

GRADUATE STUDENT HANDBOOK

2013 – 2014



**THE GRADUATE GROUP IN
METABOLIC BIOLOGY (MB)
THE UNIVERSITY OF CALIFORNIA, BERKELEY**

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INTRODUCTION

These guidelines represent the program of the interdepartmental Graduate Group in MB. The Berkeley General Catalog contains additional scholastic requirements of the Graduate Division. These guidelines stem from our philosophy that Graduate Study serves to inspire independence and originality in the creation of new knowledge. Each graduate student achieves mastery of his/her field through advanced course work, independent study, and research.

PROGRAM OF STUDY

The program includes course work in molecular and cell biology, nutritional biochemistry, and regulation of metabolism, with opportunities for electives in genetics, endocrinology, neurosciences and other biosciences. Major elements of the program include research training, teaching experience as a Graduate Student Instructor (GSI), and opportunities for intellectual exchange and for presenting/defending original research results. Faculty mentors and advising committees guide individual students. Students must pass an Oral Qualifying Examination to reach Ph.D. candidacy. The program culminates with acceptance of a dissertation.

COURSE WORK

In addition to lab rotations, entering students take core course work in Molecular Biology, Nutritional Biochemistry, Cell Biology, and Advanced Metabolic Regulation. New students also enroll in faculty and graduate research colloquiums, and one graduate seminar per year.

Semester	Course/Activity	Credits	
<u>Year 1</u>			
Fall	MCB 110	Molecular Biology	4
	NST 292	Graduate Research Colloquium	1
	NST 293	Faculty Research Presentations	1
	NST 211A	Introduction to Research (rotations and reports)	4-8
	NST 301/375	Teaching in NST (if teaching 1 st year)	1-2
	NST 103	Nutrient Function and Metabolism	3
Spring	NST 250	Advanced Topics in Metabolic Biology	3
	NST 292	Graduate Research Colloquium	1
	XXX 290	Graduate Seminars (Advanced Special Topics in any department)	1
	NST 211B	Introduction to Research (rotations and reports)	4-8
	NST 302	Supervised Teaching (if teaching in SP)	1-4
	NST 160	Metabolic Bases of Human Health and Disease	4

During the second year, students can elect courses related to their interests, in consultation with their Guidance Committees/Pis. Second-year students also enroll in a teaching preparation course (NST 301) if they didn't take

it their first year and participate in a supervised teaching assignment (NST 302). Students receive credit for lab research through NST 299.

All continuing students must enroll in NST292 each semester, and one 290 seminar per year, in addition to research units (NST299).

Semester	Course/Activity		Credits
Year 2			
Fall	XXX290	Graduate Seminars (Advanced Special Topics)	1
	NST 292	Graduate Research Colloquium	1
	Elective	Advanced Graduate Biosciences Course (optional)	3-4
	NST 301	Teaching in NST (if teaching 2 nd year for 1st time)	1-2
	NST 302	Supervised Teaching (if teaching in FA)	1-4
	NST 299	Dissertation Research	3-7
Spring	XXX290	Graduate Seminars (Advanced Special Topics)	1
	NST 292	Graduate Research Colloquium	1
	NST 302	Supervised Teaching (if teaching in SP)	1-4
	NST 299	Dissertation Research	5-8
	Elective	Advanced Graduate Biosciences Course (optional)	3-4
		<i>Oral Qualifying Exam (taken in April/May)</i>	

Departmental Seminar. All graduate students must attend Departmental Seminars as an integral part of graduate training. The informal receptions presented before seminars offer a good opportunity for students and faculty to interact and exchange ideas. Seminar is held weekly on Wednesday afternoon.

Graduate students in MB must enroll in 12 units per semester, in 200 series or higher courses, or 15 units of 100/200 series courses to qualify as full-time students. These courses must be taken for a letter grade (not S/U), if the letter grade option exists. The unit requirement may be met by enrollment in courses, seminars, and/or research units (NST 299). Students must maintain a grade point average of at least 3.0 during their residency (a 3.1 GPA is required to receive funding). Students must maintain a B average in lecture courses (this especially excludes NST 211A/B, NST 292, and NST 293). The GAC (Graduate Affairs Committee) monitors student progress during the first year. Students who do not maintain a B average in the first semester will be placed on probation, and may be asked to leave. The GAC will decide the disposition of students who fail to meet expectations on a case-by-case basis.

Descriptions of Core Courses

(Please check the online course catalog for the most up-to-date course listings: <http://schedule.berkeley.edu>)

Introduction to Research (NST 211A/B)—Laboratory rotations help assimilate students into the department, expose students to a variety of techniques and topics, assist students in choosing mentors, and provide information to potential mentors. We feel that exposing students to a variety of techniques and topics is an important rationale for rotations and an important aspect of the training program. Accordingly, the Head Graduate Advisor interviews new students before assigning the first rotation to ensure that all three required rotations are not taken in closely related areas or in labs that have no major differences in technology. Of the three rotations required, the first may be assigned by the Head Graduate Advisor with a view towards diversifying the research experience of students. The second and third rotations are selected by the student with the consent of the Principal Investigators. A student may elect to take an optional fourth rotation at the end of the first academic year to assist in choosing a mentor and/or to gain exposure to a specialized technique. A 15-minute presentation and five-page written report is required after each rotation. The first two presentations are given to the Head Graduate Advisor and other first-year students at the end of each rotation. The third presentation may be delivered to all program students and faculty during the last two Graduate Research Colloquia of the academic year. New students and the Head Graduate Advisor meet at least two additional times

per semester, as part of NST 211, to discuss progress/problems, requirements, and the process for selecting rotation and dissertation mentors.

Metabolic Bases of Human Health and Diseases (NST 160)—The physiological bases of human nutrient homeostasis and common disorders resulting from over and under nutrition will be discussed with a specific focus on macronutrients. Topics related to nutrient deficiency and excess will include adaptation to starvation and the effects of caloric restriction on life-span, obesity and its complications, lipoprotein metabolism and cardiovascular disease, as well as a detailed discussion of the causes, disease mechanisms, and treatment of diabetes mellitus.

Nutrient Function and Metabolism (NST 103)—Delivery of nutrients from foods to mammalian cells; major metabolic pathways; function of nutrients in energy metabolism, nitrogen and lipid metabolism, structural tissues and regulation; essentiality, activation, storage, excretion, and toxicity of nutrients.

Molecular Biology: Macromolecular Synthesis and Cellular Function (MCB 110)—Molecular biology of prokaryotic and eukaryotic cells and their viruses. Mechanisms of DNA replication, transcription, translation. Structure of genes and chromosomes. Regulation of gene expression. Biochemical processes and principles in membrane structure and function, intracellular trafficking and subcellular compartmentation, cytoskeletal architecture, nucleocytoplasmic transport, signal transduction mechanisms, and cell cycle control.

Advanced Topics in Metabolic Biology (NST 250)—A graduate course taught by the Department of Nutritional Sciences and Toxicology in the College of Natural Resources with 3 hrs of lecture. Overview lectures and discussion of primary literature will be combined in this course to provide a working knowledge of principles, regulation, and experimental approaches in metabolic biology. Select topics ranging from molecular mechanism of metabolite synthesis and cellular signaling to integrative physiology of organismal metabolic homeostasis will be discussed with a particular emphasis on their connection to human diseases.

Graduate Seminar (XXX 290)—Students may take any Graduate Seminar (Advanced Special Topics) relevant to MB presented in any of the biological/chemical sciences programs at UC-Berkeley, such as Integrative Biology, Comparative Biochemistry, Molecular and Cell Biology, Endocrinology, Chemistry, *etc.* Each member of the Berkeley Graduate Faculty is responsible for developing a Graduate Seminar, usually given every two or three years. Thus, Program students have opportunity to take a special topics course from any member of the entire biosciences faculty on campus during their training period. Graduate Seminars are small (no more than 15 students), literature-oriented, special-topics discussions that meet once a week for one to two hr, moderated by a single faculty member. Program students are required to take at least four Graduate Seminars, usually one a year in years 2-5.

Graduate Research Colloquium (NST 292)—One hr per week. Presentations by graduate students of dissertation research results and plans for future experiments and plans for future experiments. Mandatory attendance for all graduate students. Attendance by all faculty members strongly encouraged. Participation in discussion and evaluations of others' research and presentation required of students. One presentation per year required for all students in the Program. First-year students may present a short-report of one rotation. The presentation should serve as the prelude to guidance and dissertation committee meetings.

Faculty Research Presentations (NST 293)—Intended to educate first-year graduate students on topics and techniques of faculty research to broaden their education, and as an aid in choosing rotations/mentors.

Preparation for/Supervised Teaching (NST 301/302)—The NST 301 component includes 1 hr lecture/discussion per week for 1 credit. Creative approaches to teaching metabolism topics to diverse audiences are emphasized. Participants identify needs of target populations, formulate educational objectives, design and/or use motivational teaching strategies, and evaluate the impact of their teaching on knowledge, attitudes and behavior. The NST 302 component includes practical supervised experience in teaching metabolism at the University level for 1 to 4 credits. Typically, students are assigned to undergraduate courses that include: Introduction to human nutrition (NST 10, an overview of digestion and metabolism of nutrients aimed at non-

majors in all years), Nutrient Function and Metabolism (NST 103, a junior year comprehensive course in nutritional biochemistry for majors in MB), Food Toxicology (NST 110, a comprehensive survey of the principles of modern toxicology, including mechanisms of metabolic activation, detoxification, and selective toxicity, required for toxicology majors), Human Nutrition (NST 160, focuses on the biochemical and physiological bases for adjustments in human nutrient use during common nutritional problems and diseases), Experimental Nutrition Laboratory (NST 170, basic principles and techniques used in biochemical, analytical and molecular nutrition experiments), Human Food Practices (NST 104, historical, geo-ecological, biological, cultural, socio-economic, political and personnel determinants of human diets), Introduction to Food Science (NST 166, evaluation of the chemical, physical, functional, and nutritional properties of foods and the chemical/physical changes which occur during preparation, processing and storage).

Descriptions of representative electives

Program students may take any elective relevant to their research and/or interests given by any of the chemistry or biology programs at UC-Berkeley, such as Integrative Biology, Comparative Biochemistry, Molecular and Cell Biology, Endocrinology, and Chemistry. Below are examples of electives most frequently selected, but do not represent all electives available.

A note about MCB courses:

Only MCB students can take MCB 200 A and B (Fundamentals of Molecular and Cell Biology). Unfortunately, this is a prerequisite for many of their courses. You can register for any other course of theirs if you have the prerequisites; however, MCB students are given priority. If you are ever on the wait list for a course, you can always get permission to enter the class from the professor. Professors have a certain number of codes they can give students who are on the waiting list (or who aren't registered for their course.) It is more difficult to find MCB courses to take during the Fall semesters. The Spring has more offered (i.e. core courses, advanced topics courses).

Macromolecular Reactions and the Cell (MCB 210)— General course for first-year graduate students. Covers our current understanding of, methodological approaches for analyzing, and recent advances in the function of cellular macromolecules and macromolecular complexes in DNA replication, recombination, transposition and repair, gene expression and its regulation, mRNA splicing, genome organization, noncoding RNAs, signal transduction, protein synthesis, folding and degradation, growth control, and other life processes.

Advanced Genetic Analysis (MCB 240)—Three hr of lecture and 1 hr of discussion per week. Principles and practice of classical and modern genetic analysis as applied to eukaryotic organisms, including yeast, nematodes, *Drosophila*, mice and humans; isolation and analysis of mutations; gene mapping; suppressor analysis; chromosome structure; control of gene expression; and developmental genetics.

Comparative Physiology and Endocrinology Seminar (IB 248)—One hr of seminar per week. Reviews and reports of current research in vertebrate endocrinology and physiology.

Physiology and Cell Biology Laboratory (MCB 133L)— Experimental analyses of central problems in cell biology and physiology using modern techniques, including DNA cloning and protein biochemistry, fluorescence microscopy of the cytoskeleton and organelles, DNA transfection and cell cycle analysis of cultured mammalian cells, RNA interference and drug treatments to analyze ion channel function in cell contractility and intracellular signaling, and somatosensation.

Advanced Topics in Endocrine-Regulated Development (IB 241)—Three hr of lecture per week. This course will examine intentional endocrine disruption, such as the use of pharmaceuticals to regulate hormones in humans, livestock, and wildlife. We will also evaluate endocrine disrupting pollutants and their impacts on wildlife and humans, including their potential role in cancer.

Toxicology I (PH270B)—Three hr of lecture per week covering basic principles, dose-response, toxicity testing, chemical metabolism, mechanisms of toxicity, carcinogenesis, interpretation of toxicological data for risk assessment, and target organ toxicity.

Molecular Immunology (MCB 150)—Three hr of lecture and 1 hr of discussion per week. Fundamentals of immunology with emphasis on biochemical and molecular approaches to study of the immune system and its application in medicine and biotechnology. Topics covered include description of the immune system, antibody and T-cell receptor structure and function, genes of the immunoglobulin superfamily, cells and molecular mediators that regulate the immune response, allergy, autoimmunity, immunodeficiency, tissue and organ transplants, and tumor immunology.

Advanced Developmental and Stem Cell Biology (MCB 231)—Three hr of lecture and 1 hr of discussion per week. Principles of animal development will be set forth from the classical and recent experimental analysis of induction, localization, patterning mutants, axis formation, regional gene expression, and cell interactions. Early development of selected vertebrates and invertebrates will be examined, and emerging topics in microRNA and stem cell biology will be highlighted. A weekly discussion section with readings from the research literature is required.

Functional Neuroanatomy (IB 245)—Two hr of lecture per week. Development, structural (gross and microscopic) and functional relationships of the mammalian central nervous system.

Biostatistical Methods (PH 240A)—Three hr of lecture per week and two hours of lab per week. This course focuses on statistical methods for discrete data collected in public health, clinical and biological studies. Lectures topics include proportions and counts, contingency tables, logistic regression models, Poisson regression and log-linear models, models for polytomous data and generalized linear models. Computing techniques, numerical methods, simulation and general implementation of biostatistical analysis techniques with emphasis on data applications. Also listed as Statistics C245A. Offered odd-numbered years.

Chemical Biology I – Structure, Synthesis and Function of Biomolecules (C 271A)-- This course will present the structure of proteins, nucleic acids, and oligosaccharides from the perspective of organic chemistry. Modern methods for the synthesis and purification of these molecules will also be presented.

Chemical Biology II - Enzyme Reaction Mechanisms (C 271B)—Three hr of lecture per week. Starts with an introduction to the general concepts of enzyme catalysis, and follows with detailed examples that examine the chemistry and detailed structural aspects of enzymatic catalysis.

Chemical Biology III – Contemporary Topics in Chemical Biology (C 271C)-- This course will build on the principles discussed in Chemical Biology I and II. The focus will consist of case studies where rigorous chemical approaches have been brought to bear on biological questions. Potential subject areas will include signal transduction, photosynthesis, immunology, virology, and cancer. For each topic, the appropriate bioanalytical techniques will be emphasized.

Longitudinal Data Analysis (PH C242C)— The course covers the statistical issues surrounding estimation of effects using data on subjects followed through time. The course emphasizes a regression model approach and discusses disease incidence modeling and both continuous outcome data/linear models and longitudinal extensions to nonlinear models (e.g., logistic and Poisson). The primary focus is from the analysis side, but mathematical intuition behind the procedures will also be discussed. The statistical/mathematical material includes some survival analysis, linear models, logistic and Poisson regression, and matrix algebra for statistics. The course will conclude with an introduction to recently developed causal regression techniques (e.g., marginal structural models). Time permitting, serially correlated data on ecological units will also be discussed.

Epidemiologic Methods I (PH 250A)—Three hr of lecture and 1 hr of discussion per week. Principles and methods of epidemiology: study design, selection, and definition of cases and controls; sampling, data

collection, analysis, and inference. Discussion session provides an opportunity to apply methods to problem sets and to discuss issues presented in lectures.

Molecular and Genetic Epidemiology and Human Health in the 21st Century (PH 256)—Two hr of lecture and 1 hr of laboratory per week. Review of genetic epidemiology with emphasis on novel methods of molecular biology and genetics, including role of genetic factors in human disease and their interaction with environmental and cultural factors, population polymorphisms, role of inbreeding, and epidemiology of multifactorial diseases. Molecular epidemiology and the use of biological markers will be explored with the goal of illustrating both the power and limitations of biomarkers currently available for epidemiological research. Laboratory work and Internet demonstrations provide students with hands-on experience with modern methods of molecular epidemiology.

RESEARCH

Research provides the major focus of graduate education. Many first-year activities are directed toward introducing new students to various research opportunities to enable them to identify their research interests and Major Professor. Research rotations are particularly important in this regard. Ph.D. students complete at least three laboratory rotations during their first year. Following each rotation, students submit a written report and make a short oral presentation in NST 211A/B. Other activities which aid students to choose their Major Professor include presentations by faculty in NST 293, research reports in NST 292, departmental seminars, and informal discussions with the faculty.

The Major Professor oversees the student's research program and overall education, assisted by the Guidance Committee. Students select their Major Professor at the end of the first Spring semester. The Major Professor chairs the Guidance Committee and ultimately the Dissertation Committee, and initials all official forms and petitions to indicate his/her approval *before* forwarding them to the Head Graduate Advisor.

TEACHING

All graduate students in the Group are required to obtain teaching experience as a Graduate Student Instructor (GSI). This assignment may involve lecturing, leading discussions, lab preparation, examination writing, and grading. Each student must serve as a GSI for at least one semester. The teaching experience is accompanied by enrollment in NST 301, Professional Preparation: Teaching in Nutritional Sciences & Toxicology. The Graduate Advisors attempt to match students with appropriate courses considering the wishes and qualifications of the student and the teaching needs of the Department. Students who are non-native speakers of English must meet the language proficiency requirements of the Office of GSI Training in the Graduate Division. For a schedule of test dates and times, contact the GSI Teaching and Resource Center (301 Sproul Hall) at 642-4456.

ADVISING

Graduate Advisors

The Graduate Group in MB has four Graduate Advisors, one of whom serves as the Head Graduate Advisor. The Graduate Advisors form the Graduate Affairs Committee ("GAC"), which governs the Graduate Group and represents the Dean of the Graduate Division in approving programs of study for graduate students. **Each term prior to candidacy, the Tele-Bears registration form must be signed by the Major Professor.** All forms and petitions which are routed to the Graduate Division, including applications for advancement to candidacy, qualifying examinations, and petitions, must be initialed by the student's Major Professor and signed by the Head Graduate Advisor. The Head Graduate Advisor will advise each new graduate student until a Major

Professor is chosen. **First-year students may not drop courses, or elect to receive a grade other than the usual letter grade without permission of the Head Graduate Advisor.**

Guidance Committees

The Guidance Committee is an informal, optional committee. It monitors student's research progress and recommends elective courses. The committee consists of the Major Professor (chair) and two additional program faculty members chosen by the Major Professor and student. The Guidance Committee determines whether all first-year core courses/prerequisites have been completed with a grade of B or better, and evaluates the initial research plan. The Guidance Committee advises the student during the second year and reviews progress, recommends course work, may recommend changes in experimental design of the research project, and guides students to the Oral Qualifying Exam (OQE) by examining their knowledge and aiding them with topics. In consultation with the Guidance Committee, the student should identify the areas for the OQE early in the doctoral program, since selection of courses and seminars will be directed towards acquiring competency in these areas.

The Guidance Committee may recommend redirection of a student to an M.S. degree, or recommend dismissal for failure to meet requirements and/or to develop sufficient proficiency in dissertation research. If such a recommendation is made, the final determination is made by the Graduate Affairs Committee.

Following each meeting, the Guidance Committee prepares a written evaluation of the student's progress. This includes the following items:

1. A review of the student's research progress
2. Recommendations for additional course work (if any)
3. Recommended date for the student's Oral Qualifying Examination

The student may appeal in writing any decision of the Committee through the Head Graduate Advisor. The Head Graduate Advisor, however, is unlikely to waive a requirement imposed by the Guidance Committee. All students have the right of a direct appeal to the Dean of the Graduate Division. For a more detailed explanation of the formal appeals procedure, refer to the section entitled *Student Appeals Procedure* towards the end of this handbook.

Changes in the membership of the Guidance Committee may be made at the request of either the student, the Guidance Committee, or the Graduate Affairs Committee. Any contemplated change in membership should be discussed with the present members and any proposed member(s) of the Guidance Committee. This may be done individually or at a Guidance Committee meeting. If the present and proposed member(s) agree to the change, the student should obtain a "Change of Guidance Committee" form from the Student Affairs Officer. This form must be signed by all members of the present committee, the proposed committee, and the Head Graduate Advisor; and then returned to the Student Affairs Officer who will make changes in the student's records.

Dissertation Committee

The Dissertation Committee provides intellectual as well as technical assistance to the student throughout the student's research program. This committee forms after the student has passed the Oral Qualifying Examination for the Ph.D. degree. The Dissertation Committee consists of at least three persons: the chair (generally the Major Professor) and two other faculty members of the Academic Senate (one of which *must* be outside of the Graduate Group in MB). A non-Academic Senate member of similar professional standing (such as staff at the Lawrence Berkeley National Laboratory, LBNL, or Children's Hospital of Oakland Research Institute, CHORI) may serve as Co-Chair of the Committee with the approval of the Graduate Dean.

The student, with the assistance of the Guidance Committee, suggests to the Head Graduate Advisor the names of three faculty who may serve on the Dissertation Committee. The Head Graduate Advisor recommends appointments to the Graduate Dean. The student will then complete an application for Advancement to Candidacy. The form must be signed by the Major Professor and the Head Graduate Advisor and returned to the

Student Affairs Officer for submission to the Graduate Division. When the Graduate Division approves this form, it will send a formal notice of Advancement to Candidacy to the student. Requests for changes of the committee should be made through the Head Graduate Advisor to the Graduate Division; such changes are unusual and require strong justification.

The Dissertation Committee should meet within three months following the Oral Qualifying Examination to allow the student to present a detailed description of the proposed research; it then should meet at least once a year. In addition to regularly scheduled Dissertation Committee Meetings, the Dissertation Committee will also meet directly after each student's presentation in NST 292. Ideally, the meeting should occur the same day after the NST 292 presentation—if this is not possible because of scheduling conflicts, the meeting should be scheduled as soon as possible after the NST 292 presentation. The student must keep the committee members informed of the progress of the research so that he/she may ask for and receive advice from the committee.

ORAL QUALIFYING EXAMINATION

The Oral Qualifying Exam (OQE) will be taken during the fourth semester. The committee will confirm that the student has completed successfully the required core courses, the teaching requirement (or in the process of completing the requirement), and has initiated a robust research program. Failure of the Guidance Committee to recommend proceeding to the OQE *before* the fall semester of year three will be grounds for dismissal or redirection to an M.S. The OQE may be postponed until a later date upon recommendation of the Guidance Committee, only with compelling justification.

The OQE committee consists of four faculty selected by the student with Head Graduate Advisor approval. Three committee members, including the chairperson, must be Berkeley academic senate faculty who are members of the MB program. One committee member must be Berkeley academic senate faculty not affiliated with the MB program. One committee member may include a MB program member with a primary appointment outside of the Berkeley academic senate faculty. Graduate Division has final approval over OQE committee membership.

Examination Format

The OQE committee will examine the student on:

- General scientific knowledge
- Background knowledge in the area of their dissertation research
- Ability to formulate and defend a hypothesis
- Ability to defend experiments and techniques to test hypotheses
- Ability to postulate expected and alternative results
- Interpretation of expected and alternative results

The student will prepare a formal written proposal to describe their dissertation research in consultation with their OQE committee. The OQE committee will decide when the student is ready for the oral defense of their written proposal. The student must distribute a copy of the proposal to each member of the Committee at least one week before the exam.

Areas for Examination

The expectation of breadth will be considered to include all the coursework taken during the student's first and second year in the graduate program (including any prerequisite material).

The OQE committee may recommend: 1) an unqualified pass; 2) a qualified pass requiring additional course work and/or written reports and/or revision of research plans; 3) re-direction to an M.S.; 4) dismissal. Upon successful completion of the OQE, the student enters into candidacy and responsibility for his/her further development passes to the mentor and the Dissertation Committee.

DISSERTATION

University guidelines state that the Doctor of Philosophy degree “is awarded in recognition of a student’s knowledge of a broad field of learning and for distinguished accomplishment in that field through original contribution of significant knowledge and ideas.” The student must demonstrate critical ability and powers of imagination and synthesis. To satisfactorily complete the dissertation, the student must take the following steps:

1. Develop a hypothesis; the topic may encompass a question of basic science in metabolic biology in the human or in experimental models
2. Design experiments to test the hypothesis
3. Develop and/or apply appropriate techniques to generate data
4. Interpret the data; discuss the data in context of the literature, and evaluate the significance of the findings
5. Publish the results; communication in peer-reviewed journals represents a major activity of research scientists

The dissertation must be read and approved by all members of the student’s Dissertation Committee. Students should check with the Graduate Division for the current guidelines for format and style. The dissertation is submitted in final form to the Graduate Division for approval. Generally, copies are given to the members of the Dissertation Committee.

In addition, all Ph.D. students are encouraged to present a formal seminar upon final approval of their dissertation by their dissertation committee members. These seminars could be presented during the Nutritional Science and Toxicology department’s Wednesday seminar, but could be presented as a special seminar, or during the time normally set aside for NST 292.

DEPARTMENTAL FINANCIAL SUPPORT AND LEAVE

The Graduate Group in MB usually provides five years (60 months) of financial assistance to Ph.D. students. Students who receive individual fellowships for one or more years may still qualify for 60 months of Departmental support.

New students will be funded for their first year through a 12-month Graduate Student Researcher (GSR) appointment. Continuing students are funded using a combination of GSR and GSI support. The combination of GSI/GSR funding is based on 5 months as a GSI and 7 months as a GSR. If the student chooses to decline to teach more than the one semester requirement (for any reason), they will not receive Departmental support. If the student’s GPA falls below 3.1, he or she may not be eligible for support.

Any possible funding beyond the period of maximal support by the Department (*i.e.* 60 months for Ph.D. students) will be the responsibility of the Major Professor.

Students who receive financial support are expected to devote full-time to their graduate work. Arrangements for vacation or other leaves must be discussed with the Major Professor or Head Graduate Advisor. **Graduate students are eligible for no more than four weeks of leave per year, including school breaks.** Financial support will be suspended for students absent longer.

STUDENT APPEALS PROCEDURE

The following procedures have been established in accordance with the Graduate Division for students who encounter difficulties while enrolled in our graduate program:

Purpose and Scope

The purpose of this procedure is to afford students in the Graduate Group in MB an opportunity to resolve complaints about dismissal from graduate standing, placement on probationary status, denial of readmission, and other administrative or academic decisions that terminate or otherwise impede progress toward academic or professional goals.

The scope of this procedure is limited to the matters listed above, and excludes complaints regarding denial of admission, student records, grades in courses of instruction, student employment, student discipline, and auxiliary student services (such as housing, child care, etc.). This procedure may not be used for complaints regarding actions based solely on faculty evaluation of the academic quality of a student's performance, or decanal evaluation of a student's appropriate academic progress, unless the complaint alleges that the actions may have been influenced by non-academic criteria.

Informal Resolution Procedures

A student may pursue informal resolution of a complaint by scheduling a meeting with his/her Major Professor to discuss the complaint and explore possible avenues of resolution. If no solution is found, the student should then schedule a meeting of his/her Guidance Committee. If informal resolution is pursued, it must be initiated, and should be completed, within 30 days. At any point in this process, if a satisfactory solution cannot be reached, the student may initiate formal resolution by putting the complaint in writing.

Formal Resolution Procedures

A written complaint must include information regarding the action being complained of and the date it occurred, the grounds upon which the appeal is based, and the relief requested. The complaint must be based on one or more of the following grounds:

1. Procedural error or violation of official policy by academic or administrative personnel
2. Judgments improperly based upon non-academic criteria including, but not limited to, discrimination or harassment on the basis of sex, race, national origin, color, age, religion, sexual orientation, or disability
3. Specific mitigating circumstances beyond the student's control not properly taken into account in a decision affecting the student's academic progress

The written complaint must be received by the Head Graduate Advisor within thirty days from the time the student knew, or could reasonably be expected to have known, of the action that is the subject of the complaint. The complaint will be presented to the GAC, which should complete its investigation and notify the student of the outcome of the complaint within sixty days of the date it was received.

The time frame for filing a written complaint may be extended by the Group if the student has been involved in continuing efforts toward informal resolution, and the informal resolution process was initiated within thirty days of the time the student knew, or could reasonably be expected to have known, of the action that is the subject of the complaint. All time frames referred to in this procedure refer to calendar days. Summer and inter-semester recesses are not included within these time frames.

Upon receipt of a written complaint, the Head Graduate Advisor will assign a member of the GAC to investigate the complaint and make a recommendation to the Head Graduate Advisor regarding the outcome of the complaint. Generally, the investigation will include an interview with the complainant, a review of any relevant written materials, and an effort to obtain information from available witnesses (i.e. interviews or written statements or documents). The Head Graduate Advisor will notify the student, in writing, of the outcome of the complaint. A written complaint under this procedure satisfies the requirement of a unit level resolution process pursuant to the Graduate Appeals Procedure.

Appeal To The Graduate Division

If the student is not satisfied with the outcome of the complaint under the Group's procedure, he or she may bring the complaint to the Formal Appeal stage of the Graduate Appeals Procedure. The formal appeal must be received in the Office of the Dean of the Graduate Division, 424 Sproul Hall, within fifteen days of the date of the written notification of the result of the unit level procedure. Copies of the Graduate Appeals Procedure (updated February 12, 1996) may be obtained from the Office of the Dean of the Graduate Division.

Complaints involving Discrimination

If the complaint involves allegations of discrimination or harassment on the basis of sex, race, national origin, color, age, religion, sexual orientation, or disability; the Group should consult the appropriate campus compliance officers prior to commencing informal or formal resolution. The names, phone numbers, and campus addresses of these individuals are listed in various campus publications and may be obtained from the Office of the Dean of the Graduate Division at (510) 642-5472, or the Academic Compliance Office at (510) 642-2795.

Other Complaint Procedures

Graduate students may contact the Office of the Ombudsperson for Students, the Title IX Compliance Officer, or the 504/ADA Compliance Officer for assistance with complaint resolution. There also are other complaint procedures listed in the Graduate Appeals Procedure for use regarding complaints that do not fall under this procedure.

ADMINISTRATION & SAFETY

Accidents

All accidents must be reported to the Main Office, 119 Morgan Hall, and an accident form must be completed. Students should also be seen by their personal physicians or a physician at Student Health Services. This rule also applies when a person has received an animal bite which breaks the skin.

Laboratory Animals

All students who will be working with animals are required to have a current tetanus shot. These are obtainable from Student Health Services at no charge to the student. Students must also pass the OLAC exam concerning the care of animals and should discuss with their Major Professor the procedures for ordering animals and use of the facilities.

Radioactive Chemicals

All students working with radioactive chemicals must be certified for such work by passing an Environmental Health and Safety (EH&S) examination and must discuss with their Major Professor the procedures for ordering and use of such chemicals.

Change of Address

All students must reenter changes of address at the Bear Facts Website (<https://bearfacts.berkeley.edu/>).

Copy Machines

Only materials that will be used for distribution in class or preparation for a lecture to be given to a class may be charged to the Department. The student's Major Professor may allow some research material to be charged to his/her account.

Graduate Student Lounge

Desks/couches for new graduate students are available in the Graduate Student Lounge in 209 Morgan Hall. Graduate students generally have a desk in the laboratory in which they work once they have been assigned to a laboratory.

Keys

Each graduate student is routinely issued keys for the outside doors of Morgan Hall, the Reference Room, the room in which his/her desk is located, and the laboratory in which he/she is working. Keys may be obtained from Tony Gamez in 54A Mulford. The student is asked to sign for the keys, get the Head Graduate Advisor's signature, agree to use all keys only for authorized purposes, not to loan or duplicate any key, and to return the keys to the department when he/she no longer needs them or leaves the Department.

Libraries

The student's current registration card serves as a library card for all campus libraries. The libraries most frequently used by students in this Group are:

Biosciences	2101 Valley Life Sciences Building
Biochemistry	430 Barker Hall
Public Health	42 Warren Hall

Paychecks

Paychecks are normally received the first working day of the month or the end of the month (depending on your payment package). The student should arrange for direct deposit to his/her bank.

Personnel

Each graduate student who has received an appointment in the Department, such as graduate student researcher (GSR) or graduate student instructor (GSI), should check with the Personnel Clerk, Martina Love (mdlove@berkeley.edu), to see that his/her appointment is in order and to present any necessary documents establishing employment authorization and identity.

International Students

International students are subject to many rules and regulations and should contact The Berkeley International Office (<http://internationaloffice.berkeley.edu/>).

Campus Safety

Emergency phones are located throughout the campus and are easily identified by a blue light on top of the phone box. You can call the police, fire department, or an ambulance by dialing 911 or 9-911. The University Police are available 24 hours a day (1 Sproul Hall). The emergency phone number from a campus phone is 2-3333. Night Escort Service is available for free after dark until about 4am every day: (http://police.berkeley.edu/programsandservices/campus_safety/index.html). Always keep the doors locked to offices, laboratories, and to the outside building entrances in the evenings and on weekends. Always carry your keys with you. Do not share your door codes/keys with anyone else.