 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 (GROWL), 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.

F. 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, Dr. Linda Walling (3107A Genomics Building; linda.walling@ucr.edu; X2-4687). 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. Please feel free to stop by the Graduate Advisor's office to discuss any problems that you encounter.

Linda Walling

G. International Students and the International Education Center

Students who are not citizens of the U.S. must meet with personnel in the International Education Center (IEC) located in University Village, Suite 204. 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.

You may obtain general information about academic advising from the IEC representative Kelly Hinosawa. If you would like to schedule a meeting with Kelly to address any of your questions and concerns, please call (951) 827-4113 and make an appointment.

The IEC website (http://internationalcenter.ucr.edu/) has a listing of issues that are uniquely encountered by international students (ie., 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.

H. Enrolling in Classes

It is the student's 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.

If you have questions about enrollment or are having difficulties enrolling in classes, contact Jammy Yang.

The GROWL system is the web service for enrolling in courses. Using GROWL via the Web, students can enroll in classes, confirm course enrollment, view grades, check their financial aid, billing, degree progress, 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://www.growl.ucr.edu. To use GROWL you must enter your date of birth, Student ID number, and PERM PIN number.

I. 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.

J. Change of Address

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

Let the Graduate Student Affairs Officer (Jammy Yang) know when you move.

K. 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.

L. 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. For more information, please go to the Graduate Division website: http://graduate.ucr.edu/residency_status.html.

III. HOUSING

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

A. 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 www.housing.ucr.edu. You will need to contact the Housing Office at housinginfo@ucr.edu to follow-up on your application.

For on-campus housing, community living or roommate sharing, please visit UCR's housing website to access online application forms. On-campus housing includes:

- Single (unmarried/no dependents) students can choose to live at Aberdeen & Inverness Residence Hall, Lothian Residence Hall, Bannockburn Apartments, Stonehaven Apartments, and University Plaza.
- Married students without children can live at Bannockburn Apartments or University Plaza.
- Married students with or without children can live at Canyon Crest Student Family Housing or University Plaza.

B. Off-Campus Housing

If you are interested in off-campus housing, the Housing Services, the office is located at 3595 Canyon Crest Drive. Please direct any questions to Charlotte Shifflet at charlotte.shifflet@ucr.edu or by calling (951) 827-6350 or faxing (951) 827-3807. This office also has a list of private homes and apartments for available for rent.

Also check with Jammy Yang as he may have listings for private homes and names of other graduate students looking for roommates.

Faculty often take sabbatical leaves for one to three quarters. Often students are engaged to care for their homes.

C. Temporary Housing Arrangements

If for some reason, you have not yet made housing arrangements that will be available to you upon immediate arrival, there are several temporary venues located near the UCR campus.

1. International Residence Center (UCR Extension)

1200 University Avenue, Riverside, CA 92507

Tel: (951) 827-4346

Fax: (951) 827-5796

Less than 10 weeks	10-week Lease
$60 (1-7 days) Single per night	$48 Single per night
$50 Single per night	$26 Double per night
$30 Double per night	$20 Triple per night
$22 Triple per night	

Please keep in mind that these prices include rent only, and do not include additional fees such as placement fee or additional services fees.

For more information or to request an application, please email: rika.toyoda@ucr.edu

2. International Village Student Housing

Availabilities begin mid-August with a 1 month minimum stay required.

$55 Studio per night
$54 Single per night
$30 Double per night

Reservations for the International Village can be made through UCR campus housing at

http://housing.ucr.edu/Housing/ShortTerm.htm.

You can also call (951) 826-3100 or send inquiries to info@ucx.ucr.edu.

3. Dynasty Suites (10-minute walk)

3735 Iowa Avenue, Riverside, CA 92507
Tel: (800) 842-7899 or (951) 369-8200
Fax: (951) 341-6486
Prices range from $75-$90 for UCR staff/students.

4. Comfort Inn (10-minute walk)

1590 University Avenue, Riverside, CA 92507
Tel: (800) 228-5150 or (951) 683-6000
Fax: (951) 782-8052

Prices begin at $75 for UCR staff/students.

IV. KEYS, SECURITY IN BUILDINGS AND SAFETY ON CAMPUS

A. Building Security

Please note that theft is an issue at any "open" institution such as UCR. Science buildings are particularly vulnerable 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 at all times.

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, *please* take a few minutes and contact the campus police at X 2-5222.**

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 work long and irregular hours.

B. Access to Batchelor Hall, Genomics, or Noel Keen 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 which can be picked up in BH 2142. Your major professor or rotating faculty mentor must sign the form. Give the form to Faiqa Haque 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. Mikeal Roose, X2-4413), BPS Financial and Administrative Officer (Deb Terao, X2-3839), or BPS Financial Operations Manager (Juliet Lin, 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://genomics.ucr.edu/facility.html. 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 that 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). Turn the form(s) in to Jennifer Douglas to obtain keys and the fob.

Your Genomics Fob must be renewed annually. Genomics Fob 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 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 is included in this handbook or which can be picked up Genomics 1206 or downloaded from http://genomics.ucr.edu/facility.html. 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 in the event that the fob is not returned by the expiration date. Turn the form in 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.

C. Safety on Campus

1. 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. For emergencies, dial 911.

2. 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. 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.

3. Call Box - Emergency Call Boxes

Emergency Call Boxes are located in, or adjacent to, most campus parking lots. 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.

D. Form for Keys for Batchelor Hall[1]

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[1] New key form for BPSC 8/29/13

UC RIVERSIDE
UNIVERSITY OF CALIFORNIA
Dept. of Botany & Plant Sciences

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:	**Faculty**	**Staff**	**Post-Doctoral Scholar**	**Graduate Student**	**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)

V. COMMUNICATION

A. Mail

Mailboxes for all Plant Biology graduate students are located 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.

B. 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.

C. Electronic 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. You cannot change your login name; it will stay the same throughout your time at UCR. However, you may choose to change your password at your own discretion. Changes in your password will not affect your email address nor will they alter the URL of your home page.

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. Occasionally, passwords are stolen and the amount of damage that can be done from a stolen password is considerable. If your password is your Permanent PIN number, the amount of damage increases greatly, because your academic information and financial aid records may also be accessed.

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

D. iLEARN

1. UCR Graduate Community Course

You will be enrolled in the UCR Graduate Community course through iLearn. This course is used to post announcements regarding funding opportunities, campus workshops and events pertinent to graduate students. The discussions boards are also available, including a "student exchange" where you can post items for sale or rooms for rent, etc.

2. Enrolled classes – iLearn site

Most graduate level classes used iLearn extensively to post syllabi, reading lists, and assigned papers. Become facile with iLearn. If you become a TA for a class, it is likely you will be using iLearn extensively.

E. FAX

If you are located in Batchelor Hall, you will use the Batchelor Hall fax machine. Its number is (951) 827-4437 and the FAX machine is located in Batchelor Hall 2140. Outgoing FAXs 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 FAXs are distributed via email to your campus web-mail account.

If you are located in the Genomics Building, you will use the Genomics FAX machine. Its number is (951)-827-5155 and the FAX machine is located in the Genomics first floor stair well near the loading dock. Directions for its use are posted above the machine. Incoming FAXs are distributed via email to your campus web-mail account.

Outgoing FAXs 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.

F. 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 Faiqa Haque in Batchelor Hall 2142 for assistance with setting up your email address. If you experience problems with the copiers, please contact Henry Gutierrez at 2-5133.

If you are located in the Genomics Building, you will use the Genomics copier that is located 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.

G. 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 9). Full policies can be found at http://cnc.ucr.edu/wireless/policies.html. Batchelor Hall and Genomics has wireless connections, as well as data connections for internet use. 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.

VI. 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.

A. 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. Rooms 3106, 4141, and 4169 have LCD monitors that can be directly connected to a laptop for presentations. The rooms can be reserved using the online Facilities Reservation System (https://frs.ucr.edu). 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 Jammy Yang about other rooms available on campus.

B. 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. All rooms have LCD monitors that can be directly connected to a laptop for presentations. The rooms can be reserved using the online Facilities Reservation System (https://frs.ucr.edu). 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 Jammy Yang about other rooms available on campus.

C. Video Conferencing

Genomics 1101 and Batchelor Hall have the ability to video conference. Contact Genomics staff at X27171 or Deb Terao at X2-3839 for more information.

VII. 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 or program/department supports your hosting of the visitor.

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.

A. Contact person for questions about travel and entertainment

The program advises that you seek advice prior to leave on your trip or incurring any expenses. If you need aid with forms or understanding the policies that apply to your travel, speak with:

Faiqa Haque (2142 Bachelor Hall; X2-4401; faiqa.haque@ucr.edu)

B. 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.

B. 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 8 for details.

C. Reimbursement for Travel

To be reimbursed for travel expenses, all receipts must be original and itemized showing proof of payment. For example, you have a hotel receipts 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, 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) is encouraged. Reimbursements via iTravel is "green" and generally occur within 2-3 weeks.

Faiqa Haque will let you know if you have to 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.

D. iTravel system

To use iTravel, you must know your UCR Net ID and password and to have access to the Internet. If you need aid in submitting your travel expenses online, contact Faiqa Haque (faiqa.haque@ucr.edu).

- You can access iTravel via R'Space or at 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 Faiqa Haque in 2142 BH

E. 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 fund 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.

F. Shuttle Service

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

There are many shuttle services available (please, search the internet). **Super Shuttle** is often used (Phone: 909-984-0040). Please note the program is not specifically endorsing this shuttle. The maximum expenses that can be refunded are listed below.

Airport	**First Person**	**Each Additional Person**
Ontario	$39 each way	$9
LAX	$77 each way	$9

G. 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 (ie. 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 in order to ensure that the vehicle is covered by physical damage insurance. Contact Faiqa Haque for details.

H. Meals

Meals can be recovered from grant and fellowships if approved by your major professor. There are strict rules for these expenses and students should ***only*** be claiming their actual expenses. Remember you are using federal, state or agency funds and you must be respectful of this. *Please note:* the expense limitations changes annually; check to be sure that the guidelines in the Handbook are currently accurate. Contact Faiqa Haque (Faiqa.haque@ucr.edu, X-2-4401) for details.

- **For travel of less than 24 hrs:** Meals and incidental expenses shall not be reimbursed unless the travel includes an "overnight stay" as supported by a lodging receipt.
- **For travel less than 30 days**: Meals and incidental expenses up to $71 per day
- **Foreign travel of less than 30 days**: Meals and incidental expenses shall be reimbursed in accordance with the Federal Maximum Travel Per Diem Allowances for Foreign Areas.
- **Travel within Alaska, Hawaii, and U.S. possessions**: Meals and incidental expenses shall be reimbursed at the per diem authorized for non-foreign localities.

I. 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.

J. Vehicle Checkout

Vehicles are available from Fleet Services (2-2277) through the campus on-line Fleet Services registration system on an FAU (re-charge) basis. See your laboratory manager for assistance or access. University vehicles require a valid driver's license and are not to be used for personal business and are to be returned clean and ready for the next person to use. You must be a University employee to ride or

drive in 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.

K. 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.

1. 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 http://www.ucop.edu/ucophome/policies/bfb/bus79.pdf or access the document via R-Space:

- Go to R'Space
- Click on the Accounting tab
- Click on the Travel tab
- Click on Entertainment
- Click on BUS-79

2. 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.

3. Claiming entertainment expenses.

You can pick up the Entertainment Form on the front door of Faiqa Haque's office (2142 BH), in the Batchelor Hall Receiving Room (2140 BH), or print out the Form located in Section L. Fill out the form and return the form to Faiqa along with original itemized receipt.

MAXIMUM RATES (as of March 29, 2012; this rate of reimbursement may change)

Breakfast	$26.00/per person (4 person max. not to exceed $104.00)
Lunch	$45.00/per person (4 person max. not to exceed $180.00)
Dinner	$78.00/per person (4 person max. not to exceed $312.00)
Light Refreshments	$18.00/per person (max. – 20 people)

These amounts include the cost of food and beverages (NO ALCOHOL), labor, sales tax, service and delivery charges.

L. FORMS

Entertainment Reimbursement form (next page)

ENTERTAINMENT REIMBURSEMENT

HOST: _____ **Date of Event** _____

Title of Host: _____ **Location of Event** _____

Department: _____

Guest _____

Name **Title** **Company/Department**

TOTAL RECEIPT _____

***DEDUCT FOR ALCOHOL INCL. SALES TAX** _____

NET REIMBURSEMENT _____

FAU NO: _____

ACTIVITY CODE FUND FUNCTION COST CENTER PROJECT CODE

FOR FEDERAL FUNDS: Provide brief justification as to how this entertainment expense benefits the Project being charged.

_____

_____

_____

Signature and Date

PURPOSE: _____

Seminar Speaker: _____ **Faculty Candidate:** _____ **Other (Specify):** _____

Check One: **Breakfast** _____ **Lunch** _____ **Dinner** _____

List Other Attendees (max. 2):

_____

Name **Title** **Department**

_____

Name **Title** **Department**

PLEASE ATTACH ORIGINAL RECEIPT AND RETURN TO JODIE MESSIN

Maximum Rates:

Breakfast:	**$26/per person (4 person max. not to exceed $104.00)**
Lunch:	**$45/per person (4 person max. not to exceed $180.00)**
Dinner:	**$78/per person (4 person max. not to exceed $312.00)**
Light Refreshments:	**$18.00 per person (max. – 20 people)**

*NOTE: THE UNIVERSITY WILL NOT REIMBURSE MONEY SPENT ON ALCOHOLIC BEVERAGES

VIII. 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 Henry Gutierrez (2-5133, henry.gutierrez@ucr.edu) and he will be happy to walk you through the purchasing process.

A. 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, Henry Gutierrez (BH 2122) is the BPS Purchasing Specialist. He 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 actually 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 Henry Gutierrez.

Items not available through Storehouse are processed through UCR's eBUY system. You may submit an order in eBuy via your laboratory manager or your lab manager or faculty advisor may grant you access as a "sub-requestor" in eBuy. 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.

In order to ensure that your order is placed in a timely manner, please submit it to Henry Gutierrez no later than 12:00 pm. If you are submitting an order after 12:00 pm and the order needs to be placed that same day, please see Henry in person!

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 Henry. You should order materials sufficiently in advance of your needs so your research is not disrupted by undelivered items.

B. Receiving Packages

For laboratories in Batchelor Hall: Packages are delivered to 2140 Batchelor Hall. Office staff will call the lab to alert you that a package requiring refrigeration has been delivered and should be picked up immediately.

Please check the 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. Initial and date the packing slip/order confirmation and place it in Henry's in-box within 48 hours of receipt. Packing slips which are lost or not forwarded to Henry can cause delays in replacing damaged goods or in processing payment to vendor.

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

Check the 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 issues resolved. Initial and date the packing slip/order confirmation. For laboratories associated with the Department of Botany and Plant Sciences, place the packing slip/order in Henry's in-box within 48 hours of receipt. For non-BPSC laboratories, please follow the procedures of your Major Professor's department.

C. 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 Henry Gutierrez (located in BH 2122) 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 Jocelyn Brimo (Genomics 4119B; x2-2152; jocelyn.brimo@ucr.edu).

D. Petty Cash Disbursements (11-12 AM and 1-3 PM daily)

If you have purchased small dollar items (under $100 before sales and shipping) that should be refunded by your laboratory, you need to arrange for petty cash reimbursement. This must be approved by your major professor. Faiqa Haque (2142 Batchelor Hall) will assist you with the reimbursement. You can request a petty cash form electronically or pick up a Petty Cash Voucher on the front door of Faiqa Haque's office or in the Receiving Room (2140 Batchelor Hall); The petty cash voucher can also be found below.

Fill out the Petty Cash voucher, obtain supervisor's approval and return the voucher along with the itemized receipt to Faiqa Haque for reimbursement during the hours of 11-12 and 1-3 daily. The original form with your advisor's signature is required and therefore the voucher cannot be submitted electronically.

The limit on petty cash reimbursement is $100.00 (before tax and shipping). Anything over this amount is considered an "unauthorized purchase". All purchases over $100 now require prior approval from the Dean. If you are unsure how to proceed, please contact Henry Gutierrez (Purchasing Specialist) in 2122 BH, for assistance on how to proceed and details on how to be reimbursed through the ePay system.

Expenses paid from a petty cash fund can only be made for the purpose(s) for which the fund was authorized and must be supported by receipts, which should contain the following information:

- Date of purchase or payment
- Name of vendor or other payee
- Positive evidence that a payment was made, i.e., a cash register receipt
- Amount paid
- Description of the goods purchased (entered by the vendor if a handwritten receipt is obtained, or by the purchaser if a cash register tape is issued), or of the services provided on what/how the expense is related to research.
- Signature indicating receipt of purchases or services.

E. Forms

PETTY CASH VOUCHER – Next Page

Petty Cash Voucher

PETTY CASH VOUCHER

Items 1 Through 5 Must Be Completed For *All* Transactions

1. Date of Purchase (60 Days Maximum) _____
2. Vendor _____
3. Items Purchased: _____

4. Total Amount ($100 Plus Tax Maximum) _____
5. Petty Cash Received By _____

Additional Requirements for Reimbursement

6. Department Name _____
7. Account _____ Activity Code _____
   Fund _____ Function _____
8. Authorized Department Signature _____

Departmental Information

9. Cost Center _____ Project Code _____

Special Approval (If Required for Item Purchased)

Approved By _____

Name _____

Title _____

Rev 6/99

Copy for: originating department/Cashier

IX. 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://ucrlearning.ucr.edu/. If you have any questions or problems accessing the on-line training, please contact the UCR Learning Center at ucrlearning@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 Cathy Olson (Life Sciences Room 2605) 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 Veitch Student 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, 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 http://hr.ucr.edu/supervisor/reportincident.html.

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.

X. FACILITIES

A. Who to Contact in an Emergency

WEEK DAY EMERGENCIES (8 am-5 pm Monday-Friday): Deb Terao, 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 Deb Terao (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.

B. Problems with Facilities and Buildings.

Physical Plant emergency calls – Henry Gutierrez, X2-5133

General building issues for Batchelor Hall - Henry Gutierrez, X2-5133 (i.e. doors, lights, sinks, etc.)

General building issues for Genomics - Jocelyn Brimo, X2-2152 (i.e. doors, lights, sinks, etc.)

Teaching Facilities – Kim Steiner, 236-2132, kim.steiner@ucr.edu

Greenhouse & Pest Management Services – Kim Steiner or Chuck Farrar, Agricultural Operations (Ag Ops), X2-5906.

IIGB/CEPCEB Cores (Genomics, Microscopy& Imaging, Proteomics) - Jocelyn Brimo, X2-2152 (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).

C. Plant Growth Facilities

The Department maintains extensive facilities for growing plants. Numerous greenhouses, lath houses, growth chambers, and two tissue culture facilities are available for research and teaching purposes (see map section). As your research project develops, you may have need for some of this space. The Department Chair is responsible for assigning available space.

To use the tissue culture facilities, contact Dr. Nothnagel (BH3202, 2-3777) for the tissue culture room in Batchelor Hall or Dr. Orozco-Cardenas (GH 2, 2-3885) for the facility in Greenhouse 2 (Plant Transformation Facility) or the Campus Arabidopsis Facility (CAF).

D. Botanic Gardens and Herbarium

UCR Botanic Gardens and Herbarium are available for use in teaching and research and Dr. J. Giles Waines serves as Director of both.

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 Steve Morgan, at 951-784-6962 (Schneider House Office), smorgan@ucr.edu or http:// www.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 220,000 specimens from the New World, especially, the southwestern U.S. and Mexico, and the 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 or http://www.herbarium.ucr.edu).

E. 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 produces 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 as a whole. 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 (http://www.citrusvariety.ucr.edu) or contact Tracy Kahn at X2-7360.

F. Agricultural Land and Natural Reserves

The Department has at its disposal, many hectares of agricultural land and natural reserves, including the Citrus Variety Collection. Much of this acreage is located near the campus, but agricultural field stations exist throughout the state and are available to us, 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 (http://biology.ucr.edu/about_us/nrs.html).

G. 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. Glenn Hicks (glenn.hicks@ucr.edu) provides overall management and coordination of all core facilities, with an emphasis on the Genomics Core. 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 (Rakesh Kaundal, Director)

Microscopy and imaging (David Carter, Academic Coordinator)

Proteomics (Songqin Pan, Academic Coordinator)

Genomics (Glenn Hicks, Academic Administrator)

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://genomics.ucr.edu/facility.html .

H. 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).

I. Other Facilities On The UCR Campus.

1. 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.

2. 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 manage and maintain the various facilities.

3. Central Facility for Advanced Microscopy and Microanalysis (CFAMM):

CFAMM is 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 and 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 located in B116 Bourns Hall (http://micron.ucr.edu/).

4. 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) for further information.

XI. STUDENT LIFE AND SERVICES

A. UCR's Graduate Student Association

UCR has a campus graduate student association (http://www.gsa.ucr.edu/). The UCR GSA is in charge of many graduate elements for the campus, including mini-grants that help support student travel to professional meetings. Keep this in mind before large conference you may be attending.

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. They are responsible for negotiating and reviewing healthcare insurance coverage. The UCR GSA Grievance Mediation Officer acts as an advocate on grievance matters. The GSA administers the Minigrant Program to provide travel grants to graduate students at professional conferences (See Section 8). For a more detailed description of GSA activities and services, call (951) 827-3740 or visit their website at http://www.gsa.ucr.edu/.

B. The Botany and Plant Science Mini-GSA

Botany and Plant Sciences also has a graduate student association called the BSPC Mini-GSA. The officers for 2014-2015 are:

Amanda Swanson	Co-Chair, Graduate EAC representative
Cara Feritta	Co-Chair, Graduate EAC representative
Yu Yu	GSA representative
Tian-Ran Jia	GSA representative
John Chater	Treasurer
Andrew Semotiuk	Secretary

The BPSC mini GSA 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 (occasionally throughout the quarter also held in the Genomic building). 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 Lecture, and Botany Awards Ceremony. From the wonderful BBQ in the botanic gardens each Fall to the stimulating Yermanos 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 quals celebratory gatherings, and other pertinent events.

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

C. Health Plan

Graduate students get 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. 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 depressed, having difficulty in coping with personal, family or academic problems, have a drug dependency, or other issues, the UCR Counseling 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. A student's major professor, the Graduate Advisor for Plant Biology (Linda Walling) and/or the Staff Student Affairs Officer (Jammy Yang) should be contacted to be sure that student's in need receive the treatment they deserve. These matters are always addressed promptly and confidentially.

D. Special Services for Disabled Students

UCR's Special Services office ensures that appropriate accommodations are made for employees with disabilities (http://specialservices.ucr.edu/).

E. 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 Activities Office
- International Education Center
- Special Services Office
- Campus Ombudsman Office
- Campus Health Center
- Counseling Center
- Learning and Study Skills Center
- Housing and Food Service
- Department of Public Safety (POLICE)
- Parking Services
- Financial Aid Office
- Educational Opportunity Program/Student Affirmative Action Program
- Career Planning and Placement Center.
- And a summary of projected student expenses

F. Moving with Children

The Child Development Center at UC Riverside accepts children from age 4 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-age children (ages 5-18), all previous academic records and records of immunization will enable enrollment in Riverside schools.

XII. FACULTY AND STAFF- PHONES AND LOCATIONS

A. Faculty in the Plant Biology Graduate Program.

A current listing of the faculty participating in the Plant Biology Graduate program is below and links to research areas and web pages can be found at: http://www.plantbiology.ucr.edu/Faculty1.html. The online listing also includes the emeritus professors of the Plant Biology Graduate Program.

EXTENSION (office/lab)	NAME	TITLE	ROOM NO. (office/lab)
2-2123/2-2856	Allen, Edith B.	CE Specialist (Natural Resources)/ Professor of Plant Ecology	Batch Hall 2129, 2208
2-5494	Allen, Michael	Professor of Plant Pathology	Batch Hall 3107

(559) 646-6561	Arpaia, Mary lu	CE Specialist (Subtropical Horticulture)	Kearney Ag Ctr.
2-3738/2-6376	Bailey-Serres, Julia N.	Professor of Genetics	Genomics 4119A, 4126
(951) 333-9052 (Cell)/ 2-5630	Baird, James	CE Assistant Specialist (Turfgrass)	Batch Hall 2137, 2135, 2139
2-5130, 2-5126	Bean, Travis	CE Assistant Specialist	Batch Hall 2141, 2135, 2139
2-3988/2-3178	Chen, Xuemei	Distinguished Professor of Plant. Cell & Molecular Biology	Genomics 4234A, 4237
2-3318/23808	Close, Timothy J.	Professor of Genetics (Graduate Advisor for Recruitment)	Batch Hall 4157, 4159
2-6990/2-6991	Cutler, Sean	Associate Professor of Plant Cell Biology	Genomics 3119A, 3126
2-4413	Diez, Jeffrey	Assistant Professor of Plant Ecology	Batch Hall
2-4194/2-5009	Ellstrand, Norman C.	Professor of Genetics	Batch Hall 4158, 4156
2-2869/2-3546 (Message)	Ezcurra, Exequiel	Professor of Ecology/UC Mexus Director	Batch Hall 3125, 3135, 3139
2-7740/2-7955	Eulgem, Thomas	Associate Professor of Plant Cell Biology	Genomics 3234A, 3231
(951) 905-5232	Girke, Thomas	Associate Professor of Bioinformatics	Genomics 1207F, 1207E
(559) 646-6599	Grantz, David A.	CE Specialists (Agronomy/Plant Physiology)	Kearney Agric. Ctr.
2-3801/2-2541	Holt, Jodie S.	Professor of Plant Physiology/ Associate Dean Agricultural and Natural Science	Batch Hall 2133, 2131
2-4783	Huang, Anthony H. C.	Professor of Plant Physiology	Batch Hall 2121, 2163
2-7113	Jenerette, Darrel	Associate Professor of Landscape Ecology	Batch Hall 3203
2-7995	Jin, Hailing	Associate Professor of Molecular Genetics	Genomics 3234B
2-9313	Kaloshian, Isgouhi	Professor of Nematology	Genomics 2107A
2-4776	Li, Bai-Lian (Larry)	Professor of Ecology	Batch Hall 4133
2-3987	Liu, Renyi	Assistant Professor of Evolutionary Genomics	Batch Hall 3109, 3103, 3107
2-4663	Lovatt, Carol J.	Professor of Plant Physiology	Batch Hall 4130, 4128
2-3946	Lukaszewski, Adam J.	Professor of Genetics	Batch Hall 1137, 1143A
2-4274	Mauk, Peggy	CE Specialist (Subtropical Crops)/ Director of Agricultural Operations	Batch Hall 4109
(909)560-0839 (Cell)/25989	Mcgiffen, Milton E., Jr.	CE Specialist (Vegetable Crops)/Assoc. Plant Phys.	Batch Hall 4101, 4112
2-7532	Mchughen, Alan	CE Associate Specialist (Plant Biotechnology)	Batch Hall 3110, 3122
(909)560-0038 (Cell)/27003	Merhaut, Donald	CE Associate Specialist & Associate (Horticulture)	Batch Hall 4118
TBA	Norman, Jaimie	Assistant Professor of Cell Biology	Arrival Jan 2015
2-3777	Nothnagel, Eugene A.	Professor of Plant Physiology	Batch Hall 3202, 3216

2-3320	Pittenger, Dennis R.	CE Area Advisor (Environmental Horticulture)	Batch Hall 4114
2-6370/2-2486	Raikhel, Natasha	Distinguished Professor of Plant Cell Biology; Director, IIGB	Genomics 4119C, 4126
2-4415	Rasmussen, Carolyn	Assistant Professor of Cell Biology	Genomics 3119B
2-3482/2-3481	Reddy, Venu (Gonehal)	Associate Professor of Plant Cell Biology	Genomics 4234C, 4237
2-4137/2-4736/2-4413	Roose, Mikeal L.	Professor of Genetics/Chair	Batch Hall 4121, 4139
2-6357	Sachs, Joel	Assistant Professor of Biology	Spieth 3314
2-4951/2-4952	Santiago, Louis	Associate Professor of Physiol. Ecology	Batch Hall 3113, 4119
2-5785/2-7056	Springer, Patricia	Associate Professor of Genetics	Genomics 3107B, 3239
2-2363	Stajich, Jason	Assistant Professor of Plant Pathology	Genomics 1207K
2-3706	Waines, J. Giles	Professor of Genetics./Director of the Botanic Gardens and Herbarium	Batch Hall 2117, 2103
2-4687/2-7056	Walling, Linda L.	Professor of Genetics; Plant Biology Graduate Advisor (Continuing Students)	Genomics 3107A, 3239
2-7866/2-7864	Wessler, Susan	Distinguished Professor of Genetics	Genomics 4107A, 4126
2-5898/2-4416/2-7335	Xu, Shizhong	Professor of Genetics	Batch Hall 3134, 3126
2-7351/2-6420	Yang, Zhenbiao	Professor of Plant Cell Biology	Genomics 4234B, 4237

B. Botany and Plant Sciences Office Staff (photos follow)

Name	Phone	Room	Major Areas of Responsibility
Michelle Blas	2-2601	Genomics 1206	Financial Analyst 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
Jocelyn Brimo	2-2152	Genomics 4119B	Management Services Officer (MSO); 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.
Henry Gutierrez	2-5133	Batchelor Hall 2122	Purchasing Specialist - Procurement of all goods and services; fixed asset management, Microcomputer Support; data connections. Place Physical Plant emergency calls.
Rebecca Ryan	2-5990	Batchelor Hall 2132	Financial Analyst II; departmental accounting, prepares grant proposals and budgets; prepares monthly financial statements

Christine Helsing	2-4608	Batchelor Hall 2112	Financial Analyst I - Departmental accounting, prepares financial reports, fund Reconciliation.
Kim Steiner	(951) 236-2132	Greenhouse16, 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.
Juliet Lin	2-4435	Batchelor Hall 2138	Financial Operations Manager- supervises all financial operations, including, Accounting Asst/Travel Coordinator, and Financial Analysts; prepares monthly financial statements for BPS and PIs; prepares grant proposals and budgets.
Faiqa Haque	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.
Cathy Olson	2-7112	Life Sci-Psychology 2605	Payroll Assistant- Processes payroll actions for non-Senate academics, GSRs and TAs for Botany & Plant Sciences, Agricultural Operations, and Mathematics.
Pest Management Services	2-5906	Ag Ops	Responsible for cultural care and pest management for a wide range of plants in a variety of diverse growth facilities.
Victoria (Vickie) Sachs	2-3825	Batchelor Hall 2132	Financial Analyst II; departmental accounting, prepares grant proposals and budgets; prepares monthly financial statements.
Deborah (Deb) Terao	2-3839	Batchelor Hall 2106	Financial & Administrative Officer (FAO) - Management of all business, administrative, and operational activities.
Mariella Valdivia	2-4619	Batchelor Hall 2118	Chair's Assistant – 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.
Jennifer Douglas	2-7177	Genomics 1206	Assistant 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.

Michelle Blas

Jocelyn Brimo

Jennifer Douglas

Henry Gutierrez

Christine Helsing

Faiqa Haque

Juliet Lin

Cathy Olson

Rebecca Ryan

Victoria Sachs

Deb Terao

Mariella Valdivia

C. CNAS Graduate Student Affairs Center (1140 Batchelor Hall)

The College of Natural and Agricultural Sciences (CNAS) Graduate Student Affairs Center (GSAC) supports 15 graduate programs in the sciences including: Biochemistry and Molecular Biology (BMB), Biomedical Sciences, Cell, Molecular and Developmental Biology (CMDB), Entomology, Environmental Sciences, Environmental Toxicology (ETOX), Evolution, Ecology, and Organismal Biology (EEOB), Genetics, Genomics and Bioinformatics (GGB), Global Climate and Environmental Change, Mathematics, Microbiology, Neuroscience, Plant Biology, Plant Pathology, Statistics, Geological Sciences, and Environmental Sciences. The Center's staff can assist you with class registration, program requirements, Graduate Division policies, and fellowship and employment matters (TA/GSR). You will deal most often with the staff member who supports your graduate program, but please feel free to contact any Center staff member when your Student Affairs Officer is unavailable.

Jammy Yang is the Plant Biology Student Affairs Officer.

Top Row (Left to Right): Dawn Loyola, John Herring, Jammy Yang; Bottom Row (Left to Right): Deidra Kornfeld, Melissa Gomez, Kathy Redd, Perla Fabelo

Name	Role	Programs	Email	Phone
Kathy Redd	Director of Center, Student Affairs Officer	Cell, Molecular, & Development Biology	kathy.redd@ucr.edu	951-827-5621
Deidra Kornfeld	Assistant Director, Student Affairs Officer	Genetics, Genomics & Bioinformatics, Mathematics	deidra.Kornfeld@ucr.edu	951-827-5688
Melissa Gomez	Assistant Director, Student Affairs Officer	Evolution, Ecology, & Organismal Biology, Entomology	Melissa.gomez@ucr.edu	951-827-5913
Perla Fabelo	Student Affairs Officer	Neuroscience Statistics Applied Statistics	perla.fabelo@ucr.edu	951-827-4716
John Herring	Student Affairs Officer	Environmental Sciences, Geological Sciences, Biomedical Sciences	john.herring@ucr.edu	951-827- 2441

Dawn Loyola	Student Affairs Officer	Biochemistry & Molecular Biology, Environmental Toxicology	dawn.loyola@ucr.edu	951-827-4116
Jammy Yang	Student Affairs Officer	Plant Biology Plant Pathology Microbiology	jammy.yang@ucr.edu	951-827-5688

SECTION 2: GRADUATE PROGRAM IN PLANT BIOLOGY: GENERAL INFORMATION

There are many steps in acquiring a graduate degree in Plant Biology. The Graduate Advisor and Student Affairs Officer for Plant Biology will enable many of these steps.

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 are available from CNAS Graduate Student Affairs Office (1140 Batchelor Hall). Throughout your studies, please keep the Student Affairs Officer (Jammy Yang) informed as to your expected exam and degree conferral completion dates. This allows Jammy to remind you of important dates and prepare critical forms.

I. GRADUATE ADVISOR DUTIES

Dr. Linda Walling (Genomics 3107A, X2-4687, linda.walling@ucr.edu) is the current student Graduate Advisor for Continuing Students and is the official representative of the Graduate Dean in matters affecting graduate students. The Graduate Advisor works in close association with Jammy Yang (the Plant Biology Staff Student Affairs Officer, BH1140, Jammy.yang@ucr.edu). Their common goal is to guide students to successful completion of their academic program. The Graduate Advisor is responsible for supervising graduate study in the program and for seeing that each graduate student is assigned a major professor. 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.

II. STAFF STUDENT AFFAIRS OFFICER DUTIES

Jammy Yang (BH1140, X2-5688, jammy.yang@ucr.edu) is the Staff Student Affairs Officer for Plant Biology. Jammy works closely with applicants to provide information on the graduate programs, disseminate policies and procedures, and overall facilitate the application process. After admission, graduate students continue to work with Jammy to ensure that they are progressing in their respective programs and meeting all deadlines set forth by the university and programs.

III. EDUCATIONAL ADVISORY COMMITTEE (EAC)

The EAC is responsible for graduate student-related matters. The committee evaluates graduate applications and recommends admission to the Graduate Dean. Also, the EAC approves student qualifying and dissertation committees, makes rulings on student petitions, and approves new courses and course revisions. Two Plant Biology graduate students participate in this committee.

IV. GRADUATE DIVISION REQUIREMENTS

Many of the policies and procedures that the Plant Biology Graduate Program uses 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. That address is: http://www.graddiv.ucr.edu/GSHndbk.pdf.

SECTION 3: GUIDELINES AND PROCEDURES FOR THE PH.D. DEGREE PROGRAM IN PLANT BIOLOGY

I. MAJOR PROFESSORS AND LAB ROTATIONS

Some students enter the Plant Biology program with a Major Professor already selected. However, the Program also allows Ph.D. students to rotate through up to three different faculty laboratories during the first quarter and part of the second quarter before identifying a Major Professor. Each rotation lasts for six weeks. This allows the student to identify a Major Professor by the end of the 8th week of their second quarter (at the latest). If there is a delay in this decision, the reasons should be relayed to the Graduate Advisor.

II. GUIDANCE COMMITTEE

During the first quarter of the program[2], a student will assemble a Guidance Committee. The chair of the 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.[3]

This Guidance Committee will assist the student with planning a formal Course Program. The Course Program prepares the student for research and the Qualifying Exam. When a student decides on a Major Professor and a research project, the Guidance Committee membership can be changed (see below).

To form a Guidance Committee, the student should contact faculty and ask about their willingness to serve on this Committee. Once Committee members are identified, the Ph.D. Guidance Committee Application Form should be filled out and 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.

III. ANNUAL PROGRESS REPORT[4]

All Ph.D. students must meet with their Guidance or Dissertation Committees at *least once per year* to review progress. This is typically due during the Spring quarter. The "*Student Progress Report Form*" and a one-page research update must be submitted promptly to remain in good academic status. See the ANNUAL GRADUATE STUDENT EVALUATION Section (Section 5) for more details.

IV. ESTABLISHMENT OF PH.D. COURSE PROGRAMS

It is recommended that the Guidance Committee meet with the student during the first quarter of the student's degree program to establish a course program. Three forms must be prepared for EAC approval. The required forms are found in this section of the manual, can be downloaded from the Plant Biology Graduate Program site, or can be obtained from the Staff Student Advisor Jammy Yang. Course programs can be complex and guidance from the Guidance Committee Chairperson is needed. The Ph.D. course program will be thoroughly discussed in the Guidance Committee. The approved Ph.D. Program form should be signed and dated by the Guidance Committee.

[2] New graduate-program approved policy (Academic Year 2011-12)
[3] Per Graduate Council (February 16, 2012)
[4] Modified forms for Progress Report (Academic Year 2011-12, 2013-14, 2014-15)

Students are expected to meet all general requirements of the Graduate Division as printed in the General Catalog. The detailed Course Program considers the specific interests of the student and will be determined by the Guidance Committee. The Course program must be approved by the EAC. The Programmatic requirements are outlined in Section A below.

Prior to the Guidance Committee meeting, three forms must be drafted by the student after consultation with the Chair of the Guidance Committee. These forms will be discussed and finalized at the Committee meeting.

1. *Ph.D. Course Program Form*
2. *Courses Required By The Committee Form*
3. *Other Courses Taken That Apply To Degree*

Prior to the Guidance Committee meeting:

1. The *Other Courses that Apply to the Degree* should be verified by the Guidance Committee Chair.

During the Guidance Committee meeting:

1. *Ph.D. Curriculum Planning Form* is filled in by the Chair of the Guidance Committee after consultation with the student and Committee members.
2. *Courses Required by the Committee Form* should be signed by the Guidance Committee prior to submission to the EAC (usually in the Guidance Committee meeting).

A. Program Prerequisites

The following courses offered at UCR, or their equivalent in content from another institution, are prerequisites for entry into the program. Students may be accepted into the program without having completed all of 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.

	UCR Course Designations
1 year General Biology	Biology 5A, 5B, 5C
1 year General Chemistry	Chemistry 1A, 1B, 1C
1 course in Genetics	Biology 102
1 course in Calculus	Math 9A
1 course in Biochemistry	Biochemistry 100 or 110A or 183
2 courses in General Physics and/or Statistics	Physics 2A, 2B or Statistics 100A or STAT 110

B. Additional Undergraduate-Level Classes

Either prior to entering the graduate program or before advancement to candidacy, students must have completed the equivalent of:

(1) BPSC 104

and

(2) one other course from the core plant biology courses (BIOL 107A, BPSC 132, BPSC 135, BPSC 138, BPSC 143, BPSC 146).

C. 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. The four Plant Biology degree options and courses are:

- **Plant Biology (no concentration):** Students must complete 12 graduate-level units in courses selected to support a student's research area; BPSC 240 topic must support the student's 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.* Courses should support the major and minor areas of emphasis for the Qualifying Exam.

- **Plant Biology with a concentration in Plant Cell, Molecular, and Developmental Biology:** Students must complete BPSC 231, 232, and 237 and the BPSC 240 topic must be related to concentration.
- **Plant Biology with a concentration in Plant Ecology:** Students 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. The BPSC 240 topic must be related to concentration.
- **Plant Biology with a concentration in Plant Genetics:** Students must complete 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. The BPSC 240 topic must be related to concentration.

D. Major and Minor Areas of Specialization

As soon as possible and no later than the end of their second quarter, students should identify one "major area" and two "minor areas" for specialization. Students are required to complete three graduate-level courses supporting their "major area". Students are examined on their major and minor areas during their Qualifying Examination. 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.

The Ph.D. Program Form should be filled out with all proposed UCR coursework. Other classes taken previously that support the degree should be listed on the "*Other courses taken that apply to degree*" page of the Course Form. A signature from the Chair of the Committee is needed to verify this form is filled in accurately.

If a student's Course Program that is proposed deviates from the Plant Biology Program requirements, the Guidance Committee must provide a rationale for this decision on the *Ph.D*. *Supplementary Information Form*.

D. Coursework Requirements and Registration Guidelines

Students must enroll in at least 12 units every quarter. Jammy Yang will work with each student to assure this is achieved each quarter.

1. **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.
2. **Professional Development:** All first-year students must enroll in BPSC 200A and BPSC 200B during their first Fall and Spring quarters, respectively.
3. **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. (See additional information about BPSC250 below).
4. **BPSC 240:** All students must complete at least one quarter of BPSC 240 in their major area of specialization *before* they advance to candidacy.
5. **Required classes for the Ph.D. in Plant Biology,** Plant Biology with a concentrations in (a) Plant Cell, Molecular, and Developmental Biology, (b) Plant Ecology or (c) Plant Genetics are outlined on the Course Approval Form.
6. **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. You must come to an agreement with a faculty member and submit a 290 petition prior to registering. BPSC 290 is for instructional purposes only and cannot be used for research.

7. **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 Jammy Yang 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 in order 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.

8. **Teaching Practicum:** Students enroll in BPSC 302 (Teaching Practicum) during the quarter(s) that they serve as a teaching assistant (See Section VII). Students typically enroll in 1 – 2 units.

E. BPSC250 Seminar Requirements

All students the Ph.D. Program must enroll in the BPSC 250 Seminar each quarter. 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[5].

When attending the BPSC 250 seminar, students will receive a S/NC grade. Students must attend 9 of 10 seminars for a satisfactory grade[6]. 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 (Linda Walling; linda.walling@ucr.edu) two weeks prior to the beginning of the quarter in question.

All Ph.D. students must present two BPSC 250 seminars. The first BPSC 250 seminar is the 3rd-year seminar (see Section F). The second BPSC 250 seminar is the public defense of the dissertation. While the dissertation defense will normally be presented in the BPSC 250 Seminar Series, if necessary, a special seminar may be scheduled for the defense. No justification is required to present a defense as a special seminar. When a student presents a 3rd-year or Dissertation seminar in the BPSC 250 series, they will receive a letter grade.

Ph.D. students cannot use a BPSC 250 seminar presented while enrolled in the Master's program to substitute for the BPSC 250 seminar requirement.

F. The BPSC250 3rd-year Seminar [7]

Purpose of the BPSC 250 3rd-year seminar

The purpose of the BPSC 250 "3rd-year" seminar is to provide each plant biology Ph.D. student an opportunity to present their research proposal and learn how to hone their public speaking skills for a diverse scientific audience. The BPSC 250 3rd-year seminar should be geared toward scientists with various levels of experience in the fields of ecology, genetics, physiology, and molecular/cell biology.

[5] Policy approved by Plant Biology Graduate Program in 2011-12.
[6] Policy added to Handbook 11-30-12.
[7] The guidelines and expectations of the BPSC 3rd-year seminar was approved by the PLBL program on 10-8-12

During the BPSC 250 3rd-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 3rd-year seminar

As suggested by its name, the BPSC 250 3rd-year seminar should be presented shortly after each graduate student has advanced to candidacy. Since Plant Biology graduate students must have a Dissertation Committee-approved Dissertation Proposal submitted three months after completion of their oral qualifying exam, it is expected that the 3rd-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.

Typically, the BPSC 250 3rd-year seminar will be given no later than the first quarter after submission of the approved-Dissertation Proposal. Only in unusual circumstances (ie., major professor is on sabbatical leave, there is a change in the student's major professor, severe illness, etc.) will the BPSC 250 seminar be delayed beyond the recommended quarter (see above).

Guidelines for the 3rd-year seminar.

Each student's BPSC talk should be 35 - 40 min. Each BPSC 250 Instructor-in-charge will provide students with best practices for the 3rd-year seminar. In general, the seminar should include:

- A comprehensive introduction (10-15 min) 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 3rd-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 3rd-year seminar to assure that the seminar will reach a broad audience. A student might also seek comments from a "mock" audience consisting of students representing the breadth of the research expertise in the plant biology program.

G. Teaching Experience

Students are required to obtain *at least* one quarter of teaching experience before they graduate. See Teaching Assistant section (in Financial Support Information) for more information about fulfilling this requirement.

V. EAC REVIEW OF COURSE PROGRAM

In reviewing course programs submitted by Guidance Committees of Ph.D. students, the EAC pays particular attention to several points:

1. The course program must include courses that will remove any deficiencies of the student.
2. The course program must include the required seminar courses (BPSC 240 and 250).
3. The course program must contain courses that will adequately prepare the student for the major and minor areas for qualifying examination and will provide a background that will enable the student to successfully carry out the dissertation and further research in his/her area of specialization.

4. The EAC examines course programs to insure consistency and quality in the education of all of our Ph.D. students.

While consistency is sought for all of our students, 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. Curricular Planning Form.* This form including the following items:

1. An explanation of any unusual circumstances regarding the deficiencies of the student.
2. A short statement of the immediate educational and career goals of the student.
3. A statement of the student's major area of specialization and two minor areas to be covered on the Qualifying Exam. The three graduate courses supporting the major area of specialization should also be explicitly identified.

VI. CHANGES TO THE GUIDANCE COMMITTEE OR COURSE PROGRAM

Students may petition to change the course program, the major area, or the minor areas at any time.

VII. FORMS: On the following pages you will find:

A. Pathway to the Ph.D. degree (1 page overview of program milestones)
B. Ph.D. Guidance Committee Approval Form
C. Ph.D. Curriculum Planning Form
D. Ph.D. Course Program Forms
E. Other Courses taken that Apply to Degree Form.
F. BPSC Course Offerings

PATHWAY TO Ph.D. DEGREE (Overview)

Meet with your Major Professor or Faculty Contact.

Initiate research. A student may do up to three ~6-week rotations

Due: Rotations should be completed by the end of the second quarter.

Nominate and meet with the Guidance Committee, submit a Curriculum Planning Form, Course Program, and choose major and minor areas of specialization.

Subject to Educational Advisory Committee (EAC) approval

Due: End of the first quarter

Reach an agreement with a Major Professor

Due: No later than one week after the final rotation

Nominate Qualifying Exam Committee

Nominations are subject to EAC and Graduate Division approval

Due: at least 3 months before exam begins

Due: Exams should be completed within 2 years of entering the program.

Set Written and Oral Qualifying Exam Dates

Two consecutive days of written exams and one three-hour oral exam (usually one week after written exams)

Due: Dates of exam must be communicated to Student Affairs Officer two weeks in advance to allow preparation of forms

Submit Proposed Dissertation Research Plan to Committee

Due: Submit document to Committee members at least 4 weeks in advance of written exam.

Advance to Candidacy

Once all course work is completed and Qualifying Exams are passed, a student advances to candidacy

Due: Within two years of entering program

Nominate Dissertation Committee

Nominations are subject to EAC and Graduate Division approval

Due: Within two weeks of passing the Qualifying Exam

Provide Dissertation Committee a Dissertation Proposal

Due: Within 2 months of passing the Qualifying Exam.

Due: Approval of revised proposal due within 3 months after exams

Dissertation Completion and Submission to Graduate Division

Due: Usually within five years of entering the program

Due: Submit title to Grad Division and date to Student Affairs Officer as soon as you know.

Ph.D. GUIDANCE COMMITTEE APPROVAL 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) _____ _____

While consistency is sought for all of our students, 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 Educational Advisory Committee will not consider a course program unless the Guidance Committee submits with the course program the following information:

1. Complete and careful review of the entrance requirements for the Ph.D. Confirm that the student has met the Department course requirements. If the student has not met the full quarters required, please provide an explanation of any unusual circumstances regarding the deficiencies, and an indication of how the student will make-up the coursework. The EAC believes that an equivalent amount of training to that which students receive at UCR is valuable. However, since other Universities' classes do not always correspond with ours, if the Guidance Committee feels the courses have met the spirit of the requirement, please provide a brief summary of the topics covered in the courses.

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

PH.D. COURSE PROGRAM FORMS[8]

Name of Student _____ Program Entry Date _____

Ph.D. Plant Biology

☐ **with a concentration in Plant Cell, Molecular, and Developmental Biology** (must complete BPSC 231, 232, and 237. BPSC 240 topic must be related to concentration.)

☐ **with a 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. BPSC 240 topic must be related to concentration.)

☐ **with a concentration in Plant Genetics** (must complete 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. BPSC 240 topic must be related to concentration.)

☐ **no concentration** (must complete 12 graduate-level units in courses selected to support a student's research area and major and minor areas; BPSC 240 topic must support the student's research area and/or major or minor areas)

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 (Elementary) or	5			
BPSC 183 or BCH 110A				
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			
Two courses in Physics and/or Statistics:				
PHYS 2A (General)	4			
2B (General)	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			

BPSC 200A _____ BPSC 200B _____BPSC 240: _____ (QTR/YR)

MAJOR AREA:_____ MINOR AREA 1:_____

MINOR AREA 2: _____

THREE GRADUATE COURSES SUPPORTING MAJOR/MINOR AREAS: _____

_____

_____

QUALIFYING EXAMINATIONS COMPLETED: Written: _____ Oral: _____

3RD YEAR SEMINCAR (BPSC 250): _____ (Quarter/Year)

PROPOSED DISSERTATION TITLE: _____

DISSERTATION RESEARCH SEMINAR: _____ (Date completed)

[8] Minor revisions to form made Sept 2014.

COURSES REQUIRED BY GUIDANCE COMMITTEE

Name of Student:_____

Note: A Student should be enrolled in 12 units of graduate-level classes each quarter.

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 297**	**Directed Research**	
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**	

Major Professor Date Guidance Committee Member Date Guidance Committee Member Date

COURSES REQUIRED BY GUIDANCE COMMITTEE (PAGE 2)

Name of Student: _____

Note: Students should be enrolled in 12 units of graduate level classes each quarter.

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**
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**

Name of Student _____

OTHER COURSES TAKEN THAT APPLY TO DEGREE

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

Coursework verified by Guidance Committee:

_____

Signature of Guidance Committee Chair

BPSC COURSES FOR 2014-2015 (courses offered every year are starred)

Fall 2014 (Even)	**Fall 2014 (even)**
*BPSC 011 Plants and Human Affairs (disc) (4) Huang	*BPSC 200A Plant Biology Core (2) Walling/ Cutler/ Ellstrand/ Li
*BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) Diez	BPSC 234 Statistical Genomics (4) Xu
*BPSC/BIOL 132 Plant Anatomy (lab) (4) P. Springer	*BPSC 237 Plant Cell Biology (4) Yang/Raikhel
BPSC 146 Plant Ecology (lab) (4) Allen	BPSC 240 Sp. Topics Plant Evolution (2) Ellstrand
*BPSC/BCH 183 Plant Biochemistry and Pharmacology (disc) (4) Eulgem	BPSC 247 Theoretical Ecology (4) Li
	*BPSC 250 Seminar (1) Rasmussen
Winter 2015 (Odd)	**Winter 2015 (odd)**
*BPSC/ENTM 050 The Evidence of Evolution (4) White	BPSC 201 Applied Ecological Modeling Lab (1) Jenerette/ Diez
*BPSC/BIOL/ENTM 112 Systematics (4) Heraty/M. Springer	BPSC 222 Origins of Agriculture & Crop Evolution (3) Waines
*BPSC/SWSC/ENSC 134 Soil Conditions and Plant Growth (4) Crowley	BPSC 225J Applied Ecological Modeling (2) Jenerette/ Diez
*BPSC 135 Plant Cell Biology(disc) (4) Yang	*BPSC 231 The Plant Genome (4) Eulgem/Bailey-Serres/Chen/Walling
*BPSC/BIOL 143 Plant Physiology (lab) (4)Lovatt	BPSC 240 Sp. Topics (2)
*BPSC 148 Quantitative Genetics (4) Xu	BPSC 240 Sp. Topics (2)
*BPSC 165 Restoration Ecology (4) Allen	*BPSC 250 Seminar (1) Waines
*BPSC 193 Senior Seminar in Plant Biology (2) Allen/ Roose	
Spring 2015 (odd)	**Spring 2015 (odd)**
*BPSC 011 Plants and Human Affairs (disc) (4) Close	*BPSC 200B Plant Biology Core (2) Walling/ Jenerette/ Gonehal
*BPSC 031 Spring Wildflowers (lab) (4) Ezcurra	*BPSC 225K Molecular Basis of Crop Plant Domestication (2) Close
*BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) staff	*BPSC 232 Plant Development (4) Springer
*BPSC 133 Taxonomy of Flowering Plants (lab) (4) Waines	BPSC 240 Sp. Topics - (2)
*BPSC 150 Genes, Selection, and Populations (disc) (4) Lukaszewski/Close	BPSC 240 Sp. Topics - (2)
	*BPSC 250 Seminar (1) Staff
*BPSC/BIOL 155 Chromosomes (4) Lukaszewski	*BPSC 261 Seminar in Genetics, Genomics and Bioinformatics (1) Xu

BPSC COURSES FOR 2015-2016 (courses offered every year are starred)

Fall 2015 (odd) *BPSC 011 Plants and Human Affairs (disc) (4) Huang *BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) Nothnagel *BPSC/BIOL 132 Plant Anatomy (lab) (4) P. Springer *BPSC/BCH 183 Plant Biochemistry and Pharmacology (4) Eulgem	**Fall 2015 (odd)** *BPSC 200A Plant Biology Core (2) (Walling lead) PLPA/BPSC/CMDB/GEN 230 Molecular Plant-Microbial Interactions (3) Jin/Kaloshian *BPSC 237 Plant Cell Biology (4) Yang/Raikhel BPSC 245 Advanced Plant Ecology (4) Li *BPSC 250 Seminar (1) Staff
Winter 2016 (even) *BPSC/ENTM 050 The Evidence of Evolution (4) Ellstrand, White *BPSC/BIOL/ENTM 112 Systematics (4) Heraty/M. Springer *BPSC/ENSC 134 Soil Conditions and Plant Growth (4) Crowley *BPSC 135 Plant Cell Biology (disc) (4) Yang *BPSC/BIOL 143 Plant Physiology (lab) (4) Santiago *BPSC 148 Quantitative Genetics (4) Xu *BPSC/BIOL 165 Restoration Ecology (lab) (4) Allen *BPSC 193 Senior Seminar in Plant Biology (2) Allen/ Roose	**Winter 2016 (even)** *BPSC 231 The Plant Genome (4) Eulgem/Bailey-Serres/Chen/Walling BPSC 240 Sp. Topics BPSC 246 Landscape Ecology (4) Jenerette *BPSC 250 Seminar (1) Ellstrand
Spring 2016 (even) *BPSC 011 Plants and Human Affairs (disc) (4) Close *BPSC 021 California's Cornucopia: From Field to Table (5) Ellstrand *BPSC 031 Spring Wildflowers (lab) (4) Ezcurra *BPSC/BIOL 104 Foundations of Plant Biology (lab) (4) Diez *BPSC 133 Taxonomy of Flowering Plants (lab) (4) Staff *BPSC 150 Genes, Selection, and Populations (disc) (4) Lukaszewski/Close *BPSC/BIOL 155 Chromosomes (4) Lukaszewski	**Spring 2016 (even)** *BPSC 200B Plant Biology Core (2) Staff (Walling lead) BPSC/CMDB 205 Signal Transduction in Microbes & Plants (4) Borkovich/Roper BPSC 221 Advanced Plant Breeding (4) Roose *BPSC 225K Molecular Basis of Crop Plant Domestication (2) Close *BPSC 232 Plant Development (4) Gonehal BPSC 239 Advanced Plant Physiology (4) Lovatt BPSC 240 Sp. Topics - BPSC 240 Sp. Topics - Glycobiology (2) Nothnagel BPSC 243 Plant Physiological Ecology (disc) (4) Santiago *BPSC 250 Seminar (1) Staff *BPSC 261 Seminar in Genetics, Genomics and Bioinformatics (1) Xu

VIII. THE QUALIFYING EXAMINATION[1]

A. 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.

B. Formation of the Qualifying Examination Committee

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 is normally administered near the end of the second year 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 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.[2]

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 purpose of 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, 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 alternative 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 should be submitted to the Plant Biology Student Affairs Officer (Jammy Yang). The Committee members must be approved by the Educational Advisory Committee and subsequently approved by the Graduate Division. ***This form should be submitted at least three months before the proposed exam date.***

C. Changing Qualifying Exam Committee Members or Date of Exam

If there is a change in the composition of the members of the QE Committee, a new "*Request for Formation of the PhD Qualifying Examination Committee*" form should be filled out and a memo of explanation to the Graduate Student Affairs Officer (Jammy Yang) 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.***

[1] Qualifying Exam Guidelines were updated and approved in 2011-12.
[2] Per Graduate Council (February 16, 2012)

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 Affairs Officer must be informed of the urgency of the request and the reasons for short notice of these changes.

The change to the Committee membership or date is not considered final until the change is approved by the Graduate Dean and a signed copy of "*Request for Formation of the PhD Qualifying Examination Committee*" form has been returned to the Program with the Graduate Dean's signature. ***No exam can take place without this approval.***

D. 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 (Section E),
- finding a room for the exams (Section E),
- talking to Committee members to understand expectations for the exam (Section F), and
- understanding the format of the written and oral exams (Section I and J).

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.

E. Setting the Date and Rooms for the Exams

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 difficulty 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. The Plant Biology Graduate Student Affairs Officer (Jammy Yang) will help the student with room scheduling for the examination.

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.

F. Preparation for the Examination

Once the Graduate Educational Advisory Committee 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 hard copy of the research proposal to each member of the QE Committee (see Section G below**).** 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 identify other students in the program who have successfully completed their QEs. The student "examiners" should represent the major and minor areas of study and if possible the student's area of research. A mock oral exam can be good test of a student's knowledge and ability to "think on your feet".

G. Guidelines for the Research Proposal for the Student

1. 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.

2. 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. **Proposals are expected to contain an introduction, research objectives and hypotheses, methods, progress to date (if applicable), and rationale and significance of the proposed research.**

3. Format

The text, figures and tables of the proposal must be limited to 5-6 pages single-spaced with 1-inch margins and GC Times Roman at 12 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.

a. 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.

b. 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.

c. Methods

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

d. Rationale and Significance

How does the research make a contribution 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?

H. 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.

I. The Written Examination

All of the QE Committee Members except the Outside member must submit questions for the written portion of the examination to the Chair of the QE. The Outside member has the option to contribute questions for the written examination.

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 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.

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

***2. 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 completed 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.[3]

J. The Oral Examination

1. General Information:

The oral examination 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 of the Committee members must be physically present at the Ph.D. Oral Examination[4]. 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 must depart, the exam must be paused until the faculty member returns.

[3] Change made 12-11-2013 per Graduate Division request.
[4] Graduate Division Policy. April 18, 2013.

2. 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. 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 Qualifying Exam two weeks prior to the oral exam.

3. 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 to 20 minute) presentation on their research. The student usually starts with an introduction of their educational background and career goals.
- Each committee member will have up to 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.

1. 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 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 Ph.D. program.

2. Academic Appeal of a Qualifying Exam Decision[5]

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 contact the Plant Biology Graduate Advisor for Continuing Students or the Vice-Chair of the Department of Botany and Plant Sciences to initiate an appeal. 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 at this first meeting. The Graduate Advisor or Vice Chair will bring the appeal to the Graduate Educational Advisory Committee (EAC) for consideration.

[5] This section was revised in response to Graduate Council memos dated Jan 19, 2012 and July 5, 2012.

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).

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.[6]

K. Assembly of Dissertation Committee and Submission of Dissertation Project

Within 2 weeks of passing the Oral Exam, a student should determine the membership of their Dissertation Committee (Section IX). Within 2 months of passing the Oral Qualifying Exam, the students should submit a Dissertation Proposal to their Dissertation Committee for approval (Section X). The proposal should be approved within 3 months and a copy of the approved proposal should be provided to the Student Affairs Officer (Jammy Yang). The front page of the proposal should include the date of approval, as well as the Dissertation Committee member's names and their signatures.

L. 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 will be sent the *"Report of Departmental Requirements for Ph.D. Degree."* In order for students to be formally advanced to candidacy, this form must be returned to the Graduate Division. The student will be billed the Candidacy Fee after the degree check has been completed. The student and graduate program will be notified of the formal advancement to candidacy. The Candidacy Fee is later used to pay for microfilming the student's dissertation.

IX. DISSERTATION COMMITTEE[7]

In consultation with their Major Professor, students must establish a Dissertation Committee **no later than *two weeks* after they pass their Qualifying Examinations**. 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.[8]

[6] Change made 12-11-2013 per Graduate Division request.
[7] A new Dissertation Committee Form was approved 3/12/12.
[8] per Graduate Council (February 16, 2012)

Students should fill out the *PhD. Dissertation Committee Form* and submit the completed form to the Plant Biology Graduate Student Affairs Officer (Jammy Yang). The Dissertation Committee must be approved by the Plant Biology Graduate Advisor and the 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 three months after the successful completion of the Qualifying Exams) and assist the student to revise 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. The Annual Progress Evaluation form must be submitted the end of the Spring quarter. It must be approved by the Graduate Advisor. Students should plan the meeting in advance to assure all Committee members are available.

X. SUBMISSION AND APPROVAL OF DISSERTATION PROPOSAL[9]

Within 2 months of passing the Qualifying Examination, the student must provide his/her Dissertation Committee with a 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 approval, 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 to revise the proposal accordingly. The student must complete these revisions to the satisfaction of the Dissertation Committee within 3 months of passing the Qualifying Examination. 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.

The Dissertation Committee will indicate receipt of the draft proposal on the annual Graduate Student Evaluation form. Revisions to the proposal should be similarly noted on this form in the appropriate year.

XI. DISSERTATION COMPLETION

The dissertation may be of conventional format or include manuscripts for publication. In the latter case, candidates must be first authors of manuscripts that cover substantive parts of the thesis. Irrespective of the format of the thesis, the introduction, literature review, methods, results, discussion, and conclusions must be approved by the Dissertation 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 dissertation.

Students should obtain a description from the Graduate Division of their specific requirements for the dissertation and the use of manuscripts as part of the dissertation.

The student should consult with the CNAS Graduate Student Affairs Center regarding deadline dates for filing rough and final drafts of the dissertation and for scheduling the final defense.

Ph.D. students must present their Dissertation Research in a public seminar. Most often this is 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[10]. 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.

[9] Timeline for the submission of the Dissertation Committee approved Dissertation Proposal was changed 2011-12.
[10] Graduate Division Policy. April 18, 2013

XII. FORMS

A. REQUEST FOR THE FORMATION OF THE PH.D. QUALIFYING EXAM COMMITTEE
B. PH.D. DISSERTATION COMMITTEE FORM

REQUEST FOR FORMATION OF THE PH.D. QUALIFYING EXAMINATION COMMITTEE

Background and Instructions[11]:

The Major Professor, working in consultation with the student, suggests the composition of the Ph.D. Qualifying Examination Committee, which is then nominated by the Educational Advisory Committee and approved by the Graduate Division. The purpose of this form is to assist the student and his/her Major Professor in requesting formation of the Qualifying Examination Committee.

The Qualifying Examination Committee consists of five members. At least three of the members, including the Chair, must be members of the Botany and Plant Sciences faculty or Cooperative Extension faculty. At least one member must be from outside the Department. The Major Professor shall not be a member of the Qualifying Examination Committee. The student must ask faculty members in advance if they would be willing to serve on the Qualifying Examination Committee or to serve as Chairman of the Committee.

The purpose of the qualifying examination is to verify knowledge in the student's major area and two minor areas of specialization. These areas were selected at the time a student's course program was established can be found on the Educational Advisory Committee (EAC)-approved Course Program. If a change in the areas of specialization are needed due to changes in a student's research emphasis, this change must be approved by the EAC. This can be done prior to or at the time of the formation of the Qualifying Exam Committee. Allow sufficient time for this approval.

The Qualifying Examination Committee will be composed of individuals representing the major area and two minor areas of specialization. To request formation of the Qualifying Examination Committee, list the major and two minor areas of specialization that will be the focus of the qualifying examination. For each area of specialization, suggest a faculty member with expertise in that area. The five members must include at least two members to examine in the major area and at least one member to examine in each minor area. Suggest alternate faculty members for at least two of the listed areas. Note that a faculty member listed for a particular area is not restricted to asking questions only in the designated area.

The proposed dates for the written and oral exams should be indicated on the form.

Both the student and the Major Professor should sign the completed form and return it to the Bio Sci Graduate Student Affairs Office (1140 Batchelor Hall) for approval by the Educational Advisory Committee.

[11] Instructions revised 9/2012

REQUEST FOR FORMATION OF THE PH.D. QUALIFYING EXAMINATION COMMITTEE[12]

Student's Name_____ **Date:** _____

Major Area_____

Minor Area 1_____

Minor Area 2_____

Committee Members from Inside the Department:

Chair of the Qualifying Exam Committee:

Faculty Member Name	Examination Area	Alternate Faculty Member
_____	_____	_____

Other Members from the Plant Biology Program:

Faculty Member Name	Examination Area	Alternate Faculty Member
_____	_____	_____
_____	_____	
_____	_____	

Committee Member from Outside of the Department:

Faculty Member Name	Examination Area	Alternate Faculty Member
_____	_____	_____

Student Signature _____

Major Professor Signature _____

Instructions: Return the ***signed*** form to Jammy Yang in the CNAS Grad. Student Affairs Office (1140C Batchelor Hall).

[12] Minor adjustments to form 9/2014.

Plant Biology Graduate Program

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 Affairs Officer (Jammy Yang). The Dissertation Committee must be approved by the Plant Biology Graduate Advisor and Graduate Division.

Student Name: _____ **Signature:** _____

Dissertation Title:

_____

_____

Committee Members (Print Name)	**Committee Member Initials**	**Date**
_____	_____	_____
_____	_____	_____
_____	_____	_____

Approval:

Graduate Advisor: _____ **Date:** _____

Dissertation Committee Form-FINAL.doc (approved 3/12/12; updated per Grad council 4/12)

SECTION 4: GUIDELINES AND PROCEDURES FOR THE MASTER'S PROGRAM IN PLANT BIOLOGY

The specific requirements for conferral of the Plan I (Thesis) and Plan II (Comprehensive Exam) Master's degrees are substantively different in Plant Biology. Each program offers tracks in Botany or Plant Science.

I. MAJOR PROFESSORS AND LAB ROTATIONS

Most M.S. students enter the Plant Biology program with a Major Professor already selected. However, the Department also allows M.S. students to rotate through up to three 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.

II. GUIDANCE COMMITTEE

During the first quarter, a student will assemble Guidance Committee. The chair of the Guidance Committee is the Major Professor or faculty contact (often the first faculty member a student does a rotation with). Guidance Committee has two other faculty members. The Guidance Committee helps the student establish a program of courses and guides thesis research (see Section IV below). The Guidance Committee normally becomes the Thesis Committee for Plan I students. The Committee must contain at least one other member from the Plant Biology graduate program. When a student decides on a Major Professor, the Guidance Committee membership can be changes (see below).

To form a Guidance Committee, the student should contact faculty and ask about their willingness to serve on this Committee. The nominations for the Guidance Committee are placed on the *M.S. Guidance Committee Application Form*, which is found in this section of the Handbook. The student, Major Professor/Faculty contact, and two Committee members must sign the *M.S. Guidance Committee Approval* form. The Committee is subject to approval by the EAC.

III. STUDENT PROGRESS REPORT[21]

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. The "*Student Progress Report Form*" and a one-page research update must be submitted promptly to remain in good academic status. See SECTION 5- ANNUAL PROGRESS REPORT.

IV. ESTABLISHMENT OF COURSE PROGRAMS

Each student is required to submit a Course Program no later than the end of the student's first quarter. After appointment by the EAC, the Guidance Committee will, in consultation with the student, define a program of courses, study and research that is appropriate for Plan I (Thesis) or Plan II (Comprehensive Examination). Students and faculty are encouraged to develop individual programs that suit the specific needs of the student. 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.

The course requirements for Plan I (Thesis) and Plan II (Comprehensive Exam) Masters degrees are distinct and are iterated in the next sections. Documents must be approved by the Guidance Committee and submitted to the EAC for approval. Course programs can be complex and guidance from the major professor/faculty contact is needed. The Master's course program will be thoroughly discussed in the Guidance Committee.

Prior to the Guidance Committee meeting, three forms must be drafted by the student after consultation with the Chair of the Guidance Committee. These forms will be discussed and finalized at the Committee meeting.

1. *M.S. Course Program Form*
2. *Courses Required By The Committee Form*
3. *Other Courses Taken That Apply To Degree*

[21] The *Student Progress Report Form* was revised 2011-12 and 2013-14

Prior to the Guidance Committee meeting:

1. The *Other Courses that Apply to the Degree* should be verified by the Guidance Committee Chair.

During the Guidance Committee meeting:

1. *M.S. Curriculum Planning Form* is filled in by the Chair of the Guidance Committee after consultation with the student and Committee members.
2. *Courses Required by the Committee Form* should be signed by the Guidance Committee prior to submission to the EAC (usually in the Guidance Committee meeting).

The *Master's Program* form is found in this section of the manual, can be downloaded from the Plant Biology Graduate Program site, or can be obtained from the Staff Student Advisor Officer Jammy Yang. The approved *Master's Program* form should be signed and dated by the Guidance Committee and student. The form should be submitted to the EAC for approval no later than the end of the student's second quarter.

Changes to approved Course Programs must be approved by the Guidance Committee and the EAC.

V. EAC REVIEW OF COURSE PROGRAMS

In reviewing course programs submitted by Guidance Committees of M.S. students, the EAC pays particular attention to several points:

1. The course program must include courses that will remove any deficiencies of the student.
2. The course program must include the required seminar courses (BPSC 240 and 250).
3. The course program must contain courses that will adequately prepare the student for the thesis defense and will provide a background that will enable the student to successfully carry out the dissertation and further research in his/her area of specialization.
4. The EAC examines course programs to insure that appropriate numbers of classes in *Sections I-IV* are proposed.

While consistency is sought for all of our students, 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 *Curriculum Planning Form* including the following items:

1. An explanation of any unusual circumstances regarding the deficiencies of the student.
2. A short statement of the immediate educational and career goals of the student.
3. In the case of an M.S. Plan II, student a statement of the student's major area of specialization and minor area(s) to be covered on the Comprehensive Exam.

VI. REQUIREMENTS FOR THE PLAN I (THESIS) M.S. IN PLANT BIOLOGY

A. Program Prerequisites

The following courses offered at UCR, or their equivalent in content from another institution, are prerequisites for entry into the program. Students may be accepted into the program without having completed all of 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.

	UCR Course Designations
1 year General Biology	Biology 5A, 5B, 5C

1 year General Chemistry	Chemistry 1A, 1B, 1C
1 course in Genetics	Biology 102
1 course in Calculus	Math 9A
1 course in Biochemistry	Biochemistry 100 or BCH 110A or BPSC 183
2 courses in General Physics and/or	Physics 2A, 2B
Statistics	Statistics 100A or 105 or 120A

Deficiencies in the course requirements must be eliminated and transcripts for evidence of completion of all deficiencies and prerequisites are required.

B. Course Requirements for Plan I (Thesis) M.S.

For the Plan I (Thesis) Master of Science (M.S.) degree, the requirements include courses from five course lists List I-V). The lists of the specific classes are provided on the *M.S. Course Program Forms,* which can be found in this section of the Handbook (*Section IX: Courses approved for Sections I-V of the M.S. in Plant Biology*). M.S. students must enroll in at least 12 units every quarter. The course requirements for the Plan I M.S. degree are:

1. **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.
2. **Section I:** Three courses from Section I of either the Botany track or Plant Science track M.S. list (typically 12 units). Students who have taken comparable courses during their baccalaureate training may have a portion or all of this section waived. In such instances, however, it is expected that their programs will include increased units in courses from Section II, III, and/or IV. Recommendations for waivers should specify alternative courses and should be sent to the EAC for approval.
3. **Section II:** At least 6 units from Section II, which includes graduate and upper-division undergraduate courses in related departments or programs and/or professional development courses (ie., BPSC 200A-B).
4. **Section III:** At least 6 units from either the Botany track or Plant Science track M.S. Section III course list.
5. **Section V: (Plan I only)** A total of 6 to 12 units of BPSC 299, BPSC 297, and BPSC290. (See form for course unit limitations).
6. **BPSC 240 requirement.** All M.S. students must complete at least two quarters of BPSC 240 during the Master's Program.
7. **BPSC 290** – BPSC 290 can be used for independent or directed studies in a specific subject matter that is not covered by a standard course. You must come to an agreement with a faculty member and submit a 290 petition prior to registering. BPSC 290 is for instructional purposes only and cannot be used for research.
8. **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 classes and Jammy Yang will assure that students are appropriately enrolled.

   BPSC 291 – Used for students who 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. Note, BPSC 291 units will not count as part of the required 36 units towards the MS degree.

   BPSC 292 – Used for students who are concurrently enrolled in an undergraduate course in order 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.

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

   BPSC 299 – Directed research. M.S. or Ph.D. students preforming research enroll in this class after advancement to candidacy. Maximum of 12 units per quarter.

   BPSC 302 – Teaching practicum. Student is serving as a teaching assistant must enroll in this class. Students typically enroll in 1 – 2 units. Teaching is not a requirement for the Plant Biology M.S. Program.

C. BPSC 250 Seminar Requirement[22]

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.

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. The program strongly encourages all students to schedule their seminars during a quarter when BPSC 250 is offered (currently fall and spring, not winter). ***Note that there is no requirement for a M.S. thesis defense seminar.*** However, M.S. students in the thesis plan will typically present a BPSC 250 seminar on their thesis research, but this is not required for the degree.

Grades are S/NC except for the quarters that a student presents a seminar. In those quarters, the instructor will assign a student a letter grade (see below).

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 and the rationale to the Graduate Advisor for Continuing Students (Linda Walling; linda.walling@ucr.edu) 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.

If a student cannot present their seminar as part of the BPSC 250 series, then he/she must arrange for a "special seminar" that should be announced to the program (by posting a notice) at least one week before the seminar. A student must petition the EAC to approve use of the 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. Students cannot enroll in BPSC 250 while on filing fee and, therefore, the seminar should be completed before going on filing fee.

D. Teaching Experience

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

E. Advancement to Candidacy and the Thesis Committee

After completion of the MS 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 (See Course Program Section).

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. The official forms for the establishment of the thesis committee and advancement to candidacy are from the Graduate Division and cannot be reproduced here. Contact Jammy Yang in the CNAS Graduate Student Affairs Center for the portion of the form that students must complete. Once completed, return the form to Jammy.

F. Plan I Thesis Format

The thesis may be of conventional format or include manuscripts for publication (http://graduate.ucr.edu/dissertation.html). In the latter case, candidates must be senior authors of manuscripts that cover substantive parts of the thesis. Irrespective of the format of the thesis, the introduction, literature review, methods, results, discussion, and conclusions must be approved by the Thesis Committee. Candidates

[22] The Plant Biology BPSC250 policies changes in 2011-12.

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 obtain a description from the Graduate Division of their 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.

There is no requirement for a thesis defense seminar, although a seminar presenting the student's accomplishments is encouraged.

VII. REQUIREMENTS FOR THE PLAN II (COMPREHENSIVE EXAM) M.S. IN PLANT BIOLOGY

A. Program Prerequisites

The following courses offered at UCR, or their equivalent in content from another institution, are prerequisites for entry into the program. Students may be accepted into the program without having completed all of 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.

	UCR Course Designations
1 year General Biology	Biology 5A, 5B, 5C
1 year General Chemistry	Chemistry 1A, 1B, 1C
1 course in Genetics	Biology 102
1 course in Calculus	Math 9A
1 course in Biochemistry	Biochemistry 100 or BCH 110A or BPSC 183
2 courses in General Physics and/or Statistics	Physics 2A, 2B Statistics 100A or STAT110

Deficiencies in the course requirements must be removed and transcripts for evidence of completion of all deficiencies and prerequisites are required.

B. Course Requirements for Plan II (Comprehensive Exam)

For the Plan II (Comprehensive Exam) Master's degree, the course requirements include courses from four course lists. The lists of the specific classes for Requirements and Sections I-III are provided on the Course Program Forms. M.S. students must enroll in a total of at least 12 units every quarter. The course requirements for the Plan II M.S. degree are:

1. **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.
2. **Section I.** Three courses from Section I of either the Botany track or Plant Science track M.S. list (typically 12 units). Students who have taken comparable courses during their baccalaureate training may have a portion or all of this section waived. In such instances, however, it is expected that their programs will include increased units in courses from Section II and/or III. Lists of the specific classes for Requirements and Sections I-III are provided on the Course Program Forms. Recommendations for waivers should specify alternative courses and should be sent to the EAC for approval.
3. **Section II:** At least 6 units from Section II which includes graduate and upper-division undergraduate courses in related departments or programs and/or professional development courses (ie., BPSC 200A-B).
4. **Section III:** At least 12 units from Section III of either the Botany track or Plant Science track M.S. list.
5. **Section IV:** At least 6 units and no more than 12 units from Section IV should be taken to complete a research project (BPSC 297) or literature review (BPSC 290) that is required for the Plan II Comprehensive Exam Report.
6. **BPSC 240 requirement.** All M.S. students must complete at least two quarters of BPSC 240 during the Master's Program.
7. **Research classes (**BPSC 290, 291, 292, 297, and 299). Students are typically enrolled in research units each quarter they are enrolled. Students may take up to six units of BPSC 291 when preparing for the Comprehensive Examination. There is a progression of classes and Jammy Yang will assure that students are appropriately enrolled.

BPSC 290 can be used for independent or directed studies in a specific subject matter that is *not* covered by a standard course. You must come to an agreement with a faculty member and submit a 290 petition prior to registering. BPSC 290 is for instructional purposes only and cannot be used for research. This is typically used for the research for a literature report.

BPSC 291 – 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 – Enroll in this concurrently with an undergraduate course in order 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. student who has not advanced to candidacy. You can enroll in a maximum of 6 units per quarter.

BPSC 302 – Teaching practicum. If you are serve as a teaching assistant. Students typically enroll in 1 – 2 units. Teaching is not a requirement for the Plant Biology M.S. Program.

C. BPSC 250 Seminar Requirement[23]

All full-time students in residence in the M.S. Program (Plan II) must enroll in the BPSC 250 Seminar each quarter. Grades are S/NC. One BPSC 250 seminar must be presented by all Plan II students. Part-time students must take one BPSC 250 Seminar for every 12 units of courses.

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 and the rationale to the Graduate Advisor for Continuing Students (Linda Walling; linda.walling@ucr.edu) 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.

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. The program strongly encourages all students to schedule their seminars during a quarter when BPSC 250 is offered (currently fall and spring, not winter).

If a student cannot present their seminar as part of the BPSC 250 series, then he/she must arrange for a "special seminar" that should be announced to the program (by posting a notice) at least one week before the seminar. A student must petition the EAC to approve use of the 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. Students cannot enroll in BPSC 250 while on filing fee and, therefore, the seminar should be completed before going on filing fee.

D. Plan II – The Comprehensive Exams and Report

1. Purpose of the Exam.

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 subdisciplines of the major area) and the content of the M.S. report. . 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 subdisciplines 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.

[23] The BPSC 250 seminar requirement changed in 2011-12.

2. Timing of the Comprehensive Exam

The student must first successfully complete a program of courses, study and research as defined by the Guidance Committee. The student will select one major area and one or two minor areas of emphasis in which the student will be examined (see *Request for Formation of M.S. Comprehensive Examination Committee* form in this section of the Handbook). Students may take up to six units of BPSC 291 when preparing for the Comprehensive Examination.

3. Formation of the Comprehensive Exam Committee[24]

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 will 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 assure 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.*[25] 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 Affairs Officer (Jammy Yang).The EAC will approve the members of the Committee***. The form should be submitted at least three months prior to the proposed exam date.***

4. Changing Qualifying Exam Committee Members or Date of Exam

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 Graduate Student Affairs Officer (Jammy Yang) 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 Affairs Officer must be informed of the urgency of the request and the reasons for short notice of these changes.

The change to the Committee membership or date is not considered final until the change is approved by the Graduate Dean and a signed copy of "*Request for Formation of the PhD Qualifying Examination Committee*" form has been returned to the Program with the Graduate Dean's signature. ***No exam can take place without this approval.***

5. 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 exams (Section D.6),
- finding a room for the exams (Section D.6),
- talking to Committee members to understand expectations for the exam (Section D.7), and

[24] MS comprehensive exam policy changes approved 10-29-12.
[25] Change made 12-11-2013 per Graduate Division request.

- understanding the format of the written and oral exams (Section D.8).

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.

6. Setting the Date and Rooms for the Exams

Once the 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. Students should be aware that it is often difficulty 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. The Plant Biology Graduate Student Affairs Officer (Jammy Yang) will help the student with room scheduling for the examination.

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.

7. 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 research report to each member of the Comprehensive Exam Committee (see Section G below). Any delays might cause postponement 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[26]. The student "examiners" should represent the major and minor areas of study and if possible the student's area of research. A mock oral exam can be good test of a student's knowledge and ability to "think on your feet".

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 (see Section E), 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 E. Guidelines for the M.S. Plan II Comprehensive Examination Report*s). ***The report must be approved by the Committee <u>prior</u> 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 [27]

The written examination will consist of a three1 1/2- to 2-hr 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 QE Committee Member may waive some or all of these

[26] Change made 12-11-2013 per Graduate Division request.
[27] Changes to the MS Comprehensive Exam were approved October 29, 2012.

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 takes a break between exams and arrange for a time to begin subsequent exams with the Chair.

After the written examinations 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.

a*. Written Exam - A Pass*: To proceed to the oral exam, a student must pass two of three written exams.

b. 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 Examination. 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.[28]

10. The Oral Exam

a. 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 of the Committee members must be physically present at the Oral Examination[29]. 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. [30]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.

b. Oral Presentation

During the first 10 minutes of the oral exam, the student will present an overview of their research report, 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. 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 Qualifying Exam two weeks prior to the oral exam.

[28] Change made 12-11-2013 per Graduate Division request.
[29] Graduate Division Policy. April 18, 2013.
[30] Change made 12-11-2013 per Graduate Division request.

c. 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 minute) presentation on their research report. The student usually starts with an introduction of their educational background and career goals.
- Each committee member will have up to 20 minutes to ask the student questions.
- There is usually a 5 to 10-minute break after the second 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.

d. 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 be encouraged to 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 have two positive votes to pass the oral exam. In the case of a failure, the student can be failed with no possibility of reexamination, or failed with option of reexamination. In the case of a failed exam and a recommendation for a retake exam, the student should consult with the Graduate Advisor for the timing of the retake exam. A period of at least four weeks is recommended prior to the retake exam; this provides the student adequate time to repair any deficiencies that were identified in the exam. The oral examinations may only be taken twice.

When an exam is completed, the *Report of the MS Comprehensive Examination*[31] should be completed to record the vote of Comprehensive Exam Committee members and the outcome of the exam. If the MS student has asked for a recommendation for continuation to the UCR Plant Biology PhD program, the MS Comprehensive Exam Committee members should provide this recommendation and its rationale on page two of the *Report of the MS Comprehensive Examination*.

1. Academic Appeals – MS Comprehensive Exam[32]

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 contact the Plant Biology Graduate Advisor for Continuing Students or the Vice-Chair of the Department of Botany and Plant Sciences to initiate an appeal. 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 at this first meeting. 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

[31] The *Report of the MS Comprehensive Examination* was approved on October 29, 2012.
[32] This procedure was modified on October 8. 2012 in response to Graduate Council memos dated Jan 19, 2012 and July 5, 2012.

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).

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 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.[33]

2. Optional recommendation for 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 recommendation will be reported on the *Report of the MS Comprehensive Examination.*

E. Guidelines for the M.S. Plan II Comprehensive Examination Reports

1. 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.

2. Evaluation of the Written Report

The report will be evaluated on a pass/fail basis by the members of the Comprehensive Examination Committee who will 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.

3. 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)

[33] Change made 12-11-2013 per Graduate Division request.

- 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

VIII. CHANGES TO COURSE PROGRAMS OR COMMITTEES

Students may petition to change the course program or Committee membership at any time. Appropriate forms need to be submitted and approved by the EAC.

Students who would like to consider a switch to the Ph.D. program may petition to do so at the end of 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 advisors and submit a request to the EAC using forms available in the Graduate Affairs Office.

IX. COURSES APPROVED FOR SECTIONS I-V OF THE M.S. IN PLANT BIOLOGY

A. Section I. Upper Division Undergraduate Courses

Botany Track

BCH 183 (3 units) Plant Biochemistry
BIOL/MCBL/PLPA 120 (4 units) Introduction to Plant Pathology
BIOL/PLPA 134 (3 units) Introduction to Mycology
BPSC/BIOL 104 (4 units) Foundations of Plant Biology
BPSC/BIOL/ENTM 112 (4 units) Systematics
BPSC/BIOL 132 (5 units) Plant Anatomy
BPSC 133 (4 units) Taxonomy of Flowering Plants
BPSC/ENSC/SWSC 134 (4 units) Soil Conditions and Plant Growth
BPSC 135 (3 units) Plant Cell Biology
BPSC/BIOL 138 (4 units) Morphology of Vascular Plants
BPSC/BIOL 143 (4 units) Plant Physiology
BPSC 144 (4 units) Biosystematics
BPSC 146 (4 units) Plant Ecology
BPSC 148 (4 units) Quantitative Genetics
BPSC/BIOL 155 (4 units) Chromosomes
BPSC/BIOL 165 (4 units) Restoration Ecology
BPSC 166 (4 units) Environmental Plant Physiology
BPSC/ANTH 170 (4 units) Ethnobotany
BPSC/BCH 185 (4 units) Molecular Evolution

Plant Science Track

BCH 183 (3 units) Plant Biochemistry
BIOL 120/MCBL 120/PLPA 120 (3 units) Introduction to Plant Pathology
BIOL 134/PLPA 134 (3 units) Introduction to Plant Mycology
BPSC/BIOL 104 (4 units) Foundations of Plant Biology
BPSC/BIOL/ENTM 112 (4 units) Systematics
BPSC/BIOL 132 (5 units) Plant Anatomy
BPSC 133 (4 units) Taxonomy of Flowering Plants
BPSC/ENSC/SWSC 134 (4 units) Soil Conditions and Plant Growth
BPSC 135 (3 units) Plant Cell Biology
BPSC/BIOL 138 (4 units) Morphology of Vascular Plants

BPSC/BIOL 143 (4 units) Plant Physiology
BPSC 144 (4 units) Biosystematics
BPSC 146 (4 units) Plant Ecology
BPSC 148 (4 units) Quantitative Genetics
BPSC 150 (4 units) Genes, Selection and Populations
BPSC/BIOL 155 (4 units) Chromosomes
BPSC 158 (4 units) Subtropical and Tropical Horticulture
BPSC/BIOL165 (4 units) Restoration Ecology
BPSC 166 (4 units) Environmental Plant Physiology
BPSC/ANTH 170 (4 units) Ethnobotany

Section II. Graduate and Upper Division Undergraduate Courses in Related Departments or Programs

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:

Section III. Graduate Courses in the Department

Botany Track

BCH/CMDB/GEN/MCBL/PLPA 205 (4 units) Signal Transduction Pathways in Microbes and Plants
BPSC 201(E-Z) (1-2 units) Methods in Plant Biology (for a maximum of 2 units)
BPSC 210 (4 units) Methods in Arabidopsis Research
BPSC 223 (4 units) Applied Evolutionary Genetics
BPSC/BCH 231 (4 units) The Plant Genome
BPSC/BIOL 232 (4 units) Plant Development
BPSC 234 (4 units) Statistical Genomics
BPSC 237 (4 units) Plant Cell Biology
BPSC 239 (3 units) Plant Metabolism
BPSC 240 (2 units) Special Topics in Plant Biology (only if taken in addition to the required units, see Seminar Requirement)
BPSC 243 (4 units) Environmental Plant Physiology
BPSC 245 (4 units) Advanced Plant Ecology
BPSC 247 (4 units) Ecological Theory and Modeling
BPSC 280 (2-12 units) Maya Subsistence and Biodiversity (maximum of 4 units will count towards degree)

Plant Science Track
BPSC 201(E-Z) (1-2 units) Methods in Plant Biology (for a maximum of 2 units)
BCH/CMDB/GEN/MCBL/PLPA 205 (4 units) Signal Transduction Pathways in Microbes and Plants
BPSC 220 (3 units) Physiology of Tree Crop Productivity
BPSC 221 (4 units) Advanced Plant Breeding
BPSC 222 (3 units) Origins of Agriculture and Crop Evolution
BPSC 223 (4 units) Applied Evolutionary Genetics
BPSC 231 (4 units) The Plant Genome
BPSC 232 (4 units) Plant Development
BPSC 234 (4 units) Statistical Genomics
BPSC 237 (4 units) Plant Cell Biology
BPSC 239 (3 units) Plant Metabolism
BPSC 240 (2 units) Special Topics in Plant Biology (only if taken in addition to the required units, see Seminar Requirement)
BPSC 243 (4 units) Environmental Plant Physiology
BPSC 245 (4 units) Advanced Plant Ecology
BPSC 247 (4 units) Ecological Theory and Modeling
BPSC 280 (2-12 units) Maya Subsistence and Biodiversity (maximum of 4 units will count towards degree)
Section IV. Plan II only (Comprehensive Exam Plan)

A total of 6 to 12 units from BPSC 290 (literature review) and/or BPSC 297 (research project), which should be described in a report to be submitted for evaluation by the Comprehensive Examination Committee.

Section V. Plan I only (Thesis Research)

A total of 6 to 12 units of research units (BPSC 290, 297 or 299). No more than 6 units of BPSC290/297.

X. FORMS

A. Pathways to M.S. Degrees in Plant Biology

B. M.S. Guidance Committee Approval Form

C. M.S. Curriculum Planning Form

D. M.S. Course Program Forms

E. Courses Required by Guidance Committee Form

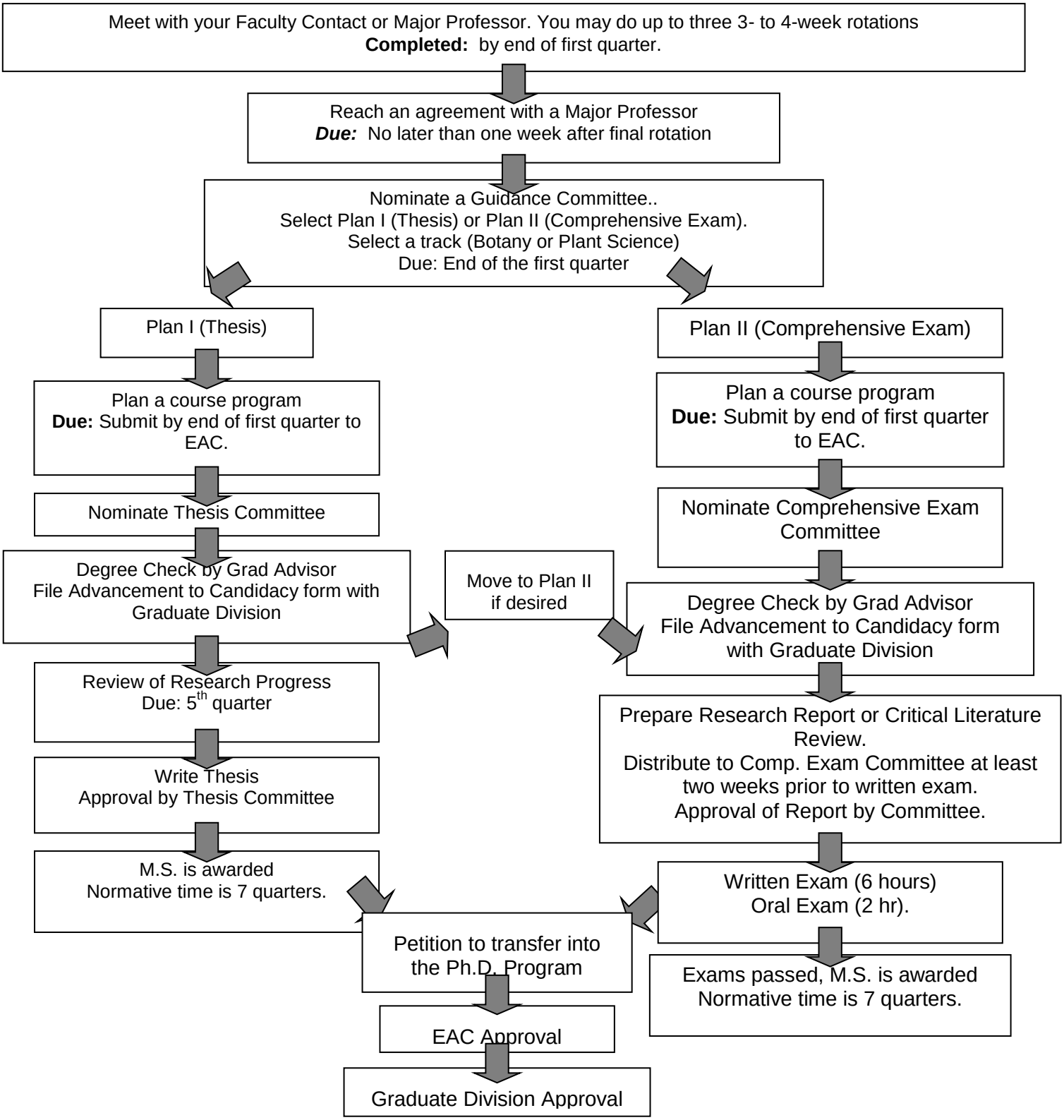
F. Others Courses that Apply to Degree Form

G. Request for Formation of M.S. Comprehensive Examination Committee

H. Application for Candidacy for the Masters of Science in the field of Plant Biology (Botany track)

I. Application for Candidacy for the Masters of Science in the field of Plant Biology (Plant Sciences track)

PATHWAYS TO M.S. DEGREE IN PLANT BIOLOGY



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

Guidance Committee:

_____, Chair _____ _____

While consistency is sought for all of our students, 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 Educational Advisory Committee will not consider a course program unless the Guidance Committee submits with the course program the following information:

1. Complete and careful review of the entrance requirements for the M.S. Confirm that the student has met the Department course requirements. In the case where the student has not met the full quarters required, please provide an explanation of any unusual circumstances regarding the deficiencies, and an indication of how the student will make-up the coursework. The EAC believes that an equivalent amount of training to that which students receive at UCR is valuable. However, since other Universities' classes do not always correspond with ours, if the Guidance Committee feels the courses have met the spirit of the requirement, please provide a brief summary of the topics covered in the courses.

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

3. In the case of a M.S. (Plan II) student, a statement of the student's major area of specialization and minor area(s) to be covered on the Comprehensive Examination:

M.S. PROGRAM – PLANT BIOLOGY

Name of Student _____ Date Entered Program _____

Botany track ☐ Plant Science track ☐ 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	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			
Two courses in Physics and/or Statistics:				
PHYS 2A (General)	4			
2B (General)	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 (at least two): (1) _____ (2) _____

Quarter/Year 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.

ANTH/BPSC 170	BCH/BIOL/BPSC 153	BCH 183
BIOL/BPSC 104	BIOL/BPSC/ENTM 112	BIOL/MCBL/PLPA 120
BIOL/BPSC 132	BIOL/PLPA 134	BIOL/BPSC 138
BIOL/BPSC 143	BPSC 148	BPSC 150
BIOL/BPSC 155	BIOL/BPSC 165	BPSC 133
BPSC/ENSC/SWSC 134	BPSC 135	BPSC 146
BPSC 158	BPSC 166	

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.

BCH/BPSC/CMDB/GEN/PLPA 205	BCH/BPSC 231	BPSC 201E-Z (2 unit max)
BPSC 220	BPSC 221	BPSC 222
BPSC 223	BPSC 232	BPSC 233
BPSC 234	BPSC 237	BPSC 239
BPSC 243	BPSC 245	BPSC 247
BPSC 240 **(only if taken in addition to required seminar units)**		BPSC 280

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

COURSES REQUIRED BY GUIDANCE COMMITTEE

_____

Name of Student

Note: Graduate students should be enrolled in 12 units of graduate-level classes each quarter.

Fall Quarter _____			**Winter Quarter _____**			**Spring Quarter _____**		
COURSE #	**COURSE TITLE**	**UNITS**	**COURSE #**	**COURSE TITLE**	**UNITS**	**COURSE #**	**COURSE TITLE**	**UNITS**
BPSC 250	**Seminar**	**1**	**BPSC 250**	**Seminar**	**1**	**BPSC 250**	**Seminar**	**1**
Fall Quarter _____			**Winter Quarter _____**			**Spring Quarter _____**		
COURSE #	**COURSE TITLE**	**UNITS**	**COURSE #**	**COURSE TITLE**	**UNITS**	**COURSE #**	**COURSE TITLE**	**UNITS**
BPSC 250	**Seminar**	**1**	**BPSC 250**	**Seminar**	**1**	**BPSC 250**	**Seminar**	**1**

_____ _____ _____

Major Professor Date Guidance Committee Member Date Guidance Committee Member Date

COURSES REQUIRED BY GUIDANCE COMMITTEE

Fall Quarter _____			**Winter Quarter _____**			**Spring Quarter _____**		
COURSE #	**COURSE TITLE**	**UNITS**	**COURSE #**	**COURSE TITLE**	**UNITS**	**COURSE #**	**COURSE TITLE**	**UNITS**
BPSC 250	**Seminar**	**1**	**BPSC 250**	**Seminar**	**1**	**BPSC 250**	**Seminar**	**1**
Fall Quarter _____			**Winter Quarter _____**			**Spring Quarter _____**		
COURSE #	**COURSE TITLE**	**UNITS**	**COURSE #**	**COURSE TITLE**	**UNITS**	**COURSE #**	**COURSE TITLE**	**UNITS**
BPSC 250	**Seminar**	**1**	**BPSC 250**	**Seminar**	**1**	**BPSC 250**	**Seminar**	**1**

_____

Name of Student

OTHER COURSES TAKEN THAT APPLY TO DEGREE

Instructions: List all other classes that you have taken at your former institution(s) that contribute to your knowledge in Plant Biology.

COURSE	Units	Grade	Date	Institution

Coursework verified by Guidance Committee:

_____

Signature of Guidance Committee Chair

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 or plant sciences, with an emphasis on one major area and one or two minor areas that are not subdisciplines of the major area. The major area must reflect the student's chosen track (Botany vs. Plant Science) and can be selected from the first column of the appropriate list below. Minor areas can be selected from either column below, and need not match the degree program. Alternative areas (within Botany/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 subdiscipline 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 subdiscipline of the major area.

Botany track

Major Area	**Subdisciplines**
Plant Physiology	Whole Plant Physiology, Physiological Ecology, Plant Biochemistry
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

Plant Sciences track

Major Area	**Subdisciplines**
Applied Plant Genetics	Biotechnology, Conservation Genetics, Plant Breeding
Plant Physiology	Whole Plant Physiology, Plant/Soil/Water Interaction, Crop Physiology, Crop Production, Postharvest Physiology
Applied Ecology	Conservation Biology, Restoration Ecology, Conservation Genetics, Invasion Biology
Pest Management	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 Affairs Officer (Jammy) for consideration by the Educational Advisory Committee.

M.S. COMPREHENSIVE EXAMINATION COMMITTEE REQUEST FORM

Student Name (Print): _____

Student's Program (check one) **Botany track** _____ **Plant Science track** _____

Major Area _____

Minor Area _____

Second Minor Area (optional) _____

Committee Composition:

Examination Area	Suggested Faculty Member	Alternate Faculty Member
_____	_____	(Committee Chair)
_____	_____	_____
_____	_____	_____

_____ _____

Graduate Student Signature Date Major Professor Signature Date

SECTION 5: ANNUAL GRADUATE STUDENT EVALUATION

I. GENERAL INFORMATION

All graduate students in the Plant Biology Program are evaluated annually. Submission of an Annual "*Annual Progress Report Form*" is essential for remaining in good academic standing.

The annual Progress Report provide the student, Guidance, Thesis, or Dissertation Committee members, and Graduate Advisor the opportunity to assess the student's accomplishments and whether progress toward the degree is being made in a timely manner. The report assesses course work, TAships, BPSC 250 presentations, and research productivity. The report also captures elements of professional development and leadership.

The annual progress report is due during the Spring quarter. A reminder about the necessity of the annual meeting will be provided to both graduate students and major professors.

II. ANNUAL MEETING WITH GUIDANCE, DISSERTATION OR THESIS COMMITTEE[1]

A. Meeting Frequency and Time

Students *must meet* at least once per year with their Major Professor and Guidance, Thesis, or Dissertation Committee to prepare the annual report. These Committees can meet more frequently if needed to assure the student's timely progression to the degree.

The *Student Progress Report* should be completed during or within two weeks after a face-to-face meeting between the student and *all* members of his/her Guidance, Thesis, or Dissertation Committee.

Committees should meet during the Winter or Spring quarters. The meeting can involve Skype 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, indicate this on the *Student Progress Report* form.

B. Materials to be Submitted to Graduate Advisor

Two documents must be submitted to complete the Annual evaluation of student performance:

- *Student Progress Report*
- Up-to-date one-page summary of research progress to date, work remaining to complete the degree and plans for completing the research and degree

The Graduate Advisor must approve the completed *Student Progress Report* and research summary for the student to remain in good academic standing.

C. Student Responsibilities for the Annual Meeting

- Students should contact members of their committee 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 prior to the annual meeting, students should provide committee members the one-page summary of research progress.
- Students should fill out the data for the first page of the *Student Progress Report* prior to the meeting and bring the *Report* to the meeting.

[1] The forms for the annual Student Progress Report were changes in 2011-12.

- Students should prepare a short but informative presentation his/her coursework and research progress to date, work remaining to complete the degree, and plans for completing the research and degree.
- 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. Student's must plan ahead 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 (Linda Walling; x2-4687; linda.walling@ucr.edu; Genomics 3107A).

D. 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 Major Professor and Committee members will fill out the Evaluation Section of the *Student Progress Report*. This section documents research progress and provides recommendations for the future.

E. Graduate Advisor Responsibilities

- Graduate Advisor will announce the call for the annual progress reports.
- Graduate Advisor will read reports and have follow up with conservations with students in difficulty.
- Graduate Advisor will notify students who are not making acceptable progress toward the degree.

F. 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 Master'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.) will not be considered by the Department for any financial support and priority for TAships is lowered.

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 three months of the date that the Qualifying Examination was passed.

IV. FORM: "STUDENT PROGRESS REPORT"

The *Student Progress Report* is located in this section of the manual and can be printed for use. This form will be sent to students and major professors when the call for Progress Reports is announced. This form can be accessed at the Program's website (http://www.plantbiology.ucr.edu/current.html) or a copy can be obtained from the Staff Student Affairs Officer (Jammy Yang).

PLANT BIOLOGY GRADUATE PROGRAM

STUDENT PROGRESS REPORT FOR ACADEMIC YEAR 2014-2015

Instructions:

NOTE: It is recommended that this form is filled out as a Word document. This enables students to easily update relevant information annually.

- The following report should be filled out during or within 2 weeks after a face-to-face meeting between the student and *all* members of his/her Guidance, Thesis, or Dissertation Committee.

- Committees should meet between January to May of 2012. The meeting can involve Skype if necessary. The *only* Committee members who do not need to be present are those who are on Sabbatical leave.

- At the annual meeting, the student should present his/her coursework and research progress to date, work remaining to complete the degree, and plans for completing the research and degree. A one-page summary of the research portion of that presentation should be attached to this report, including a brief statement of career goals.

    - The student should provide this one week prior to the Annual Progress meeting.

- Students should provide/update the information on this form annually. They should fill in all sections in the *Program Requirements* and *Professional Development and Evidence of Leadership* sections.

- The Committee will fill in the *Evaluation of Student Progress* portion of this form in the annual meeting.

    - This can be hand-written.

- At the end of the meeting, the student and Committee members must sign this report. Please indicate if any of the Committee members are on sabbatical and did not participate in this meeting (signature lines).

- The student should retain one copy of this form and provide signed copies to Committee members (hardcopy or electronic scan of signed copy).

- **Due:** Original signed form should be submitted to the Plant Biology Student Academic Officer, Jammy Yang (BH1140), 5:00 pm Monday, May 21, 2014.

PLANT BIOLOGY GRADUATE PROGRAM[1]

STUDENT PROGRESS REPORT FOR ACADEMIC YEAR 2014-2015

Student Name _____

Date of Guidance, Thesis, or Dissertation Committee Meeting _____

PROGRAM REQUIREMENTS: This page is to be updated and completed by the student. Students are required to meet with their Committee AT LEAST once per year.

Planned date for next meeting: _____

Qtr/Year Admitted_____ Qtr/Year TAST or SPEAK test passed_____

Program/Concentration_____

Major Area_____ Minor Area 1 _____

Minor Area 2 _____

Date of Passing Qualifying Exam_____ Date Degree Expected_____

Date Research Proposal Approved by Dissertation Committee _____

(Due within 3 months of passing the qualifying examination.)

Dissertation or Thesis Title _____

Date of 250 seminar presentation (Ph.D. and M.S. Plan I only): _____

Date of BPSC 240: _____

Coursework completed:

Coursework remaining:

TA Experience: Quarter_____Class _____

If you need a TAship in the next academic year, which quarters would you like to be a TA?

□ Fall □ Winter □ Spring

Student's progress report attached? _____

Has the student participated in Research Conduct Training? (If so, list training events and dates.)

[1] Form revised 8/12/2013

PROFESSIONAL DEVELOPMENT AND EVIDENCE OF LEADERSHIP (To be completed by student; Add rows as needed)

Have you submitted or received a fellowship, scholarship or grant? (If so, provide, submission/funding date, amount, agency, title of award, names of PIs if collaborative)

Date submitted or funded	Amount	Agency	Title of the Award	Status (pending, funded, not funded)	Names of PI, coPI

Did you make any research presentations? (If so provide, name of meeting, title of talk/poster, authors, date, place)

Date	Authors	Title of presentation	Name of Meeting and Location	Your role (poster, talk, author)

Did you publish an abstract, manuscript, book chapter, or review? (If so, provide complete bibliographic information and indicate if this was peer-reviewed)

Did you receive a travel award(s) from UCR or other sources? (date, organization, amount of travel award)

Date	Funding Organization	Meeting Name	Name of Meeting and Location	Amount

Did you receive any honors? (date, organization, name of award)

Date	Organization	Honor

Have you served in any leadership role? (GSA leadership, Committee service, service to professional society, outreach to K-12 schools or community colleges, etc)

Dates	Leadership position	Organization

Have you mentored other graduate students or undergraduates? (If so, list student names and period of training).

Dates	Mentee Name	Mentee Status (Undergraduate, Visiting scientist, Graduate student)	Your role

Do you have other professional accomplishments about which you would like the Program to know?

EVALUATION OF STUDENT PROGRESS (Completed by Guidance, Thesis or Dissertation Committee)

Please consider the student's stage in the graduate program.
Use the Numerical Grading Scheme where: *1* = Excellent; 2 = Very Good; 3 =Good; 4 = Satisfactory; 5 = Needs Improvement; 6 = Unsatisfactory; NA = Not Able to Evaluate

Background Knowledge	Understanding of the experimental system	Motivation / effort	Experimental skills	Progress
Critical thinking	Quality of Presentation	Quality of Report	Creativity	**Overall**

1. Are there any concerns about the project?

2. Are there any concerns about the student?

3. Have concerns/recommendations from previous meeting(s) been addressed?

4. Specific recommendations of Committee to student:

PRINT NAMES and PROVIDE SIGNATURES. (Indicate if committee member is on Sabbatical leave)

_____ _____ _____

Student Date

_____ _____ _____

Major Professor and Chair, Guidance, Thesis, or Dissertation Committee Date

_____ _____ _____

Member, Guidance, Thesis, or Dissertation Committee Date

_____ _____ _____

Member, Guidance, Thesis, or Dissertation Committee Date

_____ _____ _____

Graduate Advisor Date

cc: Major Professor; Guidance,Thesis, or Dissertation Committee Members; Graduate Advisor (Signatories); Student; Graduate Division; Student File

SECTION 6. GRADUATE STUDENT SUPPORT

Graduate Students are supported from a variety of sources. In the UC system, all employees are paid in arrears. That means that students receive their first check *after* their first month of work. For example, a student who starts work in fall quarter does not get a check until November 1. If you need aid, Jasmine Mejia (jasmine.mejia@ucr.edu) can assist you.

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 in the first year. During the second year, most Ph.D. students are a TA for one or two quarters, the third quarter and summer salary is paid by the major professor. If a major professor is unable to support a graduate students (due to a break in grant support), the major professor and student should contact the Vice-Chair of Botany and Plant Sciences (Edith Allen: edith.allen@ucr.edu, X2-2123) as soon as possible.

To receive financial support from any source, it is critical for students maintain a cumulative grade point average (GPA) in courses in the major area of ≥ 3.0.

If a major professor is unable to support a graduate student (due to a break in grant support), the major professor should contact the Vice-Chair of Botany and Plant Sciences as soon as possible (Edith Allen: edith.allen@ucr.edu, X2-2123). 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 due to recent budgetary cuts. Only students within normative time can be considered for Plant Biology Program funding.

Definitions of support sources and other terminology can be found in Section II below.

I. TAX INFORMATION FOR GRADUATE STUDENTS

Teaching Assistantships, Research Assistantships, and Fellowships are considered taxable income. 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. International students should visit the International Education Center website for information about tax workshops and filing help.

II. SOURCES OF GRADUATE STUDENT SUPPORT AND DEFINITIONS

A. Graduate Division Stipend

A Graduate Division Stipend is usually awarded as part of a larger fellowship package, These dollars go directly from Graduate Division to the student through the Financial Aid System. The student receives "pay checks" at the beginning of each month starting in late September.

B. 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 department support is available.

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. Students should

refer to their approved financial charts (talk to Jammy Yang), if any questions regarding their support package arise.

C. Teaching Assistant (TA)

TAs are also known as **Academic Student Employees (ASE)**; the ASE terminology 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: (http://atyourservice.ucop.edu/employees/policies_employee_labor_relations/collective_bargaining_units/academicstudentemployees_bx/agreement.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.

D. 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 Affairs Officer 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.

E. 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 Affairs Officer 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.

F. 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 Affairs Officer 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.

G. 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 (currently ~$200 per quarter) at the beginning of each quarter.

H. Departmental Grant-In-Aid (DGIA)

Departments or individual faculty members with certain types of funds (many federal grants will not allow payment of student fees) can grant fellowship-like awards to individual students. This is most often used to pay the student's Fee Differential. The Graduate Student Affairs Officer will provide the Graduate Division with a list of the students who are to receive these awards indicating the account and fund

information. Graduate Division then pulls the money out of the account and awards it to the student through the Financial Aid System.

I. 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 charts contain department support for approximately four quarters. Students supported on departmental support will be required to TA one or two quarters. 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 section above under Teaching Assistant (TA).

III. APPLYING FOR EXTRAMURAL SUPPORT

The Plant Biology Program strongly encourages students to be proactive and submit individual applications for procuring their own support. There are many opportunities for Graduate Students from outside funding sources from federal agencies and private foundations. UCR subscribes to several searchable databases listed on the Office of Research Affairs web site at http://www.ora.ucr.edu. UCLA also offers a comprehensive database called GRAPES (Graduate and Post doctorate Extramural Support). The web address is: http://www.gdnet.ucla.edu/grpinst.htm

A. National Science Foundation - November Deadline

The first opportunity will be for first- and second-year students (US citizens and residents) to apply for the National Science Foundation Graduate Student Fellowship Program. Associate Dean Leah Haimo provides training for successful student applications. The Plant Biology Program and faculty had four successful student fellowships funded in 2011 and two honorable mentions.

The NSF application materials can be found at: www.nsf.gov/grfp .

IV. GRADUATE DIVISION SPONSORED FELLOWSHIPS

For more information contact Karen Smith at (karen.smith@ucr.edu) with the UCR Graduate Division.

A. 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. A single application may be used for both awards which provide stipends and cover fees from 1 to 3 quarters.

Qualified students can be nominated for one the following fellowships annually. A call for nominations will be announced by the Plant Biology Graduate Program and applications will be prioritized for funding recommendations by the Educational Advisory Committee (EAC).

For more information on Graduate Diversity Programs, contact the Director, Maria Franco-Aguilar at (951) 827-3680 or e-mail (maria.franco-aguilar@ucr.edu).

B. 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.

V. CNAS FELLOWSHIPS AND SCHOLARSHIPS

Applications for these fellowships are typically announced during Winter Quarter.

(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.

VI. 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://www.nas.edu/subjectindex/fel.html
- 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: http://www.ed.gov/prog_info/SFA/StudentGuide/index.html
- The Foundation Center's Home Page: http://www.fdncenter.org/
- Purdue University (includes general listings): http://www.purdue.edu/DFA/

SECTION 7. HOW TO BE A TEACHING ASSISTANT

I. 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. For the 2014-2015 academic year, a TA appointed at 50% time makes approximately $4119 per month. For this pay, TAs are expected to work 220 hours per quarter (on average) (see contract for more detailed information). Some TAs are appointed at 25% time and are expected to work 110 hours per quarter.

II. 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, and

- Any student whose native language is not English must pass the SPEAK test.

II. WHEN IS THE BEST TIME TO BE A TA?

Most Plant Biology graduate students are TAs during their second year of their graduate program. The Program has observed that international students who have passed the SPEAK test do better on their qualifying exams. In addition, both international and domestic students who have had the opportunity to TA before taking the oral qualifying exam have benefited from this experience. Moreover the Program's faculty evidence that the 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 SPEAK 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.

III. 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. TA orientation is required of TAs in all departments. It is offered every fall during the first week of the quarter. Focus workshops are required of all Teaching Assistants who scored a 4.0 or below on any single question on their Teaching Evaluations. Students who score low on their "overall effectiveness as a TA" question must be observed in class by a Mentor TA and prepare an Action

Plan for improvement. 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 to the more experienced TA as well, including a teaching resource library, teaching portfolio development and assessment consultations, and seminars on professional development. Contact TADP (951-827-3386, tadp@ucr.edu) for further information on training requirements and upcoming seminars. You may also visit their website: http://www.tadp.ucr.edu/

IV. THE SPEAK TEST. (TOEFL ACADEMIC SPEAKING TEST)

The faculty of the Plant Biology Program considers teaching among its highest priorities and spends considerable time and energy to insure 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 SPEAK test is required by students whose native language is not English.

The Program has observed that international students who have passed the SPEAK test and serve as TAs do better on their qualifying exams.

Students MUST pass the test **before or in September of your second year**. Failure to pass the SPEAK test will prevent a student from being a TA and you will have to find other financial support for one quarter. In addition, the SPEAK test must be passed in order for an international student to fulfill the teaching requirement for the Ph.D.

A. Who Needs to Take the SPEAK 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.

B. Time and Place of the SPEAK Test

The SPEAK test is offered approximately two weeks before the beginning of every quarter and it is *not* offered in the summer. International students must take the SPEAK test in late March of your first year at UCR (or earlier). The test is administered at the International Education Programs in University Extension.

C. Cost of the SPEAK Test

The Plant Biology Program will pay for students to take the SPEAK test one time. ***NOTE:*** It is the student's responsibility to pick up the results of the exam at university extension.

D. SPEAK Test Scores

If a student fails to pass the SPEAK test at this time or any other time, he/she MUST enroll in Conversational English classes the following quarter through UCR Extension's ESL program. This course is offered in Fall, Winter and Spring on a first come first serve basis. The student must sign up in person in UCR Extension in order to reserve a place in the course. Sign-up sheets are available during the week of final exams (except in spring quarter; the course is not taught in the summer).

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

Students MUST pass the test **before or in September of your second year**. Failure to pass the SPEAK test will prevent a student from being a TA and you will have to find other financial support for one quarter. In addition, the SPEAK test must be passed in order for an international student to fulfill the teaching requirement for the Ph.D.

V. SEEKING A TA APPOINTMENT

Each spring, 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 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 the following or later year.

  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.

When a student is assigned to TA a particular class, the student is expected to enroll in and earn academic credit for BPSC 302 Teaching Practicum. This course provides a venue through which the professor teaching the course the student is TAing can provide guidance and mentorship on the teaching process. It also provides proof on the student's transcript that the student was engaged in TAing for a specific quarter.

SECTION 8: SCHOLARSHIPS, AWARDS, AND MINIGRANTS

I. DEPARTMENT OF BOTANY AND PLANT SCIENCES - ANNUAL AWARDS FOR GRADUATE STUDENTS

Instructions on how to apply for these awards are distributed annually to the graduate students.

A. Teaching Assistant Award

This is awarded by Graduate Division, but the monetary award and certificate is sponsored by Botany and Plant Sciences)

Title: UCR Outstanding Teaching Assistant
Amount: $500
Includes a framed certificate

B. The W. W. Thomson Award

Title: Botany and Plant Science Graduate Student Award for Outstanding Research (W.W. Thomson Award)

Amount: Framed certificate and award of approximately $700 - $1,200 (award amount is drawn from accumulated contributions)

C. Graduate Student Achievement Award

This is an endowment fund administered by T.J. Close.

Title: Annual Botany & Plant Sciences Graduate Student Achievement Award

Amount: Framed certificate and award of approximately $800 to $3000 (award amount is driven by the interest earned on the account)

D. Student Retreat Awards for Oral and Poster Presentations

Amount: $50/each and a framed certificate

II. TRAVEL AWARDS

A. BPSC Mini-GSA Coffee Hour Travel Grant

The Mini-GSA 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. Four grants are awarded each year. Funding for Travel Grants comes from donations received at BPSC Graduate Student Association's weekly coffee hour. Past coffee hour hosts and GSA event participants will be given priority in the application process! To host coffee hour, please contact a member of the mini-GSA. Alternatively, sign up to host coffee hour by adding your laboratory's name to the list; the list is posted on a bulletin board outside of the Copy Room in Batchelor Hall.

Criteria for Submission

1) You must be in good academic standing (min. GPA 3.5), as determined by the Plant Biology Program Graduate Advisor.

2) You cannot receive more than one travel grant within an academic year.

3) Applications consist of a signed one page essay describing your presentation and the meeting you are 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.

4) Applications are to be placed in the BPSC-GSA Chair's mailbox in a sealed envelope (do not write your name on the envelope) during the second full week of the academic quarter.

Deadlines for submission are: Fall: Friday, 7 Oct. 2011, Winter: Friday, 13 Jan. 2012, Spring: Friday, 20 April 2012.

5) Applications for conference attendees without presentations will still be considered for this award at a lower priority.

One award recipient will be selected within the first month of each academic quarter. Awards will consist of a check for $300 ($200 for trips within California) presented by the BPSC-GSA. Receipts for travel expenses should be submitted by award recipients by the end of the academic quarter in which the award was received.

B. 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 Deb Terao for approval.

C. 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 located in Highlander Union Building Suite 203. We share a joint lobby with ASUCR Suite 202.

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

The UCR GSA provides the Plant Biology Mini-GSA $300 a year to support programs, speakers, or even just snacks at your monthly meeting.

THE UCR GSA Mini-Grants to support participation at professional meetings. Application deadlines can be obtained from the Graduate Student Association www.gsa.ucr.edu.

Conference Travel Grant Awards

Attendee:	$64 per event independent of location
Presenter:	$150 per event in the Southwest (California, Arizona, or Nevada), $200 per event in the United States, $250 per event in Hawaii, Alaska, Canada, Puerto Rico, Mexico $300 per event for all other locations in the world.

SECTION 9: CAMPUS POLICIES – STUDENT CONDUCT

I. 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 in connection with 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.

II. 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 abridged guide to the UC Electronic Communications Policy (ECP) and the complete UC policy can be found at: http://cnc.ucr.edu/policies/CNC_version_UCR_ECP.doc

http://cnc.ucr.edu/policies/ECP_Guidelines.doc

A. Student ECP Guidelines

1. Overview

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, wireless network, proxy server and virtual private network (VPN). The complete version of the ECP, as well as the ECP Overview and Implementation at UCR, is available online at http://cnc.ucr.edu/index.php?content=policies

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

What you can expect as an Electronic Communications user at UCR

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

B. What is Considered Acceptable Use of UCR Electronic Resources

1. 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 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.

2. 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.

3. 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.

3. Creating web sites

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. Web sites hosted on campus servers may not be operated for 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.

C. Uses of Electronic Resources that are Prohibited

1. 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 Internet and UCR intranet networks and systems (for example by transmitting viruses, sending spam, or hacking into others' transmissions or files), and tapping telephones.

2. 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 may not be used to send spam or other harassing e-mails. In addition, individual departmental resources may only be used accordance with departmental policies and with appropriate authorization.

3. Commercial benefit or personal financial gain

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 may not be used to sell textbooks or to post notices advertising rooms for rent.

4. **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 web sites without authorization.

5. 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 sub-unit 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.

6. 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.

7. Operation of personal web servers

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

III. WHAT YOU CAN EXPECT AS AN ELECTRONIC COMMUNICATIONS USER AT UCR

A. 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 allowable 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.

B. 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.

C. Security, Confidentiality and Privacy

UCR does not routinely collect information about an individual's web use or sites visited. Except when tracking a reported crime, the monitoring of web sites visited, or web use in general, is not permitted under U.C. policy. 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.
- When there is substantiated reason to believe that violations of law or of University policies have taken place.
- When 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 the UCR or to members of the university community
- When there are time-dependent, critical operational circumstances and when failure to act could seriously hamper the university's ability to function administratively or to meets its teaching or research obligations.

IV. REFERENCES:

UCR Overview and Implementation of the Electronic Communications Policy
UC Electronic Communications Policy
Digital Millennium Copyright Act (DMCA)