
MASTER OF LABORATORY ANIMAL SCIENCE GRADUATE HANDBOOK

2017-2018

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COMPARATIVE MEDICINE FACULTY AND RESEARCH INTEREST

1. *Dr. Sherril Green, DVM, PhD Professor – Comparative Medicine
Chair, Department of Comparative Medicine Director, Master of Science in Laboratory
Animal Science Degree Program*
 - Her research focuses on the biology and diseases of the African Clawed frog, *Xenopus laevis*.

2. *Dr. Megan Albertelli, DVM, PhD
Assistant Professor – Comparative Medicine*
 - Her research interests include genetic variation in breast and prostate cancers, as well as the development and refinement of mouse models of cancer and celiac disease.

3. *Dr. Donna Bouley, DVM, PhD
Professor – Comparative Medicine*
 - Her collaborative research interests include phenotypic characterization of genetically engineered mice, host-pathogen interactions, and pathology of minimally invasive cancer treatments.

4. *Dr. Kerriann Casey, DVM
Assistant Professor – Comparative Medicine*
 - Her collaborative research interests include cancer biology (including PDX and PDOX models), radiation oncology, and aging phenotypes.

5. *Dr. Tom Cherpes, DVM, MD.
Assistant Professor-Comparative Medicine*
 - His research explores female genital tract immunity, immunomodulatory effects of hormonal contraceptives, and a cellular immunotherapy combating infectious disease and cancer.

6. *Dr. Corinna Darian-Smith, PhD
Associate Professor – Comparative Medicine
Co-Director, Master of Laboratory Animal Science*
 - She is primarily interested in questions relating to (1) the organization of central neural pathways involved in fine finger/hand control, and (2) the capacity of these sensorimotor pathways to compensate/adapt following localized injury.

7. *Dr. Stephen Felt, DVM, MPH
Associate Professor – Comparative Medicine*
 - His research interests include infectious diseases, particularly zoonoses, and exploring techniques which promote the health and welfare of laboratory animals.

8. *Dr. Joseph Garner, DPhil*

Associate Professor – Comparative Medicine

- His research interests include the development of refined methods in behavioral research; abnormal behaviors in animals (including barbering and ulcerative dermatitis) and their relationships with abnormal behaviors in humans; mouse well-being and enrichment; and the scientific impact of well-being problems in lab animals.

9. *Dr. Shaul Hestrin, PhD*

Professor – Comparative Medicine

- His research centers around how the properties of neocortical neurons, the circuits they form and the inputs they receive give rise to neuronal activity and behavior neurons as well as cortical afferents.

10. *Dr. Monika Huss, DVM*

Assistant Professor – Comparative Medicine

- Her research interests include animal welfare, pain recognition, anesthesia and analgesia.

11. *Dr. Claude Nagamine, DVM, PhD*

Assistant Professor – Comparative Medicine

- His research focuses on using mouse models to study murine and human infectious diseases. These collaborative studies include dengue virus, adeno-associated virus, Coxsackie virus, enterohepatic helicobacters, campylobacters, and anaplasma.

12. *Dr. Cholawat Pacharinsak, DVM, PhD*

Assistant Professor – Comparative Medicine

- His research focuses on understanding the neurobiology of cancer pain, chemotherapeutic- induced peripheral neuropathy, acute surgical pain models, and methods to improve clinical pain management e.g. sustained release analgesics supporting refinement.

13. *José G. Vilches-Moure, DVM, PhD.*

Assistant Professor – Comparative Medicine

- His collaborative research interests include cardiac development and pathology, developmental pathology, and refinement of animal models in which to study early cancer detection techniques.

GETTING STARTED

Axess (Registration and Enrollment)

[Axess](#) is a student information system available via the web. It is generally available 24 hours a day, 7 days a week. You will need your [username](#) and password to login to Axess.

Using Axess, you can:

1. File or adjust your study list and elect grading options
2. Review your grades
3. Request an official transcript
4. Print a history of your courses and grades (i.e., unofficial transcript)
5. Apply to graduate
6. Update your address (e.g., mailing, permanent, campus P.O. Box), and personal email address.
7. Apply for housing
8. View financial aid information
9. Pay your university bill
10. View advisor information

Important Points:

- Please make sure to carefully read the university's policies regarding [Registration, Enrollment and Academic Progress](#) on the Graduate Academic Policies and Procedures (GAP) Handbook website.
- Students are also strongly encouraged to bookmark or print a copy of Stanford's [Academic Calendar](#) in order to meet the university's enrollment deadlines (e.g., study list deadline, change of grading basis deadline, withdrawal deadline, etc.)

TUITION RATES

Regular quarterly tuition for the academic year 2017-18, payable Autumn, Winter, and Spring quarters.

Category	Rate
Graduate 11-18 units	\$16,329
Graduate 8,9,10-unit rate	\$10,620
Each graduate unit above 18	\$1,089
TGR (Terminal Graduation Registration)	\$3,186
Graduation Quarter	\$150

Stanford tuition rates and special tuition rates can be found on the University Registrar's page. <https://registrar.stanford.edu/students/tuition-and-fees>

DEGREE PROGRESS

General Description of Programs

The profession of laboratory animal science or management demands a strong foundation in science and mathematics, a broad knowledge of research techniques, and an understanding of the relation between medicine and society. Curricula at Stanford are planned to offer the breadth of education and depth of training necessary for leadership in the profession. To engage in this profession with competence, at least one year of postgraduate study are recommended. For those who plan to work in highly technical development or fundamental research, additional graduate study is desirable.

Master of Science

The master's degree program provides advanced preparation for professional practice or preparation for additional graduate work. The Master's degree is offered as a full-time or part-time program, and consists of 45 units. The average length of time it takes students to complete the full-time program is 5 quarters, excluding summer. Students in the full-time program must complete the degree within 3 years (2 years if on a student visa). The average length of time it takes students to complete the part-time program is 3 to 5 years. Each student, with the help of a research mentor, prepares an individual program of study. There is a thesis/business plan requirement.

MLAS Academic Requirements

Each student, with the help of their research mentor, prepares a program of study that meets his or her particular area(s) of interest. New students are strongly advised not to undertake a heavy academic program in their first quarter at Stanford, as they are adjusting to their new environment and the demanding nature of graduate work. Three regular courses (8- 10 units) constitute a full-time workload. The student's research mentor should be consulted for further guidance on this and other course selection questions.

Every student in the MS degree program must submit research proposal draft prior to the end of the first quarter of enrollment. The research proposal must be approved by the student's research mentor and be submitted to the Comparative Medicine Student Coordinator by the stated deadline. Students who do not submit a proposal on time will have an enrollment hold placed on their record until they submit an acceptable proposal.

Important Points:

- The University's minimum requirement for each master's degree is 45 units of coursework done at Stanford. Stanford does not accept transfer credit toward a master's degree.
- Students must maintain a minimum cumulative GPA of 3.0 in order to maintain good academic standing and graduate with the MLAS degree.
- Every student should be familiar with the University's requirements for minimal progress as outlined in the Graduate Academic Policies and Procedures ([GAP](#)) handbook.
- In your final quarter, you must apply to graduate in *Axess* by the deadline published in the Academic Calendar.

LABORATORY ANIMAL SCIENCE CORE CURRICULUM

Laboratory Animal Science Required Courses:

(indicates courses that must be taken every quarter and are repeatable)*

*(** this course maybe substituted based on students research focus)*

<i>Units</i>		
COMP MED 200	One Health Journal Club*	1
COMP MED 202	Research for Biostatistics for Laboratory Animal Science	2
COMP MED 210	Introduction to Mouse Histopathology**	3
COMP MED 211	Biostatistics for the Life Sciences	2
COMP MED 260	Master's of Laboratory Animal Science Practicum/Laboratory Research*	1-15
COMP MED 290	MLAS Career Development*	1-6
COMP MED 801	TGR Project	0

Optional Comparative Medicine Courses

<i>Units</i>		
COMP MED 205	Animals Use in Biomedical Research	3
COMP MED 207	Comparative Brain Evolution	3
COMP MED 209	Laboratory Animal Medicine Seminar	2
COMP MED 212	Laboratory Mouse in Biomedical Research	2

COMPARATIVE MEDICINE GRADUATE LEVEL COURSE DESCRIPTIONS:

One Health Journal Club (COMP MED 200): Participants report on and review scientific articles published in peer reviewed journals.

Research Biomethodology for Laboratory Animal Science (COMP MED 202): Emphasis is on providing introductory training and practical, hands-on research animal biomethodology. Topics include basic care and principals guiding the use of research animals, animal health and welfare, enrichment, basic mouse handling, rodent breeding, and the principals of rodent aseptic surgery and anesthesia.

Introduction to Mouse Histopathology (COMP MED 210): Focus is on anatomy and histology (microscopic anatomy) of the mouse, proper instrument handling and dissection technique, tissue fixation and processing, identification of normal organ histology on stained slides using a light microscope, use of special stains, and digital image acquisition.

Biostatistics for the Life Sciences (COMP MED 211): Emphasis is on real-world experimental design and analysis in the life sciences, with particular focus on modern techniques that maximize power and minimize sample size, and avoiding common errors contributing to false discovery and the reproducibility crisis.

Master's of Laboratory Animal Science Practicum/Laboratory Research (COMP MED 260): Research laboratory and clinical service (pathology, diagnostic laboratory, surgery, husbandry, anesthesiology, aquatics, facility business and management, etc.), quarterly rotations for students enrolled in the Master's of Laboratory Animal Science program.

Career Development (COMP MED 290): Focus is on career development for graduate students and trainees enrolled in a trainee program in the Department of Comparative Medicine. Seminar topics include career pathways in laboratory animal science, resume preparation, manuscript preparation and authorship, life in academics, life in industry and biopharma, regulatory agencies, veterinary and medical school.

TEMPLATE OF STUDENT SCHEDULE:

(indicates courses that must be taken every quarter and are repeatable)*

YEAR 1

Autumn

Courses	Units
COMP MED 200*	1
COMP MED 202	2
COMP MED 211	2
COMP MED 260*	3
COMP MED 290*	1
Total Units	10

Winter

Courses	Units
COMP MED 200*	1
COMP MED 260*	5
COMP MED 290*	1
Elective Courses	3
Total Units	10

Spring

Courses	Units
COMP MED 200*	1
COMP MED 210	3
COMP MED 260*	5
COMP MED 290*	1
Total Units	10

Summer

Courses	Units
COMP MED 260*	10
Total Units	10

Year 2

Autumn

Courses	Units
COMP MED 200	1
COMP MED 260*	4
Elective Courses	5
Total Units	10

Winter

Courses	Units
COMP MED 801	0

STUDENT ADVISING

How do students find advisors?

Students are encouraged to study the DCM website to identify potential research mentors and areas of research interest. Steve Choy arranges for prospective applicants to speak with the faculty member of interest or with one of the program directors. Because the MLAS program timeline is accelerated, it is imperative that newly admitted students identify a research mentor in a timely fashion.

Once the student and the research mentor are matched, an individual development plan (IDP) is prepared, the student and their advisor then meet with the MLAS FAC to review the proposed program plan.

How do they change advisors?

In the event that the student needs to change advisors, they must contact the MLAS Co- director(s), either Sherril Green and/or Corinna Darian-Smith, who can assist them with the transition and facilitate the process (to date no student has requested to change advisors).

How does the program tailor advising to different stages in the students' career?

This is a 1.5-2 year study program. Students entering the program have variable backgrounds in research, STEM courses and laboratory animal science. The MLAS FAC, along with the research mentor, tailor the program based on the career goals of individual student and the expertise required to successfully complete their thesis research project and achieve their professional goals. The course of study is determined at the start of the student's program, usually by the end of the first quarter of enrollment. The research mentor and the student meet quarterly to review the student's IDP (reminders will be sent by Steve Choy, who tracks each quarter that this meeting has been completed). Members of the MLAS FAC also meet quarterly with each student and research mentor. This is necessary, given accelerated time-frame most students have chosen to complete the program. Students may desire to tailor course work based on advances in their research project or the need to acquire additional relevant knowledge or technical skill given their career goals.

MLAS STUDENT MILESTONES

Each student is required to meet with the MLAS faculty advisory committee on a quarterly basis to review their academic degree progress and progression with their research or business plan. Students are encouraged to meet regularly with faculty mentors. (See Figure 3)

Figure 3: MLAS Milestones and Student Expectations

Quarter	Tasks	Research 40%	Courses 60%	Teaching 0%	Internship 0%
1 st	<ul style="list-style-type: none"> • Take required classes • Choose research mentor • Identify project and complete IDP 	<ul style="list-style-type: none"> • 2 lab rotations • 1st MLAS FAC1 meeting 	<ul style="list-style-type: none"> • MLAS Core Coursework • Faculty research presentations • Monthly Departmental Meetings • Attend Scientific Conference 	Not Required	Not Required
2 nd	<ul style="list-style-type: none"> • Complete required and elective classes • Complete IDP with faculty advisor 	60%	30%	5%	5%
		<ul style="list-style-type: none"> • Thesis Research • 2nd MLAS FAC Meeting 	<ul style="list-style-type: none"> • Faculty research presentations • MLAS Core Coursework • Monthly Departmental Meetings 	Teaching Assistantship	Student Internship
3 rd	<ul style="list-style-type: none"> • Complete required and elective classes • Complete IDP with faculty advisor • Submit TGR form in prior to the 4th quarter 	65%	25%	5%	5%
		<ul style="list-style-type: none"> • Present Thesis Research • 3rd MLAS FAC meeting 	<ul style="list-style-type: none"> • MLAS Core Coursework • Faculty research presentations • Monthly Departmental Meetings 	Teaching Assistantship	Student Internship
4 th	<ul style="list-style-type: none"> • Submit Terminal Graduation Quarter Petition • Complete IDP with faculty advisor 	65%	25%	5%	5%
		<ul style="list-style-type: none"> • MLAS Project Research • 4th MLAS FAC meeting 	<ul style="list-style-type: none"> • MLAS Core Coursework • Faculty research presentations • Monthly Departmental Meetings 	Teaching Assistantship	Student Internship
TGR ²	<ul style="list-style-type: none"> • Submit Graduation Quarter Petition 	100%	0%	0%	0%
		<ul style="list-style-type: none"> • MLAS Project Research • 5th MLAS FAC meeting 	<ul style="list-style-type: none"> • Student Thesis Research Presentation • Submission of Thesis MLAS FAC 	Teaching Assistantship	Student Internship
Grad Quarter ³	<ul style="list-style-type: none"> • Submit Graduation Petition 	100%	0%	0%	0%
		<ul style="list-style-type: none"> • MLAS Project Research • Final MLAS FAC meeting 	<ul style="list-style-type: none"> • MLAS Thesis Review-Final meeting with MLAS FAC 	Not Required	Student Internship

¹ MLAS FAC = Master Laboratory Animal Science Faculty Advisory Committee

² TRG Terminal Graduation Quarter - 5th quarter of MLAS program. TGR tuition status allows students to enroll in classes to complete remaining degree requirements.

³ Graduation Quarter – optional 6th quarter of MLAS program. Students enrolled in Graduation Quarter have completed degree requirements, but still need to submit thesis.

A GUIDE TO YOUR PRELIMINARY RESEARCH PROJECT PROPOSAL

Completion of a research project proposal is an essential component of the master's program. The focus of the research would allow students to

1) Integrate the principles of laboratory animal science that they learned in core courses and, 2) to demonstrate knowledge and advanced training in a focused area related to laboratory animal science. The MLAS student's research project should consist of hypothesis-driven, original research that advances the field, develops or refines an animal model or contributes new knowledge regarding basic understanding of research animal husbandry, biology, physiology, behavior or well-being.

As an MLAS graduate student, you will work with your research mentor to prepare a preliminary research proposal. The proposal will be reviewed at the first MLAS FAC meeting that typically occurs at the end of the student's first quarter of enrollment.

The research proposal should be written as a Word document, in 11 or 12 pt. font, Times New Roman (1 inch margins) and should not be longer than 5 pages. The proposal should contain the following:

1. Title, with your name and your advisors name, date
2. Background and significance
3. Objectives: list your specific aims
4. Methods (how will you achieve your specific aims, include statistical analysis)
5. Budget
6. Proposed Timeline to Completion (describe the project milestones and which quarters you will complete them)
7. Bibliography

Remember, this will be a draft proposal. It will likely evolve and be revised after you meet with the FAC and as you progress through your program.

Typically, you will need your research mentor's help and guidance with your proposal. Therefore, plan to have numerous meetings with your research mentor prior to submitting the Research Proposal to the MLAS FAC.

If your research mentor is unavailable, contact Dr. Green or Steve Choy, who can provide additional formatting information.

FINAL MLAS THESIS DOCUMENT AND CONTENT

The MLAS FAC expects that students upon completion of their research, students will submit their written thesis in the following format.

General Thesis Format Preference

1. Preliminary Pages
 1. Title Page
 2. Abstract.
 3. Preface and/or Acknowledgments.
 4. Table of Contents, with page references.
 5. List of Tables, with titles and page references.
 6. List of Figures, with titles and page references.

2. Text
 1. Background and Significance
 2. Introduction
 3. Materials
 4. Methods
 5. Results
 6. Discussion
 7. Conclusion
 8. Future Directions

3. References
 1. Appendices
 2. Bibliography or List of References.

For more information regarding your thesis format, we encourage students to refer to the following link. <https://registrar.stanford.edu/students/dissertation>

GRADUATION QUARTER PETITION

Students must be registered in the term in which they have a degree conferred. Students who meet the following conditions are eligible to be assessed a special tuition rate for the quarter in which they are graduating.

There is currently a tuition fee of \$150 for the Graduation Quarter; students will be assessed University health insurance (unless waived) and ASSU fees.

To be eligible for the reduced tuition rate, students must have:

- Completed all course work, degree requirements, and residency requirements.
- Enrolled in the applicable TGR 801 section for the graduation quarter. Students cannot enroll in any other courses for the quarter.
- Applied to graduate via Axess.
- Enrolled or been on an approved leave of absence in the term immediately preceding the requested Graduation Quarter.

Students on Graduation Quarter are registered at Stanford and, therefore, have the rights and privileges of registered students.

Only one Graduation Quarter may be requested for each degree program. Students who, for whatever reason, do not graduate during the Graduation Quarter will be assessed a higher, standard tuition rate in subsequent terms.

The Graduation Quarter Petition form can be found online:
registrar.stanford.edu/pdf/grad_qtr.pdf

The form must be submitted to the Student Services Center by the first day of the quarter.

FINANCIAL SUPPORT

Teaching Assistantships/Course Development Assistantship TA/ CDA in the Comparative Medicine department are available to students who have been at Stanford for at least one quarter. The student services coordinator can help students locate available TA positions.

Summer Internships

Summer Internships are available to all first year graduate students. Internship responsibilities must be separate from the focus of the student's research. Student's will have the opportunity to earn up to \$5,000 during their internship experience, as determined by the yearly externship allocation.

How Payroll Works

TAs receive a Stanford paycheck twice each month, on the same schedule as other university employees, and are subject to withholding of employment taxes with the exception of Social Security and Voluntary Disability Insurance.

Important Points:

- Every student who works at Stanford should submit an [I-9 form](#) prior to the start of their appointment. Please submit this form as soon as possible to the department's Student Accounting Associate prior to the start of the quarter in which you will begin employment.

Taxes and Tax Reporting

Student employee pay is subject to federal and state income tax withholding and is reported on Form W-2. Work performed in California is subject to withholding and reporting to California, regardless of the residency status of the student. Registered degree-seeking students do not pay FICA (Social Security and Medicare) taxes and California Voluntary Disability Insurance.

For further guidance related to taxes, students should consult the Stanford Student Financial Services [Tax Information](#) website.

STUDENT TRAVEL

Prior to any MLAS travel, read the Stanford travel policy to review the reimbursement policies that are strictly enforced.

http://web.stanford.edu/group/fms/fingate/students/when_travel/

Reimbursements

The following packet of back up paperwork should be submitted to the department administrator:

1. Student Certification form – required by Stanford for any travel being funded by Stanford
2. Travel Request Form with your P.I signature (person signing the form must identify the source of funding on the travel form or it will be returned to the student.)
3. Spreadsheet of daily costs, including amounts
4. Electronic or print of airline receipt, including proof that you paid for it (Copy of credit card statement, Expedia receipt, etc., showing the amount with your name and method of payment.)
5. Boarding passes from the airline
6. Registration receipt, including proof that you paid for it
7. Lodging receipt
8. All original receipts for other purchases
9. Program of the conference

It takes at least 2 weeks for Stanford Financials to issue the reimbursement deposit. Students should enroll in direct deposit through AXESS.

Note: You may be reimbursed for the registration fee as soon as it is paid (prior to travel) and you submit the appropriate documentation. You may not be reimbursed for the other expenses until your return from the trip. Submit all documentation promptly. If submission is completed more than 60 days after travel, the reimbursement is taxable income.

Local Travel

Stanford policy is that conference or other travel to San Francisco, San Jose or other local cities less than 50 miles one way from Stanford does not qualify for overnight stay nor reimbursable meals.

Students traveling less than 50 miles may be reimbursed for mileage and parking or train fare (with receipt). Students will not be reimbursed for food or lodging. Please read the [Travel Policy](#) on the website and see the Student Services Coordinator if you have additional questions.

Consult with the Student Services Coordinator *before* you travel if you have questions about reimbursement policy.

HEALTH INSURANCE

Students who have insurance coverage from another source should fill out the INSURANCE WAIVER in Axess prior to the deadline.

Insurance coverage is carried through the summer. If you plan to graduate autumn or winter quarter, check with the Vaden Health Center about ending coverage.

Students are automatically enrolled in Cardinal Care during registered quarters unless health insurance is waived through Axess. If you intend to waive the Cardinal Care, do so BEFORE the [deadline](#) or you will be charged for health insurance!

Effective September 1, 2015, the 2015- 16 Cardinal Care plan will include dental benefits, administered by Delta Dental of California. Students may visit any licensed dentist under this plan. For more information about the Delta plan, please visit the Vaden web site at (vaden.stanford.edu/insurance)

RESIDENTIAL HOUSING

What are the priorities and renewal eligibility for incoming master's students in autumn 2018?

In general terms, the new priorities guarantee master's degree students one year of housing in their first year of study at Stanford, on- or off-campus if they apply by the Lottery deadline and agree to live anywhere.

Incoming master's students (single and couples without children) enrolling in 2018-2019 will have guaranteed housing (on or off-campus) for their first year if they apply by the Lottery deadline and agree to live anywhere.

Beyond the first year they have no priority for subsidized housing (on or off campus). They are eligible to apply for the housing Lottery for one additional year and it is highly unlikely there will be available space in subsidized housing (on or off campus) until the new graduate housing opens in 2019.

Incoming master's students *with children* will be guaranteed housing for the first year in their degree program, and have the option to renew in place in on-campus housing for a second year. Master's students with children are eligible to apply for the housing Lottery for one additional year beyond their second year in housing, and it is highly unlikely there will be available space in subsidized housing (on or off campus) until the new graduate housing opens in 2019.

Additional Support for Graduate Students

The provost has increased central subsidies in the interim to assist graduate students who will be living off campus in 2017-18. Students living in off-campus housing may apply for the resources below:

- Housing Loan Program for those living in off-campus unsubsidized housing is available for graduate students to borrow up to \$6,000 (all at once or in increments over several years); there are no fees and no interest if repaid within six months of graduation; new pilot program will be run by Karen Cooper in the Financial Aid Office with an estimated start date of May 1. <http://financialaid.stanford.edu/grad/funding/emergency>
- Free Caltrain Go Passes for graduate students living in subsidized or unsubsidized off-campus housing (must live in eligible zip codes), beginning Autumn Quarter 2016 until the new graduate housing opens in 2019
- Housing Assignments staff will continue to assist students in moving off campus, providing information on rentals and how to navigate the rental process.
- The Financial Aid Office has a need-based emergency grant-in-aid

program for unanticipated expenses for which any graduate student may apply.

Supplemental Attachment A: Expectations of Faculty Advisors for MLAS Program

MEMORANDUM

DATE: September 20, 2017
TO: Faculty, Department of Comparative Medicine
FROM: Sherril Green, Director, MLAS *SGH*
Corinna Darian-Smith, Co-Director, MLAS *CD*
RE: Expectations of Faculty Advisors for MLAS Program

Faculty advisors serve as intellectual and professional mentors to their graduate students. As advisors to students pursuing a master's degree in Laboratory Animal Science (MLAS), participating faculty will provide support concerning the academic and non-academic policies that pertain to graduate students, help prepare students to be competitive for employment, and will maintain a high level of professionalism in the relationship.

Students pursuing an MLAS degree are required to submit an acceptable program proposal to the department's MLAS faculty advising committee by the last week of their first quarter of enrollment. Stanford co-terminal students must submit the proposal during the first graduate quarter (typically, but not always, this will be the quarter after admission to the master's program).

The faculty advisor assists the student in planning the student's program proposal. The program proposal should represent a program of study that includes/develops some degree of depth in the field of laboratory animal science and ensures the student's understanding of the University and the department's requirements for conferral of the degree (for more information, see <https://vpge.stanford.edu/academic-guidance/advising-mentoring>). In reviewing and approving the program proposal or any subsequent amendment to it, the MLAS faculty advisory committee confirms that the program's objectives have been met and that the course of study proposed fulfills all University and department course requirements.

In addition, faculty advisors for the MLAS degree program will:

1. Communicate clear expectations to the student advisee regarding time to degree completion and thesis expectations.
2. Meet quarterly with the student and together, complete the individual development plan (IDP).
3. Provide timely, written feedback on advisee's professional writing and presentations (article drafts, thesis chapter drafts, poster abstracts, research presentations etc.).
4. Secure funds, if needed, to support completion of the student's thesis research.
5. Give students appropriate credit for their work in authorship of articles or books.
6. Initiate continual conversations about academic progress and stay current about degree requirements and procedures.
7. Initiate conversations with advisee about career goals. Support traditional and non-traditional career goals.
8. Encourage students to take part in activities that will enrich their academic development, e.g. by participating in professional conferences and other networking activities.

9. Not require a student continue to provide a service (e.g. teaching, laboratory management, mentoring of other students, etc.) under terms that can hinder a student's degree completion.

These are the expectations for faculty who serve as advisors to students enrolled in the Masters of Laboratory Animal Degree program.

For additional questions, contact the program's Director and Co-Director: Dr. Sherril Green and Dr. Corinna Darian-Smith. For questions regarding administrative processes, timelines, and financial aid for students, please contact the MLAS administrator, Steve Choy.

Sherril Green, Director, MLAS
sherril@stanford.edu
(650) 723-6113

Corinna Darian-Smith, Co-Director, MLAS
cdarian@stanford.edu
(650) 736-0969

Steve Choy, MLAS Administrator
stevechoy@stanford.edu
(650) 724-7880

Supplemental Attachment B: Expectations of MLAS Graduate Students

MEMORANDUM

DATE: September 20, 2017
TO: Graduate Students, Master's of Laboratory Animal Science
FROM: Sherril Green, Director, MLAS
Corinna Darian-Smith, Co-Director, MLAS
RE: Expectations of MLAS Graduate Students

This document sets forth expectations, and information that, by common consent, apply to the MLAS graduate student.

1. The student acknowledges that he/she has the primary responsibility for the successful completion of his/her MLAS degree and will work responsibly toward completion of the degree in a timely manner.
2. The student will strive to learn the fundamental research methods, the ethical dimensions and historical understanding of Laboratory Animal Science.
3. The student will strive to discover and pursue a unique topic of research in laboratory animal science that contributes new knowledge to problems/issues in the field.
4. The student will meet regularly with his/her research advisor and provide him/her with updates on the progress and results of his/her activities and experiments.
5. The student will create an Individual Development Plan (IDP). In creating and developing the IDP, the student will work with his/her research advisor and other mentor(s) where appropriate. The IDP maps out the general path the student wants to take and helps match skills and strengths to career choices. Since needs and goals will evolve over time, the IDP should be revised and modified on a regular basis, no less than quarterly.
6. The student will work with his/her research advisor to develop a thesis/dissertation project. This will include establishing a timeline for each phase of his/her work. The student will strive to meet the established deadlines.
7. The student will work with his/her research advisor to select a thesis topic and will be responsive to the advice of and constructive criticism from his/her faculty advisor and MLAS faculty advisory committee.
8. The student will be knowledgeable about the policies and requirements of his/her graduate program, graduate school, and institution. The student will commit to meeting these requirements, including teaching responsibilities.
9. The student will attend and participate in laboratory meetings, seminars and journal clubs that are part of his/her educational program.

10. The student will comply with all institutional policies, including academic program milestones. The student will comply with both the letter and spirit of all institutional safe laboratory practices and animal-use and human-research policies at his/her institution.
11. The student will participate in his/her institution's Responsible Conduct of Research Training Program and practice those guidelines in conducting his/her thesis/dissertation research.
12. The student will discuss policies on work hours, sick leave and vacation with his/her research advisor. The student will consult with his/her advisor and notify his/her graduate coordinator and fellow lab members in advance of any planned absences.
13. The student will discuss policies on authorship and attendance at professional meetings with his/her research advisor.
14. Experience in the writing and revision of a thesis is an essential aspect of graduate education in the sciences. Thus, the general expectation is that a student will have a completed, written thesis before the MLAS degree is conferred. Students are expected to complete all required paperwork and other degree obligations in a timely fashion.