

2024-2025

ENTOMOLOGY

HORTICULTURE

SCHOOL OF BIOLOGICAL SCIENCES

INSTITUTE OF BIOLOGICAL CHEMISTRY

MOLECULAR PLANT SCIENCES

SCHOOL OF MOLECULAR BIOSCIENCES

CROP & SOIL SCIENCES

PLANT PATHOLOGY

ELECTRICAL ENGINEERING & COMPUTER SCIENCE

PHD PROGRAM

MOLECULAR PLANT SCIENCES
<https://mps.wsu.edu/mps-program>



Molecular Plant Sciences Graduate Program



WASHINGTON STATE
UNIVERSITY

2024-2025

Graduate Student Handbook

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See <http://registrar.wsu.edu/academic-calendar/> for the full WSU academic calendar.

PROGRAM DIRECTORY

Washington State University
Molecular Plant Sciences Graduate Program
P.O. Box 641030
Pullman, WA 99164-1030
Campus Mail Code: 1030

Molecular Plant Sciences Graduate Program

Contacts	Roles
Tiffany Boswell MPS Academic Coordinator French Administration Building 324 509-335-7619 tiffany_boswell@wsu.edu molecular.plants@wsu.edu	Orientation, academic matters (scheduling, changes, errors, deadlines, advising), seminar series, all things MPS
Laura Bartley MPS Director IBC, Plant Sciences Building 273 509-335-7211 laura.bartley@wsu.edu	Orientation, first-semester class scheduling, rotations, academic matters, all things MPS
Hanjo Hellmann MPS Assistant Director Abelson 435A 509-335-2762 hellmann@wsu.edu	Orientation, first-semester class scheduling, rotations, academic matters, all things MPS
Mayra Garcia or Joe Merrill French Administration Building 324 509-335-6424 mayra.garcia@wsu.edu or joem@wsu.edu	Financial assistance
Tammy Barry French Administration Building 324 tammy.barry@wsu.edu	Vice Provost for Graduate and Professional Education
Your Advisor	Classes, proposals, program of study, research, safety
Your Advisory Committee	Proposals, program of study, scheduling exams

MPS DEPARTMENTAL ADMINISTRATIVE CONTACTS

Department of Crop and Soil Sciences

Deb Marsh Academic Coordinator Hulbert Hall 213 509-335-2615 marshdj@wsu.edu	Tammy Cunningham Administrative Manager Clark Hall RM 377 509-335-0584 t.cunningham@wsu.edu
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Department of Entomology

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Institute of Biological Chemistry

Jeff Bowman Administrative Manager Plant Sciences Building 101D 509-335-8383 millerhm@wsu.edu	Teresa Beckvold Principal Assistant Plant Sciences Building 101B 509-335-8382 teresa.beckvold@wsu.edu
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Department of Plant Pathology

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School of Biological Sciences

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School of Electrical Engineering and Computer Sciences

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School of Molecular Biosciences

Robin Durfee Academic Coordinator BLS 102 509-335-4318 robin.durfee@wsu.edu	Laurilee Kramer Administrative Manager BLS 202E 509-335-1553 lkramer@wsu.edu
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FACULTY DIRECTORY

Because Molecular Plant Sciences is an interdisciplinary program, all faculty members are part of one or more of the following departments – Crop and Soil Sciences (CSS), Entomology, Electrical Engineering and Computer Sciences (EECS), Horticulture and Landscape Architecture (Hort), the Institute of Biological Chemistry (IBC), Plant Pathology (PI Path), the School of Molecular Biosciences (SMB), and the School of Biological Sciences (SBS).

Name and contact information	Area of research
Laura Bartley IBC, Plant Sciences Building 273 509-335-7211 laura.bartley@wsu.edu	Molecular genetics, systems biology, and biochemistry of grass cell wall biosynthesis and regulation; stem and root development and physiology towards enhancing plants, especially grasses, for biofuels and biochemicals.
Philip Bates IBC, Plant Sciences Building 243 509-335-0553 phil_bates@wsu.edu	Biochemistry and metabolism of plant oils and membrane lipids, Lipid metabolic flux, Engineering plant oils for increased nutrition or chemical feedstocks, and biofuels.
Jacob Blauer HORT, ITB 3027 509-335-6647 jblauer@wsu.edu	Plant physiology with an emphasis on potato postharvest physiology, biochemistry, and molecular biology and potato variety development. Research interests focus on environmental influence on potato production and quality to improve germplasm, grower practices, and sustainability.
Bob Brueggeman CSS, ITB 3041 509-335-5272 bob.brueggeman@wsu.edu	Development of malt, food, and feed varieties with high quality and yield utilizing molecular genetics, genomics, and functional analysis tools to explore underlying biotic and abiotic stress resistances in Barley.
Ian Burke CSS, ITB 1039 509-335-2858 icburke@wsu.edu	Herbicide biochemistry, physiology, and fate; physiological and genetic bases for herbicide resistance in weedy plants.
Jeremiah Busch SBS, Eastlick 387 509-335-1246 jwbusch@wsu.edu	The evolution of self-incompatibility mechanisms and plant population genetics.
Kimberly Garland-Campbell CSS/USDA 509-335-0582 kqcamp@wsu.edu	Wheat breeding and genetics, improving resistance to biotic and abiotic stress, quantitative genetics to describe genotype by environment interactions.
Arron Carter CSS, ITB 3047 509-335-6198 ahcarter@wsu.edu	Winter wheat breeding and genetics. Research involves genetic characterization of biotic and abiotic stress resistance using next-generation genomics techniques, as well as using high-throughput phenotyping methods to more accurately predict wheat performance.
Weidong Chen USDA-ARCS, Vogel 227 509-335-9178 w-chen@wsu.edu	Interactions between legume hosts and fungal pathogens, molecular mechanisms of fungal pathogenesis, fungal effectors that mediate host response to infection.
Asaph Cousins SBS, Abelson 406BA 509-335-7218 acousins@wsu.edu	Plant metabolism and physiology; plant energy metabolism; carbon and oxygen isotope exchange in plants.

David Crowder Entomology, 166 FSNH 509-335-7965 dcrowder@wsu.edu	Understanding how farming practices, land-use, and abiotic conditions impact insect communities and plant interactions.
Stephen Ficklin Hort, Plant Sciences Building 403A 509-335-4295 stephen.ficklin@wsu.edu	System genetics, computational biology, bioinformatics, multiomics data integration, biomarker discovery using machine learning/artificial intelligence for linking the genome to the phenome.
Maren L. Friesen PI-Path, Plant Sciences Building 509-335-5805 m.friesen@wsu.edu	Biological nitrogen-fixation, evolutionary ecology, population genomics, mathematical modeling.
David Gang IBC, Plant Sciences Building 111B 509-335-0550 gangd@wsu.edu	Metabolomics, proteomics and transcriptomics to investigate the structure, regulation and control of metabolism; hemp variety evaluation and industry development; biosynthesis of specialized metabolites.
Kulvinder Gill CSS, ITB 1030 509-335-4666 ksgill@wsu.edu	Molecular basis of chromosome pairing control; genome organization and amplification; distribution of genes and recombination; characterization of agronomically important traits.
Cynthia Gleason PI Path, Plant Sciences Building 261 509-335-3742 cynthia.gleason@wsu.edu	Plant parasitic nematodes, root-know nematodes, interactions with host plants.
Hanjo Hellmann SBS, Abelson 435A 509-335-2762 hellmann@wsu.edu	The ubiquitin proteasome pathway; vitamin B6 biosynthesis.
Scot Hulbert PI Path, 421D Hulbert Hall 509-335-3722 scot_hulbert@wsu.edu	Molecular genetics and evolution of the interactions between pathogens and plants.
Ananth Kalyanaraman EECS, EME 237 509-335-6760 anath@wsu.edu	Computational biology and bioinformatics; high-performance computing; combinatorial pattern matching.
Chulhee Kang SMB, Fulmer 264 509-335-1409 chkang@wsu.edu	Tailoring lignin and flavonoid composition in genome-edited sorghum and switchgrass, Cellular calcium regulation mechanism, Bioremediation of the major organic pollutants.
Helmut Kirchhoff IBC, Plant Sciences Building 283 509-335-3304 kirchhh@wsu.edu	Plant Physiology, Photosynthesis, Stress Physiology, Membrane Biology, Plant Biochemistry, Biophysics, Computer Modelling.
Michael Knoblauch SBS, Abelson 318 509-335-3052 knoblauch@wsu.edu	Cell biology and the physiology of plant tissues, especially the phloem.

<p>B. Mark Lange IBC, Plant Sciences Building 373 509-335-3794 lange-m@wsu.edu</p>	<p>Use and development of tools for the integration of post-genomic technologies (microarrays, proteomics, metabolite profiling) to study the global regulation of metabolic pathways; particular interest in isoprenoid metabolism.</p>
<p>Norman Lewis IBC, Clark 467 509-335-2682 lewisn@wsu.edu</p>	<p>Biochemistry of plant phenolics; biochemistry of plant cell-wall synthesis and unique plant constituents; effects of gravity on metabolic pathways in plants.</p>
<p>Michael Neff CSS, Plant Sciences Building 341 509-335-7705 mmneff@wsu.edu</p>	<p>Plant molecular genetics related to light and hormone signaling. Plant seedling and adult development in model organisms such as Arabidopsis, as well as related oilseed crops such as camelina and canola. Grass breeding, genetics and ecology related to land reclamation, soil stabilization, forage, turf, and ornamental applications.</p>
<p>Thomas Okita IBC, Plant Sciences Building 361 509-335-3391 okita@wsu.edu</p>	<p>Biochemistry of starch synthesis and protein localization; metabolic genetic engineering of plants for increased productivity; mRNA localization and the role of the cytoskeleton and endoplasmic Reticulum.</p>
<p>Hanu Pappu PI Path, ITB 509-335-3752 hrp@wsu.edu</p>	<p>Virus genomics and proteomics, plant-virus interactions, molecular epidemiology, crop biotechnology/virus resistant transgenic plants.</p>
<p>B.W. Poovaiah Hort, Vogel Hall 509-335-2487 poovaiah@wsu.edu</p>	<p>Molecular and biochemical aspects of calcium/calmodulin-mediated signaling in plants.</p>
<p>Michael Pumphrey CSS, ITB 3043 509-335-0509 m.pumphrey@wsu.edu</p>	<p>Development of biotic and abiotic stress tolerant, high-yielding, and high-quality spring wheat varieties for diverse production environments.</p>
<p>Eric Roalson SBS, Eastlick 395 509-335-7921 eric_roalson@wsu.edu</p>	<p>Molecular phylogenetics, genomics, and evolutionary origins of characters of interest, notably photosynthetic pathway novelties</p>
<p>Cecilia Rodriguez-Furlan SBS, Abelson 339 509-335-7698 c.rodriguezfurlan@wsu.edu</p>	<p>Molecular mechanisms regulating plant endomembrane protein traffic, their relevance in development, and during environmental stress responses.</p>
<p>Sanja Roje IBC, Plant Sciences Building 381 509-335-3008 sanja@wsu.edu</p>	<p>Metabolism of tetrahydrofolate-bound one-carbon units in plastids; biosynthesis of riboflavin in plants.</p>
<p>Karen Sanguinet CSC, Clark 339 506-335-3662 karen.sanguinet@wsu.edu</p>	<p>The Sanguinet lab focus on factors that modulate growth and development. Study of root architecture of the Pooideae subfamily of temperate grasses using developmental, genetic and genomics.</p>
<p>Andrei Smertenko IBC, Plant Sciences Building 281 509-335-5795 andrei.smertenko@wsu.edu</p>	<p>Cellular mechanisms of heat and drought resiliency, cell division, cytoskeleton, protein biochemistry.</p>

<p>Camille Steber CSS/USDA, Vogel 218 509-335-2887 csteber@wsu.edu; camille.steber@usda.gov</p>	<p>Molecular genetic studies of the control of seed dormancy and germination by GA and ABA hormone signaling, mechanisms of wheat preharvest sprouting tolerance, and wheat drought tolerance.</p>
<p>Tarah Sullivan CSS 509-335-4837 t.sullivan@wsu.edu</p>	<p>Soil-plant-microbiome interactions, metals biogeochemistry and bioremediation, soil microbiome factors linking soil health, crop success, and human micronutrient nutrition.</p>
<p>Kiwamu Tanaka PI Path, Plant Sciences Building 253 509-335-6418 kiwamu.tanaka@wsu.edu</p>	<p>Molecular plant-microbe interactions and plant innate immunity.</p>
<p>Mechthild Tegeder SBS, Abelson 401B 509-335-7545 tegeder@wsu.edu</p>	<p>Molecular and physiological mechanisms of nitrogen transport; regulation of transport; relationship between photoassimilate partitioning and plant primary metabolism; seed development and nutritional quality; plant productivity.</p>
<p>Linda Thomashow PI Path 509-335-0930 thomashow@wsu.edu</p>	<p>Genetics, biochemistry and physiology of plant-microbe interactions; plant growth-promoting rhizobacteria; rhizosphere microbiology and ecology; mechanisms of gene regulation and expression; microbial genomics.</p>
<p>John Wyrick SMB, BLS 241 509-335-8785 jwyrick@wsu.edu</p>	<p>Functional genomics; regulation of gene expression; chromatin structure; covalent histone modifications.</p>
<p>Zhiwu Zhang CSS, Plant Sciences Building 403C 509-335-8674 zhiwu.zhang@wsu.edu</p>	<p>Research focusing on developing statistical methods and computing tools for genomic research and applications.</p>

ORIENTATION & TO-DO LIST

We highly recommend arriving in Pullman at least a week before classes begin in August so that you can attend several orientations and have enough time to settle in before the semester begins. The following is a list of important items to do once you arrive on campus.

- Participate in orientations, including:
 - Graduate School Orientation: All orientation materials will be available online to complete prior to the first day of instruction. Topics include payroll and benefits services, health insurance, university resources, RA/TA workshops. A link will be provided via email.
 - New Graduate Student Meet and Greet: meet Graduate School staff and learn about important resources. Information will be provided via email.
 - Office of International Programs will have a hybrid online/in-person International Graduate Student Tutorial. New students will receive a link to the International Graduate Student Tutorial hosted on Canvas. Please check your WSU email for an email. If you cannot find the email, please call this number; 1-509-335-4508 or email: ip.interservices@wsu.edu. The Online International Graduate Student Tutorial will include immigration regulations, cultural adjustment, plagiarism/academic integrity rules, and more. New international graduate students will also be expected to attend the in-person portion of the International Graduate Student Tutorial. Times and locations will be sent to you later in the summer. Find more information on their website <https://ip.wsu.edu/on-campus/new-graduate-students/>
Please note: All new International Graduate Students are **required** to go through Orientation
 - Molecular Plant Sciences Graduate Program Orientation – (first year coursework, lab rotations, and other important program information) Meet and Greet with current students and faculty-
 - The orientation for the department where you TA, if applicable
- Fill out personnel paperwork
 - U.S. students: bring acceptable documents to the Graduate School offices (324 French Administration Building) and fill out the I-9 forms (<https://hrs.wsu.edu/wp-content/uploads/2023/10/Acceptable-Doc-I-9-Form-08.01.23.pdf>), Personnel Action Form, and which are necessary for processing tuition waivers, stipend, insurance, etc.
 - International students: bring your passport, I-94, I-20, and social security card to the Graduate School Offices (324 French Administration Building) to fill out the necessary forms. If you do not have a social security card, you will be able to apply for one during the International Programs Orientation.
- Obtain a WSU ID card
 - Take your WSU ID number and at least one photo ID to the Cougar Card Center, which is located in the Compton Union Building (CUB), room 60, to obtain your WSU ID.
- Obtain a parking permit, if needed
 - Bring your WSU ID number to the Parking and Transportation Building on the corner of Colorado St. and D. St.
 - Or sign-up online at: <https://parking.wsu.edu/>
- Obtain keys
 - Please see your first rotation faculty host/advisor to obtain keys for the labs you work in.

- Update contact information
 - Once you have established a local mailing address and phone number, please update your contact information in My.WSU and Workday. This will update your address with the Graduate School, payroll, benefits services, etc.
- Order your textbooks at the Bookie
 - You can order online here: <https://wsubookie.bncollege.com/>
 - And get some WSU swag too!
 - The Bookie is in the Compton Union Building (CUB) on campus
- Review the Graduate Student Bill of Rights
 - <https://gpsa.wsu.edu/about-gpsa/governing-documents/student-bill-of-rights/>
 - This document outlines your rights as a WSU Graduate Student

SPECIAL INSTRUCTIONS FOR INTERNATIONAL STUDENTS

There are many forms and helpful information available on the International Programs website, <http://ip.wsu.edu/global-services>, including a pre-arrival information request form, information on obtaining a visa, a welcome packet, and the orientation registration form. The office can also put you in contact with other students from your home country that may be able to help you find housing. You'll want to bookmark their web page: <https://ip.wsu.edu/future-students/graduate-students/>

A hybrid online/in-person International Graduate Student Tutorial (<https://ip.wsu.edu/iss/international-student-tutorial/>) will be made available. **New Students will receive a link to the International Graduate Student Tutorial hosted on Canvas.** Please check your WSU email for an email with the subject line "Attend International Student Tutorial!" If you cannot find the email, please email ip.intlservices@wsu.edu The online International Graduate Student Tutorial will include immigration regulations, cultural adjustment, plagiarism/academic integrity rules, and more. **The Tutorial has 2 required parts:** a virtual Canvas course and in person. Times and locations will be sent to you later in the summer. All international graduate students will be charged a **nonrefundable \$50 international student tutorial fee** after course registration. The fee will be charged to your WSU account and can be paid along with your tuition through myWSU.

The Cougar Food Pantry is a fully stocked pantry that provides free food to Pullman students experiencing food insecurity. The pantry stocks non-perishable pantry staples that let students create nutritious, filling meals and snacks. The food pantry is open to current Pullman students (undergraduate and graduate) who are experiencing food insecurity, **including international students.** Use of the Cougar Food Pantry does not qualify as aid and will not impact a future green card application. The food pantry is located on the ground floor of the Compton Union Building near Washington State Employees Credit Union (WSECU) and the entrance to Terrell Library. Students in need can stop by any time the pantry is open to shop for food. Please bring your Cougar Card for entry. The Food Pantry is open Monday-Friday | 10 a.m.-6 p.m. And Saturday - Sunday | 10 a.m.-2 p.m. If you can't shop during the pantry's walk-in hours, you can sign up to have your food delivered to you. Alternatively, you can email cougar.pantry@wsu.edu or call 509-335-0046 and we will work with you on other arrangements. Deliveries will be made on Mondays.

RESPONSIBLE CONDUCT OF RESEARCH TRAINING

Mandatory training on the Responsible Conduct of Research is required of all WSU graduate students. The training is web-based and is located at <https://myresearch.wsu.edu> (the training module is addressed to Principal Investigators but is the same for everyone). And the required CITI training can be found here: <https://irb.wsu.edu/training/>. Every new MPS student should complete the training as soon as possible but no later than the end of the first semester. If you have any questions, contact your Academic Coordinator, Tiffany Boswell at: 509-335-7619 or tiffany_boswell@wsu.edu or molecular.plants@wsu.edu.

Graduate students will not be eligible for employment until the training is completed, but a grace period of one semester is allowed.

Incoming students can take the training once a WSU network ID (the first part of your email before the '@') and password are created. We recommend that this is done before arriving on campus. Questions about the subject matter should be directed to your faculty advisor.

DISCRIMINATION AND SEXUAL HARASSMENT PREVENTION

Mandatory employee training on Discrimination and Sexual Harassment Prevention will be required of all graduate students on assistantships. This is a Web based training located at <http://hrs.wsu.edu/dshp>, students are encouraged to take this training as soon as possible.

- Graduate students appointed Fall Semester will need to complete their training by September 30th
- Graduate students appointed Spring Semester will need to complete their training by January 31st
- Graduate Student appointed Summer Semester will need to complete their training by June 30th

Failure to fully complete this training may result in future ineligibility of any financial support or benefit of your appointment. All employees will be required to repeat this training every five years from the date of initial training.

Questions regarding this training may be directed at Human Resources Services at 509-335-4521 or hrs@wsu.edu. Questions about sexual harassment or discrimination can be directed to the Office of Equal Opportunity at 509-335-8288 or oeo@wsu.edu.

A student may review their completion of training by logging into *WSU Online Training* account, select the "My Progress" button from the left side menu, then select the "Completed" tab for a list of your training history (*note the date range criteria above the "Completed" tab*). Click on the red ribbon icon if you would like to print a Certificate of Completion.

ESTABLISHING WASHINGTON RESIDENCY

This section applies **only to U.S. citizens and permanent residents**; international students will receive out-of-state tuition waivers for each semester of study provided they continue to be funded on an assistantship.

For the first year that you are enrolled in the MPS Program at WSU, you will receive a special waiver that allows you to pay in-state tuition if your place of residence is not Washington State. However, for this to continue, you **MUST** be a legal Washington resident at the beginning of your second year of study or you will be charged out-of-state tuition. The MPS program will not cover the difference between in-state and out-of-state tuition.

Information about the process can be found at the following web site: <https://gradschool.wsu.edu/establishing-residency/>. If you have any questions or concerns regarding your residency status, please contact Jenny Saligumba-Graham, saligum@wsu.edu at the Graduate School.

UNION AFFILIATION/COLLECTIVE BARGAINING AGREEMENT

Unless otherwise noted, when employed as a Graduate Research Assistant (such as by MPS or from a research grant) or when employed as a Teaching Assistant, WSU academic student employees (ASEs) are represented and governed by a [collective bargaining agreement](#) as written or amended between Washington State University and the United Automobile, Aerospace, and Agricultural Implement Workers of America ([UAW](#)). Please reference this agreement for details on all ASE benefits, including, but not limited to, Vacation, Holidays, and Sick Leave. Information is provided here for your convenience.

SCOPE OF OVERLAP BETWEEN ASE RA DUTIES AND ACADEMIC RESEARCH/TRAINING

Research Assistant (RA) duties: As a 0.5 FTE Academic Student Employee (ASE), RAs are expected to devote an average of 20 hours per week to the duties outlined in their appointment letter, which may include tasks such as programming, data collection and analysis, lab maintenance, attending meetings, writing papers, and more, as defined by their supervisor.

At least two weeks prior to the commencement of each semester, RAs will be given a job description (or changes to a job description for reappointment). The job description must adhere to the specifics outlined in the [WSU/UAW Contract Article 11.4](#).

RA overlap with academic research and training: In most cases, the 20 hours per week of paid RA work will align with and contribute to the student's academic research and training. In this case, the RA appointment is intended to provide financial support for time spent on activities that simultaneously fulfill the student's employment obligations and advance their academic progress. However, it is recognized that not all RA duties will directly relate to the student's academic research and training.

Academic research and training (outside of an RA-ship): Students are expected to dedicate substantial additional time beyond the 20 hours of weekly RA duties to make timely progress on their academic research and training (including but not limited to their thesis or dissertation). This research and training is required for their academic progress as measured by MPS700 (Master's Research) or MPS800 (Doctoral research) credits each term. Typically, academic progress is also expected during the summer term when enrollment and tuition payments are not required. Summer academic progress facilitates students making continuous progress towards their degree and timely graduation.

Separate assessment of academic performance and employment duties: The student's academic research performance in PREFIX 700 or 800 will be assessed independently from their performance of assigned RA duties.

- Each year, the student's academic progress will be evaluated by their advisory committee based on factors such as academic milestones, quality of work, and overall progress toward completion of the thesis or dissertation.
- The student's performance as an ASE will be assessed separately by their assistantship supervisor, focusing on fulfilling assigned duties, quality of work, professionalism, and other relevant factors outlined in the appointment letter.
- These two assessments will be conducted independently to ensure that the student's academic progress is not conflated with their employment performance and vice versa.

Communication and oversight: Regular communication between the student, RA supervisor, major professor/advisor (if different than RA supervisor), and graduate program leadership is crucial to ensure an appropriate balance between employment duties and academic progress. Communication is the responsibility of both the student and of the supervisor. Students should raise any concerns about distinguishing between their RA duties and their academic research and training (including but not limited to their thesis or dissertation) to their supervisor or program director. Supervisors and program directors should periodically review the RA's responsibilities and adjust as needed to optimize the student's overall academic and professional development. It is recommended that the student and advisor agree on milestones for academic success at the beginning of each semester and the summer term. (Likewise, a separate list of RA employment goals should be delineated.)

Summary: Whereas an RA appointment at 50% FTE will support a student's academic research and training, often relating to their own independent research project, it is understood that some RA tasks may not directly align with the student's specific independent research topic. Likewise, to fulfill their academic obligations, students are expected to devote substantial additional time to academic research and training beyond their RA duties. The student's academic research performance and employment duties will be assigned and assessed separately each year to ensure a fair evaluation of both components of their position. Open communication and regular check-ins between all parties are essential to balance and support the students' success in their dual roles as researchers in training and as employees.

INSURANCE AND PAYROLL

Graduate Student Insurance

Washington State University automatically pays health and dental insurance for students who have assistantships and provides the Cougar Health Services clinic on campus. Cougar Health services are offered for free or at a reduced cost to WSU students. CHS provides medical, minor surgical, urgent care, mental health, and wellness programs for students who have paid the university health and wellness fee (but not their dependents). Basic visits to the clinic are free, although you may be charged for x-ray, laboratory, and physical therapy services, and for filled prescriptions. For a complete description of CHS services, go to <https://cougarhealth.wsu.edu/>.

To make an appointment with Cougar Health, call: 509- 335- 3575.
To reach the Cougar Health Pharmacy, call: 509 – 335 - 5742.
To reach Counseling and Psychological Services call: 509-335-4511 (initial consultations are same day scheduling only).
The vision clinic can be reached at: 509-335-0360
The 24-hour nurse line can be reached at: 509-335-3575

The Graduate Student Assistant Medical and Dental Insurance Plan

(<https://cougarhealth.wsu.edu/studentinsurance/graduate-students/>) is designed to help you pay for expenses you may incur outside of the CHS clinic. Coverage is available worldwide. WSU’s medical policy is underwritten by United Healthcare Student Resources (UHCSR) and for complete information about their policies and an online claim form, go to <https://cougarhealth.wsu.edu/studentinsurance/graduate-students/#C7> It is also possible to obtain the claim form from Health and Wellness Services and Benefits Services in French Administration Building 232 (335-9575). WSU’s dental policy is underwritten by Washington Dental Service, www.deltadentalwa.com. Most local dentists are members of Washington Dental Service. If you have any questions about the Graduate Student Health Insurance plan, please call 509-335-3575 or email: student.insurance@wsu.edu.

It is possible to arrange for one’s spouse or same-sex domestic partner and children to be included in the Graduate Student Assistant Medical Insurance Plan at the following rates for students on an assistantship. Dependents are not eligible for dental insurance. For precise rates visit: <https://cougarhealth.wsu.edu/studentinsurance/graduate-students>

Pay Checks, Deductions, and Graduate Fees

Paydays

WSU is a semi-monthly, lagged pay cycle. Payday is normally the 10th and 25th of each month (or the closest working day if pay day falls on a weekend). See <https://payroll.wsu.edu/paydays/> for paydays.

It is possible to arrange direct deposit so that your check is automatically deposited that day; otherwise, it will be sent through regular mail. **DIRECT DEPOSIT IS HIGHLY RECOMMENDED**. Direct deposit can be set up online through Workday. For instructions on how to set-up direct deposit, use the following link:

<https://confluence.esg.wsu.edu/pages/viewpage.action?spaceKey=WKB&title=Complete+Payment+Elections>. If you have any questions on how to sign-up for direct deposit, contact Tiffany Boswell at: 509-335-7619 or tiffany_boswell@wsu.edu or molecular.plants@wsu.edu.

Payroll deduction allows graduate fees to be withdrawn from your paychecks over eight pay periods. Or you can elect to pay all fees in a lump sum. You must be on an assistantship and sign-up for payroll deduction in Workday before your first paycheck (Aug 25th). This is an optional service provided at a fee of \$8 per semester. **WSU fees are approximately \$1,100 per semester (\$2,200 per academic year).**¹ If you elect to not enroll in payroll deduction, your fees must be paid in full on the day that tuition is due. It is recommended that you sign up for payroll deduction. The instructions to sign-up for payroll deduction in Workday can be found here: <https://jira.esg.wsu.edu/servicedesk/customer/kb/view/160373535>. If you have any questions, contact Tiffany Boswell at: 509-335-7619 or tiffany_boswell@wsu.edu or molecular.plants@wsu.edu. See <https://gradschool.wsu.edu/student-finance-page/> for more details.

LEAVE & VACATION

Refer to Article 28 – vacation, Article 29 – Holidays and Article 30 – Leaves from the WSU/UAW Contract 2024-2026, [WSU/UAW Contract 2024 – 2026 – Human Resource Services, Washington State University](#).

Graduate students on appointment **do not** earn annual leave or sick leave. Please contact your faculty advisor (or rotation host) if you are sick or need time off.

Graduate students on hourly appointments, **do earn** sick and vacation days. Please refer to your balances in Workday. Please refer to this link for further information on sick and vacation for hourly student workers:

<https://policies.wsu.edu/prf/index/manuals/60-00-personnel/60-43-paid-sick-leave-temporary-hourly-employees/>. If you have any questions on sick and leave policy, please call HRS and they can assist you: 509-335-4521.

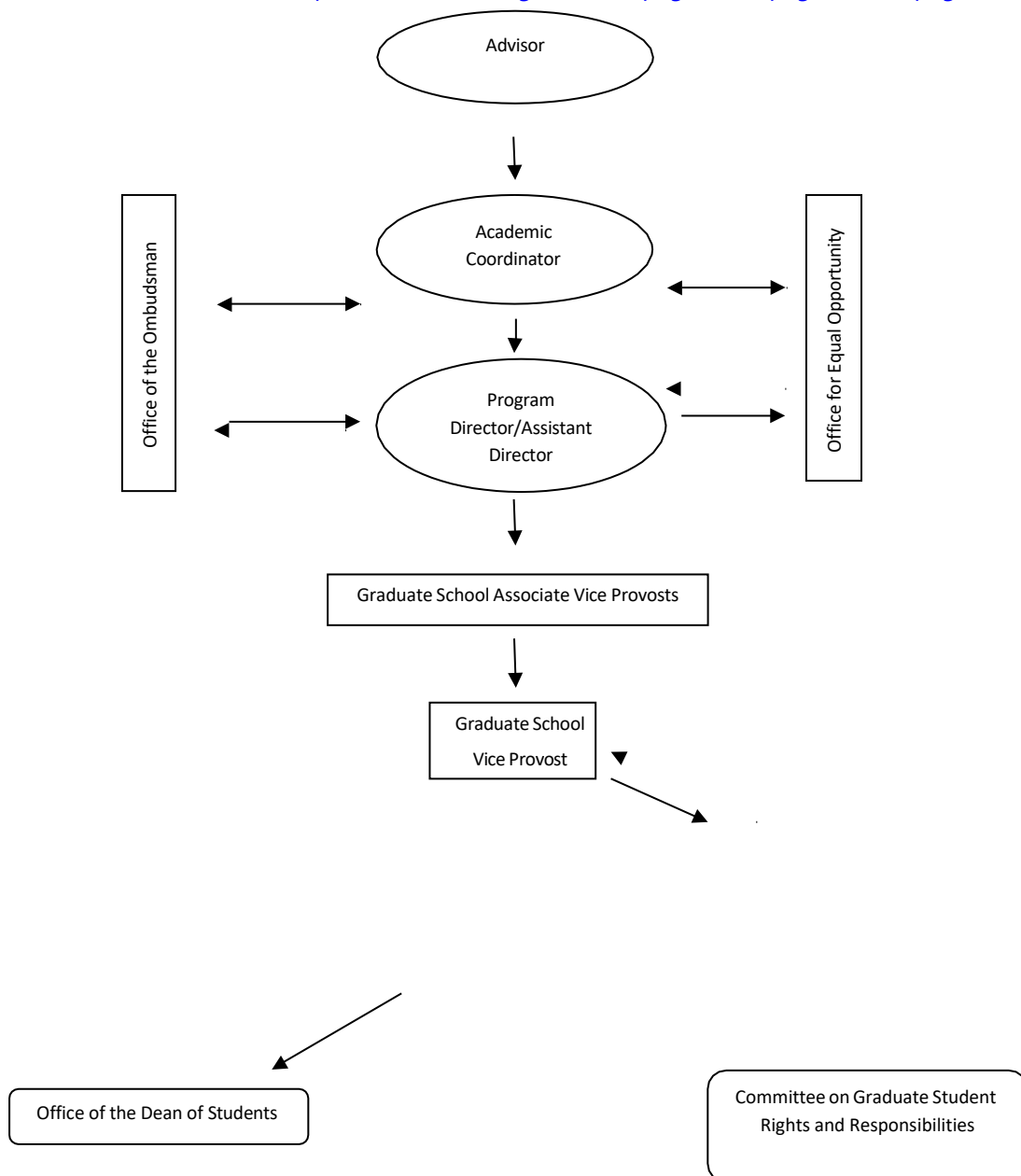
If you encounter difficulties arranging sick or vacation time with your advisor or rotating lab, please contact the MPS Program leadership: Dr. Laura Bartley (laura.bartley@wsu.edu), Dr. Hanjo Hellmann (hellmann@wsu.edu), or Tiffany Boswell (509-335-7619 or tiffany_boswell@wsu.edu or molecular.plants@wsu.edu). Additional advocacy is also available from the Graduate and Professional Student Association (GPSA). Your GPSA Senator's contact information can be found here: <https://gpsa.wsu.edu/about/people/>

¹ This value does not include summer.

GRADUATE SCHOOL & MPS PROGRAM RESOURCES

The MPS program recognizes that excellence in research is enhanced by a diversity of views, life experiences, identities, and cultures. We aim to cultivate a diverse, equitable, and inclusive environment that enables all researchers to feel respected and celebrated. WSU and the MPS program are committed to maintaining a social and academic environment conducive to the education mission of the institution. While it is hoped that each student's experiences at WSU will be positive, difficulties can occasionally arise. If concerns arise, graduate students have many options available for support and are encouraged to pursue a resolution.

The chart below contains a summary of how student concerns are normally handled at WSU. Students typically seek resolution at the lowest level with one's advisor, one's doctoral committee members, the academic coordinator, the program director or program assistant director. If a student is unable to remedy the situation through these means, or if there is a reason why these individuals cannot be approached, problems can be taken directly to another appropriate office. More information is available at: <https://confluence.esg.wsu.edu/pages/viewpage.action?pageId=266603505>



The MPS program has a diversity, equity and inclusion (DEI) committee composed of MPS graduate students and faculty members that can be contacted if there are concerns about DEI related issues. The DEI committee fosters a positive atmosphere among students and faculty, prioritizing a diverse and inclusive working environment. You may contact mps.dei@wsu.edu or get a list of current DEI committee members by emailing the MPS academic coordinator, Tiffany Boswell (tiffany_boswell@wsu.edu or molecular.plants@wsu.edu).

The DEI committee is a neutral third party that can assist with issues related to diversity, equity, and inclusion. Issues that can be brought to the committee include for example language used in the lab that goes against DEI values, communication issues with faculty or peers, and related challenges. Depending on the issue, it will be resolved through one of four tiers (see chart). If the issue is not able to be resolved with help from the DEI committee, it will be transferred (with the student's permission) to the appropriate office: human resources (HR), office of the ombudsman, or office of compliance and civil rights (CCR).

For DEI related issues, because of the wide variety of issues that may affect students, there are several options available in addition to the Graduate School. Students may, for instance, consult the Office of the Ombudsman, the Office of Equal Opportunity, The Dean of Students, and the Office of Compliance, the WSU and Pullman Police Departments, and the Office of Compliance and Civil Rights at any point in working toward the resolution of a problem. See Additional University Resources (the next section) for more details on the types of problems that different offices might be best equipped to handle. Concerns which are brought to the Graduate School may likewise draw on these or other resources within the University, as necessary.

Academic issues brought before the Graduate School are typically handled by the Associate Deans of the Graduate School. Appeals of college or unit level decisions are handled by the Vice Provost of Graduate Education in consultation with the Associate Deans. Graduate students' appeals process involves several steps: adjudication at the unit level, adjudication at the college level with, if necessary and appropriate, a final appeal to the Vice Provost of Graduate Education. Unusual academic matters and some combinations of conduct and academic matters may be referred to the Committee on Graduate Student Rights and Responsibilities (CGSRR). In the case of strictly academic matters, the CGSRR consists of graduate faculty only. In matters consisting of both academic and conduct issues, the CGSRR is composed of graduate faculty and graduate students recommended by the Graduate Studies Committee. The CGSRR will operate with due respect to the rights of graduate students and graduate faculty, including the conduct of confidential interviews, the rights of all parties to review and address allegations, and rights to a fair hearing. Once allegations are brought to the Graduate School in writing, the CGSRR will be formed within 30 days and will deliberate and render a recommendation to the Vice Provost of Graduate Education within 60 days. This recommendation will be acted upon by the Vice Provost of Graduate Education in consultation with the Provost and the Attorney General. The final outcome of this process may be appealed to the Vice Provost of the Graduate School, who will then follow the procedures outlined above.

Appeals can be brought before the Vice Provost. The Vice Provost will consider appeals based on procedural irregularity and will not reopen cases only for the purpose of re-investigating the grievance.

In all instances, the University seeks fair and expeditious action on academic and conduct issues. Resolutions must uphold the highest standards of academic freedom and integrity, while honoring the rights and dignity of all individuals in the University community.

For more information on the Graduate Student Bill of Rights, see <https://gpsa.wsu.edu/about-gpsa/governing-documents/student-bill-of-rights/>.

ADDITIONAL UNIVERSITY RESOURCES

Cougar Health – Clinic, WSU Pharmacy, Access Center, Vision Clinic, and Counseling and Psychological Services

Located at: 1125 NE Washington St, Pullman, WA 99164.

Medical Clinic: 509-335-3575
Pharmacy: 509-335-5742
Access Center: 509-335-3417 or email access.testing@wsu.edu .
Vision Clinic: 509-335-0360
Counseling and Psychological Services: 509-335-4511
Student Health Insurance: 509-335-3575 or email student.insurance@wsu.edu

Office of the Dean of Students (509-335-5757) <https://deanofstudents.wsu.edu/>

The WSU Office of the Dean of Students connects students with the services, opportunities, and resources to foster their success at WSU and after graduation. By working with university and community partners, we advise students about services, resources, and options that support their success and provide guidance and assistance during times of challenge, crisis, complexity or emergency. Located at:

WSU Compliance and Civil Rights (509-335-8288) <https://ccr.wsu.edu/>

WSU's compliance program promotes a culture of knowledge of, and compliance with, regulatory and legal requirements. Through the work of the Chief Compliance Officer, Compliance & Civil Rights, the WSU Compliance Committee, and partners throughout the WSU system, the compliance program provides education, advice, and pragmatic solution building for complex compliance issues. Our team is committed to holistically promoting and supporting WSU's strategic goals and values through thoughtful, equitable, and ethical conduct.

Office of the University Ombudsman (509-335-1195), <https://ombudsman.wsu.edu/>

The primary purpose of the office is to protect the interests, rights, and privileges of students, staff, and faculty at all levels of university operations and programs. The Ombuds office is designated by the university to function as an impartial and neutral resource to assist all members of the university community. The Ombuds office provides information relating to university policies and procedures and facilitates the resolution of problems and grievances through informal investigation and mediation. The office does not replace or supersede other university grievances, complaint or appeal procedures.

Office of Veterans Affairs (509-335-1234), [WSU Military Affiliated Students](#)

For all veterans related questions. Email: veterans@wsu.edu or visit the office in Holland Library, Room 120BA (Pullman campus).

Women's Resource Center (509-335-6849), <https://women.wsu.edu/womenstars-center/>

Our mission is to engage with the multi-dimensional experiences of women, to challenge patterns of injustice for people of all genders, and to provide a welcoming and inclusive space. We elevate all marginalized voices while prioritizing prerogatives to learn, organize, and support one another as peers and mentors. We foster a community dynamic both within and beyond the Women*s Center that is collaborative, creative, and inclusive. Email: womens.center@wsu.edu. Located at: Wilson-Short Hall, Room 8, Ground Floor

Gender Identity/Expression and Sexual Orientation Resource Center (509-335-8841) <https://thecenter.wsu.edu/>

The Gender Identity/Expression and Sexual Orientation Resource Center serves and supports LGBTQ+ students, faculty, staff, and alumna throughout the Washington State University system by providing resources, fostering community building, and relevant initiatives. Additionally, we promote academic and personal growth, learning, and development for students. Location: Compton Union Building, Room 401. Email: matthew.jeffries@wsu.edu

Access Center (509-335-3417)

The WSU Access Center serves the WSU community as part of the Division of Student Affairs. We provide accommodations and services to incoming and current WSU students registered with the campuses of Pullman, Global, Everett, Puyallup and Bremerton. The Access Center supports social justice for students with disabilities and chronic medical conditions by: Removing barriers to the living and learning environment through the interactive accommodation process, collaborating with campus partners to identify and remove systemic barriers, attitudinal barriers and social exclusions in the learning and living environment at WSU, advocating for accessible and equitable learning and living environments for all students, enhancing equity and inclusion through Universal Design and Universal Design for Learning principles, collaborating with the Community, Equity and Social Justice pillar of Student Affairs to bring issues of disability to the campus community through system-wide awareness programming. Email: access.center@wsu.edu, Phone: (509) 335 – 3417, Located at: 217 Washington Building

Office of International Programs (509-335-4508), <https://ip.wsu.edu/future-students/graduate-students/>

Assists international students and visiting faculty with immigration, naturalization, international taxes, non-academic, and social adjustments. Email: ip.globalservices@wsu.edu, Located at: Bryan Hall 108

Intensive American Language Center (509-335-6675), <https://ip.wsu.edu/learn-english/>

Learn English from highly qualified, experienced instructors and enjoy U.S. culture in a safe, student-friendly environment. Email: ialc@wsu.edu, Located in Kruegel Hall

The Office of Multicultural Student Services (509-335-7852), <https://communities.wsu.edu/multicultural-student-services/>

The Office of Multicultural Student Services (MSS) seeks to facilitate the best undergraduate experience for multicultural, first generation, and other underrepresented students through the provision of culturally relevant services to enhance their learning and development and foster their successful transition, adjustment, persistence, achievement, and graduation. Email: mss@wsu.edu

- African American Student Center: 509-335-2626
- Asian/Pacific American Student Center: 509 - 335-1986
- Chicana/o Latina/o Student Center: 509-335-2617
- Native American Student Center: 509-335-5849

SAFETY

Washington State University is committed to maintaining a safe environment for its faculty, staff, and students. Safety is a priority in which the university invests significant time and resources. We have emergency plans and procedures that are reviewed regularly and that can be implemented quickly in a crisis or emergency. Our focus over the past few years on expanding communication resources and practices has enhanced our ability to effectively maintain our campus safety.

Safety is not the exclusive responsibility of any one individual, department or office. Every member of the campus community should recognize that it is a shared responsibility and that each of us has a personal role in campus safety. Leaders at all levels including Vice-Provosts, deans, directors, chairpersons, and department heads must take an active role in working with faculty, staff and students to foster an environment of safety awareness by providing necessary training and by setting an example for others to follow. Individual faculty, staff, and students should know the appropriate actions to take when an emergency arises. Their understanding of university safety and security procedures will help emergency personnel fulfill their responsibilities when emergencies do arise.

We ask that all faculty, staff, and students to visit the University emergency management web site at <http://oem.wsu.edu> to become familiar with the student and classroom emergency information provided. Everyone should also become familiar with the WSU ALERT site, <http://alert.wsu.edu/>, where information about emergencies and other issues affecting WSU can be found. This site also provides information on the communication resources WSU will use to provide warning and notification during emergencies. For example, you can opt to have alerts sent via email and/or text message to your cell phone.

WSU is fully committed to keeping the community informed of public safety issues and emergency procedures as well as providing protection, education, and other services that enhance your safety and well-being. Please stay informed of the services and information available and always remain vigilant and aware of your circumstances so that we can work together to ensure a safe working and learning environment.

For additional information about campus safety, visit the Office of Emergency Management web site at <http://oem.wsu.edu>.

This is also addressed in the Academic Student Employee contract (<https://hrs.wsu.edu/employees/labor-relations/collective-bargaining/ws-uaw/ws-uaw-contract-2024-2026/>).

LIVING IN PULLMAN

List of Helpful Businesses and Services

City of Pullman (events, water/sewer) 190 SE Crestview St http://www.pullman-wa.gov/	Pullman Regional Hospital 835 S.E. Bishop Blvd. (509) 332-2541 http://www.pullmanregional.org/
Brelsford WSU Visitors Center 150 E. Spring Street (509) 335-4636 http://visitor.wsu.edu/	WSU Student Recreation Center ² (509) 335-8732 http://urec.wsu.edu/
Department of Licensing (driver's license, license plates, tabs, car registration, etc.) 980 S. Grand Ave. (509) 334-2510 http://www.dol.wa.gov	Avista Utilities (electricity, gas) (800) 227-9187 http://www.avistautilities.com
Washington Secretary of State Voter Registration Phone: (360) 902-4180 https://www.sos.wa.gov/elections/register.aspx	Pullman Disposal (waste disposal) (509) 334-1914 http://www.pullmandisposal.com/
Neill Public Library (books, DVDs, ebooks, audiobooks, etc.) 210 N. Grand Ave. 509-334-3595 https://www.pullman-wa.gov/government/departments/neill_public_library	

Housing

It is important to start looking for housing early because houses and apartments rent very quickly in Pullman. Many units become available for lease in March for the upcoming school year. Since you need to establish and maintain residency in Washington within a year of arrival, **you cannot live in Idaho**. Also, while it is sometimes cheaper to live in Colfax, WA, note that there is no public transportation between Colfax and Pullman.

University accommodations are available, including single and married student apartments. A graduate student resident hall containing single rooms is located near the center of campus. Information on University housing can be found at <http://housing.wsu.edu/>.

Many students live in off-campus housing within walking distance of the University. A good source of information about off-campus housing is <http://offcampusliving.wsu.edu/>.

² Graduate Students are not allowed to use the Chinook. If you want to use the Chinook, you will need to purchase a membership.

Transportation & Parking

Many students at WSU own cars, but it is not necessary. There are many apartments within walking distance of campus. Also, your student fees allow you to ride Pullman Transit for free after showing your WSU Cougar Card (go to <http://www.pullmantransit.com/> for route and schedule information). If you would like to purchase a parking pass, use the following link: <https://parking.wsu.edu/>. The price of each parking pass can be found here:

<https://s3.wp.wsu.edu/uploads/sites/216/2021/06/Prorate-Schedule-FY22.pdf>

Travel to and from Pullman

The Pullman-Moscow Airport (PUW) is nearby but has limited flight selection. If you have a car (or a friend willing to drive you), it may be easier to fly in and out of Spokane International Airport (GEG), which is about 80 miles north of Pullman. The Greyhound bus travels to and from Spokane about twice per day. There is also the Lewiston Regional Airport (LWS) about 30 miles south. Wheatland Express offers limited shuttle service from Pullman to the Spokane Airport <http://www.wheatlandexpress.com/>.

Child Care and Public School

If you have children, the WSU Children Center (509) 335-8847 or <http://childrenscenter.wsu.edu/>, is one option for day and evening care. Please contact them early as childcare waitlists in the U.S. can be long.

Information about Pullman Public Schools can be found at <http://www.psd267.org> or call (509) 332-3581.

General information on ASE-supported childcare can be found under Article 21 [here](#).

GRADUATE PROGRAM IN MOLECULAR PLANT SCIENCES PH.D. GRADUATE PROGRAM

COURSE REQUIREMENTS

Graduate School and MPS course requirements for a Doctoral Degree:

- Maintain a 3.0 cumulative GPA at all times and hold a 3.0 cumulative GPA and 3.0 GPA among courses listed on the Program of Study (will be explained below, but in principle contains all classes a graduate student plans to attend to gain 15 graded credits) in order to graduate.
- No graded courses of "B-" or below may be dropped from a Program of Study nor can a course be repeated for a higher grade if the final grade is "C" or higher.
- Any course listed on the Program of Study for which a grade of "C-" or below is earned **must** be repeated for a letter grade, not on a Pass/Fail basis.
- The core of the Doctor of Philosophy (Ph.D.) requirements in MPS and the Graduate School are a minimum of 15 hours of core graded coursework required on the Program of Study.
 - Seminar courses numbered 500 or above that *are graded* on a scale of A-F may be used as part of the student's core program. Courses graded S/F, and audited courses, may not be applied towards the graded core.
- In addition to the course requirements, the program shall include research and additional studies. This includes Independent Study (600) and Doctoral Research (800 – minimum of 20 hours), and any additional graded or S/F courses taken at WSU. Credit in this category, plus that in the core program, must total at least 72 hours. Note: Graduate School Policies state that the student is expected to earn an S grade for all 800 research credits. One U (Unsatisfactory) grade for research credits indicates that the student is not making satisfactory progress. The student will be subject to dismissal from the program if a U grade is earned for research credit for two terms (summer term included). Research credits for which a U has been earned do not count toward degree requirements.

In brief:

- 72 hours minimum total credits
 - 15 hours minimum graded course work (21 graded credits are recommended)
 - 20 hours minimum 800-level research credits
 - 2 credits MPS570
 - 2 credits MPS515
- NOTE: audited courses cannot be applied
- NOTE: Though 15 credits are the minimum, we recommend that students take 21 credits of graded courses.

Molecular Plant Sciences graded course work requirements for a Doctoral Degree:

Currently the course requirements for the MPS program are:

Required (Pass/Fail):	Title	Credits
MPS 515	Seminar in Molecular Plant Sciences	2 (1 credit course taken twice)
MPS 570	Advance Topics in MPS (aka. MPS Journal Club)	2 (1 credit course taken twice)
Graded Course Work:		
MPS 525	Plant Molecular Genetics	3 (offered in Fall semesters)

Other courses for the 15 credit minimum of 500-level coursework should be selected in consultation with and approval of your Graduate Advisory Committee.

NOTE: Taking a statistics course(s) is **strongly** recommended. Discuss with your advisor and/or committee to decide which one best fits your level of need and topic of study.

Please note that though only 15 graded credits are required, 21 graded credits are highly recommended.

MPS Seminar (MPS515)

Whether you are enrolled or not, attendance is required weekly in the MPS 515 seminar. Attendance is expected throughout the course of your program of study. Failure to attend when you are enrolled for the semester may result in a U grade. Regular events (such as lab meetings) should not be scheduled during the time of the MPS 515 seminar. MPS students are **required** to present two seminars while enrolled in the program. When a student presents at the seminar, their advisor and committee should attend. Students must ensure their committee is aware of their seminar presentations.

MPS Journal Club (MPS570)

Journal Club provides a training opportunity to students to present, discuss, and critically analyze scientific papers and approaches with faculty and fellow graduate students. Students are encouraged to enroll in journal club during their first semester and to complete the requirement before the start of their third year.

Plant Molecular Genetics (MPS 525)

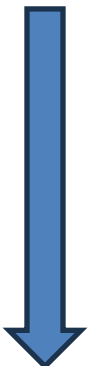
This required course is meant as a cohort building class for newly incoming graduate students that provides a broader understanding of molecular approaches in plant biology.

NOTE: A list of available graded courses offered that are recommended for reaching the graded credit requirement is available online here: <https://mps.wsu.edu/recommended-courses/>. You can also contact the MPS Academic Coordinator, Tiffany Boswell at: 509-335-7619 or tiffany_boswell@wsu.edu or molecular.plants@wsu.edu.

NOTE: Coursework options need to be discussed with and approved by the graduate student's advisory committee and will depend on the student's interest/research areas.

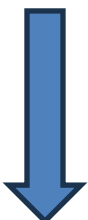
**GRADUATE PROGRAM IN MOLECULAR PLANT SCIENCES PH.D. GRADUATE PROGRAM
SUGGESTED TIMELINE WITH MILESTONES:**

Year 1 (semesters 1 + 2)



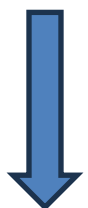
Summer: Choose courses for fall
Get into contact with your research or possible rotation advisors.
Fall: course work, research
Spring: course work, research, establish advisory committee and program of study, dissertation topic, and have a 1st committee meeting
Summer: Research

Year 2 (semesters 3 + 4)



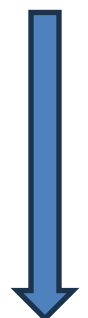
Fall: course work, research, committee meeting
Spring: wrap-up course work, research
Summer: research; discuss 1st research proposal and start outlining your objectives

Year 3 (semesters 5 + 6)



Fall: 1st proposal defense
research
Spring: research, committee meeting
Summer: research, discuss preliminary exam (= 2nd proposal defense)

Year 4+ (semesters 7 +)



Fall: preliminary exam
discuss with advisory committee timeline for graduation, research
Subsequent semesters: annual committee meetings, research
Dependent on how research progresses: write dissertation, prepare for final exam, and defend; NOTE: after preliminary exam you have up to 4 years till you need to defend your thesis.

GRADUATION

The above is a typical timeline. Faster progress is permitted. Conducting the preliminary exam later than the end of the fourth year is discouraged. The preliminary exam and final exam cannot be taken in the same semester.

GRADUATE STUDENT COMMITTEES

- 1) The initial selection, or subsequent changes, of a graduate student's committee shall be determined jointly by the student and the student's advisor.
- 2) The graduate committee of each student shall have a minimum of four members for Ph.D, but can be reduced to three members if a student decides to leave the MPS program with a MS degree. A majority of committee members shall be active MPS Graduate Faculty members.
- 3) As specified in the Graduate School's Policies and Procedures, the performance of each graduate student shall be reviewed annually.
- 4) Faculty members that were granted Emeritus status can continue their participation in existing graduate student committees, but cannot serve on any new committees.

FIRST PROPOSAL

The first proposal is an MPS internal requirement that consists of written proposal and an oral defense that typically occurs around the 5th semester of a graduate student's participation in the MPS program. The proposal covers the candidate's thesis project and should be developed with support of the primary advisor, the student's Advisory Committee, and other community members as needed. The proposal should follow NSF guidelines (e.g., 15-pages; for details see Appendix 1). A defensible proposal should be submitted to the Advisory Committee at least 2 weeks before the proposal defense day, but an exact proposal submission date can be discussed and agreed on with the Advisory Committee. The defense has a Pass/Fail outcome. If a student fails, the first proposal may be retaken once at the discretion of the Advisory Committee to address specific deficiencies within 3-months of the first defense day. Upon a second failure, the committee may recommend transfer to the Master's degree program or dismissal.

PRELIMINARY EXAM GUIDELINES

- 1) The MPS Preliminary Exam is a proposal on a topic outside of the student's dissertation research. The specific topic is selected by the student's Advisory Committee from among three abstracts with different topics that the student prepares.
- 2) It is recommended that the exam occurs no later than the beginning of the 4th year of the student's graduate career. In most cases, this would be during the fall semester of the student's fourth year in the program. The committee can, however, recommend a different date for the preliminary exam depending on the student's research progress.
- 3) The Preliminary Exam proposal (also known as the 2nd proposal) is to be written independently of the graduate student's advisor (and co-advisor, if applicable) although anyone else inside or outside WSU can be consulted. Note: the student is encouraged to reach out to their committee members to discuss ideas and progress during the entire Preliminary Exam process.
- 4) **This is a formal Ph.D. exam and must be scheduled through the MPS Academic Coordinator at least 10 working days prior to the exam date.** See Graduate School Forms: <https://gradschool.wsu.edu/documents/2018/01/exam-scheduling.pdf>. Note that preliminary exams cannot be scheduled during the week of final exams or prior to a Program of Study being approved (as emphasized above, approval of a Program of Study can take **several months**, so make sure to have this submitted **at least 1 semester before** you plan to take your preliminary exam!). Note: When filling out the exam scheduling form, only choose the "Doctoral Preliminary Oral Exam."
- 5) The preliminary exam must adhere to the following schedule that covers ~7 weeks (see timeline below). Failure to adhere to the MPS proscribed 7-week Preliminary Exam timeline may be grounds for failure of the exam, at the discretion of the Advisory Committee.

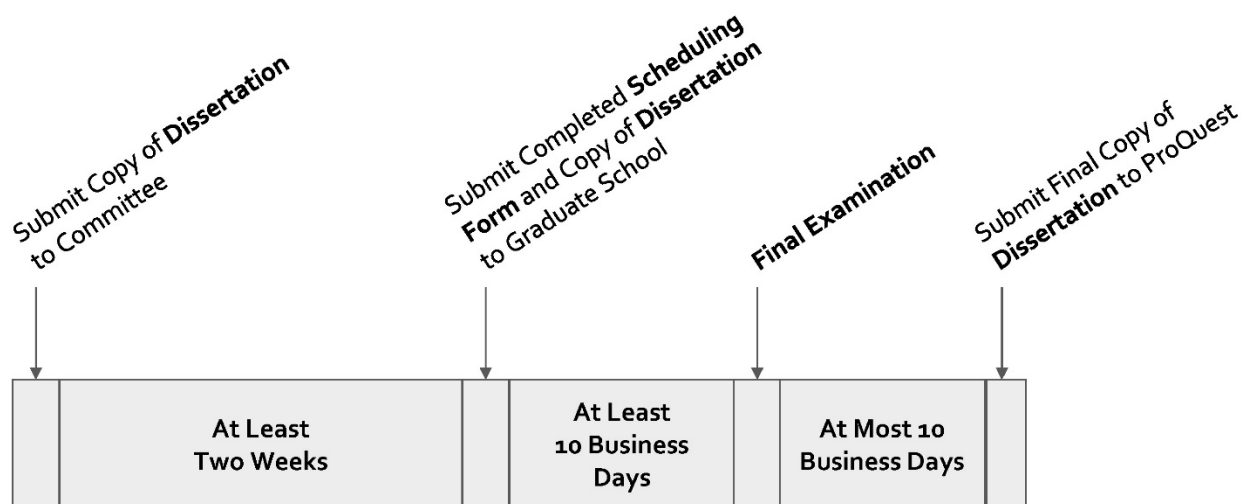
- 6) The student submits three abstracts that describe potential topics for a 2nd **research** proposal approximately **2 weeks prior to committee approval**. This approval can be determined either during a meeting with the committee members or via email, as mutually agreed. These abstracts must be judged to be sufficiently different than the student's current research. The student may rank the abstracts based on their preference. However, the committee is not bound to follow that ranking. If the advisory committee considers any abstracts to be too close to the student's or the student's advisor's current research, the committee may request an additional abstract or abstracts.
- 7) It is recommended that the examination presentation day is scheduled when abstracts are handed to the advisory committee as from that moment, the 7-week clock is running. Make sure that it has been clarified with the advisory committee that all members are available for the exam, 7 weeks later! If the committee requires additional abstracts, then the start date for the 7-week clock should be delayed.
- 8) Once three abstracts are approved, the advisory committee assigns the topic for the 2nd proposal selected from among the approved abstracts. The committee will notify the student of the assigned topic **five weeks before the scheduled exam date**.
- 9) The written Preliminary Exam proposal should be no more than 7 single-spaced pages, excluding references, but including figures and following the basic NSF grant format ([NSF guidelines](#); except that NSF allows 15 pages). A Project Summary must be included in the 7-pages of the proposal. The proposal must be the student's original work. WSU's plagiarism policies apply to the Preliminary Exam ([Academic Integrity Policy](#)). **Note: the student is encouraged to reach out to their committee members (but not their advisor) to discuss ideas during the entire Preliminary Exam process.**
- 10) The proposal is due to the committee within **four weeks** following topic approval and 1 week before the oral component of the preliminary exam.
- 11) **One week** following the distribution of the 2nd proposal to the committee, students will give a 20- to 30- minute presentation to their Advisory Committee summarizing the 2nd proposal. This presentation will be followed by an oral examination by the advisory committee related to the proposal and general knowledge relevant to the MPS program and the student's research. There is no time limit for the examination, but students should reserve at least 2 hours for the exam.
- 12) As soon as possible and no later than five business days following the exam, the Advisory Committee members must submit all exam ballots and the ballot memo electronically to the Graduate School in the "Graduate Exams" tile on their myWSU homepage. Students are advised to remind faculty of this requirement.
- 13) After successful completion of the Preliminary Exam, a student and their Advisor may apply for 5-semester of ABD Tuition Waiver from the graduate school (<https://gradschool.wsu.edu/abd-waiver-pilot-program/>)
- 14) Examination Failure: If the first attempt of the Preliminary Examination is failed, the student may attempt a second examination. The topic of the second Preliminary Examination will be the same as for the first attempt, taking feedback of the student's committee into account. The Graduate School's examination procedures must be followed to schedule the second examination. The Graduate School will send an official representative from the Graduate Mentor Academy to preside over the second attempt of the Preliminary Examination to protect the student, faculty, and program and to ensure that the appropriate procedures are followed for the second attempt at the Preliminary Examination. Once the required waiting period has passed, it is recommended that the student restart the 5-week timeline for preparation of the written portion of the exam in 4 weeks, followed by 1-week for preparation of the oral presentation, culminating in the second Preliminary Exam attempt. If the student fails the Preliminary Examination a second time, the student will be dismissed from the Graduate School. The student may appeal the decision by filing a formal grievance with the Graduate School. Please refer to the policies and procedures PDF document found here: <https://gradschool.wsu.edu/policies-procedures/>
- 15) **NOTE:** after having successfully passed the preliminary exam, you have up to four years to graduate from the program! There is a petition process described in the Graduate School Policies and Procedures for extending this timeline.

SUMMARY of the 7-week MPS Preliminary Exam timeline in summary:

- **2 weeks before** starting to write, submit 3 abstracts to Advisory Committee.
- Committee decides within the 2-week window which topic will be covered.
- The student has **4 weeks to write** a 7-page proposal.
- The finished proposal needs to be submitted to the committee **1 week before** the preliminary exam.

PHD DISSERTATION AND FINAL EXAMINATION GUIDELINES

- 1) Have a committee meeting around 6 months prior to the anticipated defense date to get approval from the Advisory Committee that the generated research work is defensible and sufficient for graduation. It is generally expected that a PhD thesis will consist of at least four chapters including (a) an introduction that puts the work in a broader context and summarizes the main results and (b) three additional research chapters that are considered publishable pieces of work based on the student's original research conducted at WSU. A short final chapter to conclude the Dissertation and reflect on lessons learned is often included.
- 2) Apply for Graduation in My.WSU: <http://gradschool.wsu.edu/CurrentStudents/index1.html>
 - a. Submit a graduation application the semester that your final exam/dissertation defense is scheduled. The MPS Academic Coordinator and the Graduate School will notify you of any final requirements.
- 3) Please refer to the following figure for the timeline of completing the dissertation requirements.



- 4) Submit your dissertation to your committee AT LEAST **two weeks prior to scheduling your final exam**. This is to ensure that your committee has enough time to read the entire document, as scheduling the oral portion of the Final Exam, requires that the written portion is essentially approved and will only receive minor edits. Students should communicate with their committee members to ensure that two weeks is sufficient for the required review.
- 5) Schedule your Final Examination (i.e., dissertation defense) with the Graduate School:
 - a. **Submit the final examination scheduling form to the MPS Academic Coordinator at least 10 working days (~2-weeks) prior to the exam date.** When scheduling the exam, make sure all committee members are available (either in person or via reliable video conference). Note: Scheduling the Final Exam requires that the written Dissertation is in an acceptable form to defend orally. Committee members should and will not sign the form if not enough time was given to them to read the dissertation work!
 - b. The student must upload a draft of their dissertation to ProQuest at <http://dissertations.wsu.edu>. The Scheduling Examination form will not be processed until the Graduate School has received the dissertation draft.

- c. The dissertation must be available for public inspection in the graduate program's office at least five business days prior to the final examination.
 - d. The oral portion of your Dissertation Defense is a public event.
- 6) Complete your Final Examination (=dissertation defense).
- a. The dissertation defense is usually a public seminar of about 50 minutes. Please reserve a room of sufficient size and send a flier to molecular.plants@wsu.edu to announce your seminar to the community.
 - b. Following the defense and public questions, the committee will have an opportunity to ask further questions and make additional minor requests for revision of the written dissertation.
 - c. The oral Final Exam is not scheduled without general approval of the advisory committee and thus failures are extremely rare. However, if the initial attempt of the Final Examination is failed, the exam may be reattempted after a period of three months and a member of the Graduate Mentor Academy will be appointed to attend the second exam.
- 7) Following your successful defense, you have 10 business days to submit the following documents to the Graduate School:
- i. Hold Harmless/Copyright Acknowledgment form.
 - ii. Survey of Earned Doctorates (SED) online completion certificate.
 - iii. Thesis/Dissertation Approval form uploaded into myWSU immediately following the exam, approved within myWSU by your committee chair, and sent to the Graduate School.
 - iv. Electronic copy of your final dissertation (including all changes requested by your committee and the Graduate School), in PDF format, uploaded to your original ProQuest submission.
- b. Submit final revisions of your dissertation to ProQuest 5 business days after your exam date. Information on how to do this can be found here: <http://dissertations.wsu.edu/>
 - c. Make sure to list a Diploma Mailing Address in My.WSU
 - d. Continue to check your WSU email. Any updates regarding your degree completion will be communicated through your WSU email address.
 - e. Submit a copy of your dissertation to your advisor and to the academic coordinator
 - f. Commencement
- The Bookie begins accepting orders about two months before commencement for your cap and gown. <https://commencement.wsu.edu/>
- g. Update mailing address with Graduate School
- Diplomas will be mailed approximately eight weeks after commencement.

- NOTE: Please alert the MPS Academic Coordinator of your post-graduation plans. These are posted on the MPS website and increase your digital footprint. This is very helpful to you when on the job market and to MPS for recruiting and fund raising.

GRADUATE PROGRAM IN MOLECULAR PLANT SCIENCES – MASTER OF SCIENCE DEGREE OPTION

This degree is optional. It is meant as an alternative for the graduate student to leave the program earlier in case the student and their advisory committee agree that accomplishing a thesis-based MS degree is of greater benefit for the student than pursuing a Ph.D. degree. It requires approval from the MPS Director.

Graduate School Requirements - a minimum of **21 graded credits** are required for the thesis degree program (<https://gradschool.wsu.edu/academic-regulations/>); specifically, the Graduate School requires:

- 30 hours minimum of total credits
- 21 hours minimum of graded course work (15 hours of graded course work at the 500 level; 6 hours maximum of non-graduate (300-400) graded course work)
- 4 hours minimum of 700-level credit in major, 2 of which must be taken in the semester of the final exam and/or thesis completion. Timelines and deadlines for the thesis MS degree program can be found here:

<https://gradschool.wsu.edu/students/>

The Molecular Plant Sciences graded course work requirements for a Master's Degree are the same as listed for PhD requirements with the exception that up to 6 graded credits of course work can be gained from 300-400 level (undergraduate) course work, as per the guidelines from the Graduate School. The graduate student needs to discuss this with their Advisory Committee. Students must file a Plan and Degree Level Change form in addition to an updated program of study to the graduate school after their Committee's approval to change to the MS degree program. Note that these forms must typically be filed at least 6-months prior to the M.S. Thesis examination.

The forms can be found here: <https://gradschool.wsu.edu/facultystaff-resources/18-2/>

General MS Thesis Guidelines - It is generally expected that a MS thesis consists of at least two chapters: 1) an introduction that puts the work in a broader context and summarizes the main results; and, 2) a second chapter that is considered a publishable piece of work based on the student's original research conducted at WSU. Though a formal proposal process is not required at this time, a process of planning and advisor committee review is recommended.

GOOD STANDING AND MAKING PROGRESS TOWARD YOUR DEGREE

To be considered “in good standing” (i.e. making progress toward your degree), an MPS graduate student should fulfill the following expectations.

1. Maintain a GPA of 3.0 or above. Please note that the GPA of formal coursework (not including supplementary English courses, PE courses, etc.) must also be 3.0 or above.
2. Be accepted into the laboratory of an MPS faculty member by the end of the second semester of the first year.
3. Form a graduate doctoral committee by the end of your first year.
4. Submit all required paperwork (Program of Study, exam scheduling forms, etc.) to the Graduate School in a timely manner.
5. Meet with their research advisor on a regular basis. Agree in writing to expectations for satisfactory progress on research (MPS700 or MPS800 credit) before the beginning of each semester and the summer term.
6. Meet with their doctoral committee **at least** once a year. Consider arranging extra meetings with their doctoral committee, individually or altogether, should problems arise.
7. Complete an annual review with their advisor every year at the end of spring semester.
8. Attend MPS seminar at least 2/3rds of the time.
9. Avoid receiving a 'U' (Unsatisfactory) 800 research credit grade. Two 'U' grades results in dismissal from the program.
10. Meet the expectations of the Center of Community Standards: <https://www.handbook.wsu.edu/handbook-home/>

Failure to remain in good standing may result in loss of financial support and termination from the program.

Requests for an exception to policy should be submitted, in writing, to the MPS director by the doctoral advisor.

Documented approval from your committee members may be required. After the appropriate approvals have been acquired, the MPS director may write an exception to policy letter to the Vice Provost of Graduate Education.

FREQUENTLY ASKED QUESTION

What happens if...

...I haven't been trained to handle hazardous materials?

When you begin your first lab rotation, the lab coordinator or another member of the Safety Committee will provide Safety and Hazardous Materials Handling training. Additional specialized training will be required for students who use radioactive substances. We also recommend looking at WSU's Safety Policies and Procedures manual (SPPM) at <http://public.wsu.edu/~forms/manuals.html> and consulting the Environmental health & Safety website at <http://ehs.wsu.edu/>.

...I'm a TA in the School of Biological Sciences, the School of Molecular Biology, or another department?

Departments typically do not assign TAs for courses until the week before school begins. You will be contacted by the SBS (or other department) academic coordinator (**NOT** the MPS Academic Coordinator) with details about TA training, at which time you will be asked for your schedule and teaching preferences. TAing is governed by the ASE collective bargaining agreement. Departments will provide guidance on expectations for employment as a TA, which includes ~20 hours per week of duties throughout the term. The Graduate School Orientation offers tips and sessions about TAing. Any international student pursuing a TA must take the International Teaching Assistant Evaluation Exam through the Intensive American Language Center and receive a score of 1. For more information visit <https://ip.wsu.edu/learn-english/teaching-assistant-evaluations/>

...I have graduate-level courses that I would like to transfer?

You can transfer graduate-level credits that are appropriate to your Program of Study if a grade of B or higher was earned. Your advisor and committee must approve the courses that you want to transfer. The number of courses you can transfer is limited to no more than half of the total graded course credits (7 for the MPS Program). Extension courses, special problems, research and thesis credits, workshops, and correspondence courses cannot be transferred. Transfer credit is formally requested by listing the courses on your Program of Study, but you can request preliminary determination from the Graduate School. It is not possible to transfer undergraduate (300 or 400 level) courses.

...I need approval from my advisor before I have an advisor?

Temporary advisors can sign off and approve items, if needed.

...I can't find a laboratory?

To be considered "making adequate progress towards your degree," you must find a lab by the end of your second semester. Under exceptional circumstances the MPS Program Director may allow the summer or a third semester for rotations, if funds are available and that there is a reasonable chance of success.

...My GPA falls below a 3.0?

The Graduate School requires that you maintain a 3.0 cumulative GPA, and the MPS Program requires in addition that you maintain a 3.0 cumulative GPA in your core courses. If your cumulative GPA falls below 2.75 after one semester, you will be issued a letter from the Graduate School stating that your status is under review. To be reinstated, the MPS Program Director must write a letter to the Vice Provost of Graduate Education. If, after two semesters, your GPA is still between 2.75 and 2.99, the MPS Program Director can write another letter recommending reinstatement. However, a student who cannot maintain a 3.0 cumulative GPA by the end of their third semester will be dropped from the Graduate School. Students whose cumulative GPA is below 2.75 after two semesters are not eligible for reinstatement.

...I get a C in a class?

If you receive a C, you do not need to repeat the course (and cannot). Any course listed in your Program of Study in which you earn a grade of C- or below must be repeated for a grade. No course with a grade of B- or below may be removed from your program of study.

...I fail my first proposal?

At the discretion of the committee, the first proposal may be retaken once to address specific deficiencies. Upon a second failure, the committee may recommend transfer to the Master's degree program or dismissal.

...I fail my second proposal twice (preliminary exam).

A second failing will result in dismissal from the program. See the description above and in the Graduate School Policy and Procedure Manual regarding failure of the first attempt of the Preliminary Exam (i.e., 2nd proposal).

...One of my committee members leaves or for other reasons I wish to change my committee?

You may add or change a committee member with the permission of your advisor. A Committee Change form must be submitted to the Graduate School: <https://gradschool.wsu.edu/facultystaff-resources/18-2/>

...my advisor or I run out of research funds?

Talk to us about options for alternate funding, including teaching assistantships. It is the program's intention to continue funding students if they are making adequate progress towards their degree. Contact the MPS academic coordinator immediately if funding is lost.

If you have a question/problem that is not addressed here, please see the Graduate School web site, <http://www.gradschool.wsu.edu/>, or contact the MPS director or the academic coordinator, Tiffany Boswell at: 509-335-7619 or tiffany_boswell@wsu.edu or molecular.plants@wsu.edu.

APPENDICES

Appendix 1: MPS Guidelines for Proposals

1. Length:

Both the first proposal and the second proposal should include a one-page project summary with an overview of the proposed experiments as well as statements of the Intellectual Merits and Broader Impacts of the proposed project. For the first proposal, this is in addition to the body of the proposal. For the 2nd proposal, this is part of the 7-pages. The body of the first proposal should be no more than 15 pages long (single-spaced with 1" margins), including figures and tables. The body of the second proposal should be no more than 7 pages long (single-spaced with 1" margins), including figures and tables. Times New Roman (11 pt), or a similar font size, is recommended for both proposals. Do not make your font too small. References, in full citation format, are to be added to the end of the proposal and are in addition to the recommended length. Examples of how the first and second proposals should be structured, as well as some useful resources on proposal preparation are:

2. Format:

Your proposals should be based on the National Science Foundation (NSF) format available online at http://www.nsf.gov/pubs/policydocs/pappguide/nsf10_1/gpg_2.jsp#IB. Follow guidelines for the research description section of the proposal. All other documents (i.e. Facilities and Equipment, Budget, Biosketch, etc.) are not required.

3. Content:

The subject of the first proposal should be the candidate's PhD research/dissertation, formulated in collaboration with the student's advisor. Guidelines for format and content should follow NSF guidelines, available at https://www.nsf.gov/pubs/policydocs/pappg20_1/pappg_2.jsp

Follow the guidelines for proposal content given here:

https://www.nsf.gov/pubs/policydocs/pappg20_1/nsf20_1.pdf Chapter 2, B. Format of the proposal

Appendix 2: Structure of One Page Project Summary (Both Proposals)

For your first proposal (Research Proposal), this section will be in addition to the 15-page limit.

For your second proposal (Qualifying Exam), this section is a part of the 7-page limit.

Overview:

Note- this one-page summary is a stand-alone that would be the reviewer's first exposure to the project. It should give a brief background on the subject matter, the outstanding questions and overarching hypothesis for the proposal. It should also include a description of each of the specific aims with the hypotheses being tested in each. Each aim should not be dependent on other aims.

Intellectual Merit:

Note- this section should clearly state the intellectual merit of the proposal and how the results will impact the relevant field of interest as well as plant biology, biology and scientific studies in general.

Broader Impacts:

Note- this section should discuss training opportunities as well as how this work will benefit society as a whole.

Stanford has some excellent advice on how to write a one-page summary (with more detail than above). The web link is: <https://grantwriting.stanford.edu/project-summary/>

Appendix 3: Structure of a Research Proposal (First Proposal)

Note- 15-page limit, including figures, but excluding references and the one-page project summary described above.

This proposal SHOULD be written WITH your advisor's support.

PROJECT TITLE AND NAME/AFFILIATION OF RESEARCHER

PROJECT DESCRIPTION

Overview. Note- This should also be about one page and expand on the "Overview" in your one-page project summary.

Introduction. Note- This section should start with the 'big picture' and relevant background. It should focus into the specific problem being addressed and end with a reiteration of the specific aims and hypotheses being tested in the proposal. A few figures may be appropriate to include. Four pages is a reasonable target length for this section, though that may vary depending on the topic and your advisor's input.

Preliminary Results. Note- This section should include the most recent results related to the proposed project. These results can be published or unpublished and should be supported with figures and figure legends. Three to four pages is a reasonable target length for this section, though that may vary depending on the topic and your advisor's input.

Specific Aims. Note- This section reiterates the specific aims proposed and hypotheses being tested and should not be more than a half a page in length.

Research Approach

Aim 1 Rationale: Each Aim (and potential sub-aims) should be presented. For each aim, first state the overarching rationale and end with the hypothesis for the aim.

Aim 1: Give a title for each aim and/or sub-aim. Then describe the experimental approach. Use enough description, including appropriate controls, so that the reviewer understands that you know how to do the experiment.

Aim 1 Anticipated results, limitations and pitfalls. This is where you explain what you expect the results to be (they could go different ways) and how you will interpret the results as well as demonstrate whether that aim has succeeded or failed. It is important to recognize the limitations of interpretation of any given results. You should also state potential pitfalls in the experimental design or outcome and how you would address them. **Repeat the above approach for each of the proposed aims.**

Note- This section of the proposal can include figures if they illustrate the experimental design. You can refer to figures in the preliminary results as well. This section will likely be the longest in the proposal and can easily take up six pages. Be succinct but also clear. You may need to cut back on the background or preliminary results section in order to have enough space for this section.

Intellectual Merit of these Proposed Studies

Broader Impacts of the Proposed Work. Note- These two sections expand on what was written in the one-page summary.

Timeline. Note- Having a realistic time line for your proposed studies is essential. Do not propose a life-times worth of work. The time line should be no more than three to four years (most grants are funded for three with the option for a one-year no-cost extension). There are many different ways to format this, from verbal statements for each year to a table or other form of visual representation.

Appendix 4: Structure of Qualifying Exam Proposal (Second Proposal)

Note- 7-page limit, including the one-page summary and figures, but excluding references.

This proposal MUST NOT be written with your advisor's help but should be written in consultation with your Advisory Committee.

PROJECT TITLE

NAME/AFFILIATION OF RESEARCHER

PROJECT SUMMARY

Note- This will be a modified version the one-page project summary that was submitted (along with the two other potential projects) to your committee to choose the topic of your Qualifying Exam.

Modifications can be made based on input from your committee members (or others in the scientific community) but not your advisor. Do not change the topic that you have proposed and has been approved by your committee.

Introduction

Note- This section should start with the 'big picture' and relevant background. It should focus into the specific problem being addressed and end with a reiteration of the specific aims and hypotheses being tested in the proposal. You will likely not have space for figures. One and a half pages is a reasonable target length for this section.

Preliminary Results

Note- This section should include the most recent results related to the proposed project. Since this is a project on work unrelated to your lab or projects, these results can be recently published observations from other lab's work. You will likely not have space for figures. Approximately one page is a reasonable target length for this section.

Specific Aims

Note- This section reiterates the specific aims proposed and hypotheses being tested and should not be more than a half a page in length.

Research Approach

Aim 1 Rationale: Each Aim (and potential sub-aims) should be presented. For each aim, first state the overarching rationale and end with the hypothesis for the aim.

Aim 1: Give a title for each aim and/or sub-aim. Then describe the experimental approach. Use enough description, including appropriate controls, so that the reviewer understands that you know how to do the experiment.

Aim 1 Anticipated results, limitations and pitfalls. This is where you explain what you expect the results to be (they could go different ways) and how you will interpret the results as well as demonstrate whether that aim has succeeded or failed. It is important to recognize the limitations on interpretation of any given results. You should also state potential pitfalls in the experimental design or outcome and how you would address them. **Repeat the above approach for each of the proposed aims.**

Note- This section will likely be the longest in the proposal but will have to be shorter than a full proposal.

Be succinct but also clear. You may need to cut back on the background or preliminary results section to have enough space for this section.

Intellectual Merit and Broader Impacts of these Proposed Studies

Note- Because of space limitations, you will include this in one paragraph.

Timeline

Note- Having a realistic timeline for your proposed studies is essential. Do not propose a life-time's worth of work. There are many ways to format this, from verbal statements for each year to a table or other form of visual representation, e.g., a Gantt chart.

Appendix 5: DOCTORAL PROGRAM IN MOLECULAR PLANT SCIENCES OUTCOMES ASSESSMENT

Objectives and Outcomes

The objectives of the program are:

1. To enable students to develop as successful professionals in a collaborative, interdisciplinary environment as preparation for highly competitive positions in industry, government, and academia
2. To prepare students to be effective and innovative researchers in the field of molecular plant sciences
3. To enhance visibility of the doctoral program in molecular plant sciences nationally and internationally

The outcomes for each of the stated program objectives are:

1. To enable students to develop as successful professionals in a collaborative, interdisciplinary environment as preparation for highly competitive positions in industry, government, and academia, the program aims to provide a variety of experiences that help students to:
 - a. Achieve mastery of knowledge in the general field of molecular plant sciences and the highest level of expertise in a specific, defined area of this field
 - b. Develop the expertise to use molecular technology to solve novel and emerging problems related to plant and agricultural sciences.
 - c. Present research to local, regional, national, and international audiences through publications in professional journals and conference papers given in a range of venues and to a diverse type of audience.
 - d. Participate in professional organizations, becoming members, attending meetings, and taking leadership roles where appropriate.
 - e. Broaden their professional foundations through activities such as teaching, internships, fellowships, and grant applications.
2. To prepare students to be effective and innovative researchers in the field of molecular plant sciences, the program aims to provide a variety of experiences that help students to:
 - a. Become independent, self-motivated researchers with the ability to recognize problems in their field of expertise and formulate solutions to the problems.
 - b. Develop a comprehensive knowledge of previous and current research in their field of expertise and be able to demonstrate that knowledge capably in a review of the literature.
 - c. Generate viable questions within their field of expertise and pose problems or hypotheses related to those questions.
 - d. Apply sound research methods to problems in molecular plant sciences and describe the methods effectively.
 - e. Perform statistical analyses of research data and present the results in a way that makes clear sense of the data.

- f. Discuss the solution to the research problem or the support or lack of support for the hypothesis in a way that effectively documents the contribution of the research to the area of study.
-
3. To enhance visibility of the doctoral program in molecular plant sciences nationally and internationally, the program aims to:
 - a. Attract and retain high-quality students.
 - b. Provide effective mentoring that encourages students to graduate in a timely manner.
 - c. Place graduates in positions in academia, industry, and government.
 - d. To attract, retain, and support nationally recognized research-active faculty actively involved in the molecular plant sciences graduate program.

Appendix 6: GRADUATE PROGRAM IN MOLECULAR PLANT SCIENCES ANNUAL STUDENT EVALUATION

Evaluation Period: 2023-2024 Academic Year (August 16, 2023, thru April 15, 2024)

Along with your current CV, please submit to molecular.plants@wsu.edu by **May 1, 2024**

BASIC INFORMATION AND DEGREE MILESTONES

Name of student:

Degree sought (PhD or MS):

Degree status:

Advisor(s):

Graduate advisory committee:

Date (month - year) you began as an MPS Student:

Date (month - year) of most recent committee meeting:

Has program of study been approved by your committee and filed with the Graduate School? (Y/N)

If no, please explain and provide your anticipated date to file:

WSU MPS GPA:

Date of first proposal: Please indicate: Actual Anticipated

Dissertation topic:

Date of preliminary exam: Please indicate: Actual Anticipated

STUDENT PROGRESS SELF-EVALUATION & GOALS:

1. Describe your research and professional development progress in the last year:

2. List any publication and formal presentations:

3. Specific and attainable goals for next year:

FACULTY EVALUATION OF STUDENT

1. Overall progress and ability to meet expectations this academic year:
1 – Poor 2 – Fair 3 – Good
4 – Very Good 5 – Excellent

2. Rate the student's overall progress in the degree program (Satisfactory/ Unsatisfactory)

3. Comment on progress on their research, including comments on ability to work and think independently and creatively.

4. Comment on academic performance during the evaluation period, e.g., course performance, prelims, proposals, and seminar presentations.

5. Comment on overall performance as a graduate student. List strengths, weaknesses, and areas for improvement.

6. Comment on probable success to complete degree requirements in a timely manner (5-6 years for PhD).

7. What are your expectations for the student in the coming academic year?

Certification of Assistantship Duties (if applicable):

If the student served in an assistantship position during the past year, the signatures below indicate agreement with the following

Student agrees: The graduate assistantship position that you have held during this past year and the related tuition waivers were contingent upon factors as outlined in your assistantship offer letter. By signing below you certify you have met the following contingent factors for the preceding semester(s) during which you held an assistantship (circle/underline all that apply: fall / spring / summer / year: _____).

- I remained enrolled full time (at least 10 credits per each fall & spring semester as defined in Graduate School policy manual, chapter 9) during the period of the appointment
- I maintained a 3.0 cumulative GPA during the period of the appointment.
- I met the service requirement of an average of 20 hours per week for 0.5 FTE as scheduled by my department/supervisor (or based on hours required for partial FTE appointment).

I have read this evaluation and have had an opportunity to discuss it with my advisor. Further, I certify that I have met my assistantship duties.

Student Signature: _____ Date: _____

Advisor Signature: _____ Date: _____

Appendix 7: MPS Preliminary Examination Rubric

	Poor	Fair	Competent	Good	Excellent
Demonstrates mastery of general knowledge in the field of molecular plant sciences					
States a research problem in such a way that it clearly fits within the context of the literature in an area of study					
Demonstrates the potential value of the solution to the research problem in advancing knowledge within the area of study					
Provides a sound plan for applying research methods/tools to solving research problem and shows a good understanding of how to use methods/tools effectively					
Provides a sound plan for analyzing/interpreting research data					
Communicates research proposal clearly and professionally in both written and oral forms appropriate to the field					
Demonstrates capability for independent research in the area of study, the ability to develop and apply substantial expertise in that area and to make an original contribution to it					

Comments:

Appendix 8: MPS Final Examination Rubric

	Poor	Fair	Competent	Good	Excellent
Demonstrates high level of expertise in a specific, defined area of molecular plant sciences and a mastery of knowledge in the general field of molecular plant sciences					
Reviews the literature in a way that demonstrates comprehensive knowledge of previous and current research in the field of study					
States a research problem in such a way that it clearly fits within the context of the literature in an area of study					
Demonstrates the potential value of the solution to the research problem in advancing knowledge within the area of study					
Applies sound research methods/tools to problems in an area of study and describes the methods/tools effectively					
Performs statistical analyses of research data and presents the results in a way that makes clear sense of the data					
Communicates research clearly and professionally in both written and oral forms appropriate to the field					
Has demonstrated capability for independent research in the area of study, applying substantial expertise in that area and making an original contribution to it					

Comments:

Appendix 9: MPS Bylaws Link

The MPS Graduate Program bylaws can be found here:

<https://gradschool.wsu.edu/bylaws/>

Appendix 10: Student Bill of Rights

The WSU student Bill of Rights can be found here:

<https://www.gpsa.wsu.edu/about-gpsa/governing-documents/student-bill-of-rights/>

Appendix 11: Graduate School Policies

All students are expected to follow the Standards of Conduct for Students under [WAC 504-26-401](#). We would like to bring your attention, particularly, to the following provisions:

Academic Integrity

Violations of include but is not limited to cheating by use of unauthorized materials or sources, acquisition of tests when acquired without permission, fabrication, counterfeiting data, research results, etc., and engaging in any behavior for the purpose of gaining an unfair advantage. If you are accused of a violation your instructor will assemble the evidence and notify you of their finding either in person or by email/phone. Your instructor will make a determination if you did or did not violate the academic integrity policy based on the evidence and circumstances surrounding the issue. You have 21 days from the date of the decision to file an appeal. For more information on the academic integrity violation process, go to <https://communitystandards.wsu.edu/policies-and-reporting/academic-integrity-policy/>

Faculty-Student and Supervisor-Subordinate Relationship Policy

Faculty or anyone in a supervisory role is prohibited from having supervisory responsibility over a student or subordinate with whom he or she is currently having a romantic and/or sexual relationship. Supervisory responsibility includes any supervisory role perceived as a position of power or authority, and is not limited to instruction, research, academic advising, coaching, service on research and thesis committees, and assignment of grades, evaluation and recommendation in an institutional capacity for employment, scholarships, fellowships, or awards. For more info see http://public.wsu.edu/~forms/HTML/EPM/EP28_Faculty-Student_and_Supervisor-Subordinate_Relationships.htm

Grievance policy

The Graduate Student Rights and Responsibilities document describes procedures for channeling graduate student complaints, grievances, and concerns to faculty, staff and administrators for appropriate action. <https://gradschool.wsu.edu/rights-and-responsibilities/> Please also refer to the Graduate Student Bill of Rights for additional information (contained below).

All forms can be found at <https://gradschool.wsu.edu/facultystaff-resources/18-2/>

You may find all forms pertaining to Doctoral degree requirements at the link above. It is recommended to access all forms via the Graduate School website, as forms are updated frequently.

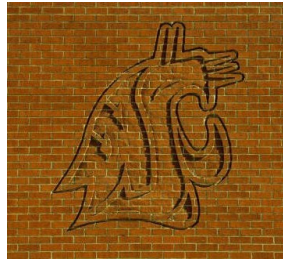
Deadlines and Procedures for Doctoral Degree

When to complete certain forms and do other administrative tasks, such as graduation, exam scheduling deadlines, and other important dates can be found on the graduate school website, in the deadlines form. Please refer to this prior to engaging in an administrative task. If you have any questions, please contact Tiffany Boswell, the MPS Academic Coordinator.

<https://gradschool.wsu.edu/facultystaff-resources/18-2/>

Note: It is **REQUIRED** that each form is downloaded and edited within an Adobe application. The auto-populate feature **WILL** glitch if edited within a web browser.

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