UCDAVIS

GRADUATE GROUP in NUTRITIONAL BIOLOGY

Survival Guide for Graduate Students

2018-2019

The Graduate Group in Nutritional Biology wishes to recognize the efforts of the authors of the original 1988-89 Survival Guide and the students who have revised the Guide over the past 30 years:

Original Authors
Michelle Oster
Farla Kaufman
Deborah Arce
Kristin Carlson Eiffert
Dorothy Chen
Vicki Hammer
Madeleine Sigman
Marie Weldon Taubeneck

Student and Faculty Authors
Alison Keenan
Mary Henderson
Ryan Snodgrass
Sheri Zidenberg-Cherr, PhD
MRC Greenwood, PhD
Chris Calvert, PhD

Student Editor
Samira Jones

Staff Editors
Rose Giordano
Karen Kornelly
Theresa Morales
Caroline Eikenbary
Alisha Bartolomucci

2018 GradSAC Update
Riley Hughes
Shannon M^{c}Clorry
Gwen Chodur
Jennie Davis

TABLE OF CONTENTS

I. Introduction

Welcome to the most diverse graduate group on campus! There is truly "something for everyone" in the Graduate Group in Nutritional Biology (GGNB).

Research activities in nutrition include work with human, laboratory, and domestic and wild animals. Areas of strength within the program include nutritional biochemistry, human/clinical nutrition, animal nutrition, nutrition and development, nutrient bioavailability, nutrition and behavior, nutritional energetics, maternal and child nutrition, nutrition and endocrinology, community and international nutrition, obesity and body composition, physiology, nutrition and chronic disease, culture and nutrition, nutrition and gene expression, nutrition and aging, food preferences, nutrition and immunology, diet and exercise, dietary assessment, protein and lipid metabolism, food intake regulation, nutrition and the gut microbiome, and nutrition education.

Websites you should get to know:

GGNB: http://ggnb.ucdavis.edu

Office of Graduate Studies: https://gradstudies.ucdavis.edu

Office of the Registrar: http://registrar.ucdavis.edu

GRADUATE PROGRAM STAFF

Graduate Program Staff Coordinator:

Alisha Bartolomucci
1249 Meyer Hall
(530) 754-7684
albartolomucci@ucdavis.edu

Faculty Contacts:

Chair:
Carolyn Slupsky
3247 Meyer Hall, 752-6804
cslypsky@ucdavis.edu

Vice Chair:
Andrea Fascetti
3021 Veterinary Medicine 3B, 754-6974
ajfascetti@ucdavis.edu

Master Advisor:
Patricia Oteiza
3109 Meyer Hall, 754-6074
poteiza@ucdavis.edu

Academic Advisors:

Patricia Oteiza: Nutrition, 3109 Meyer Hall, 754-6074, poteiza@ucdavis.edu
Jon Ramsey: Veterinary Medicine, 2163 Haring Hall, 752-8122, jjramsey@ucdavis.edu
Rachel Scherr: Nutrition, 3149 Meyer Hall, 752-3387, rescherr@ucdavis.edu
Jennifer Larsen: Veterinary Medicine, 3019 VM3B, 752-1393, jalarsen@vmth.ucdavis.edu
Christine Stewart: Nutrition, 3253B Meyer Hall, 752-1992, cpstewart@ucdavis.edu

Graduate Studies Staff Liaison:

Laura Young: 250 Mrak Hall, 752-2772, leyoung@ucdavis.edu

DISCLAIMER

The information in this publication is just a guide. Every effort has been made to include accurate information and precisely interpret material found in the Graduate Group in Nutritional Biology Bylaws and policies of the Office of Graduate Studies. The *Survival Guide* is not the final authority on any matter. All changes to degree requirements and policies will be made available in the Graduate Group in Nutritional Biology Website.

II. Graduate Group Details

ADVISORS and COMMITTEES

This section contains information on the various advisors and committees you will encounter while in the Graduate Group in Nutritional Biology. You will also find information regarding how these people can help you meet your degree requirements. This information is important, but is also fairly complicated. Do NOT be concerned if you find this section confusing at first. As you progress through the program, you will find the roles each member plays more understandable.

HINT: Keep this guide and refer to it later when you are ready to decide on the memberships of your different committees or your classes outside of the core area.

Talk about the membership of your committees with your Major Professor. Be proactive about setting the committees up early and meeting with them regularly. The most important thing to remember is to **ask questions** if you are confused or in doubt about what you should do. The faculty and your peers in the GGNB are generally more than willing to help you understand the differences between the committees and advise you on their membership.

All students will select a **Major Professor** and be assigned an **Academic Advisor**.

- M.S. students will work closely with the members of a single committee, their **Thesis Committee**. See "Requirements for Master's Student" below for more details.

- Ph.D. students will work with four different committees over the course of their academic career: (1) **Academic Guidance Committee**, (2) **Preliminary Examination Committee**, (3) **Qualifying Examination Committee**, and (4) **Dissertation Committee**. See "PhD Program of Study" below for more details.

MAJOR PROFESSOR

As part of being accepted into the PhD or MS degree program in the Graduate Group in Nutritional Biology, many students already have a Major Professor. Alternatively, you may opt to spend your first year rotating through different labs. You may have contacted a faculty member in the Graduate Group directly before you came to Davis, and they agreed to serve as your Major Professor, or a Major Professor was assigned to you based on your research interest as indicated in your application's statement of purpose.

It is possible to change Major Professors if you find that the two of you are not well matched in terms of research goals or even personality. While this is best done during your first year, it has been done later. You should inform your Academic Advisor and the Graduate Program Staff Coordinator, **Alisha Bartolomucci in 1249 Meyer Hall,** of the change as soon as possible. If you need advice about finding a replacement, consult the Chair of the Graduate Group in Nutritional

Biology, Carolyn Slupsky, or the Master Advisor, Patricia Oteiza. Contact information is included in the beginning pages of this booklet.

Your Major Professor is the single most **important** person that you will work with while at UCD. Sometimes your Major Professor is referred to as your "research professor" because he or she is the person you will work with while you conduct your graduate research. Start to review the discussion points in **Appendix 2** with your major professor as soon as you arrive at UCD.

YOUR MAJOR PROFESSOR IS RESPONSIBLE FOR THE FOLLOWING:

- Mentoring you and is your primary resource for information on research projects.
- Your Major Professor, in consultation with your Academic Guidance Advising Committee, may require you to take additional courses to design a program that is best suited to your academic research and professional needs. Any exception to the core requirements must be supported in writing by your Major Professor, in concurrence with your Academic Advising Committee and then approved by the Executive Committee of the Graduate Group in Nutritional Biology.
- Your Major Professor also serves as chairperson of both your Academic Guidance Committee (PhD students only) and your PhD Dissertation or MS Thesis Committee. After consultation with you and your Academic Advising Committee, your Major Professor informs your Academic Advisor when you are prepared to take your qualifying examination.

In general, even though your Major Professor plays a very important role in providing guidance to you regarding your research projects, he or she may not be as familiar with the latest academic requirements. Therefore, you should consult your Academic Advisor on a regular basis (ideally, every quarter) to report your academic progress. Also, be sure to check with your home department for other possible sources of financial support if your Major Professor is unable to provide that information.

ACADEMIC ADVISOR

Academic Advisors are officially appointed by the Dean of Graduate Studies to serve in matters affecting graduate students in their academic program. Your Academic Advisor's signature is the only signature officially recognized by Graduate Studies on a variety of forms and petitions used by graduate students.

In general, your Academic Advisor acts as your first source of academic information and provides assistance with the details of the program. You should meet with your Academic Advisor on a regular basis and keep him or her up to date on your progress. Most Academic Advisors are extremely busy and may not seek you out. **Remember, it is up to you to be proactive!**

YOUR ACADEMIC ADVISOR IS RESPONSIBLE FOR THE FOLLOWING:

- Your Academic Advisor assists you in forming your Academic Guidance Committee (Ph.D. students only) and reviews and approves your course of study.
- Your Academic Advisor reviews and acts on each petition you might have to drop or add courses, or to take courses on an S/U (satisfactory/unsatisfactory) basis, and approves petitions for late adding and dropping of courses.
- Your Academic Advisor reviews and approves your petition for advancement to candidacy for the MS degree and makes recommendations for the composition of your MS Thesis Committee (MS only).
- After consulting with you and your Academic Guidance Committee, your Academic Advisor recommends to the Dean of Graduate Studies the members of your Qualifying Examination Committee and Dissertation Committee (PhD only).
- Academic Advisors periodically review progress towards your degree objectives, and electronically files a report, at least annually, with the Dean of Graduate Studies concerning your progress toward the completion of your degree requirements.
- Your Academic Advisor is also responsible for the approval of any Planned Educational Leave (PELP) you might request.
- Finally, your Academic Advisor will serve as your advocate in the rare event that you have conflicts with your Major Professor or any other faculty member. Your Academic Advisor should be your first contact in cases where you have differences of opinions with faculty and feel that you must seek outside assistance. For this reason it is optimal to match a student with an advisor that is not a close collaborator with his or her specific area of research.

DEPARTMENTAL RESOURCES AND INFORMATION

The Graduate Group in Nutritional Biology is your graduate program. The Graduate Group is responsible for your curriculum, including coursework requirements, and the constitution of the committees that judge your performance. Your major professor's home department provides your physical work space and, often, your financial disposition. Your home department will provide your mail, office, lab, and funds for research. If you do not know whom to contact in your home department, you can talk to Alisha Bartolomucci, or the Chief Administrative Officer (CAO) of the Nutrition and Animal Science Departments Kelly Wade, 752-4512, kswade@ucdavis.edu.

KEYS

You will need a key for the building your laboratory is housed in, a key or key card to your lab, and perhaps an animal room key. Most departments may charge a nominal deposit fee. In most cases, you will only be able to get keys to the building where your lab is located. For example, if your lab is in Cruess Hall, you generally wouldn't be able to get a key to Meyer Hall. But there are always exceptions: you would be able to get keys for Meyer Hall, for example, if you have animals housed there or require access to the TA office.

MAIL

Departments generally provide some form of mailbox for their students, it may simply be a folder with your name on it, or an actual mail cubbyhole. For example in Meyer Hall, each graduate student has a folder with his or her name on it located next to the mailboxes on the third floor. You can get both campus and US mail at these boxes. Mail to UC Berkeley can go through campus mail, but be sure to mark it clearly and put it in the correct outbox. If you are TAing for a department that is not your home department, you might ask to have a mailbox there as well, so that your students can leave messages for you. NOTE: University policy prohibits use of outgoing US Mail service for personal mail items. There is a blue USPS mailbox available west of Meyer Hall for mailings with postage paid.

PAYROLL CHECKS and FELLOWSHIP CHECKS

Checks paid to you for being a teaching or research assistant, and many other funding sources must be retrieved from the contact person in your department. A good suggestion is to talk to this person about arranging for "direct deposit" of your checks. Your first pay check will always be a physical paper check until direct deposit can be established. The university sends your check directly to your bank account each month. This can be very handy if you plan to be out of town doing research for extended periods of time. A notification of your earnings statement each month will be emailed to you. The majority of fellowship checks are handled by an office other than your home department, typically Student Accounting; your fellowship award letter includes information on where to pick up your checks. Checks handled by the Nutrition Department can be picked up from Skye Jura in the Nutrition Department office on the 3rd floor of Meyer Hall.

FELLOWSHIP TRAVEL MONEY

If you have been awarded a fellowship that includes conference travel money, you must follow specific procedures to request these funds. One key tip: SAVE ALL YOUR RECEIPTS! They must be presented to your departmental contact when you return.

GENERAL SUPPLIES

Policies regarding the purchasing of general office supplies (transparencies, writing paper, stationery, envelopes, file folders, etc.) differ by department. Check with your major professor for policies and ordering instructions.

PHOTOCOPYING

Most departments assign students an account number to be used on the departmental copier; students are then billed for that usage monthly. TAs for specific classes and GSRs working on certain grants will have additional account numbers for use in those cases. For copying and printing done at Shields Library or the Health Sciences Library, your student account will be charged.

AUDIO/VISUAL EQUIPMENT

To checkout data projectors, laptop computers, laser pointers, slide and overhead projectors for student use when making presentations to journal clubs, seminars, or other classes, visit http://nutrition.ucdavis.edu/about/admin/reservations.html or email Skye Jura, the Administrative Assistant for the Department of Nutrition, at nutrfrontdesk@ucdavis.edu.

CONFERENCE ROOMS

For reservations of Meyer Hall conference rooms, visit http://nutrition.ucdavis.edu/about/admin/reservations.html. These rooms can be reserved for most class-related purposes, qualifying exam practices, lab/group meetings, or study sessions.

POSTER PRINTING

Students housed in the Departments of Nutrition or Animal Science can make use of the Food Chain Cluster Poster printing service. Information about the service is here: http://foodchain.ucdavis.edu/it/poster.html. You will need to provide a UC Davis account number. If you are housed in another department, please check with your local IT team for your printing options.

Reminder Use of the Official UCD Seal is reserved exclusively for the office of the Chancellor. For research posters and most other uses, only the official UCD Wordmark should be used. The UCD Wordmark can be located here: http://marketingtoolbox.ucdavis.edu/identity-guide/logos/wordmark.html

CAR AND PARKING PASSES

Quarterly/Yearly permits can be purchased through the Transportation and Parking Service (TAPS) located on Hutchison Drive, next to the parking structure, or online: http://taps.ucdavis.edu/

If you are a bicycle commuter, join goClub through TAPS (http://goclub.ucdavis.edu/). This program provides bicycle commuters with complimentary parking passes, a locker at the Activities and Recreation Center (ARC), and a 40% discount on Unitrans 10-ride passes. This is great for rainy days or times when you need to transport items to campus. One-day car passes are also available for purchase in visitor parking lots. If you need one-day parking passes for guest speakers or off-campus research collaborators, you can request them from your home department.

DEPARTMENTAL LIBRARIES

Some departments make copies of completed theses and dissertations available for students to check out. Some also maintain journal subscriptions. Check-out procedures vary by department. Many can also be found through ProQuest and the UC Davis library website.

III. GGNB Coursework Recommendations

Course Prerequisites

While ideally you would have met these requirements before attending UC Davis, a small number can be completed once you are on campus. All entrance requirements must be completed before graduation and do not count toward the unit requirements for your graduate degree. (To help in your planning, courses usually taken at UCD to satisfy the requirements are shown in parentheses.)

1. **Biochemistry:** General, (Biological Sciences 102, 103 or Animal Biology 102, 103)
2. **Chemistry:** General Chemistry (Chemistry 2A, 2B, 2C) and Organic Chemistry (Chemistry 8A, 8B)
3. **Mathematics:** Six units including a course in statistics (Statistics 13 or Agricultural Systems and Environment 120)
4. **Nutrition:** Nutritional biochemistry (Animal Biology 102, 103)
5. **Physiology:** Mammalian or other advanced course at a level that assumes prerequisite knowledge in biology (Neurobiology, Physiology and Behavior 101).

The following courses are highly recommended but not required:

a) **Calculus:** (Math 16A, 16B, 16C)
b) **Physics:** General physics with laboratory (Physics 7A, 7B)

*Summer courses are offered and generally cover most of the lower division pre-requisites, in the event that additional pre-requisites are needed and there are scheduling conflicts. The general catalog is an excellent source for this information.

IV. Master's Program of Study

Official degree requirements are found on the Grad Studies website at https://grad.ucdavis.edu/programs/gnub. The following is a summary of a typical Master's program of study in the GGNB.

Students working toward a Master's degree must be registered in residence for at least three quarters. Two regular six-week Summer Sessions may count as the equivalent of one quarter. Usually, all work for the Master's degree is done in residence on the Davis campus. However, with the consent of your Academic Advisor and the Dean of Graduate Studies, courses completed elsewhere may be credited toward your degree. The normal limit for transfer credits is 6 units from another institution, 12 concurrent units (taken as a non-student), or up to one half of the unit requirement if the courses were taken at another campus of the University of California while in graduate status, providing the units were not used to satisfy requirements for another degree.

The Graduate Group in Nutritional Biology designates its Master's degree as a Master of Science (M.S.). All M.S. students are expected to complete a thesis (Plan I). Completion of the M.S. by comprehensive examination (Plan II) is not an option unless the student petitions the Executive Committee and the petition is approved.

PLAN I

Requires completion of 30 units of upper division (100-199 numbers) and graduate courses (200-299 numbers) and submission of a thesis. At least 18 of the 30 units required must be strictly graduate work in the major subject.

PLAN II

(*By petition only)* Requires completion of 36 units of upper division and graduate courses and satisfactory performance on a comprehensive final examination.

At least 18 of the 36 units required must be strictly graduate courses in the major subject. No more than 9 units of research (299 courses or equivalent) may be used to satisfy the 18-unit graduate course requirement.

AN oral comprehensive final examination in the major subject area.

A written summary of research results from all 299 coursework must be submitted to and approved by your Major Professor and two other faculty members.

SUGGESTED COURSEWORK

The following is an outline of suggested courses for the M.S. degree in Nutritional Biology. Where a determination must be made of the adequacy of your background in a particular subject, this will be done by your Academic Advisor in consultation with you and your Major Professor.

All entrance requirements must be completed before graduation. (Assumes entry at B.S. level)

a. **Animal Biochemistry & Metabolism** (ABI 102 (Fall) & ABI 103 (winter), 5 units each). Recommended. Ideally students will take the ABI series during their first year; however, due to demand from undergraduate students, graduate students are sometimes unable to get into the class. The BIS 102 and 103 series is good alternative if you do not have any background in physiology.
b. **GGNB Core Classes** (NUB 210A (Fall), NUB 210 (Winter), NUB 210C (Spring), 5 units each). The core courses will be taken during the first year
c. **Beginning Nutrition Seminar and Presentation Course** (NUT 290, 2 units). This seminar will be taken in the Fall Quarter of your first year.
d. **Advanced Nutrition Seminar** (NUT 291, 1 unit). The GGNB seminar must be taken at least two quarters per year.
e. **Advanced Statistics Course** (units vary). See APPENDIX 4 for example courses that meet the GGNB statistics recommendations.
f. **Research Units** (Nutrition 299, various units). 5-9 units for students in Plan II, additional units as necessary to complete the thesis for Plan I. The committees for the MS thesis for Plan I students are comprised of three faculty and are appointed by the Dean of Graduate Studies on advice of your Academic Advisor. **NOTE**: Plan II is by petition only, committee membership to be approved by Executive Committee.
g. **Additional courses** (units vary): taken as necessary in consultation with your Major Professor and Academic Advisor to formulate a program best suited to your individual academic and professional goals, while at the same time maintaining academic excellence.
h. **Academy of Nutrition and Dietetics DPD courses** (units vary): You may elect to add courses necessary for qualification as a Registered Dietitian. Information about these courses and other requirements are available from the Undergraduate Staff Advisor for Nutrition.
i. **All Academic Senate requirements for unit totals and residency apply.**

ADVANCEMENT TO CANDIDACY: The Master´s Degree

You must file an official application for Advancement to Candidacy after completion of at least **one-half** of the course requirements for the degree and at least one quarter before completion of all degree requirements. Graduate Studies recommends early advancement, so that actual or potential issues can be solved to avert any crisis. The form is available online, from Graduate Studies in 250 Mrak Hall, or from the Graduate Staff Coordinator.

After the form has been signed by your Academic Advisor and Thesis Chair **(Plan I, Thesis Plan only)**, it is submitted to the program's Graduate Coordinator for signature and submission to Graduate Studies. Once advancement is approved, formal notice of Advancement to Candidacy is sent to you and your Academic Advisor. If you are not eligible for advancement, you and the program will be informed that action on your application has been deferred and the reason why (e.g., grade point average below 3.0, missing coursework, etc.).

On the candidacy application, you and your Academic Advisor agree on and submit a statement of how you will complete the requirements for the degree. If you must make changes in your

program after Advancing to Candidacy, recommendations for such changes must be made to Graduate Studies with approval of your Academic Advisor.

When the Candidacy application is approved by the Dean of Graduate Studies, you will get a copy of it with a collection of information that includes instructions on thesis preparation and submission (Plan I students). The instructions are included in the Graduate Studies page entitled "Information for Degree Candidates" where you should follow the link to "Preparing and Filing the Thesis and Dissertation." There you will find the forms you need to complete and submit to file your thesis with Graduate Studies. If you have any questions, contact the Office of Graduate Studies.

In order to submit your thesis, you must either be enrolled or on filing fee (with the exception of Summer).

THE MASTER'S COMPREHENSIVE EXAMINATION

PLAN II (by petition of the GGNB Executive Committee only)

The Master's Comprehensive Examination is conducted by a committee of at least three members nominated by your Academic Advisor and appointed by the Executive Committee. Graduate Studies requires a unanimous pass vote of the Committee for successful completion. If you do not pass, the Committee may recommend, with the concurrence of your Academic Advisor, that you be reexamined one time. Changes in the composition of the Committee may be made only for reasons of clear necessity (e.g. the extended absence of a member from the campus). If you do not pass on the second attempt, you are subject to disqualification from further work as a graduate student. The result of all Master's comprehensive examinations must be reported to Graduate Studies.

Your Academic Advisor will report to the Dean that you have completed all requirements for your degree, with the date of the examination, or that you have deferred or have failed. The reporting date usually coincides with the last day of the quarter. An affirmative response and the Academic Advisor's signature certify that you have completed all program requirements for the degree. Your name will appear on the current degree list if you have satisfied the minimum Graduate Studies requirements.

In order to take your comprehensive exam, you must either be enrolled or on filing fee (with the exception of Summer).

V. Ph.D. Program of Study

There are six major areas that you should be familiar with when planning your PhD: 1) courses fulfilling the Core Requirements, 2) courses for your Area of Specialization, 3) your Academic Guidance Committee, 4) the Preliminary and 5) Qualifying Examinations, and 6) the Dissertation. The requirements are covered in more detail below.

Ph.D. students will work with four different committees over the course of their academic career: (1) **Academic Guidance Committee**, (2) **Preliminary Examination Committee**, (3) **Qualifying Examination Committee**, and (4) **Dissertation Committee**.

SUGGESTED COURSEWORK

(Assumes entry at BS level)

a. **Animal Biochemistry & Metabolism** (ABI 102 (Fall) & ABI 103 (winter), 5 units each). Recommended. Ideally students will take the ABI series during their first year; however, due to demand from undergraduate students, graduate students are sometimes unable to get into the class. The BIS 102 and 103 series is good alternative if you do not have any background in physiology.
b. **GGNB Core Classes** (NUB 210A (Fall), NUB 210 (Winter), NUB 210C (Spring), 5 units each). The core courses will be taken during the first year.
c. **Beginning Nutrition Seminar and Presentation Course** (NUT 290, 2 units). This seminar will be taken during Fall Quarter of your first year.
d. **Advanced Nutrition Seminar** (NUT 291, 1 unit). The GGNB seminar must be taken at least two quarters per year until you have passed your Qualifying Exam.
e. **NUT 250 *or equivalent*** (units vary): One graduate level nutrition-related course, e.g., NUT 250 or another course chosen from the Nutrition 250 series. See the table below for examples. Please note, if one of these courses is used to support development of an Area of Specialization, it cannot be utilized to satisfy this requirement.
f. **Advanced Statistics Course** (Various units). See APPENDIX 4 for example courses that meet the GGNB statistics recommendations.
g. **Research Units** (Nutrition 299, various units). NUT 299 taken as necessary to total 12 units per quarter.
h. **Additional courses** (various units): taken as necessary in consultation with your Major Professor and Academic Advisor to formulate a program best suited to your individual academic and professional goals, while at the same time maintaining academic excellence.
i. **Academy of Nutrition and Dietetics DPD courses** (various units): You may elect to add courses necessary for qualification as a Registered Dietitian. Information about these courses and other requirements are available from the Undergraduate Staff Advisor for Nutrition.
j. **All Academic Senate requirements for unit totals and residency apply.**

NUT 250 *or equivalent* courses	Course number (units)	Quarter Offered
International Nutrition	NUT 219 A, B (3, 3)	Winter*, Spring*
Nutrition and Immunity	NUT 251 (2)	Winter*
Nutrition and Development	NUT 252 (3)	Winter
Developmental Nutrition	NUT 294A (2)	Fall
International Nutrition Methods	NUT 258 (3)	Spring**
Nutrition During Pregnancy	MCN 260 (6)	Fall*
Lactation and Infant Nutrition	MCN 261 (6)	Winter*
Child and Adolescent Nutrition	MCN 262 (6)	Spring*
Maternal and Child Research Methods	NUT 263 (4)	Fall
Control of Energy Balance	NUT 253 (3)	Spring
Lipids	FST 211 (3)	Winter
*offered every other year, check current UC Davis General Catalog ** check current UC Davis General Catalog or Graduate Group websites for current listings		

AREA(S) OF SPECIALIZATION

This is officially defined as “a group of courses selected in consultation with the student's Academic Guidance Committee and Graduate Faculty Advisor to complement the student's Nutritional Biology program in accord with the chosen career orientation."

Either one or two areas of specialization are required. Normally, a single area of specialization requires 12 units of coursework beyond the core requirement and the basic upper division course in the area. Two areas of specialization normally require 6 units of advanced coursework in each area.

Several areas of specialization and typical courses associated with these areas of specialization are listed for your reference. These should not be considered an exhaustive listing as courses can change from time-to-time. Your Academic Guidance Committee, in concurrence with your

Academic Advisor, can help you identify a specific area of specialization and courses that best suit your academic and career goals.

Course	Course number (units)	Quarter Offered
Education		
Educational Research	EDU 200 (4)	Fall
Qualitative Research in Education	EDU 201 (4)	Winter
Quantitative Methods in Educational Research: Analysis of Correlational Designs	EDU 204A (4)	Winter
Quantitative Methods in Educational Research: Experimental Designs	EDU 204B (4)	Fall
Concepts of the Curriculum	EDU 207 (4)	**
The Psychology of School Learning	EDU 210 (4)	Spring
Special Topics in Education	EDU 292 (2)	Winter**
Epidemiology and Statistics		
Quantitative Epidemiology I	EPI 202 (5)	Fall
Principles of Epidemiology	EPI 205A (4)/ MPM 405 (4)	Fall
Epidemiologic Study Design	EPI 206 (4)/ MPM 406A (4)	Winter
Advanced Epidemiologic Methodology	EPI 207 (4)	**
Medical Statistics I	MPM 202 (4)	Summer II
Medical Statistics II	MPM 203 (4)	Fall
Food Science and Technology		
Food Chemistry and Biochemistry	FST 201 (4)	Fall
Chemical and Physical Changes in Food	FST 202 (4)	Spring*
Advanced Food Microbiology	FST 204 (3)	Spring
Lipids: Chemistry and Nutrition	FST 211 (3)	Winter
Food Perception and the Chemical Senses*	FST 227 (2)	Winter
Gut Physiology and Microbial Ecology		

GI Physiology	NPB 114 (3)	Fall
Microbial Biology	MIB 200A (3)	Fall
Microbial Diversity	MIC 105 (3)	Winter
Human Immunology	MMI 188 (3)	Winter, Spring
Mechanisms for Microbial Interactions w/ Hosts	MMI 200D (3)	Winter
Microbiota and Health	MMI 280 (3)	Spring
Immunology		
Nutrition and Immunity	NUT 251 (2)	Winter*
Introductory Immunology	IMM 201 (4)	Fall
Immunotoxicology Seminar	IMM 292 (2)	Fall
Current Concepts in Immunology	IMM 293 (4)	Winter
Topics in Immunology	IMM 296 (2)	Fall
Mucosal Immunology	IMM 297 (2)	Spring*
Fundamentals of Immunology	PMI 126 (3)	Winter
Immunology Laboratory	PMI 126L (2)	Winter
Advanced Immunology	PMI 270 (3)	Spring
Metabolism		
Endocrinology	NPB 130 (4)	Fall
Advanced Physiology (Systemic emphasis)	MCP 210C (5)	Spring
Molecular Biology		
Recombinant DNA	MIC 215 (3)	Fall
Advanced Molecular Biology	MCB 121 (3)	Fall, Wi, Spr
Human Genetics and Genomics	MCB 162 (3)	Fall
Molecular Genetics and Genomics	BCB 210 (3)	Fall
Macromolecular Structure & Interactions	BCB 211 (3)	Fall
Developmental Biology	BCB 213 (3)	Winter
Molecular Biology	BCB 214 (3)	Spring

Public Health		
Obesity Prevention in Community Settings Health Communication International Health	SPH 223 (3) SPH/CMN 232 (4) SPH 495 (2)	Winter Spring** Spring
Physiology		
Advanced Physiology (Neuroscience emphasis) Advanced Physiology (Systemic emphasis) Advanced Physiology (Systemic emphasis) Exercise Metabolism Cellular Neuroscience	MCP 210A (4) MCP 210B (6) MCP 210C (5) EXB 110 (3) NSC 221 (4)	Fall Winter Spring Spring Fall

*offered every other year, check current UC Davis General Catalog
**check current UC Davis General Catalog or Graduate Groups

BCB: Biochemistry, Molecular, Cellular and Developmental Biology Graduate Group
EDU: Education
EPI: Epidemiology Graduate Group – School of Veterinary Medicine
EXB: Exercise Biology
FST: Food Science and Technology
IMM: Immunology
NPB: Neurobiology, Physiology, Behavior
MCB: Molecular and Cellular Biology
MCP: Molecular, Cellular, and Integrative Physiology
MIB: Microbiology
MIC: Microbiology
MMI: Medical Microbiology
MPM: Preventative Veterinary Medicine (Veterinary Medicine)
NSC: Neuroscience
PMI: Pathology, Microbiology, and Immunology (Veterinary Medicine)
SPH: Public Health

ACADEMIC GUIDANCE COMMITTEE

This three-member committee consists of your Major Professor (as the chair) and two other faculty members, at least one of which is preferably from your area of emphasis. One of your Academic Guidance Committee members can be your Academic Advisor if desired. This Committee is ideally formed before the end of your first quarter and should be completed by the end of your second quarter. You are required to meet with your Academic Guidance Committee at least once per year in order to get a satisfactory mark on your annual Progress Report.

The goals of meeting with your guidance committee are

- To assist you in planning a program of study that will meet the general requirements of the Graduate Group, prepare for the Preliminary Exam, and to help you identify the areas in which you are interested or in which you might need further preparation.
- To evaluate your progress and to determine when you are ready to take your Qualifying Examination.

The Academic Guidance Committee retains its responsibilities until your Qualifying Examination is passed and you have advanced to candidacy. You have the right to request that the academic advisor attend any of the advising meetings.

PRELIMINARY EXAMINATION

After you have completed the three core courses, you will take your Preliminary Exam during the early summer quarter of your first year (likely the weeks immediately following the completion of Spring quarter). The Preliminary Exam Committee is in the process of creating study questions. Please check the online version of the Survival Guide when you begin to prepare for your exam to see these questions.

The purpose of the Preliminary Exam is to assess your (1) general nutrition knowledge, (2) ability to present verbally and on the white board, (3) and reason through questions. You should have a solid understanding of basic nutrition topics, such as:

- Absorption, Distribution, Metabolism, Elimination (ADME) for macronutrients and micronutrients
- Essential fatty acids
- Essential amino acids, conditionally essential amino acids, limiting amino acids
- Dietary Guidelines and DRIs (AMDR, RDA, EAR, AI, UL): development and interpretation
- Metabolic pathways (from ABI 102 and 103)

You should also be familiar with the following topics:

- Gene-nutrient interactions
- Nutrient-nutrient interactions

- Drug-nutrient interactions
- Structure/function
- Insulin signaling
- Obesity, metabolic syndrome, inflammation
- Other chronic diseases (diabetes, cancer, vascular disease, etc.)
- Gut microbiome
- Current issues in nutrition (new dietary recommendations/fad diets, etc.)
- Basics regarding research methods/tools (cell culture, animal models, human studies, western blots, PCR, etc.)
- Translation from cell to animal to human, and individual to population, and vice versa

Helpful tips:

- Make a Preliminary Exam binder and fill it with information as you learn it from class. An example would be a page for vitamin A. The page should contain information such as: (1) The vitamin A requirement, (2) what happens with deficiency/toxicity, (3) food sources, (4) diagram of ADME including enzymes, transporters, and carrier proteins
- Form study groups ***early*** and practice speaking and writing at the white board. Don't just practice your prelim presentation – practice answering questions at the whiteboard. Invite people from previous years who have taken the prelim exam, and invite your major professor or other faculty members.
- Be able to describe/draw what happens when you eat a piece of white bread starting from digestion in the mouth to metabolism in liver in the healthy vs. diabetic state. This is a good test to see if you can clearly and concisely explain a complex process.
- You may not always have the "right" answer or there may not even be one "right" answer, but if you can calmly and logically work your way through a question you will do great.

QUALIFYING EXAMINATION COMMITTEE

Although you may think the sole purpose of your Qualifying Examination Committee is to **ask** you questions you cannot possibly answer, it only seems that way. In fact, your Committee acts as a guide to help evaluate progress toward your degree. Remember, you have a part in choosing the membership of your Qualifying Examination Committee.

To be eligible to take the Qualifying Examination, you must have satisfied all core requirements, removed all deficiencies, and must have at least a "B" average in all coursework. You must be enrolled all quarters in which you take any portion of the Qualifying Examination. The full list of policies can be found on the Graduate Studies website (http://grad.ucdavis.edu/policies).

At the end of 9 academic quarters of enrollment, a graduate student must have advanced to candidacy in order to continue to be employed.

Following advice from your Academic Guidance Committee, your Academic Advisor will recommend to the Dean of Graduate Studies the appointment of a final Qualifying Examination Committee via your Qualifying Examination Application.

This Committee will consist of **five** members whose expertise can adequately assess your area of research included in the examination. You may include at least one member of your Academic Guidance Committee if desired. One of your members must be from **outside of the Graduate Group in Nutritional Biology**, and if you are doing a designated emphasis a member of the DE must be on your committee. A minimum of three of the five members of the committee must be Academic Senate (titles such as Assistant, Associate, or Professor) members. While **you** might be tempted to include your Major Professor on your Committee, this is generally not done for a variety of reasons, not the least of which is the potential conflict of interest that could come into play.

The Qualifying Examination Application can be downloaded from the Graduate Studies Web site: https://gradstudies.ucdavis.edu/forms/. This form must be submitted to Graduate Studies at least **4 to 6 weeks prior** to the exam. As soon as your committee is confirmed, you should fill out the form, obtain the signatures and submit it to the Graduate Coordinator. Graduate Studies does not need the exact date of your exam; the month or quarter in which you expect to take the exam is sufficient. If you are completing a designated emphasis (such as International & Community Nutrition or Biotechnology), the director of the designated emphasis must sign the application in addition to your Academic Advisor. **The form and date/time/location of the exam must be provided to the Graduate Program Staff Coordinator for final signature and submission.**

In general, all members of the Qualifying Examination Committee should have achieved a degree at least equivalent to the Ph.D. All members must also meet the qualifications stated in the UC Davis Graduate Council Policy on Service on Advanced Degree Committees https://grad.ucdavis.edu/sites/default/files/upload/files/grad-council/gc1998-01_policy_on_service_on_advanced_degree_cmt.pdf .

If the appointment of a Committee member from outside the University of California is necessary, please consult with your Academic Advisor. You'll need to complete an "External Committee Membership" form (link below), along with the suggested Committee member's CV, and submit to the Office of Graduate Studies for approval: https://gradstudies.ucdavis.edu/sites/default/files/upload/files/current-students/gs311-external-committee-membership-app.pdf.

The primary objective of the PhD final Qualifying Examination is to assess whether you are suitably qualified and prepared to undertake independent research. It also evaluates your knowledge of your secondary field (your area of specialization). You are expected to have a broad understanding of the field of Nutritional Biology and one or more areas of specialization.

The main purpose of the examination is not to test you for factual information, but to evaluate your ability to apply scientific reasoning to the solution of nutrition problems. There may not be any single “right answer” to the questions posed to you. The Committee members are often more interested in the reasoning process you use to develop an answer than in the answer itself. Once the Committee is appointed you are advised to meet with the individual members to discuss their philosophy and general expectations regarding the Qualifying Examination. Also, you should have some idea of the members' areas of research and you certainly may request some suggested reading materials from each Committee member. After the examination date is set, you should contact the individual Committee members at least once. It’s a good idea to meet with each member in person about 4 weeks prior to the exam to discuss their expectations, especially if you have never met them before; this will allow you to be more comfortable the day of the exam.

A week before the examination date, you may wish to meet with the chair of the Qualifying Examination Committee to discuss the details necessary for the examination, e.g. the actual room set-up, the order of the examiners, etc. Also, you or your chairperson should send a memo to the Committee members reminding them of the date, time, and location of the examination. **IMPORTANT: Please inform your Graduate Program Staff Coordinator of your exam date, time, and location.**

The date of the examination will be arranged between you and your Committee chair. The Committee will conduct the examination and will submit the report of each of its members to Graduate Studies in one of the following outcomes:

- **PASS;**
- **NOT PASS;** with the option to retake all or part of the examination within a specified time period, or to satisfy specific requirements;
- **FAILURE.**

In cases where your Committee reports a Not Pass or Fail, the chair shall inform you of your right to appeal the Committee's decision for cause. Appeals cannot be based on the academic judgment of the Committee. The appeal is directed to the Associate Dean of Graduate Studies, who submits the matter to the Administrative Committee of the Graduate Council for review and recommendation. The chair of the Qualifying Examination Committee is responsible for reporting the votes and supplying other information to Graduate Studies within 72 hours of the examination.

The findings of the Qualifying Examination Committee, and especially its overall vote, are given to you immediately after the Examination so that you can know whether you performed acceptably. You should be aware that the final decision is made by the Graduate Council and that one or more negative votes does not necessarily mean a failure. When the decision is unanimous, the Graduate Council has delegated decision authority to the Qualifying Examination Committee itself.

Upon recommendation of the Qualifying Examination Committee and with the approval of the Dean, you may repeat the Qualifying Examination once. The exam must be held by the same Committee except that members may be replaced, with the approval of your Academic Advisor and the Dean, for cause such as extended absence from the campus. Failure to pass the examination on the second attempt will result in disqualification from further study for the doctoral degree at UC Davis. Upon successful completion of the Qualifying Examination, the chair of the Qualifying Examination Committee will report this information to Grad Studies.

ADVANCEMENT TO CANDIDACY

After passing your Qualifying Exam, you must complete the Candidacy for the Degree of Doctor of Philosophy Plan B form. You should meet with your major professor to discuss who you would like to serve on your dissertation committee, described in more detail below. The candidacy form should be signed by you, your Major Professor and your Academic Advisor (no signature from the QE committee chair necessary). When it is filled out and signed, *first* you pay a candidacy fee ($90.00) at the Cashier's Office (Dutton Hall) and *then* return the form the Graduate Coordinator to sign and file with Graduate Studies (Mrak Hall). Note that for international students, NRST fees are waived in the 9 quarters following that in which the candidacy form is approved by Graduate Studies. NRST fees will be reinstated for International students if they do not complete their degree within 3 years of advancing to candidacy. However, the Graduate Studies Post-Candidacy Non-Resident Supplemental Tuition Fellowship program may help offset these costs. Eligible students will directly receive information from Graduate Studies annually.

DISSERTATION COMMITTEE

The function of this committee is to direct you in your research and to guide you in the preparation of your dissertation. The chairperson of the Dissertation Committee is your Major Professor. The other members of the Committee are nominated by you, your Major Professor, and your Academic Advisor, and appointed by the Dean of Graduate Studies. At least one faculty member must be a member of the Academic Senate, and at least one member should represent your area of emphasis. Once the Dissertation Committee is appointed, its composition can only be changed by petition to Graduate Studies. However, it is advisable for you to meet with the members individually before submitting the Advancement to Candidacy form.

The Dissertation Committee is charged with three responsibilities:

1. To approve your dissertation topic and the plan that you have developed for independent study.
2. To advise you during the course of your research. You are responsible for informing the Committee of your progress.

3. To evaluate your dissertation, and your defense of the research, to recommend further research if desirable, and finally, to determine the acceptability of your thesis and to recommend to the Dean that you have satisfactorily fulfilled the dissertation requirement.

Detailed instructions on the format of dissertations (theses) can be obtained from the Graduate Studies Office (http://gradstudies.ucdavis.edu/students/filing.html). There are forms you have to complete and submit with your dissertation. If you have any questions, please call the Graduate Studies office.

After submission of the dissertation, the candidate is expected to present the results of this research in a graduate group seminar. Please note that in order to file your dissertation, you must either be enrolled or on filing fee (with the exception of Summer).

DESIGNATED EMPHASIS (OPTIONAL)

GGNB Ph.D. students in may participate in a Designated Emphasis, a specialization that might include a new method of inquiry or an important field application. The Designated Emphasis is awarded in conjunction with the Ph.D. degree and is signified by a transcript designation; for example, a "Ph.D. in Nutritional Biology with a Designated Emphasis in Biotechnology". The GGNB is currently associated with two Designated Emphasis programs. Please see below for more details on each of these programs or visit https://gradstudies.ucdavis.edu/programs/designated-emphases for a listing of all Designated Emphases at UC Davis.

*Please note that a Designated Emphasis is separate from an "Area of Specialization" for GGNB students.

Program in International and Community Nutrition (PICN)

Students admitted to the Graduate Group in Nutritional Biology are eligible to participate in the activities of the Program in International and Community Nutrition (PICN), including the weekly seminar. Doctoral students can elect to complete the "Designated Emphasis in International Nutrition." There is some overlap between courses for the Designated Emphasis and the doctoral degree/area of specialization. It is estimated that the Designated Emphasis may add 15 credits to the academic program. For more information, refer to the PICN website https://picn.ucdavis.edu/academics/designated_emphasis or contact program director Dr. Christine Stewart, cpstewart@ucdavis.edu.

Designated Emphasis in Biotechnology (DEB)

This inter-graduate group program provides Ph.D. students with training in the area of biotechnology and includes exposure to bioethics, the business and legal aspects of biotechnology, and a 3-6 month internship at a biotechnology company or research laboratory

in another college or national laboratory. For more information, refer to the DEB website http://www.deb.ucdavis.edu/.

VI. Funding Graduate School

Financial support for graduate study at UC Davis is available in several forms: 1) financial aid, 2) fellowships, scholarships, grants and travel awards, and 3) teaching and research assistantships. Talk with your major professor to determine what funding is available to you and how they expect your graduate studies to be funded.

Each type of financial support requires a different application process. The best resources to assist with this are 1) your major professor, 2) GGNB program coordinator & Academic Advisors, 3) Office of Graduate Studies at 250 Mrak Hall website: https://gradstudies.ucdavis.edu/current-students/financial-support

IMPORTANT NOTES:

*******Taxes may not be withheld from the funds listed below. You may need to set money aside each month to pay for your taxes.

*******First stipend disbursement and/or paycheck is ***November 1st.*** You will be in school for over 1 month without receiving any form of money.

FEDERAL FINANCIAL AID

All graduate students (US citizens and permanent residents) are ***required*** to file a "Free Application for Federal Student Aid" (FAFSA) as early as possible, but no later than March 1. This form, submitted directly to the Federal Student Aid Program Office, Iowa City, Iowa, is used to determine financial need only. Financial need is a component of the eligibility criteria for many fellowships, and for all forms of financial aid. The FAFSA may be obtained from the Financial Aid Office or online: http://www.fafsa.ed.gov.

FELLOWSHIPS, SCHOLARSHIPS, AND TRAVEL AWARDS

Complete Regulations for Graduate Students Receiving Fellowships can be found at the Office of Graduate Studies at
https://grad.ucdavis.edu/sites/default/files/upload/users/gs501_fellowship_regulations.pdf

INTERNAL FUNDING OPPORTUNITIES

A variety of fellowships (i.e., scholarships) and other research and travel awards are awarded internally. Fellowships typically cover tuition and provide a stipend to help cover living expenses. Research awards typically are solely dedicated to research expenses such as lab supplies, relevant software, and study participant compensation, although some awards may cover other costs such as travel to conferences (if you are a presenter) and other forms of professional development. Travel awards are available to cover the cost of conferences (if you are a presenter).

Three key ways to apply for these funding sources are: (a) through the university's annual internal fellowship application (b) through university-wide travel award applications, and (c) through opportunities specific to GGNB students.

Internal fellowship application

Internal fellowships are awarded once per year for the following year based on academic merit. Applications are available online at https://grad.ucdavis.edu/financial-support/internal-fellowships. The application deadline is January 15, 2019 for funding awarded for the 2019-2020 academic year. While filling out this application, you will have the option to choose to apply to each of several fellowship and research awards. The same application will be submitted for consideration of multiple awards, although some awards may require additional materials (e.g., a 250-word response to one additional essay question).

Examples of internal fellowships:

- **DISSERTATION YEAR FELLOWSHIP** is open to domestic graduate students, in their final stages of doctoral work, who demonstrate strong potential for university teaching and research. It includes a stipend of ~$25,000 plus fee remission for the dissertation year, a research allowance of $500, and $500 for travel to other UC/CSU campuses to present their research.
- **UCD HUMANITIES GRADUATE RESEARCH AWARD** gives up to $1,500 for financial support of research for masters or doctoral students. This is usually applied for within the Internal Fellowships Application, due during the fall quarter. https://gradstudies.ucdavis.edu/current-students/financial-support/internal-fellowships/application-and-descriptions

University-wide travel awards

GRADUATE STUDIES TRAVEL AWARD. Covers up to $500 within CA, up to $1000 within the rest of the contiguous US, and up to $1500 for international travel and travel to Alaska and Hawaii. There are fall and spring application deadlines. https://grad.ucdavis.edu/current-students/financial-support/internal-fellowships/travel-awards

GRADUATE STUDENT ASSOCIATION (GSA) TRAVEL AWARD. Covers up to $500 of travel expenses. There are winter and summer application deadlines. https://gsa.ucdavis.edu/funding/travel-awards/

GGNB-specific awards

The GGNB Graduate Coordinator will periodically send out information about additional awards, so check those emails! One of the most popular research awards that is available on an annual basis is the Jastro (see below).

- **JASTRO SHIELDS GRADUATE RESEARCH SCHOLARSHIP** program provides annual awards to students with outstanding research proposals who are either in the College of Agricultural and Environmental Science or who are working with a major professor with an appointment to the Agricultural Experimental Station. Award

applications are available in the late summer/early Fall. The amount of the award is based upon the allocation given to the group by the College of Agricultural and Environmental Science, usually $3,000.

EXTERNAL FUNDING OPPORTUNITIES

In addition to internal fellowships, there is a wide variety of external funding opportunities available. Grad Studies is a great resource to learn about many opportunities: https://grad.ucdavis.edu/financial-support/external-fellowships.

You can subscribe to receive email alerts about external funding opportunities using the UC Davis sympa system for all list servs: https://lists.ucdavis.edu/sympa. After logging into sympa using your Kerberos ID, search for "external funding" or the list serv titled "gradfund@ucdavis.edu."

Examples of some external funding sources relevant to GGNB students are listed below (not an exhaustive list!):

- American Society for Nutrition (ASN) research awards for students. Applications due in the fall. http://nutrition.org/about-asn/awards/
- American Heart Association (AHA) predoctoral fellowships. Multiple funding cycles each year. https://professional.heart.org/professional/ResearchPrograms/ApplicationInformation/UCM_431626_MedicalGraduate-Student-Fellowship.jsp
- NIH F31 predoctoral fellowships. Multiple funding cycles each year. https://researchtraining.nih.gov/programs/fellowships/F31
- National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP). Deadline in the fall. https://www.nsfgrfp.org/

ADDITIONAL WEBSITES

Resource	Website
Direct Deposit	https://accounting.ucdavis.edu/DirectDeposit/
Loans (emergency, short-term, and assistance)	http://financialaid.ucdavis.edu/graduate/types/loans.html
Residency and Tuition	http://registrar.ucdavis.edu/html/slr.html
Student Accounting	http://studentaccounting.ucdavis.edu/

TEACHING AND GRADUATE STUDENT RESEARCH ASSISTANTSHIPS

Graduate Student Research Assistantships (GSRs) are an excellent opportunity to gain invaluable experience in areas important to your graduate education and to receive financial support at the same time. Information and application materials for GSRs are available from the department in which you want to work. Work-study Research Assistantships are awarded by the GGNB to offset costs to your GSR funding source. Please indicate to the GGNB Fellowship Committee Chair your interest in obtaining a work-study GSR appointment, and verify your eligibility through filing the FAFSA.

Holding a **Teaching Assistantship (TA)** is a great way to help fund your graduate education. As a TA, you will be responsible for assisting the class professor in running undergraduate courses and have responsibilities such as teaching discussion sections, holding office hours and grading. TA positions will cover the cost of your in-state tuition, most fees, and will provide either a 25% or 50% FTE (full-time equivalent) salary. 25% TAs require no more than 10 hours of work per week while 50% TAs require no more than 20 hours of work per week. There also specific eligibility criteria that must be met in order to hold a TA position. Please see the Grad Studies page on Student Teaching and Research for more information on job description, general eligibility and restrictions, tuition and fee remission and salary scales.

GGNB students may apply for Teaching Assistantships in any department in which the individual believes he or she qualifies. Every department has its own hiring process, so we encourage you to reach out to the department in which you wish to gain an appointment directly. The Nutrition department coordinators disseminate applications for TA positions and preferences typically before the start of the academic year. Please see the following links for more information on TAs in other departments:

- Nutrition
- Neurobiology, Physiology & Behavior (NPB)/Molecular and Cellular Biology
- Animal Science
- Food Science and Technology

Research Mentorship Program provides research assistant support to PhD students who are in the early stages of their graduate research. Recipients will hold a 50% research assistant appointment for up to one year (you may apply for a second year). You may download and print the application for the Research Mentorship Program or obtain one from the Office of Graduate Studies (here).

VII. Graduate Student Resources

PEER MENTOR PROGRAM

GradSAC is constantly developing the peer mentor program, which is comprised of two components: the first-year mentorship series and the professional development series. The first-year mentorship series meets twice per month for one hour, and each meeting is mentored by an upper-year graduate student and addresses a specific topic that directly concerns students who are in their first year of the program. The peer development series is open to students of any level within the GGNB. The program is entering its second year and hopes to include components such as writing retreats, talks and mentorship from past GGNB students regarding how they came to their current career, an informal journal club that discusses current trends in the media, and a book club that will work through a professional development book together.

RECOMMENDED UNIT LOAD

No more than 16 units of upper division (100 level) and graduate (200 level) courses should be taken in combination per quarter. Normally, no more than 12 units of 200 level course work should be taken per quarter. All full-time students must be enrolled in a minimum of 12 units per quarter.

SATISFACTORY/UNSATISFACTORY GRADING OPTION

The purpose of satisfactory/unsatisfactory (S/U) grading option is to allow graduate students the opportunity to explore areas unrelated to the student's academic discipline. No program core requirements may be taken S/U unless prior approval has been granted by the Graduate Council. Only one graded course per quarter may be taken S/U. In lower or upper division work (courses numbered 1-199) S means a grade of C- or better; in graduate work (courses numbered 200) an S requires a B- or better.

STUDENT PROGRESS

Student progress is reviewed annually by the student's GGNB Academic Advisor. If progress is unsatisfactory, an electronic notice will be sent to the student and to the Dean of Graduate Studies; receipt of such notice is regarded as being on academic probation. The Dean of Graduate Studies will provide notification to the student, indicating time limit and work required for completion in order to attain a satisfactory evaluation. If the student fails to meet the requirements specified, the student will be subject to disqualification from further graduate study in the program.

NORMATIVE TIME

Perhaps you have heard horror stories of people coming to graduate school and never leaving! While that may have happened in the past, it is expected that you will finish the MS program within three years and the PhD program within five years. Further, it is expected that you will complete your PhD Qualifying Examination within the first three years (nine quarters of residency plus the intervening summer sessions). Those of you who complete an MS degree in

Nutritional Biology at UCD and then transfer to the PhD program are strongly suggested to complete your Qualifying Examination within your first year in the PhD program.

Any deviations from or problems you might have in meeting the normative time guidelines should be discussed with your Academic Advisor and then filed with the Executive Committee of the Graduate Group.

If you fail to provide a time table or program plan that addresses any problems you may have with completing your degree within the normative time, your Academic Advisor is obligated to file an Unsatisfactory Progress Report with the dean of Graduate Studies which will be prevented from receiving any further institutional funding.

Full details of Doctoral Time to Degree Completion Guidelines from the Office of Graduate Studies, and correlating policies can be found at https://grad.ucdavis.edu/resources/graduate-student-resources/academic-information-and-services/degree-requirements/normative

ESTABLISHING CALIFORNIA RESIDENCY

Full guidelines for establishing California Residency can be found on the Office of the Registrar (https://registrar.ucdavis.edu/tuition/residence). In general, to be considered a resident you must prove the following:

- Minimum of 366 days in California
- Intend to remain in California
    - Obtain California driver's license
    - Register to vote in California
    - File taxes as California resident
- Financial independence (see below)

You are considered financially independent if you are over the age of 24 by December 31 of the year resident classification is sought. If you are under the age of 24 and your parents qualify as California residents you do not have to verify that you are financially independent. If your parents are not California residents you must demonstrate that you were not claimed as dependents for the tax year immediately preceding the term for which a resident classification is sought. If you are a graduate student instructor, teaching or research assistant, or teaching associate employed at 49% time or more (or awarded the equivalent in University-administered funds, e.g., grants, stipends, fellowships) in the term for which resident classification is sought you may be exempt from the financial independence requirement.

California residence is difficult to establish if you have legal connections to another state or country (e.g. state tax liability, driver's license, voter's or vehicle registration). If you moved to California primarily for educational purposes you are not eligible for a resident classification for purposes of tuition and fees.

FILING FEE STATUS

Filing fee was established to assist you when you have completed all requirements for your degree except to take the M.S. comprehensive examination, file your M.S. thesis, or Ph.D. dissertation. Filing fee is a one-time fee of $162.00. Filing fee status is for **one quarter only**.

To be eligible for filing fee status you:

- Must have advanced to candidacy
- No longer require university facilities including lab space. (You can buy library and ARC privileges, and the health insurance)
- Cannot use faculty time other than the time involved in the final reading of the thesis or dissertation or in holding the M.S. comprehensive exam
- Cannot receive a fellowship or financial aid

Filing fee applications are available in the Graduate Studies office. There is more information on the form and online in the Graduate Studies Web site https://gradstudies.ucdavis.edu/sites/default/files/upload/files/current-students/gs305-filing-fee-app.pdf. The form requires the signature of your Graduate Faculty Advisor and the chair of your thesis/dissertation committee (for M.S. Plan I and Ph.D. candidates). The fee must be paid before Graduate Studies will process the form.

You must either be registered or on filing fee when you submit your dissertation or thesis, or take your M.S. comprehensive exam.

If for some reason you have to return to registered status after going on filing fee, you will have to complete the readmission application.

NOTE: Do not go onto filing fee unless you are certain this will be the last quarter you are enrolled at Davis. You are only eligible for one quarter of filing fee and cannot return as a graduate student after that quarter!

PLANNED EDUCATIONAL LEAVE PROGRAM (PELP)

The Planned Educational Leave Program is designed to allow you to suspend your program of study for good cause (illness, temporary departure from the University, financial problems, etc.). You can leave the campus and return at the end of your PELP to enroll and continue your study and research.

PELP is recommended if you are certain which quarter you will return and if you will be away a maximum of 3 quarters. (If you are not certain of your return date, it is suggested that you use the readmission application when you are ready to continue your study.) The form requires the approval of your academic advisor, graduate program staff coordinator, Student Accounting, SISS (for international students), and a $70 non-refundable fee.

Your PELP can be lengthened or shortened with the approval of those listed above and the Dean of Graduate Studies. Extension of PELP is considered on the basis of extenuating circumstances. More information about PELP is available from your Academic Advisor and your Graduate Program Staff Coordinator, 1249 Meyer Hall.

WHAT IS THE DIFFERENCE BETWEEN PELP AND FILING FEE?

PELP is for those students who have not completed all their requirements, and will be away from campus up to 3 quarters. This is for students who intend to return to campus and enroll in classes. Filing fee is for students who have advanced to candidacy, no longer need University facilities, and only need to take their M.S. comprehensive exam, or submit their thesis or dissertation.

VIII. Academic Campus Programs and Resources

SAFETY SERVICES and OCCUPATIONAL HEALTH AND SAFETY

Students have the right and responsibility to know what hazards they may encounter while pursuing their education and what measures to take to protect themselves and others. Campus policy requires all UCD employees and students to receive safety information and training from their Major Professor or Supervisor. This training encompasses chemical, biological, animal, physical and radiation hazards, including specific safety training in unit unique protocols and instrumentation. The websites for both Occupational Health (**https://safetyservices.ucdavis.edu/categories/occupational-health**) and Safety Services (**https://safetyservices.ucdavis.edu/**) contain a vast amount of information regarding your rights, lab and office safety, and what to do in case of an emergency.

UNIVERSITY LIBRARIES

Research can be made easier if you know how to maximize your resources! Did you know that you can connect remotely to the UC Davis library and access research articles from anywhere? Additionally, if you can't find the article you are looking for, you may be able to request a copy from another UC library! Check out all the resources on https://library.ucdavis.edu/.

TEACHING ASSISTANT (TA) SUPPORT

Are you serving as a TA during your time in graduate school? The Center for Educational Effectiveness (CEE) offers a variety of resources for getting started or improving as a TA. For new TAs, the CEE hosts a required TA orientation held prior to the start of fall quarter each year. For seasoned TAs, the CEE offers workshops for developing teaching skills and consultations about your classroom teaching technique complete with video recordings of your class. The CEE also provides test analysis support (scoring scantrons from in-class exams). For appointments and for more information about the CEE, visit: http://cee.ucdavis.edu/index.html.

STATISTICAL CONSULTING SERVICES

Statistical Laboratory

Statistical Consultation: http://www-stat.ucdavis.edu/stat-lab/index.html
Services include providing advice to individual researchers in preparing statistics-related sections of proposals for extramural funding, assisting researchers on the design of prospective experiments or studies, conducting or giving advice concerning statistical data analysis, and planning or executing statistically motivated computation.

Graduate students who have advanced to candidacy may receive consultation at no cost for thesis/dissertation related advice (although there is an additional hourly charge for associated programming or computation). A copy of the Advanced to Candidacy form should be brought to the first meeting.

Social Science Data Service
Statistical Consultation: http://www.ssds.ucdavis.edu/consulting/index.html
SSDS provides consulting services on a range of software and data sources used in social science research. Staff can assist with questions regarding the use of SSDS computers, as well as statistical and data-related programming. Limited statistical consulting also is available on both basic and intermediate methods including multiple regression, crosstabs, t-tests, and other procedures. In addition, our staff is knowledgeable about social science data sources and provides access to a variety of data sources.

Clinical and Translational Science Center (CTSC) Biostatistics
Statistical consulting: http://www.ucdmc.ucdavis.edu/ctsc/area/biostatistics/
The Biostatistics Group assists researchers with all sizes and types of projects, from simple data analyses to large, multi-center clinical trials. Specific services include:

- Grant proposal preparation
- Study design/sample size calculation
- Statistical analysis plan
- Data analysis and interpretation
- Manuscript review and preparation

Students can receive up to two hours of free support. While this time can provide support for various areas listed above, this amount of time is generally not sufficient for conducting analyses unless they are relatively straight-forward.

ADDITIONAL WEBSITES

Resource	**Website**
Fleet Services	https://facilities.ucdavis.edu/fleet-services
Information Educational Technology (IET)	http://iet.ucdavis.edu/
Institutional Animal Care and Use Committee (IACUC)	https://safetyservices.ucdavis.edu/article/institutional-animal-care-and-use-committee-iacuc https://research.ucdavis.edu/policiescompliance/animal-care-use/iacuc/
IRB Administration	https://research.ucdavis.edu/policiescompliance/irb-admin/
Occupational Health	https://safetyservices.ucdavis.edu/categories/occupational-health
Office of Research	https://research.ucdavis.edu/
Safety Services	https://safetyservices.ucdavis.edu/
Student Academic Success Center	http://success.ucdavis.edu/
Student Disability Center	http://sdc.ucdavis.edu/

IX. Non-Academic Campus Programs and Resources

The UC Davis campus has a wide range of organizations and activities to complement your academic work, to entertain you, and to give you support. Below is a **small** sample of campus resources that might interest you. All of these organizations and dozens more can be accessed through the UC Davis Web site at http://www.ucdavis.edu.

UC DAVIS STUDENT PARENT CHILD CARE FUNDING PROGRAM

The UC Davis Student Parent Child Care Funding Program has two sources: (1) Community Based Care Grant (CBCG) for undergraduate, graduate and professional students, and (2) Graduate Student Child Care Grant (GSCCG) for graduate and professional students only provides $900 to $1,350 per quarter for child care expenses, regardless of financial need. Apply at: http://worklife-wellness.ucdavis.edu/family_care/children/childcaresub.html

CAMPUS SAFETY

UC Davis is not a crime-free zone. The Campus Police Department has many programs to help all members of the campus community be safe. Through the Police Department, the Aggie Hosts offer an Escort Service **530-752-COPS (2677)** for anyone needing to walk to their bike, car, a bus, or to another building for FREE. The service is available 365 days of the year from 5:30 p.m. to 3:00 a.m. 7 days a week, excluding major holidays. For more information about the Campus Police Department visit http://police.ucdavis.edu/.

SERVICES FOR INTERNATIONAL STUDENTS AND SCHOLARS

The best source of information for international students is the Services for International Students and Scholars office (SISS): https://siss.ucdavis.edu/. It is important that you contact SISS before Changing Major, Changing Degree Objective, going on PELP (Planned Educational Leave Program), and going on Filing Fee. Changes in your academic status could change your visa.

YOUR GRADUATE STUDENT ASSOCIATION

The Graduate Student Association (GSA) is the officially recognized student government for UC Davis graduate students. GSA is a vital communications network linking you and other graduate students from all corners of the campus to the UCD administration. GSA provides a place for discussion of any issue affecting graduate student academics and quality of life.

The Graduate Group in Nutritional Biology has two GSA representatives. For GSA to advocate for your concerns effectively, input is needed from the graduate student body. GSA provides advocacy, services and information to all graduate students, but in turn, needs your participation. Your voice counts!!

GSA General Assembly meetings are held once a month and are open to all. Graduate students are elected to the GSA Executive Council in a variety of positions, mandated to carry out the policies and/or functions of the organization. A small portion of your registration fees is used to support the activities of GSA. The GSA retains the services of a lawyer and a patient advocate

who are available to help graduate students with legal or medical issues. For more information visit, http://gsa.ucdavis.edu.

GRADSAC

While the GSA represents all graduate students, the GGNB Graduate Student Advising Committee (GradSAC) is the leadership organization specific to GGNB. GradSAC's mission is to facilitate positive communications with the faculty and within students in the graduate group and to develop and manage student led activities and events. These events include potlucks, a mentorship program, the Student Symposium, and recruitment activities. GradSAC meets three times per quarter during the academic year and over summer break. Students from all levels of the GGNB are welcome to join at any point during the year! Email us at gradsac@ucdavis.edu.

ADDITIONAL WEBSITES

Resource	Website
Activities & Recreation Center (ARC)	https://cru.ucdavis.edu/arc/
Campus Recreation	http://campusrecreation.ucdavis.edu/
Center for Advocacy, Resources & Education (CARE)	https://care.ucdavis.edu/
Center for Educational Effectiveness	https://cee.ucdavis.edu/
Cross Cultural Center	http://ccc.ucdavis.edu/
Harassment & Discrimination Assistance and Prevention Program	http://shep.ucdavis.edu/
Internship and Career Center	http://iccweb.ucdavis.edu/
LGBTQIA+ Resource Center	http://lgbcenter.ucdavis.edu/
Transportation and Parking Services (TAPS)	http://www.taps.ucdavis.edu/
Whistleblower Process	http://compliance.ucdavis.edu/complaint_processes/whistleblower.cfm
Women's Resources and Research Center	http://wrrc.ucdavis.edu/

Appendix 1: Mentoring Guidelines

Developed by the UC Davis Graduate Council
Revised June 27, 2016

Mentoring Guidelines
Mentoring is defined as a close relationship between a graduate student and a faculty member who provides guidance, support and research advice in an individualized manner.

Graduate Council recognizes that the mentoring of graduate students by faculty is an integral part of the graduate experience for both. The responsibilities of the faculty mentor are broad and diverse. They include, but are not limited to serving as a role model, advising a student as to course work requirements, and providing formal instruction in a given discipline as well as helping students identify and achieve their individual short and long-term educational goals. While the major professor usually acts as a student's primary mentor, many of the mentoring "functions" described below, may also be performed by other program/group faculty and staff over the course of a student's graduate experience. A corollary to this recognition is that much of the interaction of faculty with all students includes important mentoring components. Similarly, graduate students have important responsibilities to ensure they are open to and accepting of faculty mentoring and articulate their needs effectively. Thus, it is together that faculty and students identify and discuss their goals and expectations for each other, and outline approaches to reach those goals and satisfy those expectations.

Basic mentoring practices include guiding students through program expectations, protocols of academic conduct, degree requirements, research and teaching, capstone work (such as thesis or dissertation research), and professional development.

1. Mentors and/or the advising system should provide, and students should acquire, a clear map of program requirements from the beginning, making clear the coursework requirements, and expected timelines for completion of all required examinations and capstone requirements.

Mentors are responsible for

1. Respecting their student, including the student's identity including race, ethnicity, gender and gender expression, age, visible and non-visible disability, nationality, sexual orientation, citizenship status, veteran status, religious/non-religious, spiritual, or political beliefs, socio-economic class, status within or outside the university, or any of the other differences among people.
2. Assisting students in the identification of support networks (people who can help the student for different aspects of their tenure at UCD).
3. Being a student's advocate and assisting the student in a timely manner in finding sources to support dissertation research (teaching assistantships, research

assistantships, fellowships, research needs and required resources, including desk and/or laboratory space).

4. Addressing problems or challenges that could affect completion of the degree as soon as they become aware of them.
5. Tailoring, modifying or adjusting the faculty member's mentoring style to the particular needs of each graduate student, to a reasonable extent.
6. Encouraging an open exchange of ideas, including by empowering students to independently follow research ideas of their own whenever feasible.
7. Checking regularly on progress. Graduate Council recognizes each graduate program/group, mentor and mentee should agree upon a reasonable frequency of meetings and communications, which may vary widely by discipline, but should not usually occur less than at least once per quarter.
8. Encouraging and giving feedback on written work, oral presentations and experimental work in a timely manner within a mutually agreed upon time frame, and consistent with Graduate Council policies.
9. Providing and discussing clear criteria for authorship of collaborative research, consistent with Graduate Council policies on co-authorship.
10. Encouraging participation in professional meetings of regional groups as well as of learned societies and facilitating interactions and networking with other scholars, on campus and within the wider professional community.
11. Helping the student in identifying appropriate resources for career guidance, providing help with preparations of CV and job interviews, as well as writing letters of recommendation in a timely manner.
12. Empowering and encouraging the student in seeking their own career paths and supporting the student independent of the chosen career paths they identify.
13. Participating regularly in mentorship training.

As partners in the mentoring relationship, graduate students have responsibilities. These responsibilities include:

1. Respecting their mentor, including their mentor's identity including race, ethnicity, gender and gender expression, age, visible and non-visible disability, nationality, sexual orientation, citizenship status, veteran status, religious/non-religious, spiritual, or political beliefs, socio-economic class, status within or outside the university, or any of the other differences among people
2. Seeking assistance from multiple individuals/organizations to fulfill the mentoring roles described above, because one faculty member may not be able to satisfy all of a student's mentoring needs.
3. Understanding and clearly articulating to their mentors their own mentoring needs and how they change through their graduate tenure.
4. Respecting their mentor's other responsibilities and time commitments.
5. Communicating regularly with their mentors, especially their major professor, including updates on progress, challenges, needs, goals and expected completion timelines.
6. Completing tasks in a timely fashion and following mutually agreed upon timelines and informing mentors about expected absences and delays before they occur.

7. Participating in departmental and graduate program/group community including attending activities, lectures, and events.
8. Acting in a manner that will encourage professors to see them as colleagues. Seeking constructive criticism and feedback on academic work.
9. Seeking information, exploring career options and developing clear career goals.
10. Participating regularly in mentee-ship training.

While we have tried to provide general examples of what mentoring means, we recognize that each discipline has its own special set of mentoring needs and challenges. Therefore, Graduate Programs/Groups may set specific guidelines to further define the individual roles of Graduate Advisors, major professors, faculty supervisors, and staff program/group advisors (see Appendix A for an example). Graduate programs/group mentoring guidelines and activities will be reviewed during the program review process.

Additional Resources and Guidelines
(Links active as of June 15th, 2016.)
I. Mentoring at Critical Transitions (UC Davis)
II. How to Mentor Students: A Guide for Faculty (University of Michigan)
III. Research Mentoring: Cultivating Effective Relationships (University of Wisconsin)

Appendix 2: Discussion points regarding Major Professor's (MP) expectations of graduate students

1. MP's general philosophy of mentoring- general availability and preferred communication strategy; whom to ask different types of questions
2. Possible research topics and criteria for choosing a projects degree of independence of student's research
3. Need for student to seek input from guidance and thesis/dissertation committees on a regular basis (at least once a year)
4. Lab group meetings; expectations regarding participation
5. Expected time on research/in lab at each stage- type of research activities (general training vs. student's own work); time spent in courses vs. research
6. Funding arrangements- responsibility of student to apply for fellowships, TA and other sources of support
7. Expectations for 299/230 credit (standard is 3 hr/unit)
8. What MP considers "satisfactory progress"
9. MP's responsibility in providing feedback on student's work (type of feedback; timing); how often MP expects to meet with student at each stage
10. Writing skills of the student
11. Student's skills at conducting literature reviews
12. Space for student: desk, lab; computer access
13. Expected timeline (approximate) for degree (see Survival Guide for normative time)
14. Formation of qualifying exam committee
15. Student's role in writing grant proposals
16. Expectations for the thesis or dissertation, and for an exit seminar (typical expectation for PhD dissertation is a lit review plus 3 publishable papers; for MS thesis a lit review and 1 publishable paper)
17. Authorship of publishable papers (see "Ethics in Authorship" in Academic Advisors Handbook)
18. Student attendance and participation at professional meetings; funding for travel costs; oral vs. poster presentation preference
19. MP’s role in career guidance, help preparing student’s CV, writing letters of recommendation

Appendix 3: Prep for Preliminary Exam

Memo from Marta Van Loan, Ph.D., former Chair and former Master Advisor of the Graduate Group in Nutritional Biology, for students preparing to take the Preliminary Examination.

TO: Ph.D. Students Preparing to Take the Preliminary Examination
FROM: Marta Van Loan, Ph.D.

I would like to share some thoughts with you about preparing for the preliminary oral exam. These comments come from discussions with past and current faculty members of the prelims committee. I hope they will be helpful to you.

1) As stated in the Survival Guide, the purpose of the Preliminary Exam is "to certify that PhD students in Nutrition have an adequate knowledge of nutrition including basic principles, methodological approaches, and practical applications, as covered in the three core nutrition courses and in the entrance requirements". We make a distinction between "information" and "knowledge" - information is simply facts, whereas knowledge includes an understanding of how the facts fit together - i.e. interpreting and integrating them. Many of you are very talented at learning information, but have had much less experience with developing a core of knowledge in nutrition. As Paul Davis puts it, making the transition from an information consumer (Undergraduate Student) to an information interpreter/developer (Researcher/Knowledge Professional) is not easy. We view the preliminary exam as a learning experience, with the goal being to help you to make this transition.

2) The corollary of the above is that it is less important for you to memorize lots of facts than to develop the reasoning skills that allow you to approach any question intelligently. Of course, we want you to learn the material covered in the core courses, but if during an exam you do not remember a particular detail, the prelim committee will generally work with you to "discover" the answer based on reasoning, using your basic knowledge. This is where the language above regarding "basic principles" and "entrance requirements" comes in. We expect that you understand the basics of chemistry and undergraduate-level nutrition, and are more worried when a gap is evident in your understanding of the basics than in the more advanced material covered in the core courses.

3) What does this mean in terms of studying? We would prefer that you spend less time memorizing information and more time making sure that you understand the information and talking about SCIENCE with your professors and fellow graduate students. Remember, the exam is oral, so the more experience you have engaging in scientific discussions, the better prepared you will be. If you are asked a question during the prelims that you cannot answer, tell the committee that, and let them guide you through the question. Not knowing a few trivial facts is never a problem if you have a good grasp of the general principles of nutrition and can use them to discuss nutritional problems.

4) Preparing for your prelims should begin as soon as you begin graduate school (if not sooner!). Forming study groups in your graduate courses can be very helpful in terms of questioning what you are learning, debating points with each other, and being able to act as the "teacher' when explaining nutritional science. You should aim at understanding the basis for the statements that are made in class and how studies are designed to test hypotheses in nutrition. As you get closer to taking your prelims, practice exams with faculty and other students can be very useful.

5) Lastly, as we've said before, please don't bring refreshments for the faculty to the preliminary exam. We don't want you to undergo the additional stress of preparing food and drink for the exam.

If you have any questions about this process, please let me know.

Appendix 4: Recommended Statistics Courses

Below is a list of statistics courses other GGNB students have taken. Note that this list was compiled from students' recollection of the course and may not accurately reflect the current topics covered, units, or prerequisites. Check the course catalogue and talk with your academic advising committee about which will be most appropriate for you.

Basic Statistics. These are common courses taken by GGNB students. Depending on your research goals, you may find additional classes to be beneficial.

Course Title	Course Number	Units	Prereqs	Offered	Topics Covered
Applied Stats for Biological Sciences	STA 100	4	MAT 16B, 17C or 21B	F,W,S	Provides good foundation, basic stats, R coding
Applied Statistics in Agricultural Science	PLS 120	4	None	F	Basic stats, SAS coding
Quantitative Methods in Educational Research: Experimental Designs	EDU 204B	4	Intro stats	F,S	ANOVA, fixed vs random effects, repeated measures ANOVA, ANCOVA, MANOVA, chi-sq tests, small sample solutions to t-tests and ANOVA

Additional Courses. You may find some of these courses beneficial depending on your needs.

Course Title	Course Number	Units	Prereqs	Offered	Topics Covered
Econometric Theory and Applications	ARE 106	4	ARE 100A, STA 103	F,W,S	
Quantitative Methods in Educational Research: Analysis of Correlational Designs	EDU 204A	4		W	Linear regression using STATA
Foundation of Statistical Models, Methods, and Data Analysis for Scientists	EPI 204A	4	STA 130A, 131A, or 133	W	
Statistical Models, Methods and Data Analysis for Scientists	EPI 204B	4	EPI 204A, STA 108	S	

Experimental Design and Analysis	PLS 205	5	PLS 120	W	
Applied Multivariate Analysis	PLS 206	4	PLS 120, STA 106, 108, or 205	F	Multivariate statistics (multiple regression, discriminant analysis, principal components analysis) and how to apply to R
Statistical Analysis of Psychological Experiments	PSC 204A	5	STA 102	F	
Causal Modeling of Correlational Data	PSC 204B	5	PSC 204A	W	
Advanced Statistical Inference from Psychological Experiments	PSC 204D	5	PSC 204A	S	
Applied Multivariate Analysis of Psychological Data	PSC 205A	4	PSC 204A, 204B, 204D	W	R coding
Factor Analysis	PSC 205B	4	PSC 204A, 204B	W	
Structural Equation Modeling	PSC 205C	4	PSC 204A, 204B		
Multilevel Model	PSC 205D	4	PSC 204A	W	Regression
Intermediate Social Statistics	SOC 106	5	SOC 46B		
Applied Statistics for Business and Economics	STA 103	4	Calculus	F,W,S	
Applied Statistical Methods: Nonparametric Statistics	STA 104	4	STA 100	W	
Applied Statistical Methods: Analysis of Variance	STA 106	4	STA 100	F,W	
Applied Statistical Methods: Regression Analysis	STA108	4	STA 100	F,W,S	
Multivariate Data Analysis	STA 135	4	STA 130B, 131B	S	

Mathematical Statistics: Brief Course	STA 130A	4	Calculus	F	
Mathematical Statistics: Brief Course	STA 130B	4	STA 130A	W	
Fundamentals of Statistical Data Science	STA 141A	4	STA 10, 13, 32, or 100	F	

Appendix 5: Course Related Resources for First-Year Students

The following is a brief list of textbooks helpful for first year students as a supplement for core classes and studying for the prelim exam. By no means is this an all-inclusive list and you are NOT required to purchase any of these. This list is simply for your reference, which past students have found helpful.

- Ferrier, DR. Lippincott's Illustrated Reviews: Biochemistry. 2013.
- Food and Nutrition Board. Dietary Reference Intakes: The Essential Guide to Nutrient Requirements. 2006.
- Gropper, SG. Advanced Nutrition and Human Metabolism. 2012.
- Lodish, H. 7th ed. Molecular Cell Biology.
- Rodwell, Bender, Botham, Kennelly, Weil. Harpers Illustrated Biochemistry, 30th ed. 2015.
- Salway, JM. Metabolism at a Glance. 2004.
- Stipanuk, Martha. Biochemical, Physiological, and Molecular Aspects of Human Nutrition, 3rd ed. 2012.
  Zembleni, J. Handbook of Vitamins. 5th ed. 2013.