

# **Graduate Student Handbook**

**Department of Mathematics**

**University of California Berkeley**

Revised July 2015

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## INTRODUCTION

This handbook is intended to serve as a resource for the graduate students in the Mathematics Department. You may wish to read through these pages when you first start your program of study, or you may refer to the Handbook for specific information as needed.

Since graduate student policies and procedures are always evolving, the Handbook will be periodically updated. The latest version of the Handbook will be available on the Math Department website and a paper copy is available in 914 Evans Hall. New pages may be inserted into the binder as they become available. In addition, the Handbook will appear on the Math Department website.

Please retain your copy of the Handbook for the duration of your time as a math graduate student. When you graduate, please return your copy to the Graduate Office in 910 Evans Hall. We will recycle the copy to a new graduate student.

This handbook is a guide prepared for students' convenience, but is not an official statement of program policies. Although all information has been reviewed, some errors or omissions may remain, and changes introduced after its review are not incorporated.

Best wishes in your study of mathematics!

# GENERAL INFORMATION

## 1. Degree Programs

Students are admitted for specific degree programs: the M.A. in Mathematics, Ph.D. in Mathematics, or Ph.D. in Applied Mathematics. Requirements for the Mathematics and Applied Mathematics Ph.D.s differ only in minor respects, and no distinction is made between the two in day-to-day matters.

Continuing students wishing to transfer from one program to another should consult the Graduate Assistant in 910 Evans. Transfers between the two Ph.D. programs and from the Ph.D. program to the M.A. program are fairly routine but should be done prior to taking the qualifying exam. Applications to transfer from the M.A. to the Ph.D. program are reviewed carefully. It is a formal policy of the Department that an applicant to the Ph.D. program who has previous graduate work in mathematics — including our own M.A. program — must present very strong evidence of capability for mathematical research.

While M.A. degrees are awarded, in recent years few M.A. students have been admitted from outside the university. A small number of pre-Ph.D. students have been admitted. These are promising candidates whose preparation is not yet sufficient for Ph.D. study, and who are initially admitted for the M.A. degrees. The progress of pre-Ph.D. students is reviewed late in the Spring semester. Those deemed prepared are eligible to advance to the Ph.D. program, by completing a routine Petition to Change Program, obtainable from the Graduate Assistant. Completion of the requirements for the M.A. is not required.

Students seeking to transfer to the Mathematics M.A. or Ph.D. programs from other campus programs, including the Group in Logic and the Methodology of Science, must formally apply and should consult the Graduate Vice Chair.

## 2. Assignment of advisors

Each graduate student is assigned an official Graduate Advisor, a member of the faculty of the Department who advises the student on selection of courses and guides the student through the various stages of the graduate program. The post of Graduate Advisor should not be confused with that of Dissertation Supervisor (or Thesis Supervisor for students in the M.A. program), who is formally appointed at the time of Advancement to Candidacy. Once a student has advanced, the initial advisor's role ends, and the dissertation/thesis supervisor acts thenceforth as the student's primary academic advisor. The dissertation/thesis supervisor has primary responsibility for guidance of dissertation research and dissertation/thesis preparation, with assistance from other members of the dissertation/thesis committee.

Advisors are assigned to new graduate students by the Graduate Vice Chair. They are chosen from a committee appointed by the department Chair. Both students' expressed mathematical interests, and faculty availability, are taken into account in the process of matching advisors to advisees. Pre-Ph.D. students may be advised by the Mathematics Opportunities Committee chair. Students wishing a change of their appointed advisor should consult the Vice Chair for Graduate Affairs. Once a prospective dissertation supervisor has been chosen by a student, that individual may assume the role of Graduate Advisor, provided that student, advisor, and Graduate Vice Chair approve.

First year students must consult their advisors regularly about their course selections and academic plans. Any student who is unable to contact her/his advisor promptly when necessary should inform the Graduate Vice Chair.

### 3. Advising and program approval

Graduate Advisors hold office hours during the Phase I and Phase II registration periods and the days just preceding the beginning of classes each semester. It is during these times that students should confer with their Advisors about the courses they will be taking. New students should also arrange more leisurely meetings with their Advisors later in their first semester.

Students are encouraged to see the Graduate Advisors any time they feel it would be helpful, e.g. to talk about academic difficulties, meeting time limits, setting up a Qualifying Examination committee, or for career advice.

### 4. Registration matters

Before going to see their advisors, students should draw up tentative programs for as much of the year as possible. The student should also take a green Graduate Student Program Form (available from the racks in the Graduate Office, 910 Evans). The Advisor will sign the Program Form to indicate approval of the program of study. If advisor and student subsequently agree on a modified program of study, any changes should also be indicated on the Program Form and initialed by the advisor.

After the study program has been fixed for at least the coming semester, and after the advisor has signed the Program Form, the student takes it to the Graduate Office. The Graduate Assistant will give the student an Advisor Code and, if needed, course control numbers. Phase I of the registration period usually starts in early April for the Fall semester and early November for the Spring semester. The Graduate Assistant can approve only minor changes, such as a change in section; all substantive changes require the approval of the advisor. The vice chair fills in for advisors who are temporarily unavailable.

Once a student has a formally appointed Dissertation Supervisor, that individual acts takes over all advising duties, including signing of the Program Form.

For additional Tele-BEARS information, such as final grades from the previous term, the status of financial aid applications, and up-to-date course times/locations, please use Bear Facts on the web at <http://bearfacts.berkeley.edu>. See the current schedule of classes for details.

### 5. Student course loads

The normal course load for a full-time graduate student is (1), twelve units of graduate (200-level) coursework, or (2), sixteen units of upper division (100-level) coursework, or (3), a combination of graduate and upper division coursework in proportion to the above loads (e.g. 6 units of 200-level courses and 8 units of 100-level courses). Students may take more than 12 units with the approval of their Graduate Advisor. Some courses may be selected from campus-wide offerings outside of Mathematics, with the approval of the advisor.

All full-time students must enroll in at least 12 units of course work each semester. Enrollment in a minimum of 12 units is required for all GSI/GSR/fellowship appointments and for departmental financial support. Some students may potentially be subject to

minimum unit requirements in order to qualify for other external financial support; consult the Graduate Assistant, Graduate Fellowship Office, or Berkeley International Office if your circumstances are exceptional.

Besides conventional courses, students have other options for earning the required 12 units. Mathematics 375 (for first semester GSIs) and 303 (for GSIs with prior GSI service) award unit credit to students appointed as GSIs, in recognition of the professional training they acquire through teaching. Math 602 is an independent study course appropriate for students who are preparing for the Preliminary or Qualifying exams, but are not serving as GSIs. Math 299 (reading courses) and 295 (dissertation research) are suited to students working on an individual basis with faculty.

The Graduate Division publishes an outline of its policies in the Guide to Graduate Policy, available online at: <http://www.grad.berkeley.edu/policies/guide.shtml>

#### 6. Withdrawal and readmission

The rules of the Graduate Division do not provide for leaves of absence for graduate students. It is possible, however, to apply to withdraw and to be readmitted. The student should discuss any plans for temporary withdrawal with his or her Graduate Advisor. Unauthorized withdrawal may jeopardize the student's chances for readmission. A student wishing to withdraw from the graduate program, temporarily or permanently, should speak to the Graduate Assistant in 910 Evans. A student who has not been registered for one or more semesters will be required to submit an application for readmission.

#### 7. In Absentia

In Absentia is a registration status with reduced fees. Students must be advanced to candidacy and must be doing research outside of California for the entire term. Students must register for 12 units of research. The fee is 15% of assessed fees (plus non-resident tuition, if applicable).

#### 8. Petitions

All petitions for readmission, change of major, change of degree goal, etc., must be submitted to the Graduate Assistant after completion. The Graduate Assistant relays the petition for approval to the authorized departmental officer or committee, and upon approval, forwards it to the appropriate office.

It is each student's responsibility to secure the signature of the Vice Chair for Graduate Affairs on most of the remainder of the Graduate Division petitions, (e.g. Advancement to Candidacy Form, Filing Fee application, etc.). Unless discussion is needed, this can be done by presenting the petition to the Graduate Assistant, who obtains the vice chair's signature on the student's behalf. Graduate Advisors are authorized to sign only the student's program sheet and petitions to change the schedule.

#### 9. AMS Membership

The Mathematics Department offers all graduate students a complimentary membership to the American Mathematical Society (AMS) for as long as that student remains in the Department. As a member of the AMS, the student receives a Bulletin, the Notices, and other privileges such as discounts on books.

#### 10. Establishment of California residency

The Department has limited resources for funding the nonresident supplemental tuition. THEREFORE, STUDENTS WHO ARE U.S. CITIZENS OR PERMANENT RESIDENTS MUST ESTABLISH CALIFORNIA RESIDENCY AS SOON AS POSSIBLE. The Department **will not** pay the nonresident supplemental tuition for U.S. citizens/permanent residents after their first year. Detailed information on the relevant laws and procedures is given in the section of the Berkeley Academic Guide on "California Legal Residence." Upon arrival in Berkeley, students should begin taking the necessary steps for establishing California residency. Information regarding residency is available from the Residency Affairs Unit in 120 Sproul.

#### 11. Student addresses

As it is important that the Department know each student's local address and telephone number, students are asked to provide that information on the Graduate Student Program Form. The Department will honor requests indicated on the Program Form not to release this information to anyone except faculty and other students. Students should also make sure that the Registrar's system has current information by checking/updating via BearFacts.

#### 12. Disclosure of student records

A copy of the Department's policy on the disclosure of information from student records may be consulted in the Graduate Office. This policy is intended to protect students from unauthorized disclosure of information about them to others; it also guarantees students the right to inspect most materials in their files. To examine teaching evaluations, consult Marsha Snow, 970 Evans.

#### 13. Message boxes, bulletin boards, and e-mail

Each graduate student is assigned a message box in room 958 Evans. The Department uses these boxes to get in touch with students, and students are therefore expected to check them regularly. Students should not use the Department address for receiving mail from off campus; neither the Department nor the campus Mailing Division has sufficient staff to process such mail. UC policy prohibits delivery of personal mail or packages.

Students also will receive important information via e-mail. Mass mailing lists are used by the Department staff, faculty, and MGSA to communicate information regarding colloquia, workshops, job opportunities, and other topics of interest to students. All graduate students are asked to check their e-mail messages daily. Due to the increase in "spam" e-mail, messages from departmental officers should bear a relevant subject line.

#### 14. Departmental Computing Facilities

Management of facilities: The Department's network is managed by the Information Technology Manager, Igor Savine, with system administration support contracted through LSCR. In addition, rotating members of the faculty serve on the Department's Computing Committee. Members of the Committee may be reached by sending e-mail to [computer-committee@math](mailto:computer-committee@math). The Department's consult system is staffed by volunteers who answer computing questions at nearly all times of the day. Anyone having trouble



using a departmental computer should try sending e-mail to [consult@math](mailto:consult@math). Note that this is NOT the venue for reporting problems with the computer system or requesting action by the sysadmins. For clarification on the proper use of mailing lists see <http://math.berkeley.edu/computing/>, which also is the definitive documentation for our computing support. [math@LSCR.berkeley.edu](mailto:math@LSCR.berkeley.edu)

Networked computing system: Graduate students are given accounts on the Department's Unix system. This is a network of about 200 Unix and Linux machines, of which approximately 25 are physically accessible to graduate students. These include workstations running both Solaris and Linux (Centos). Students are provided 150 MB of personal file space (home directory) on the fileserver. Four public printers are also available, and students (except those on filing fee) have a quota of 500 pages printed per semester, beyond which there may be a charge per page. Software: Software on the math system is generally well maintained and recent: the basic Unix/Linux system, TeX, LaTeX, AMSTeX, bibtex, pari, vi, emacs, some email programs, news reader, Web browser, Web server, LaTeX- html converter, gzip/gunzip, RCS, gcc, g++, and many more. Commercially licensed software includes Maple, Matlab, and Magma. If you have any request for additional software, send it to: [request@math](mailto:request@math).

Account Set-up: Accounts are available to registered graduate students of the Department, and applications may be obtained from and filed with Kathy Santos in 920 Evans Hall. Accounts are renewed every semester, and registration will be verified by Kathy Santos.

Printers: Printers are installed on the seventh, eighth, ninth, and tenth floors for graduate student and faculty access. The printers are in 744, 838, 958, and 1002 Evans, and are named by room number. Access is via key. Multiple copies of documents should be made using the photocopy machines in room 958, rather than these printers.

#### 15. If you need computing help or information

Students are urged to learn Unix to the extent that suits their needs. Documentation available to students includes reference guides on the racks in 744. In addition, online help is available from our website, (see <http://math.berkeley.edu/computing>), and the Unix main pages.

If a terminal, printer, the network, or other hardware seems to be broken, you should send e-mail to "trouble@math". Mail sent to "trouble" is read by the system manager and others who can either fix the problem or figure out who to contact so that it can be fixed.

General account information (activation, closure, renewal) should be directed to Kathy Santos in 920 Evans.

There are free computer courses offered by IST, the campus Information Services and Technology office. Information regarding walk-in, short, and microcomputer training courses is available electronically from the IST website, <http://ist.berkeley.edu/>.

#### 16. Resources for Resolving Problems and Complaints in the Department of Mathematics, UC Berkeley

General grievances in the Mathematics Department:

L.Craig Evans, Chair, 951 Evans, 642-4129 [evans@math.xxx](mailto:evans@math.xxx) (where "xxstands for

"berkeley.edu")

Undergraduate Student Matters:

Mark Jenkinson, Director of Student Services, 967 Evans, 642-2479,  
mjenkinson@berkeley.edu

Freydoun Rezakhanlou, Vice Chair for Undergraduate Affairs, 725 Evans, 642-2721,  
[rezakhan@math.xxx](mailto:rezakhan@math.xxx)

Graduate Student Matters:

Mark Jenkinson, Director of Student Services, 967 Evans, 642-2479,  
mjenkinson@berkeley.edu

Barbara Waller, Graduate Programs Advisor, 910 Evans, 642-0665, barb@math.xxx

Jon Wilkening, Vice-Chair for Graduate Affairs, 914 Evans, 643-1284, wilken@math.xxx

Matters related to GSI appointments:

Mark Jenkinson (for routine matters)

Jon Wilkening, Faculty Advisor for GSI Affairs

Sexual harassment, diversity, and discrimination issues: The University of California, in accordance with applicable Federal and State Law and the University's nondiscrimination policies, does not discriminate on the basis of race, color, national origin, religion, sex (including sexual harassment), gender identity, pregnancy/childbirth and medical conditions related thereto, disability, age, medical condition (cancer-related), ancestry, marital status, citizenship, sexual orientation, or status as a Vietnam-era veteran or special disabled veteran. This nondiscrimination policy covers student admission, access, and treatment in University programs and activities. It also covers faculty (Senate and non-Senate) and staff in their employment. A more detailed description of the university's nondiscrimination policies is posted at <http://www.ucop.edu/ucophome/coordrev/policy/PP061008NondiscriminationLtr.pdf>.

Title IX and Title VI

This 1972 federal legislation prohibits all forms of sex and race discrimination in educational institutions that receive federal funding. See <http://ccac.berkeley.edu/titleix.shtml> for details. The campus Title IX & Title VI compliance officer is: Denise Oldham, 510 643-7985, [dwoldham@xxx](mailto:dwoldham@xxx). Do not hesitate to contact Denise directly if you feel that you have experienced or witnessed discrimination in the Mathematics Department, or in the university.

Mathematics Department Diversity Officers:

Craig Evans, Chair, 877 Evans, 643-7991, [evans@math.xxx](mailto:evans@math.xxx)

Thomas Scanlon, Graduate Equity Officer, 861 Evans, 642-3145, [scanlon@math.xxx](mailto:scanlon@math.xxx)

Other campus resources:

Berkeley Edge Program:

(from website: <http://ls.berkeley.edu/diversity/bep/current.html>)

The Berkeley Edge is a recruitment, retention and advancement program designed to increase the number of underrepresented minority (URM) students who acquire doctoral degrees in the fields of science, technology, engineering and mathematics

(STEM). The program is a partner in the University of California system-wide effort (UC-AGEP) to identify, recruit, retain, and assist in advancing talented minority students to graduate school and into the professoriate.

The program is funded by the National Science Foundation's Alliances for Graduate Education and the Professoriate (NSF-AGEP); the MK Level Playing Field Institute (LPFI); and UC Berkeley's College of Chemistry, the Divisions of Biological Sciences and Physical Sciences in the College of Letters & Science, the College of Engineering, the College of Natural Resources, and the Graduate Division.

Contacting the Berkeley Edge Program

The Berkeley Edge Program  
NSF-AGEP  
University of California, Berkeley  
101 Durant Hall, MC 2920  
Berkeley, CA 94720-2920  
Phone: 510-642-0391 Fax: 510-643-2261  
Email: [berkeleyconnections@berkeley.edu](mailto:berkeleyconnections@berkeley.edu)

Colette Patt (Physical Sciences Graduate Equity Officer), 101 Durant Hall, 642-0794,  
[colette\\_patt@ls.xxx](mailto:colette_patt@ls.xxx)

Campus Climate and Compliance Office, Chancellor's Office, 200 California Hall,  
<http://ccac.berkeley.edu/>

(This office is responsible for ensuring an environment for faculty, staff and students that is free from discrimination and harassment on the basis of protected categories including race, color national origin, gender, age and sexual orientation/identity. For more about its activities and charge, see [http://ccac.berkeley.edu/what\\_we\\_do.shtml](http://ccac.berkeley.edu/what_we_do.shtml).)

General questions and complaints (Berkeley campus):  
Ombudsperson for students, 642-5754  
Campus Climate & Compliance office, <http://ccac.berkeley.edu/>  
Campus policies and procedures, <http://campuspol.chance.berkeley.edu/>  
ASUC Student Advocate's Office, 204 Eshelman Hall, 642-6912,  
[help\(at\)studentadvocateoffice.com](mailto:help@studentadvocateoffice.com)

The Office of Student Development maintains a web page with information on a variety of resources of potential value to graduate students on its Recourse and Resolution page [http://resource.berkeley.edu/r\\_html/503recourse.html](http://resource.berkeley.edu/r_html/503recourse.html)

Disabled Students Program <http://dsp.berkeley.edu/contact.html>

The Disabled Students' Program's mission is to ensure that all students with disabilities have equal access to educational opportunities at UC Berkeley. We oversee a wide range of services, accommodations, and auxiliary services for students with disabilities. We design these services individually, based on the specific needs of each student and individual academic requirements as identified by DSP's Specialists.

The Disabled Students' Program is a student services unit in the Division of Equity & Inclusion

Disabled Students' Program  
260 César E. Chávez Student Center, #4250  
Berkeley, CA 94720-4250  
Voice: 510-642-0518  
TTY: 510-642-6376  
FAX: 510-643-9686

#### Student Grievance Procedure:

The Berkeley Campus Student Grievance Procedure (Appendix II to the Berkeley Campus Regulations Implementing University Policies) gives you an opportunity to resolve complaints alleging discrimination based on race, color, national origin, sex, handicap, age, and sexual orientation. You may also use the procedure to resolve any complaints you may have alleging that any other rules or policies of the Berkeley campus were inappropriately applied and resulted in an injury to you. The procedure is not applicable to certain kinds of complaints for which other appropriate appeals procedures exist, such as a grade appeal based on the application of nonacademic criteria. (See Berkeley Academic Guidellog information on Appeal of Grades in Courses and Examinations.) The procedure contains important time limitations and provisions about the interrelationship between this procedure and other campus complaint procedures. Copies of the procedure are available in 102 Sproul Hall.

#### 17. Graduation

The University awards degrees at the end of the Fall and Spring semesters. The Department of Mathematics holds its graduation ceremony in the Spring, normally in the latter part of May at Zellerbach Auditorium.

All graduating students in both the M.A. and Ph.D. programs must inform the Graduate Assistant in 910 Evans of their status early in the semester in which they plan to graduate. Please also keep the Graduate Assistant or vice chair posted concerning post-graduation plans.

#### 18. Career Placement Center

The Department maintains a binder of current job listings in the Graduate Office, 910 Evans Hall. Recent issues of Employment Information in the Mathematical Sciences, published by the AMS, may also be borrowed from the Graduate Office. The jobs appearing in these listings are almost exclusively academic. For information on positions in industry, the Career Center, 2111 Bancroft Way, 642-1716, is a valuable resource.

The job information available in 910 Evans is summarized below:

- AMS-MAA-SIAM booklet, Employment Information in the Mathematical Sciences, latest issue. This booklet includes how to access this information electronically. Request information by emailing: [cml-info@ams.org](mailto:cml-info@ams.org).

- Articles on job hunting, hiring surveys, and departmental guidelines for letters of recommendation.
- Sample curriculum vitae, resumes, and cover letters.
- A binder of job listings, mainly from academic institutions, but a few from industry.
- The Chronicle of Higher Education job listings.
- A bulletin board on Graduate Employment (located beside south-side elevator 3, outside 910 Evans). This bulletin board includes notices about workshops on academic job hunting at the Placement Center.

#### 19. Obtaining Information

For most questions on departmental procedures the Graduate Assistant can be extremely helpful. If she cannot answer a question, she will probably know who can. The Vice Chair for Graduate Affairs also holds regular office hours.

The graduate program at Berkeley is a large one, in which it is sometimes difficult for faculty to keep track of students' progress. If you find yourself in difficulty of any sort, please do not remain silent. Speak with the vice chair, the Graduate Assistant, or your advisor.

## M.A. REQUIREMENTS

### 1. M.A. Degree requirements

University requirements for the M.A. degree are given in the Berkeley Academic Guidelog. Chief among them are a two-semester academic residence requirement, a restriction on transfer credit from other institutions, and a choice between two plans:

**Plan I:** A minimum of 20 semester units of upper-division and graduate courses and a thesis. At least 8 of these units must be in graduate courses (200-level) in the Department of Mathematics at Berkeley (except that in special cases, upon recommendation of the Graduate Advisor and approval of the Dean of the Graduate Division, some of the 8 graduate units may be taken in other departments). Course units are not granted for the thesis.

**Plan II:** A minimum of 24 semester units of upper-division and graduate courses, followed by a comprehensive final examination. At least 12 of these units must be in graduate courses in the Department of Mathematics at Berkeley (except that in special cases, upon recommendation of the Graduate Advisor and approval of the Dean of the Graduate Division, some of the 12 graduate units may be taken in other departments). All courses fulfilling the above unit requirements must have significant mathematical content. In general, M.A. students are encouraged to take some courses outside the Department of Mathematics, keeping in mind the requirement that normally at least 12 graduate units (or 8 graduate units following plan I) are required in the Department of Mathematics. For both prospective teachers and those planning to work in industry, at least some acquaintance with statistics and computer science is essential, and for a larger number of students, courses in such fields as engineering, biological or physical sciences, or economics are highly desirable. A breadth requirement consisting of at least one course in each of three fields must be met by all students. Fields include: algebra, analysis, geometry, foundations, history of mathematics, numerical analysis, probability and statistics, computer science, and various other fields of applied mathematics. The last category specifically covers courses in a variety of departments, and the Graduate Advisor may allow more than one such course to count toward the breadth requirement. A depth requirement consisting of a coherent program of three courses all in one of the above fields, at least two of these courses being at the graduate level, must be met. Students interested in a field of applied mathematics are encouraged to take some of these courses outside the department.

A member of the Mathematics faculty serves as designated M.A. Advisor; the Graduate Assistant or Vice Chair can inform interested students of the M.A. Advisor's identity. Students should discuss their proposed program of study with the M.A. Advisor and obtain her or his approval as early as possible in their graduate careers, in order to be sure that the program is acceptable. As soon as the choice between plans I and II has been made and the program approved, the student, assisted by her or his advisor and the M.A. Advisor, should set up the thesis or examination committee. The chair has the primary responsibility for guiding the student's work for the thesis or examination.

## 2. Advancement to Candidacy

The student must submit an application for Advancement to Candidacy for the M.A. degree by the end of the fifth week of the semester in which the degree is to be awarded. The application for candidacy must be approved by the M.A. advisor, and by the Dean of the Graduate Division, before the M.A. examination can be taken or the thesis submitted for final approval.

## 3. The M.A. thesis (Plan I)

The thesis may be expository in nature or may present original research. In the former case, there should be a synthesis of several articles or books. The thesis committee has three members, recommended by the student's Graduate Advisor, and approved by the Dean of the Graduate Division. The chair of the committee (the Thesis Supervisor) must be from the Department of Mathematics, at least one other member must also be from Mathematics, and it is recommended, but not required, that the third member be from another department or group. The student should consult with the committee chair about the subject and plan of the thesis. To be accepted, the thesis must be approved by all committee members. The Graduate Division publishes the booklet *Instructions for Preparing and Filing Your Thesis or Dissertation*, available on-line at:

[http://www.grad.berkeley.edu/policies/degrees\\_office.shtml](http://www.grad.berkeley.edu/policies/degrees_office.shtml). The booklet contains all information and regulations regarding the Master's thesis, including specifications, materials, sample title and approval pages, and copyright information.

## 4. The M.A. examination (Plan II)

The M.A. examination is a two hour exam consisting of a 45 minute prepared talk on an advanced topic in the student's field of concentration, followed by 15 minutes of discussion on the subject of the talk, followed by two half-hour oral examinations, covering basic material in two different subfields of Mathematics. The student selects these two fields in advance of the examination, in consultation with the examination committee. A syllabus is distributed to the committee members and copy given to the Graduate Assistant with the application Plan 2 at least a month before the exam.

The committee to administer the M.A. examination consists of two or three faculty members approved by the M.A. Advisor and the student's Graduate Advisor; the number of examiners depends on the subjects of the prepared talk and the two half-hour examinations. The chair of the examining committee must be a member of the faculty of the Department of Mathematics. The student should consult with the committee chair concerning the details of the prepared talk. These examinations are scheduled individually; they are not normally given during the summer.

## 5. Filing Fee

Filing fee status permits eligible students to pay a modest fee in lieu of full registration fees for the term in which they plan to take the exam or submit the thesis. Students must apply to the Graduate Division for Filing Fee status by Friday of the first week of classes in the semester they plan to complete the M.A. **NOTE:** Students must be advanced to candidacy to be eligible for filing fee. For more information regarding the Filing Fee, please refer to the Guide to Graduate Policy, (available on-line at:

<http://www.grad.berkeley.edu/publications/gpp/index.shtml>). Students wishing to use the Filing Fee option should consult with the Vice-Chair for Graduate Affairs during the semester **before** the one in which they plan to complete their degree. Be aware that students may not hold GSI or GSR appointments while on Filing Fee status, nor may they use University facilities (e.g., the library) without paying additional fees. International students contemplating filing fee status should consult the Berkeley International Office (BIO) in advance, in order to avoid any complications with their visas.

In order to be eligible for Filing Fee status during Fall semester, a student must have been registered during the preceding Spring or Summer semester. Spring eligibility requires registration during the preceding Fall.



## Ph.D. REQUIREMENTS

The Department of Mathematics offers two Ph.D. degrees, one in Mathematics and the other in Applied Mathematics. The general rules governing the two degree programs are the same. In outline, to qualify for either of these degrees, the candidate must:

1. Take at least four 4-unit courses during the first year in the Ph.D. program, two or more of which are graduate courses in the Department of Mathematics. (Math 375 and 303 do not count towards satisfaction of this requirement.);
2. Pass a six-hour written Preliminary Examination, on material which is primarily at the undergraduate level, within thirteen months of entering the program;
3. Pass a three-hour oral Qualifying Examination emphasizing, but not exclusively restricted to, the area of specialization. This examination must ordinarily be attempted within twenty-four months of entering the Ph.D. program. (See below for a discussion of exceptions.) If it is not passed on the first attempt, a second try may be allowed. The second try must be made within thirty months of entering the program.
4. Complete a seminar, giving a talk of at least one hour duration;
5. Pass a language examination in one of French, German, or Russian;
6. Write a dissertation embodying the results of original research and acceptable to a properly constituted dissertation committee;
7. Meet the University residency requirement of two years or four semesters.

These requirements are explained in more detail below.

### 1. Course requirements

During the first year in the Ph.D. program, the student must enroll in at least four courses. At least two of these must be graduate courses in Mathematics. Math 375 and 303 do not count towards satisfaction of this requirement. Except with authorization from Committee Omega, no Ph.D. student may, during the first year, enroll in more than two courses from the following list: 104, 110, 113, 185 (or honors versions thereof).

Committee Omega will normally grant exceptions to the two-course limitation only for students whose preparation is substantially below that of a Berkeley A.B. in Mathematics with honors.

### 2. Preliminary Examination

The Preliminary Examination consists of six hours of written work given over a two-day period. The examination covers material, mainly in analysis and algebra, which should be part of a well-prepared student's undergraduate training. The Preliminary Examination is offered twice a year — during the week immediately preceding the first week of classes of both the Fall and Spring semesters. Because one is required to pass within thirteen months

of the date of entry into the program, one has three chances to take the exam. There is no penalty for failing, and students are strongly advised to attempt the Prelim each time it is offered until they have passed. A student who does not pass the Preliminary Examination within thirteen months will not be permitted to remain in the program past the third semester, except under exceptional circumstances. Students requesting exceptions must petition Committee Omega.

Students who need special accommodation for the prelim must obtain a letter from the [Disabled Student's Program](#) and must contact the [chair of the Preliminary Examination Committee](#) ten days before the exam so that any necessary arrangements can be made.

An abundance of material very useful in preparation for the Prelim is posted on the Department's web site. Moreover, the Mathematics Opportunity Committee (MOC) sponsors a Prelim Workshop each Summer and Fall, open to all students in the Department. See the MOC section for more details.

### 3. Qualifying Examination

#### 3.1 The Qualifying Examination committee

The student is responsible for taking the initiative in setting up a Qualifying Examination committee. The student should contact a faculty member in his or her intended field of specialization, who ordinarily is the prospective dissertation supervisor, and ask that individual's help in assembling an examination committee and constructing an examination syllabus.

The examination committee has four members and consists of at least two members of the Mathematics faculty, and at least one member of the UC Berkeley faculty from outside the Department. (Individuals holding joint appointments in Mathematics, even at zero percent, are not eligible to serve as outside committee members.) Further details can be found in the Guide to Graduate Policy document, available on Graduate Division's website.

#### 3.2 The Examination Syllabus

A qualifying exam covers three principal topics. Example: algebraic number theory, operator algebras, Lie groups. Two of these are designated as main topics, and one as a minor topic, which is examined in less depth than the others.

The subjects to be covered in the examination are decided jointly by the student and the committee, well in advance of the exam. The Department is formally (and somewhat arbitrarily) divided into six sections, described on the web site. The examination must contain material falling within at least two of these sections. In most cases, there is one area of concentration which has been studied in depth, divided into two main topics, plus a separate secondary area, the minor topic, in which the student can display reasonable proficiency. The official syllabus for the exam must list three subject areas, and for each, must explicitly designate which departmental section it falls within. A binder maintained in the graduate office, 910 Evans Hall, contains copies of all departmental Qual syllabi from recent years. This material is useful to students in the construction of their own syllabi. Students uncertain about the acceptability of their proposed topics should consult with the Vice Chair before placing too many eggs in too precarious a basket.

The examination syllabus is subject to review by the faculty of the two or more sections in which the examination is to be taken. At least **eight** weeks before the examination is to be taken, a reasonably detailed syllabus, approximately one page in length, is to be circulated to all members of each relevant departmental section. The Graduate Assistant will distribute a PDF copy of the syllabus to the appropriate faculty. The outline must specify the names of the examiners, the section to which each of the three topics belongs, and the proposed date for the examination. Syllabi archived in the above-mentioned binder are a good guide as to format.

A faculty member wishing to object to a proposed examination outline must do so within two weeks of the date of circulation of the syllabus. Formal objections should be directed to the Vice Chair for Graduate Affairs, but the faculty member may wish first to discuss the objection informally with the student or a member of the committee. The student should not assume that the examination syllabus is approved until this two week period has elapsed. In recent years, such objections have been rare. If there is serious disagreement over an examination proposal, the examination may have to be postponed until the disagreement is resolved. The student is responsible for organizing his or her schedule to allow for such potential delay; circulation of the outline earlier than required is a wise precaution.

### 3.3 Application for the Qualifying Examination

At least **four** weeks before the examination is to be taken, the student must file a formal application for the Qualifying Examination on the appropriate departmental form. It specifies the final plan for the examination, and the membership of the examining committee. Legally, Qualifying Examination committees can be constituted only by the Dean of the Graduate Division, and the examination must not be taken before the committee is formally constituted. The four-week deadline is necessary to give the Graduate Assistants and the Dean's office time to do the required paperwork, and is strictly enforced by the Dean's office. A copy of the examination outline circulated to the faculty of the sections should accompany the application. It is not necessary that the language examination be passed before the Qualifying Examination can be attempted.

A qualifying exam is not valid without Graduate Division's approval of the application, and if this approval has not been obtained prior to the scheduled date the exam will have to be postponed.

The application must state whether the exam is in preparation for the Ph.D. degree in Mathematics, or in Applied Mathematics. A student who passes the Qualifying exam for one degree, then later wishes to obtain the other degree, will be required to retake the exam. No kidding.

### 3.4 Time limits

The Qualifying Examination must be taken within 24 months of the date of entry into the Ph.D. program. The Department has in the past been sympathetic to well-justified requests for short extensions of this time limit (e.g. to the beginning of the Fall semester of the third year). Requests for extensions to the Fall semester of year 3 should be made to the Vice Chair for Graduate Affairs; requests for further extensions must be directed in writing to Committee Omega. These should be carefully justified and, in particular, should specify a plan of study which will prepare the student to take the examination at the proposed time. Finally, they should be made early; Committee Omega is very unlikely to

approve last-minute requests. Students should also be aware that a leave of absence does not carry with it an extension of the Qualifying Examination deadline. Leaves which necessitate postponement of the Qualifying Examination should be discussed beforehand with Committee Omega.

A student planning to take the exam early in the Fall Semester of his or her third year is advised to make the preparations by the end of the preceding Spring Semester. It can be difficult to arrange Summer exams because of faculty travel.

International students please note that the Department does not provide the nonresident supplemental tuition support beyond the end of the second year. The Qualifying Examination must be passed, and the paperwork required for advancement to Ph.D. candidacy completed, before a semester begins, in order for a student to qualify for exemption for nonresident supplemental tuition. This exemption is valid for three years.

If a student does not pass on his or her first try, then on recommendation of the examining committee, and with the approval of the Graduate Division, a second try may be permitted. Graduate Division requires that at least three months must elapse between the two tries, and that the examining committee must be the same; reconstitution of the examining committee is possible only under extraordinary circumstances. By departmental rules, the second try must take place within thirty months of entrance into the Ph.D. program. Graduate Division does not permit third tries.

### 3.5 Examination committee chair

Since Qualifying Examination committees consist of at least four people, there must be a chair responsible for seeing that the examination proceeds smoothly and fairly. Graduate Division rules require that the chair not be the student's eventual Dissertation Supervisor, in order to ensure fairness. This poses problems under our Qualifying Examination system since the Dissertation Supervisor is not necessarily known at the time of the examination. The student should therefore choose as committee chair that member least likely to serve as Dissertation Supervisor. The eventual dissertation supervisor need not be a member of the Qualifying exam committee. It is common for the dissertation committee to be a subset of the Qualifying exam committee, but this is not required.

### 3.6 Outside examiners

As noted above, each examination committee must have one member from outside the Department of Mathematics. Ideally, the outside examiner should participate from the beginning in the formulation of the examination syllabus, but this is often not the case, and the student should not delay circulating the syllabus because of the lack of an outside examiner at that time. The main responsibility for finding the outside examiner rests with the student and the departmental members of the committee. A student who has taken a course outside the Department of Mathematics might ask the instructor in that course to serve. Prospective dissertation supervisors serving on Qualifying exam committees are often able to help students to recruit outside examiners. Otherwise, the student may consult the list maintained by the Graduate Assistant of faculty members in other departments who have been willing—at least in the past—to serve on Department Qualifying Examinations. If all of these approaches fail, the student should discuss the problem with the Graduate Vice Chair.

UCB faculty holding joint appointments in other departments and Mathematics are generally not eligible to serve as outside members. See the Guide to Graduate Policy document for further details.

### 3.7 Preparation

At the Qualifying Examination, students must demonstrate that they know and understand important definitions and results, can prove these results, can apply them to particular problems, and can give relevant examples. In addition to taking courses, reviewing their contents, and independently studying texts, many students find it to be valuable to have more experienced fellow students administer “mock” or “practice” examinations. This can give the student a sense of what to expect, what it is like to organize one’s thoughts and formulate them clearly “on one’s feet”, and whether one’s command of the material is adequate. The mock examiner should criticize both the answers and the presentation. Repetition of the mock exam may be helpful if areas of weakness are revealed.

### 3.8 Dissertation Supervisor

The departmental legislation governing the Qualifying Examination system contains the following provision: For a student to pass the Qualifying Examination, at least one member of the subject area group must be willing to accept the candidate as a dissertation student if asked.

This means that, even if the student’s performance on the examination is otherwise passing, the student does not pass unless some member of the faculty certifies willingness to accept him or her as a dissertation student. This provision ensures that examination committees do not—out of indecision or misguided kindness—pass students who have no realistic hope of finding Dissertation Supervisors. It also serves to divert students from subfields in which there are more students than the available faculty can effectively supervise. A student who has not already been accepted by a Dissertation Supervisor should pay attention, in setting up the Qualifying Examination committee, to include some faculty members who are willing to accept additional research students. The student is not required to actually select as Dissertation Supervisor a member of the Qualifying Exam committee. However, in the majority of cases, the student makes a tentative choice of supervisor in advance of the exam, and the prospective supervisor is aware of this choice, and serves on the exam committee.

### 3.9 The Qualifying Examination in Foundations

At one time in the past, Qualifying examinations in Foundations were governed by a separate set of rules. As of Spring 2008, this is no longer the case.

## 4. Seminars

Each student is required to complete a seminar in which he or she gives a talk, at least 50 minutes in duration. Seminars generally explore the frontiers of knowledge and help in preparation for research. On completing the seminar, the student should file with the Graduate Assistant a departmental seminar completion form, signed by the faculty member in charge of the seminar. The student need not be registered in a seminar course to fulfill this requirement. However, a faculty member must be present and be willing to sign the appropriate form. The seminar should normally be given in the Department of Mathematics; proposals to accept a seminar from another department in fulfillment of this requirement will

be granted only exceptionally and only if approved in writing by the student's Graduate Advisor before the seminar is given. The seminar requirement must be satisfied within eighteen months of advancing to candidacy.

In addition to the seminar requirement, it is expected that every student completing the dissertation will make at least one presentation on their research to a Seminar in the Department. A single seminar can simultaneously fill this expectation and the requirement described in the preceding paragraph.

#### 5. Language examinations

The student must pass a written examination in one of French, German, or Russian. Each examination consists of translation of a short passage of mathematical literature from the foreign language into English; the use of a dictionary is allowed. The translation must be written in clear and precise English and must demonstrate that the student has understood the mathematical content of the passage. Language examinations are offered in the fifth week of each Fall semester; date and time will be posted on the bulletin boards outside 910 Evans. The examination may be repeated an unlimited number of times. Neither coursework, nor evidence of native fluency, may be substituted for the examination.

In the past, two foreign language exams were required, one before advancement to Ph.D. candidacy, but both of those policies were eliminated during the 2007-8 academic year.

#### 6. The M.A. degree for Ph.D. candidates

In our program, most Ph.D. students do not ever receive the M.A. degree; but it is easy to do so if one so wishes. Students in the Ph.D. program who wish to earn the M.A. degree must:

- Apply formally for advancement to candidacy for the M.A. by the fifth week of classes in the semester the degree is to be awarded.
- Obtain certification from the designated M.A. Advisor that the program of study meets departmental breadth and depth requirements. (Most reasonable programs of study for the Ph.D. meet these requirements without difficulty.)
- Pass an M.A. comprehensive examination or write an M.A. thesis.

Further details are available from the Graduate Assistant.

#### 7. Advancement to candidacy and dissertation

Students must advance to candidacy by the end of the semester following the one in which the Qualifying Examination was passed. To be eligible to be advanced to candidacy, the student must:

- Pass the Qualifying Examination.
- Obtain a Dissertation Supervisor.

- Obtain the agreement of an additional committee member from inside the Department, and a third committee member from outside the Department, to serve on the dissertation committee.

When the student passes the Qualifying Examination, the Graduate Assistant will notify the Graduate Division. The student picks up an application for Advancement to Candidacy from the Graduate Office or from the Graduate Division website. The Vice Chair for Graduate Affairs signs the Advancement to Candidacy form, thus recommending the members of the dissertation committee to the Dean of the Graduate Division. Rules governing the constitution of the dissertation committee are given in detail in the Guide to Graduate Policy. The prospective Dissertation Supervisor, if a member of the Academic Senate on this campus, is nominated to chair the committee. One member of the committee must be from outside the Department of Mathematics; again, faculty holding joint appointments in another department and in Mathematics are ineligible to serve as the outside committee member.

Advancement to Ph.D. candidacy confers upon a student full exemption from nonresident supplemental tuition charges for a period of three years. Students who are not legal residents of California are again subject to nonresident supplemental tuition charges after expiration of this exemption.

#### 8. Candidate in Philosophy degrees

The degrees of Candidate in Philosophy in Mathematics and Candidate in Philosophy in Applied Mathematics give formal recognition to a definite state of progress toward the doctorate; at the student's request, they may be awarded after advancement to candidacy for the corresponding Ph.D. degree. The C. Phil degree is not commonly taken, but may be useful to advanced students who decide to leave the program without completing a dissertation, and seek formal acknowledgement of the very significant work, which they have done beyond the M.A.

#### 9. Annual progress report

Once a year, a student advanced to candidacy is required to meet with at least two members of the dissertation committee in order to discuss his or her progress over the past year and plans for the coming year. After the meeting Graduate Division rules require that a written report on the outcome of this discussion must be submitted to the Graduate Assistant before the end of the Spring semester and is forwarded to the Dean of the Graduate Division. A written report is filed with the Graduate Division by the dissertation supervisor.

The Graduate Vice Chair monitors the progress of all students and attempts to meet individually with most students, especially those not yet advanced to candidacy, once each year. Students are required to participate in these meetings when requested to do so.

The academic progress of a Ph.D. student in the dissertation stage is assessed by the Graduate Vice Chair in consultation with the dissertation supervisor. Students in the pre-dissertation stage are reminded of two departmental requirements:

(1) passage of the Preliminary Examination before beginning the third semester in the Ph.D. program;

(2) attempt of the Qualifying Examination within the first two years in the Ph.D. program.

In regard to (1), a student who fails to pass the Preliminary Examination on the final attempt but wishes to remain in the Department to earn an M.A. should speak with the Vice Chair for Graduate Affairs concerning the possibility of continued financial support. In regard to (2), extensions can be granted by the Graduate Vice Chair to students who are able to document specific plans to take the Qualifying Exam early in the Fall semester of the third year. A student unable to meet this deadline must appeal to Committee Omega by the last week of classes of the preceding Spring for an extension. Extensions are granted only for good cause. The Vice Chair will be able to advise the student on the likelihood of obtaining an extension.

#### 10. Dissertation matters

The dissertation committee has the responsibility for determining whether a submitted dissertation draft is acceptable for the Ph.D. The student must keep in touch with all members of the committee, who cannot be expected to approve the dissertation without adequate time to read it. Graduate Division rules require that members of the committee be allowed two months to read the dissertation. The student may have to make special arrangements with any members who will be out of town at a time when their advice or signatures are needed. Whether or not the student is in Berkeley when the dissertation is filed, it is the student's responsibility to be informed of and to meet all deadlines for filing final forms with the Graduate Division. The Department will not assume this responsibility, but the Graduate Assistant is available to advise students of requirements and procedures. Students should let the Graduate Assistant know when they anticipate completing work for the Ph.D., and should please inform the Graduate Assistant and Vice Chair for Graduate Affairs of their post-graduation plans.

The Graduate Division issues the booklet *Instructions for Preparing and Filing Your Thesis or Dissertation*, copies of which can be found on the Graduate Division website. The booklet contains all information and regulations regarding the Ph.D. dissertation, including specifications, materials, sample title and approval pages, and copyright information.

#### 11. Filing fee

Filing fee status permits eligible doctoral students to pay a modest fee in lieu of full registration fees for the term in which they file their dissertations. Students on filing fee status are not registered, and do not pay nonresident supplemental tuition. Students must apply to the Graduate Division for Filing Fee status by Friday of the first week of classes of the semester in which they plan to file their dissertations.

For more information regarding the Filing Fee, please refer to discussion above under M.A. degrees, as well as to the Guide to Graduate Policy (available on-line at: <http://www.grad.berkeley.edu/publications/ggp/index.shtml>). Students wishing to use the Filing Fee option should consult with the Vice-Chair for Graduate Affairs during the semester before the one in which they plan to complete the degree. Be aware that students may not hold GSI or GSR appointments while on Filing Fee status, nor may they use University facilities (e.g. the library) without paying additional fees.



International students contemplating Filing Fee status should consult the Berkeley International Office (BIO) to avoid any complications with their visas.

## FINANCIAL SUPPORT

### 1. Departmental support

The current policy of the Department is to offer five years of full financial support to every student entering the Ph.D. program, contingent on satisfactory academic progress and satisfactory performance of any teaching duties. This includes a stipend/salary, plus full remission of registration fees, plus nonresident supplemental tuition for a limited period (see below). Fellowships from any sources, and Graduate Student Instructorships and Researchships from the Department of Mathematics or other departments on campus, count as part of this promised support. Loans and outside employment do not count. Students may ask their faculty advisors for suggestions on other sources of financial support.

All students must submit the Support Application form each year that they are enrolled. These are due in early March and are required for all students requesting departmental support, including registration fee and nonresident supplemental tuition remissions, and GSI, GSR, and fellowship appointments. All domestic students are asked to fill out the Free Application for Financial Assistance Application (FAFSA).

Elements of the definition of "satisfactory academic progress" include passing the Preliminary and Qualifying Examinations by prescribed dates, maintaining a GPA of at least 3.1, and progressing towards completion of the dissertation after passing the Qualifying exam. Determination of satisfactory academic progress is made by the Graduate Vice Chair, in consultation with individual advisors and with other faculty when appropriate. Students transferring to Berkeley from other graduate programs should discuss the Department's expectations for their progress with the vice chair early in the first semester of enrollment. Extension of a particular time limit by Committee Omega does not automatically entail any extension of other subsequent time limits, nor does it automatically entail a corresponding extension of financial support.

#### 1.1 Graduate Student Instructorships

The Department offers a limited number of 50% Graduate Student Instructorships. Applications are solicited each semester via procedures consistent with the union contract. Students desiring GSI appointments must apply. Holders of certain internal and external fellowships may be eligible for partial GSI appointments. In exceptional cases, including those involving special departmental staffing needs, students are hired up to 75% appointments, but ordinarily acceptance of more than 50% employment is discouraged, especially for first-year students.

The Graduate Division holds a mandatory orientation and training conference for new GSIs each semester. Please refer to the Graduate Division's GSI Teaching and Resource Center in 301 Sproul Hall, <http://gsi.berkeley.edu/> (642-4456). Students in the first semester of GSI service at Berkeley are **required** to enroll in Mathematics 375. Prior teaching experience elsewhere does not exempt new GSIs from Math 375.

There have been times in the past when the number of students eligible for GSIs has exceeded the number of GSI positions available in the Mathematics Department, but this has not been the case in recent years. Departments such as Physics, Statistics, Computer Science, and others, occasionally have additional GSI positions available for their classes

which they fill with graduate students from other departments, including Mathematics. We encourage interested students to contact those departments directly, at:

Computer Science 642-0544

Physics 642-0546

Astronomy 642-8520

Statistics 642-5361

Haas Business School 642-0004

**Please let the Department know if you have an appointment in another department to insure the full payment of your fees.** An iron-clad university policy prohibits graduate students from holding GSI appointment for more than 12 semesters.

For more information, see the Graduate Student Instructor section, following on page 28.

## 1.2 Graduate Student Researchships

A number of positions as Graduate Student Researchers are also available. These are funded by research grants held by individual faculty members or groups of faculty, and are awarded at the discretion of those faculty. Most GSR positions go to advanced students engaged in dissertation research under the supervision of grant principal investigators.

## 1.3 Fees/Nonresident supplemental tuition

Part of the Department's support offer to incoming Ph.D. students consists of fee remissions and, when applicable, nonresident supplemental tuition (NST). For US citizens and permanent residents, the Department covers nonresident supplemental tuition **only for the first year**. These students are expected to become legal residents of California by the beginning of year 2, and thereby to become exempt from nonresident supplemental tuition charges. For international students, nonresident supplemental tuition is covered by the Department for the first two years of study, after which students are expected to have advanced to Ph.D. candidacy. Advancement to candidacy carries with it a 3 year exemption from NRT.

## 1.4 Readerships

Limited income, and sometimes registration fee remission, may be earned through employment as a Reader. Applications for Readerships are available from Marsha Snow in 970 Evans Hall. Preference in hiring is given to the Department's graduate students. First year international students who enjoy fellowships, but who desire limited employment in order to qualify for US social security numbers, sometimes find limited time Reader positions to be useful. International students who are not eligible for GSI appointments because of limited English language skills are sometimes appointed as Readers.

## 1.5 Tutors

Some graduate students earn money as tutors. Tutors make their own individual arrangements, but the Department maintains a registry of tutors, which is made available on the Math Department website. To be included on the tutor list, speak with Marsha Snow in 970 Evans.

## 1.6 Summer Teaching

Applications for Summer Sessions appointments are available early in the Spring semester. Since Summer GSIs are entirely responsible for the conduct of their classes, more weight is given to teaching ability for summer appointments than for academic year appointments.

## 1.7 12 Unit Rule

Only full-time students are eligible for GSI and GSR appointments, and for certain other types of funding. In order to qualify as a full-time student in a given semester, one must be registered for at least 12 units of coursework. Almost all regular departmental courses are worth 4 units. Reading (299) and individual research (295) may be taken for up to 6 and 12 units, respectively. 295 is open only to students who have advanced to Ph.D. candidacy.

Many students in the first two years of study find that two courses, plus a 50% GSI appointment, constitutes a full schedule. For students in this position, several options are available in order to carry the 12 units required to qualify for full-time status. (i) Math 375 (4 units) trains new GSIs in teaching, and is required for all students in the first semester of GSI appointment. (ii) Math 303 provides credit for the professional training which students gain through GSI service. 303 is worth 4 units for students holding 50% appointments, and 2 units for 25% appointments. It can be taken a maximum of 4 times. It cannot be taken concurrently with 375. (iii) Independent research (295) can be worth up to 12 units. For students who have advanced to candidacy, this is often the preferred option. Students who have not yet advanced, but are doing supervised reading (e.g. in preparation for the Qualifying exam) under the direction of individual faculty, should register for 299. (iv) Math 602 provides variable unit credit for independent study in preparation for Preliminary or Qualifying examinations. It is the final option for students for whom other options are not feasible. Approval for enrollment must be obtained from the Graduate Vice Chair.

Students must beware not to drop below 12 units by dropping classes during the semester. Graduate Division has announced its intention to force anyone who does this while holding GSI/GSR appointments to repay to the university their fee remission for the semester.

## 2. Support outside the Department

The Department encourages students to explore other possible sources of fellowships and employment. Fellowships for Berkeley graduate students fall into three main categories: University multi-year fellowships, Mathematics Department fellowships, and extramural fellowships. The last category includes all fellowships funded by sources outside of the University, such as government agencies (including NSF, DOD, NSA, NDSEG), foundations, and corporations.

The Fellowships Unit, 318 Sproul Hall, administers several fellowships and is also a great

resource center for students seeking information on fellowships funded by the University and outside sources. Call this office at 642-0672 and be sure to read the Graduate Division handout Fellowships for Graduate Study.

## 2.1 University Financial Aid

This consists of loans, grants, or a combination thereof, the amount depending on the student's "need" as calculated by the Financial Aid Office.

Information and application for Financial Aid, including work study support, is available at the Cal Student Central, 120 Sproul Hall (510) 664-9181.

Questions about need-based programs should be directed to the Cal Student Central, 120 Sproul Hall (510) 664-9181. Only U.S. citizens and those with permanent residence status may apply for funds administered by the Financial Aid Office. It is rare for Mathematics graduate students to receive financial support of this type.

## 2.2 Graduate Division Fellowships

The Office of the President and the Graduate Division offer two types of fellowships for continuing graduate students who are U.S. citizens or permanent residents. The fellowships are:

- University of California Dissertation-Year Fellowship. Eligibility requirements include evidence that applicants can complete the dissertation during the award year.
- Mentored Research Award. Eligibility requirements include provision for a faculty mentor to monitor the student's progress. These fellowships are appropriate for students who have just passed the Qualifying Exam.

Students do not apply directly for these fellowships, but can ask to be nominated by the Department. Nominations include letters from students' advisors and the Graduate Vice Chair. Nominations are made in March. Students interested in being nominated should contact their advisor and the vice chair.

## 3. For More Information

- Please see Graduate Divisions web site: <http://grad.berkeley.edu/financial/> for more information about support available at Berkeley.
- Employment alternatives
- Student Learning Center 642-7332
- Summer Bridge 642-5983
- MESA Program 642-2041

- Minority Engineering Program 642-2041

GRADUATE STUDENT INSTRUCTORS

**REMEMBER!!!**

You must complete **each** step each **every semester** you are a GSI.

- You must be here by the first day of classes. First time GSIs must be here Wednesday of the week before classes start. **Make your flight plans accordingly!**
- First-time GSIs must attend the GSI Teaching & Resource Center's Orientation Conference held the week prior to the start of classes.
- First-time GSIs must enroll in Mathematics 375.
- Register in 12 units by the end of the first week of classes.
- If necessary, pay fees.
- See Yue Liu, 916 Evans Hall, if you have payroll or salary issues.
- Contact the faculty member with whom you are working.
- Pick up textbook in 970 Evans Hall.
- Inform staff in 970 Evans Hall of your office hours.
- First-time GSIs **must** successfully complete, **no later than the end of the secondthird week of classes**, an online short course on professional ethics and standards in teaching.
- Submit e-grades. Turn in **legible** grade sheets, final exams (divided by discussion section and in alphabetical order), and textbook to 970 Evans Hall.
- **You must be here to grade the final exam, compute and enter grades, and submit grade sheet, final exams and textbooks to 970 Evans. MAKE YOUR TRAVEL PLANS ACCORDINGLY.**

The Graduate Division's GSI Teaching and Resource Center is located in 301 Sproul Hall, <http://gsi.berkeley.edu>, 642-4456.

## 1. Mathematics Department Information Manual for GSIs

### **UC Berkeley Department of Mathematics**

#### **INFORMATION MANUAL FOR GRADUATE STUDENT INSTRUCTORS**

Welcome to GSI service in the Department of Mathematics. This set of instructions is designed to introduce you to your responsibilities as a GSI. We hope that you will read them carefully and refer to them whenever necessary during your appointment.

In the hiring of college and university faculty throughout the United States, including Berkeley, great emphasis is placed on teaching ability. The Department of Mathematics offers you, as a GSI, direct assistance and experience, both deep and varied, to help you to become a well-qualified teacher of mathematics. During your time in Berkeley you will find that there are rewards for good teaching – the better GSIs get the better teaching assignments and are awarded summer teaching positions; excellent GSIs are nominated yearly for Outstanding GSI awards (which give you a leg up in the competition for that first post-Ph.D. faculty job). A good teaching record leads to strong letters of recommendation concerning your teaching skills.

#### **THE DUTIES OF A GRADUATE STUDENT INSTRUCTOR**

Your duties as Graduate Student Instructor (GSI), under the supervision of a faculty lecturer, include conducting discussion sections, holding office hours, consulting frequently with the faculty lecturer, attending the lectures, correcting examinations, and, at the discretion of the instructor, grading homework and/or providing homework solutions.

The lecturer sets the pace for the course, determines the grading policy, presents the main lectures, assigns the homework, makes up the examinations, and supervises/assists the GSIs in grading the examinations. Typically, GSIs do not lecture in the discussion sections. Instead, they review homework assignments and guide the students in problem solving.

Since it is the GSIs who meet with students in small groups, it is your responsibility to get well acquainted with your students, to find out what the students' problems are, and to help remedy these problems. You should inform the lecturer of the progress of the students, and call to his/her attention material with which the students are having unusual difficulties.

You should see the faculty lecturer with whom you are teaching prior to meeting your first discussion sections. If the lecturer does not call a meeting or send instructions, or if you are appointed late and miss the meeting, you are ultimately responsible for making contact. You should let the lecturer know how to reach you on short notice.

Faculty evaluations of their GSIs are requested at the end of the semester. These evaluations are included in your file and are available for your inspection.

Compensation for the semester begins on the first day of the semester (approximately one week before the start of instruction). You are expected to be available during that week,



even if you have not yet been assigned to a specific class. You are also expected to be present at the end of the semester until all exams have been graded, grades submitted, and gradesheets and final exams are submitted to 970 Evans Hall. Be sure to obtain the approval of your faculty lecturer before scheduling your departure from Berkeley at semester's end; allow adequate time for the grading of final exams and the computation and recording of final course grades. **Do not leave town** without submitting grade sheets to the Department.

## **HOMEWORK AND QUIZZES**

Due to budget constraints, which vary from year to year, the Department may be unable to provide readers for lower division classes. The faculty lecturer may ask you to create and administer periodic quizzes, as a means of evaluating section work. He/she might also ask you to provide homework solutions on a rotating schedule with the other GSIs for the course. She/he may instruct you to grade homework, although this is not commonly done.

## **TEXTBOOKS**

GSIs are entitled to copies of the course text, which must be returned at the end of the semester. You may obtain your copy in 970 Evans Hall. Since you are responsible for replacing lost or stolen textbooks, you should never leave them unattended.

## **REPRODUCTION OF CLASS MATERIALS**

Departmental copy machines are located in 958 Evans; you will be issued a key by Kathy Santos. To use the larger of the two copy machines, you need to enter an authorization number (119 for GSIs).

These machines are available for duplicating homework solutions, quizzes, etc. (The computer printers are not intended for production of multiple copies of documents, e.g. course handouts.) The Department cannot finance the duplication of non-course related materials. Coin-operated duplicating machines are located in the Mathematics Library (on the first floor of Evans Hall), in Moffitt Undergraduate Library, and in the Student Union Building, as well as in many commercial businesses in the Telegraph and Northside areas.

## **OFFICE HOURS AND OFFICE ASSIGNMENTS**

GSIs with 6 hours of discussion per week should hold three office hours per week. GSIs with 4 hours of discussion per week should hold two office hours/week. The latter applies to GSIs with 25% appointments.

Offices are provided so that GSIs have suitable spaces in which to hold office hours. In recent years, resources have been sufficient for all Mathematics graduate students to be assigned office space. Assignments are made by the Mathematics Graduate Student Association through its annual office draw procedure.

## **REVIEW SESSIONS**

Many GSIs hold review sessions for their students before each examination. Often, several GSIs for the same course will take turns holding these sessions. One-time room reservations for a classroom for review sessions or other additional class meetings may be made by completing request forms available in 970 Evans Hall. Room requests should be made at least one week in advance of the day needed.

## **ABSENCES**

GSIs should make every effort to attend all their section meetings. However, if you must miss one or more section meetings, you should notify both the faculty lecturer and Mark Jenkinson in 967 Evans (642-2479) as far in advance as possible. **It is your responsibility to arrange for a replacement.**

If you are unable to attend a scheduled office hour, you should leave a note on your office door beforehand. If you need to cancel an office hour on short notice, call the Front Office, 642-6550, and ask to have a note posted on your door.

## **GRADES**

The faculty lecturer determines the grading structure for the course, i.e., the percentage based on the exams, homework and quizzes, class participation, etc. GSIs, however, maintain the grade record for each of their students on detailed grade sheets (available in 970 Evans). These grade sheets must be neat and legible. The **original** sheets must be submitted with the final grades. The detailed grade sheets are kept on file, and provide the administration with a means of identifying the grading system if problems arise. It has happened that undergraduates have noticed genuine errors in their grades two or more years after the fact, after their GSIs had themselves graduated. Only well maintained grade records permit the righting of such wrongs.

The Department will not release grades directly to students or post them. The posting of grades with students identified by name, or alphabetically by student identification numbers, violates Federal and State confidentiality statutes.

Students have access to their grades shortly after their posting in the Bear Facts system.

Students may give you a stamped, addressed postcard so that you can mail them their final grades. They are also able to access their grades through the online Telebears system.

You may have a student request an Incomplete for the course. The decision to award an Incomplete can only be made by the faculty lecturer. Students contemplating incompletes grades should be advised to consult the faculty lecturer immediately.

## **STUDENTS WITH DISABILITIES**

Students with disabilities (visible or not) may present to you letters from the Disabled Students Program requesting or recommending special accommodations. Such matters should be discussed with the faculty lecturer before any action is taken.

## **FERPA – PRIVACY ISSUES**

By University regulations you are not permitted to discuss a student with other parties. This includes the student's parents. You cannot discuss grades, performance, attendance, or any other issue relating to the student.

## **EXAMINATIONS**

The number of midterm examinations varies at the discretion of the faculty lecturer. Final examinations are mandatory in all undergraduate courses.

A listing of final examination dates and times can be found on the on-line schedule of classes for each semester. The listing is by exam group, which is determined by the hour and days in which the class is scheduled. GSIs are required to proctor and grade both midterm and final exams, according to the instructions of the faculty lecturer. If you are planning to leave town, make sure you will be around for at least two days after the final, and verify with the faculty lecturer the date on which you are free to depart. It usually takes at least two days to grade exams and to determine and record final course grades. GSIs are responsible for entering their final grades via the e-grades system. Note: Grades for a course cannot be submitted until all GSIs have entered grades for their sections.

## **EVALUATIONS**

Near the end of the semester, GSIs receive evaluation forms (with instructions) for distribution to their students. These are completed anonymously, are kept on file in the Department, and are available for GSI review after submission of final course grades. Evaluations are a factor in future GSI appointments and assignments. They are taken into account in the University Outstanding GSI Award competition. **It is strongly recommended that you review your evaluations.**

Before you leave the University you may choose to make copies of your evaluations for future use.

## **ABSENCES**

GSIs should make every effort to attend all their section meetings. However, if you must miss one or more section meetings, you should notify both the faculty lecturer and Mark Jenkinson in 967 Evans (642-2479) as far in advance as possible. It is your responsibility to arrange for a replacement. If you are unable to attend a scheduled office hour, you should leave a note on your office door beforehand. If you need to cancel an office hour on short notice, call the Front Office, 642-6550, and ask to have a note posted on your door.

### **Guidelines for handling GSI absences**

Graduate Student Instructors play a crucial role in the teaching mission of the department. The teaching in discussion sections by GSIs complements the traditional lecture format provided by the instructor of the course, and often the GSI is the primary instructional contact for students. In addition, GSIs play an essential role in the administration of the course including grading, proctoring, and managing unusual circumstances that arise.

The terms and expectations for GSIs are detailed in a variety of sources, including meetings with the instructor in charge of the course they are teaching, math 375, the graduate student handbook, and

the union contract.

The purpose of this document is to clarify and elaborate upon math department policies regarding leaves that would be considered under paragraph F of Article 17 of the union contract. This includes, but is not limited to, requests for leave to attend conferences or to present research at other institutions.

When requesting a leave from GSI duties, early (when possible) and clear communication with the instructor is of paramount importance. The granting of such leaves are at the discretion of the faculty supervisor.

It is important to recognize the impact that leaves have on students, fellow GSIs, and the faculty member in charge of the course. For example, an absence from grading an exam, even with an arranged substitute, can significantly affect the workload of fellow GSIs and the faculty member in charge, GSI input is often an important consideration when determining grade distributions, and a substitute grader, while mathematically qualified, may not be sufficiently familiar with an instructor's expectations and with a specific semester's content to grade fairly. An absence from office hours or section immediately preceding a midterm can significantly affect the preparation of students for such an exam, and so on.

#### **Handling short-term absences to attend conferences and other professional development.**

The department recognizes the dual role of graduate students as both instructors and students, and tries to support activities related to their professional development. Ordinarily GSIs are aware of conflicts arising from such activities long in advance and should notify the instructor of their request for leave as soon as they are aware of the conflict, frequently at the beginning of the semester. If the request is granted the GSI should arrange for a suitable substitute, notify the instructor of who is covering the GSI's duties in their absence, and ensure that the instructor approves of the arrangement. It is against department policy for a GSI to pay for the substitute's work.

#### **Handling unexpected absences**

If you must unexpectedly miss a section meeting, you should, as soon as possible, notify the instructor in charge and the Director of Student Services Mark Jenkinson in 967 Evans (mjenkinson@berkeley.edu, 642-2479). In an emergency where the instructor in charge cannot be reached it is better to arrange a qualified substitute without any approval than to allow a class to go unmet. If you are unable to attend a scheduled office hour, you should leave a note on your office door beforehand. If you need to cancel an office hour on short notice, call the Front Office, 642-6550, and ask to have a note posted on your door.

#### **Further advice**

Unusual and unexpected situations may occasionally arise affecting your GSI appointment. If you have any questions or concerns related to your GSI appointment please see the instructor in charge of your course, the Director of Students Services Mark Jenkinson (967 Evans, mjekinson@berkeley.edu), or the Vice-Chair for Graduate Affairs Jon Wilkening (879 Evans, wilken@math.berkeley.edu).

<sup>1</sup> The statement of which can be found here (note in particular Article 17 which concerns leaves):[http://atyourservice.ucop.edu/employees/policies\\_employee\\_labor\\_relations/collective\\_bargaining\\_units/academicstudentemployees\\_bx/agreement.htm](http://atyourservice.ucop.edu/employees/policies_employee_labor_relations/collective_bargaining_units/academicstudentemployees_bx/agreement.htm)

## SOME ANSWERS TO FREQUENTLY ASKED QUESTIONS:

### ***Payroll questions***

Pay rate is determined by step. See your appointment letter for pay rate information. Paychecks are issued on the first day of each month (September through January; February through June), and are available on the last working day of the month if the 1st falls on a Saturday or Sunday. Many banks offer the option of having your UC paycheck deposited directly into your account. Campus Shared Services can tell you more about how to arrange for this service.

**Student Health Insurance Program (SHIP)** fee remissions will be available for graduate students appointed to 25% time or more.

### ***What should I do if I know my students are struggling in the course (e.g., if they receive a D or F on their first exam)?***

This is a complex question, one that has no easy answers but highlights a vital role filled by GSIs. Often, GSIs are the first university personnel to become aware of students' difficulties. You should establish personal contact with any such students after the first exam, perhaps by a note on their exam inviting them to see you for assistance. You should familiarize yourself with the services of the **Student Learning Center** (643-7332) and the Office of Undergraduate Advising (642-1483; this number is for instructors' use only), which can provide counseling and assistance for students before their academic difficulties worsen. You can also send them to speak with one of the Mathematics Department's undergraduate advisors, Jennifer Sixt, 964 Evans Hall, or Thomas Brown, 965 Evans Hall.

Information concerning tutors is available on the Mathematics Department web page.

### ***What should I do if a student comes to me with a personal problem?***

Students are more likely to come to GSIs than to professors with personal problems. While some personal contact and advice is certainly within the domain of your role as GSI, for larger personal problems you should refer students to the health services on campus available for them. Among these are the **Counseling and Psychological Services** office (642-9494), **The Tang Center** (642-2000), **Social Services and Patient Education** (642-6074), and the **Women's Center** (642-4786). It is a good idea to familiarize yourself with the different services provided by these resources. The Counseling Center, for instance, offers telephone consultation for GSIs concerned about a particular student. Keeping a file on campus resources is recommended to all GSIs.

If you are concerned about a student, feel free to contact Mark Jenkinson, Director of Student Services, 967 Evans Hall.

### ***I find myself attracted to a student in my section or in the course. Is it appropriate to date him/her?***

Absolutely not. While you are in a professional relationship with a student, a personal relationship which could in any way color your ability to remain objective is forbidden by university policy. Should such a relationship develop throughout the course of the semester, or should a former (or ongoing) romantic partner enroll in a course you teach, speak to the instructor immediately in order to disqualify yourself from having any input on this student's academic progress.

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## VIP DIRECTORY FOR GSIs

**Director of Student Services:** Mark Jenkinson

**Office:** 967 Evans Hall **email:** [mjenkinson@berkeley.edu](mailto:mjenkinson@berkeley.edu) **hone:** 642-2479

**See him about:** classroom changes, enrollments, DSP accommodations any other problems

**Building Coordinator/Facilities/Computer:** Kathy Santos

**Office:** 920 Evans Hall **email:** [ksantos@math.xxx](mailto:ksantos@math.xxx) **phone:** 642-9104

**See her about:** computer accounts, card keys for Evans, office keys.

**Undergraduate Main Office Assistance:** Marsha Snow

**Office:** 970 Evans Hall **email:** [fo@math.xxx](mailto:fo@math.xxx) **phone:** 642-6550

**See her about:** one-time room reservations, textbooks, grading issues, classroom changes.

**Evaluations:** Marsha Snow

**Office:** 970 Evans Hall **email:** [fo@math.xxx](mailto:fo@math.xxx) **phone:** 642-6550

**See her about:** your evaluations

**Don't forget that your fellow graduate students are the best resource of all.**

**DEPARTMENT OF MATHEMATICS**  
**UNIVERSITY OF CALIFORNIA, BERKELEY**  
**DEPARTMENTAL POLICIES ON GRADUATE STUDENT INSTRUCTORS**  
**APPOINTMENT**

The Department generally pledges funding to incoming Ph.D. students for five years of graduate study in Berkeley. A large fraction of this funding is in the form of GSI positions.

**The Department's support offer is made contingent on satisfactory academic progress, and satisfactory performance of all teaching duties.** Continuing students apply for GSI positions for the following year by filling out the Support Application Form in early spring. The progress of continuing students is reviewed by the Department later in the semester. Continuing students who have applied for GSI positions for the following year, who have not yet exhausted their promised departmental support, and who meet the criteria for continued support, will receive offers of GSI positions in writing during the summer.

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**ENGLISH PROFICIENCY REQUIREMENT**

The University requires a student who checked on the Intent to Register form that English is not his/her first language to satisfy an English proficiency requirement before receiving an appointment as a GSI. A score of 26 or above within the two preceding years on the speak portion of the TOEFL iBT given by the ETS satisfies the requirement. A student who scores 40 or 45 on the SPEAK can satisfy the requirement through the OPT, also given on campus. More information is available from the GSI Teaching and Resource Center, 301 Sproul Hall, 642-4456<sup>[1]</sup>.

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**GRADUATE DIVISION REQUIREMENTS**

All GSIs are required to meet the following requirements imposed by the Graduate Division:

1. Full-time registration during the appointment. (Full-time registration = 12 units)
2. Minimum grade point average of 3.1.
3. Maximum of two "I" grades.
4. Maximum of four years as a Graduate Student Instructor.
5. Maximum of 50%-time appointment during any semester.

Failure to meet conditions 1 & 2 may result in the cancellation of an appointment by the



Graduate Division, and could affect future appointments. Conditions 3, 4, & 5 can be waived with written justification, except that the four-year maximum in condition 4 is never raised beyond six years.

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## APPOINTMENT

When the Department has more GSI positions than can be filled by incoming students and by continuing students making good progress who have not yet received all promised support, those additional positions are filled by students in the following categories in the following order. Students in these categories will generally be waitlisted for appointments until a date shortly before the beginning of classes.

1. CONTINUING PH.D. STUDENTS WHO HAVE RECEIVED ALL ORIGINALLY PROMISED SUPPORT. Appointment of students in this category will be on a competitive basis; academic progress and past teaching performance will be taken into account. Some of these students may be offered positions in the spring for the following year, but most can expect to be waitlisted.

2. STUDENTS ON FELLOWSHIPS. Some fellowships allow fellows to teach half time (25% appointment). Students in this position should discuss their situations with the Vice Chair for Graduate Affairs. The Department regularly supplements partial fellowships with partial GSI appointments. Students holding fellowships which provide financial support at at least the level of a 50% GSI appointment are discouraged from accepting such partial GSI appointments, and instead, are encouraged to concentrate on their studies in order to progress more rapidly to the Ph.D.

3. M.A. STUDENTS. Financial support for M.A. students is awarded on a case-by-case basis. Students enrolled in other Berkeley graduate programs sometimes add an M.A. in Mathematics to their primary degree. Such students are eligible for GSI appointment, but do not receive commitments of departmental support in advance. They are appointed as GSIs only if no qualified Mathematics Ph.D. students are available, or if they fill programmatic niches.

4. STUDENTS FROM OTHER DEPARTMENTS. Graduate students from other departments who wish to become Mathematics GSIs should see Mark Jenkinson, the Director of Student Services. They should submit transcripts of their undergraduate work and their graduate work to date. Incoming students should have their home departments send the Director of Student Services copies of their letters of recommendation for graduate school. Those who have been in Berkeley at least a year should obtain letters of recommendation from at least two faculty members. Students with extensive undergraduate mathematics training, excellent mathematics grades, and strong recommendations, will be eligible for appointment and added to the waitlist.

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## LOGIC AND METHODOLOGY OF SCIENCE STUDENTS

In terms of GSI appointments, the Department treats students in the Logic and Methodology

of Science Group who are actively working on dissertations under the primary direction of Mathematics faculty in the same manner as its own students. Other GLMS students who are qualified for Mathematics GSI service are given preference over other non-Mathematics students in the allocation of GSI appointments.

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MATH 375

A Mathematics GSI must enroll in Math 375, the Teaching Workshop, during the first semester of GSI appointment. Attendance at all class meetings is mandatory. New GSIs should be aware that the initial meeting of Math 375 is generally held during the week before instruction begins. The requirement to enroll in Math 375 applies even to a GSI who has taught previously at another school or in another Berkeley department.

A first-time GSI will ordinarily be assigned to one of the following classes: Math 1A, 1B, 54.

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COMPENSATION

There are four GSI salary steps. A GSI's salary is paid each semester in five equal monthly installments. The salary per pay period of a .50 GSI in 2012-2013 is given below. Divide by 2 to get the salary of a .25 GSI. (A GSI with a normal teaching load has a .50 appointment; one with half the normal load has a .25 appointment.)

Step I.....	\$ 1,853.80/mo.	10/1/15	\$1,927.95/mo
Step II.....	\$ 1,861.15/mo.	10/1/15	\$2,032.35/ mo.
Step III.....	\$1,915.20/mo.	10/1/15	\$2,133.25/mo.

A GSI is appointed at Step I in the first two years of teaching and at Step II in the third year. We have been advised by Graduate Division that the upgrade to a GSI Step III after teaching 6 semesters is not automatic, but rather at the discretion of the Department. We are currently in the process of determining the criteria to be used to upgrade a GSI to a Step III. Step IV is a seldom used title which requires the approval of the Associate Dean. To be appointed at Step IV, a GSI must have four years of teaching experience at Berkeley with an excellent record, and have independent control of the course being taught.

Graduate students with 25% or higher percentage appointment will receive an 85% fee remission on registration fees (but not on nonresident supplemental tuition) from the Graduate Division.

In recent years, the Department has systematically supplemented GSI salaries. Upon admission to the program, each student is promised a specific level of financial support for the first five years of Ph.D. study. This support is funded through a combination of GSI/GSR appointments, internal and external fellowships, and the departmental supplement. While the amount initially promised is typically a round number, the amount actually paid may be

slightly higher, or under some circumstances, significantly higher. Students who receive these supplements are sometimes asked to write thank-you notes to donors whose generous gifts to the Department have made these supplements possible, and/or to help the Graduate Vice Chair and departmental staff to provide information about themselves to donors. A few students have the opportunity to meet donors.

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## GSI DUTIES

**MATH 1A, 1B, 53, 54, 55.** These are large lecture courses in which the GSIs lead discussion sections, two sections for each .50 GSI and one for each .25 GSI. Each section meets for two/three hours per week. In addition to leading sections, the duties consist of holding office hours, administering and grading quizzes, proctoring and grading midterms and the final exam, possibly grading some homework problems and/or helping to prepare homework solutions for distribution, attending meetings with the faculty member in charge of the course, attending the lectures (if required by the faculty member in charge), maintaining records of students' performance, and computing and recording course grades.

**MATH 10A, 10B.** This sequence is intended primarily for majors in the life sciences. Introduction to differential and integral calculus of functions of one variable. Representation of data, elementary probability theory, statistical models, and testing. A .50 GSI will lead two discussion sections, hold three office hours per week, administer and grade quizzes, proctor and grade midterms and the final exam, possibly grade some homework problems and/or help to prepare homework solutions.

**MATH 16A, 16B.** This terminal calculus sequence is taught in a three hour lecture plus one and a half hour discussion per week format. A .50 GSI leads three discussion sections. GSIs are required to hold three office hours per week plus the basic GSI duties. (Note: these courses are taken by architecture, business, and humanities students.)

**MATH 110.** The GSI is assigned two one-hour discussion sections. Duties include; hold three office hours per week, grade homework assignments and final exams. The GSI is also responsible for other duties as required by the instructor.

**MATH 128A, 128B.** GSIs assigned to these courses must have knowledge of programming. The GSI is assigned two one-hour discussion sections. Duties consist of holding three office hours per week, and grading homework and programs in addition to leading the discussion section. The GSI may have to teach basic programming to some of the students.

**MATH 32.** This precalculus course is taught in a lecture-discussion format (three hours of lecture and two hours of discussion per week). An experienced .50 GSI gives the lectures and is in charge of the course, overseeing examinations, grading, and the GSIs who lead the discussion sections. The duties of the latter are the same as for the GSIs in other large lower-division courses such as Math 1A and 1B.

**MATH 375.** In the Fall Semester, the Teaching Workshop is taught by a faculty member with the assistance of a GSI who serves as video taper. This is a .50 position. The GSI video taper of Math 375 in the fall is trained to teach the class in the following spring

semester

GSIs for UPPER-DIVISION COURSES: When funding allows, GSIs are hired to hold extensive office hours for Math 104, 113, and 185. These office hours (usually 10 hours divided between two days) serve all students taking a particular course; several distinct lecture courses of e.g. 185 may be offered in a given semester, with a single GSI assigned to all of them.

ASSISTANTS IN GRADUATE COURSES: GSIs serve as assistants in certain graduate courses. The duties are grading homework solutions and holding three office hours per week.

GSIs for PDP SECTIONS: The Professional Development Program (PDP) runs intensive discussion sections of freshman math courses, Math 1A, 1B, 32, 53 and 54. PDP students have first priority, but if needed, other students may register for these sections. While underrepresented minority students are targeted, classes are open to all undergraduates. These sections have several distinguishing features: each GSI runs only one discussion section; sections meet for 5 hours per week instead of the regular 3 hours; sections are normally 18-24 students. There is minimal lecturing by the GSI with the focus on actual work on problems by students and thereby fostering an environment where students work and learn together. The PDP program selects its GSIs. PDP appointments entail more hours of work than regular Math assignments, but offer higher salaries.

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#### WORKLOAD

For bookkeeping purposes, the University equates a 50% GSI position with a 20 hour per week workload. In practice, 50% GSIs in Mathematics spend an average of 14-16 hours per week on their teaching duties. However, faculty are entitled, under the union contract, to expect up to 20 hours of work per week. A GSI who feels that his or her workload exceeds what is reasonable should speak with Mark Jenkinson, Director of Student Services.

## 2. UC Berkeley Policy on Appointments and Mentoring

(Note: the following policy manual is published by the University of California Berkeley Graduate Division, and may be found in PDF file format on the web at <http://www.grad.berkeley.edu/gsi/index.shtml>)

Policy on Appointments and Mentoring of Graduate Student Instructors University of California[2], Berkeley Graduate Council  
Revised March 5, 2012

The education and preparation of Graduate Student Instructors (GSIs) at Berkeley are essential to the educational mission of the campus. Faculty supervision and preparation of GSIs improves the preparation of graduate students for their future roles as teachers in academic institutions. The important role that GSIs play in education on this campus also means that effective preparation of GSIs will improve the quality of education at Berkeley.

### Definitions

This policy addresses the preparation of all first-time and continuing GSIs. First-time GSIs are those teaching for the first time at Berkeley (even though they may have teaching experience at other universities). First-time GSIs normally assume responsibilities associated with roles (a) and (b) below. Continuing GSIs are all GSIs who have completed at least one semester of teaching as a GSI at Berkeley.

There are four different GSI roles, each giving the GSI a different level of course responsibility. (These roles are not equivalent to GSI steps that are based on experience or advancement to candidacy.)

Role (a): GSI who teaches secondary sections of a larger course. This is the most common type of GSI position.

Role (b): GSI who functions as the instructor of one of a number of courses in which the curriculum is prescribed, but the GSI is responsible for selecting readings, for how the material is presented, and for grading student work. Examples of this may include language, studio, or Reading and Composition courses.

Role ©: Head GSI who functions as coordinator of other GSIs and/or performs other teaching or administrative duties.

Role (d): Acting Instructor-Graduate Student (AI-GS) who has sole responsibility for curriculum, textbook, and assigning grades. These appointees are the Instructors of Record in the courses they teach.

### Policies

#### I. Recruitment and Appointment.

The procedures for recruiting and selecting GSIs should be public, transparent, and managed at the department level, rather than be controlled by private arrangements between course instructors and GSIs.

A. At the time of recruitment, the department Chair must make available the criteria required for appointments to GSIs and the criteria involved in determining the selection of GSIs.

B. The Chair is responsible for ensuring that postings are widely circulated within

the eligible pool and are in compliance with the ASE contract.

C. The Chair is responsible for making GSI appointments.

## II. Guiding Principles Determining Workload.

A. The Chair and the Faculty Advisor for GSI Affairs are responsible for explaining principles associated with workload in accordance with departmental needs and the current union contract.

B. It is the responsibility of the supervising faculty member to ensure that workload is consistent with the appointment percentage.

## III. Preparation of GSIs for Teaching.

### A. Responsibilities of First-time GSIs

1. Every first-time GSI must attend the Teaching Conference sponsored by the GSI Teaching and Resource Center on the Friday before classes begin. First-time international GSIs (IGSIs) must also attend the International GSI Teaching Conference, scheduled on the Thursday before classes begin in the fall semester. International GSIs who anticipate being appointed in the spring semester must attend the international GSI conference in the fall.

2. Every first-time GSI must successfully complete, no later than the end of the second week of classes, the online course Professional Standards and Ethics for GSIs.

3. Every first-time GSI must either have completed or be enrolled in Math 375, a semester-long pedagogy seminar on teaching in the discipline offered by the GSI's department. The pedagogy seminar may only be taken in another department with the advice and approval of the Faculty Advisor for GSI Affairs in the teaching department and with the consent of the 375 course instructor in the other department. First-time GSIs who fail to pass Math 375 must retake and pass the course before they are eligible to teach again.

### B. Responsibilities of First-time and Continuing GSIs

1. All graduate students who teach require faculty supervision. At the beginning of the semester, all GSIs in roles (a), (b), and (c) are required to meet with the faculty member responsible for the course to go over the course syllabus, to clarify GSI responsibilities in the course, and, in the case of discussion sections and labs, to discuss the relationship of sections to lecture.

2. First-time and continuing GSIs in roles (a), (b), and (c) must also meet regularly throughout the semester with the faculty member in charge of the course to discuss the logistics of curriculum, assignments, tests, grades, etc., and pedagogical matters related to their teaching of the course or sections of the course.

3. GSIs must abide by other department-specific obligations that may include attendance at lectures or GSI meetings and meeting with faculty mentors to discuss more effective ways of teaching.

4. Continuing GSIs whose 375 course did not include the development of skills needed to teach Reading and Composition (R&C) courses must enroll in either a 375 course in another department tailored to the teaching of R&C or the short course taught in the spring by the GSI Teaching and Resource

Center prior to or concurrent with teaching an R&C course.

### C. Departmental Responsibilities

1. Departments must include the teaching preparation requirements for first-time and continuing GSIs in GSI letters of appointment and ensure that the requirements are met.

2. All departments that hire GSIs must offer a semester-long 375 seminar on teaching in the discipline, frequently enough so that first-time GSIs can take the course in or before their first semester of teaching. If a department has fewer than four new GSIs in any given year, the department may make arrangements for the GSIs to take the course in another department. If a department does not plan to offer 375 course in the spring semester, GSIs to be appointed in the spring for the first time should be advised to take the 375 course in the preceding fall.

The course must:

be taught by a faculty member;

address the practical and theoretical knowledge needed by new GSIs in the specific discipline;

have a syllabus that specifies topics week by week, identifies readings, and describes the basis for evaluation;

have a meaningful number of units and student contact hours (2-4 units);

have a course reader or textbooks;

have specific assignments for which GSIs are accountable and on which GSIs will be graded.

The GSI Teaching and Resource Center can assist departments in developing 375 courses through consultations, workshops, and grants.

Departments are required to apprise the Graduate Division each semester of the name of the faculty member teaching the course and to submit a copy of the 375 course syllabus to the Graduate Division's GSI Teaching and Resource Center each time the course instructor changes.

Departments must schedule 375 courses so as to minimize scheduling conflicts with other graduate-level courses. The departmental Faculty Advisor for GSI Affairs is responsible for resolving remaining schedule conflicts for the 375 course.

3. In the case of GSI role (b) appointment, in which a GSI may have primary responsibility for curriculum, textbook selection, and evaluation of student work, a Senate faculty member or members must oversee and approve all course descriptions and reading lists in keeping with the needs and standards of the University.

4. GSIs with the title of Acting Instructor-Graduate Student (role d) serve as the Instructor of Record and have full course responsibility. However, all course descriptions and representative reading lists must be overseen and

approved by a Senate faculty member or members within the relevant department before submission of a graduate student's appointment to the Graduate Division and the Committee on Courses of Instruction for approval.

5. Departments must make a faculty mentor available to GSIs holding the title Acting Instructor- Graduate Student (role d).

6. Departments are responsible for taking steps to ensure that GSIs receive feedback on their teaching. These steps may include observation by a faculty member, the review of mid-term evaluations of teaching, or other steps appropriate to the discipline.

7. The Department Chair is responsible for providing regular departmental practices for the review of end-of-semester GSI evaluations.

#### D. Responsibilities of Faculty Members who Teach with GSIs

1. All graduate students who teach require faculty supervision. At the beginning of the semester, the faculty member responsible for the course is required to meet with GSIs (roles a, b, and c) to go over the course syllabus, to clarify GSI responsibilities in the course, and, in the case of discussion sections and labs, describe the relationship of sections to lecture.

2. All faculty members who teach with GSIs must meet regularly with new and continuing GSIs in roles (a), (b), and (c) to discuss the logistics of curriculum, selection of topics, assignments, tests, grades, etc., and pedagogic matters related to their teaching of the course or sections of the course.

#### IV. Rewarding Faculty for the Systematic Preparation of GSIs for Teaching

A. Departmental reviews should include an assessment of GSI mentorship in their assessment of faculty teaching performance.

B. Budget Committee reviews should include an assessment of GSI mentorship in their assessment of faculty teaching performance.

#### V. Policy Dissemination

A. Departmental Chairs should provide faculty members a copy of these policies or the URL where they are located along with specific department guidelines at the beginning of each semester in which they teach courses with GSIs.

B. A copy of these policies or the URL where they can be located, along with specific department guidelines, should be included in each GSI letter of appointment.

Assistance in developing guidelines for mentoring GSIs can be obtained by consulting the GSI Teaching and Resource Center. Nothing in this policy shall be construed to alter the provisions of the UC-UAW contract. The contract is available at <http://hrweb.berkeley.edu/labor/ase.htm>.



## **RESEARCH, SEMINARS, TALKS AND CONFERENCES**

### **1. Mathematics Department Afternoon Tea and Seminars**

Monday, Wednesday, Thursday and Friday afternoons during the academic year, the Mathematics Department holds Tea Hour from 3:00 to 4:00 p.m. in 1015 Evans. Faculty, visiting scholars, staff, and graduate students are encouraged to attend. It is a special time when the Department and all of its diverse elements get together to socialize and/or talk shop. The teas also serve the purpose of preamble for the Seminars which follow, especially larger seminars held in 60 Evans, 4:10-5:10 on many Mondays (the MSRI-Evans lectures sponsored by MSRI) and Thursdays (the Department colloquium).

Daily listings of seminar meetings are posted on the department website and on bulletin boards in the Department. The bulletin board southeast of the main elevator bank holds announcements of mathematics seminars. The bulletin board outside the Graduate Lounge in 940 Evans holds announcements of seminars in the Mathematics Department as well as other departments and institutions. Seminar information is also posted on the Math Department's web site.

### **2. Mathematics colloquia**

The Department of Mathematics sponsors a weekly Colloquium, in which distinguished speakers, some from outside Berkeley and some drawn from the faculty in residence, present recent results in various fields in a manner which is accessible to non-specialists. One of the main purposes of the Colloquium is to provide graduate students with overviews of research in areas other than their own, to broaden their mathematical culture, and give them an opportunity to learn about problems and methods that they may find of use in the future. Graduate students are strongly urged to attend the Colloquium on a regular basis. The colloquia take place almost every Thursday during classes, 4:10 pm-5:10 p.m. in 60 Evans. The current schedule of talks can be found on the bulletin boards on the 9th floor.

### **3. Mathematical Sciences Research Institute**

The Mathematical Sciences Research Institute (MSRI) hosts several workshops and organizes seminars each year. The MSRI-Evans Monday lectures are expository lectures intended to inform the Bay Area mathematical community about current MSRI programs and members. The lecture schedule can be found on the bulletin board outside 940 Evans mailroom. For more information on all other MSRI events, please call 642-0143 or on the web at [www.msri.org](http://www.msri.org).

### **4. Conference funding**

The Dean's Office of the Graduate Division has funds to help doctoral students with the cost of roundtrip airfare, if they are giving a paper at a professional conference. Eligible students must be in good standing, be currently registered. Students may receive two of these travel grants during their academic career.

To apply, complete the application ([http://grad.berkeley.edu/wp-content/uploads/travel\\_grants.pdf](http://grad.berkeley.edu/wp-content/uploads/travel_grants.pdf)) and submit it to: Graduate Service: Fellowships, 318 Sproul Hall.

Graduate Assembly also offers travel grants but they have early semesterly deadlines. Information can be found at: <https://ga.berkeley.edu/funding/travel-grants>

The Department is occasionally able to provide travel funds for students to attend conferences. Interested students should inquire of the Vice Chair for Graduate Affairs well in advance of the conference.

# COMMITTEES

## 1. Committee Omega

Committee Omega is a departmental committee which rules on petitions for exceptions to *departmental* regulations governing the graduate program. Exceptions to University regulations also require the approval of the Dean of the Graduate Division. Petitions to Committee Omega should be made in writing, transmitted via the Graduate Assistant, and accompanied by a letter of support from a faculty member. Consult the Graduate Vice Chair if in doubt concerning the appropriate venue for petitioning for any exception.

## 2. Mathematics Opportunity Committee (MOC)

The Mathematics Opportunity Committee, through outreach, admissions, financial support, and academic advising and support, provides opportunities for graduate study at Berkeley for students who have demonstrated exceptional mathematical promise despite having encountered in their earlier education limited resources or other circumstances that may have affected their preparation

### 2.1 Preliminary Exam Workshop

The MOC runs workshops aimed at boosting students' preparation for the Preliminary Examination (see Prelim section in "Ph.D. Requirements"). These are open to all students in the Department. Though they are designed for students with uneven undergraduate backgrounds, many students with strong preparation also find them to be valuable.

### 2.2 Tutoring

The MOC, if requested, will try to arrange tutoring for graduate students with weak backgrounds or those experiencing academic difficulties.

### 2.3 Other Activities

An important function of the MOC is to foster communication and camaraderie among students and between students and the committee. MOC activities include a social/informational reception every semester, and a bulletin board outside 1015 Evans which displays information of interest to students. Suggestions for new activities or involvement in ongoing programs are always welcome.

## 3. Graduate Admissions Committee

The Admissions committee consists of approximately eight professors and the Vice Chair for Graduate Affairs. It conducts the first and second rounds of the multi-level evaluation process for applications for admission to the program(s). Each application for graduate

study in the Mathematics Department is evaluated by the Vice Chair who makes the first cut.

The reduced pool chosen by the Admissions committee, and produces as output a rank ordered list of the top candidates for admission. It consists of approximately six members of the Mathematics faculty plus the Vice Chair for Graduate Affairs. This committee also selects continuing students for awards of departmental fellowships. These fellowships are awarded for Spring semester, provided that sufficient financial resources are available, via a competition held in Fall.

In the past, when the number of Mathematics graduate students exceeded the number of available GSI/GSR/fellowship positions, the Appointments Committee allocated such positions.

## STUDENT GROUPS

### 1. The Mathematics Graduate Student Association (MGSA)

The Mathematics Graduate Student Association is a student-run organization whose purpose is to promote and organize activities that will bring together its members, and allow them to discuss mutual concerns as well as to meet other members of the Mathematics Department. It also seeks to represent graduate mathematicians by relaying their concerns in the appropriate direction.

Any Berkeley mathematics (or logic) graduate student is automatically a member and may vote in elections for officers at the end of the Spring semester.

Activities of the MGSA include the organization of social events (such as the Halloween party and the Spring picnic) and orientation receptions for various student groups. The MGSA also maintains folders with qualifying exam questions, a student directory, and guidelines on being a graduate student in the Department. It also promotes communication via mass e-mailing and weekly office hours.

All students are encouraged to make full use of the resources which the MGSA seeks to provide, and to suggest further ways in which it can pool the talents and information which exist in the Department's student body.

For more information and comments, please contact the current MGSA officers by e-mail at: [mgsa@math](mailto:mgsa@math). Their website is: <http://math.berkeley.edu/~mgsa>.

### 2. The Noetherian Ring

The Noetherian Ring is a group of women graduate students, post docs, and professors in mathematics. The group meets once a week for refreshments and an introductory-level math talk, usually given by one of the members. Topics in the past have included  $C^*$ -algebras, the dynamics of Newton transformations, torus orbits in flag manifolds, Lie algebras, Ramsey theory, Poncelet's theorem and invariant measure, and optical imaging.

In the Fall of 1993, the Noetherian Ring started a program to bring prominent women mathematicians to Berkeley to give talks at the Department's Colloquium. This program has been funded by generous faculty donations from grants and private funds.

You may contact a Noetherian Ring representative by emailing: [nring@math.berkeley.edu](mailto:nring@math.berkeley.edu). Their website may be found at: <http://math.berkeley.edu/~nring>.

## PROTOCOL

### **1. Photocopy Room Policy**

The Mathematics Department photocopy facility is provided only for official departmental business. Under no circumstances is the duplication of materials of a personal nature allowed.

The following Mathematics Department personnel are authorized to use the photocopy facility:

- Administrative Staff
- Faculty
- Graduate Student Instructors
- Graduate Student Researchers
- All other Graduate Students in good standing

To obtain a key to the Photocopy Room, every person must see Kathy Santos in 920 Evans and fill out the appropriate forms. She will instruct students in the current policy on photocopier use.

### **2. Seminar Room Overhead Projectors**

The projectors Equipment for connecting laptop computers to the displays in the seminar rooms can be checked out of the main office, 970 Evans. Overhead projectors are also available. The persons authorized to use the equipment projectors are faculty, graduate students, and visiting scholars. The information filled out must be as follows: equipment requested, signature of borrower, date/time taken, and 970 staff initials.

If a borrower cannot make it to the office before closing, he/she must store the equipment projector in his/her office until the next day and return it to room 970 as soon as possible so others can use it.

### **3. Posting Fliers**

Students, faculty, visitors, or staff within the Mathematics Department wanting to post mathematics-related notices may do so on the bulletin boards located by the 7th, 8th, and 10th floor elevators. For 9th floor and other bulletin boards, check with the Graduate Assistant in room 910.

### **4. Obtaining Keys**

When students are assigned a new office or desk, they may obtain keys from Kathy Santos in 920 Evans. She will ask for any old keys and for students to initial a log sheet. Electronic Card keys to Evans Hall are also administered by Kathy Santos.

Graduate Student Instructors who find a classroom locked at the time of a section or review session, or any students who are locked out of a room that should be open, should also contact Kathy Santos.

## SPECIAL PROJECTS

### **1. Mathematics Newsletter**

The Berkeley Mathematics Department Newsletter is a departmental publication that is available on-line at the Mathematics Department website.

### **2. Mathematics Awareness Week**

Every year, national Mathematics Awareness Week celebrates the richness and relevance of mathematics and provides an excellent opportunity to convey this message through local events. In Berkeley, events of interest to the Bay Area mathematics community are organized jointly by the Mathematics Department, MSRI, Mathematics Library, and PDP. Events include seminars, panel discussions, MSRI and Mathematics Library tours, and other activities. It is held the last week in April.

### **3. Mathematics Department Open House at “Cal Day”**

The Berkeley Campus sponsors an annual open house called “Cal Day”. The Mathematics Department participates in Cal Day, which is typically scheduled for the third Saturday in April each year. We seek volunteers for our displays and demonstrations in 1015 Evans. Please contact Marsha Snow if you have ideas, or if you are interested in helping with the preparations or meeting members of the public who visit that day.



## Department of Mathematics Emergency Plan

### **What you can and should do** (individual responsibilities in an emergency)

We ask that every individual be familiar with these plans and cooperate fully with those in charge.

1. Reporting an emergency:
  - a. From Campus telephones dial 9-911; from public telephones dial 911; then notify a member of the Safety Team (see section III, below).
  - b. When reporting an emergency by telephone:
2. Stay calms and speak clearly.
3. Identify yourself.
4. State the location of the emergency.
5. State the nature of the emergency.
6. Report any potential danger.
7. Be sure to report any information given to you by anyone helping an injured person.
8. Stay on the telephone (if you can do so without risk) until you are told you can hang up.

#### 2. Injury or Illness:

##### A. Serious (life-threatening)

- a. Call for someone to help you. Direct someone (be specific) to call 9-911 to report a problem.
- b. If you are not qualified to administer first aid care, locate someone who is (many Dept. of Mathematics staff members are trained in CPR and First Aid). Do not attempt to move anyone who is injured unless she/he is in severe danger. Be sure someone stays with the injured person.
- c. Help by keeping people away from the injured or ill person.
- d. Notify the Building Coordinator, Kathy Santos, 642-9104, 920 Evans Hall, or direct someone to do so.
- e. If you can, direct emergency personnel to the site of the incident when they arrive.
- f. Report all injuries to room 975 Evans Hall.

##### B. Less serious (not life-threatening)

- a. For less serious cases, first aid can be obtained at University Health Service, Tang Center, 2222 Bancroft Way or by a designated personal care physician (designation form must be on file with the Department). Report all injuries to room 975 Evans Hall.

### PERSONS AUTHORIZED TO ENTER HAZARDOUS AREAS

The University of California Police Department (UCPD) is the designated Campus Emergency Response Team. They will be in charge of all emergency responses. They have special equipment and special training, and their directions should be followed. Building occupants are to evacuate when the fire alarm sounds (**it is a California State Law that you evacuate the building immediately upon hearing an alarm. You could be held personally liable for injuries if you do not allow a person to evacuate**), or when directed

by the police. Do not re-enter the building until you are instructed to do so.

#### EMERGENCY PLAN REPRESENTATIVE

Each representative is responsible for maintaining an up-to-date list of the personnel in her/his unit, accounting for everyone in the unit in an emergency, and delegating necessary responsibilities to all in that unit.

#### I. EVACUATION PROCEDURES: ASSEMBLY AREAS

In the event of an evacuation for any reason, IMMEDIATE ASSEMBLY will take place in the open grassy area to the west of Evans Hall. This is where we would initially gather after a disaster or emergency to organize rescue, first aid, support teams and count people. **DO NOT USE ELEVATORS DURING AN EVACUATION.** Do not block any of the streets or walkways that surround Evans Hall. Do not stay on the apron that surrounds Evans Hall. You should **MOVE AT LEAST 50 FEET AWAY FROM EVANS HALL** to avoid any glass that may fall from the building.

In an extreme emergency, you may be asked to relocate to a second area of assembly: this request could come from a Police Officer, the Building Coordinator, Kathy Santos, 2-9104/920 Evans Hall, or a member of the Math Dept. Safety Team (see list below) or their designee.

#### II. EMERGENCY TELEPHONE NUMBERS

- \*Building Coordinator: Kathy Santos, Room 920, 642-9104
- \*Medical or other emergency: Dial 9-911
- \*Campus Police 24-hour information: 642-6760
- \*Environmental Health & Safety: Daytime 642-3073 or 642-3074  
Evening 642-6760
- \*Physical Plant (Facilities Management): 642-1909  
24-hour service: 2-6556

#### III. DEPARTMENT OF MATHEMATICS SAFETY TEAM

Kathy Santos	Room 920	642-9104
Mary Pepple	Room 983	642-3865
Judie Filemeo	Room 973	642-0846
Jennifer Sixt	Room 964	643-4148

(If you are unable to reach a person at the 1st number called, please call another member of the team).

#### IV. EMERGENCY FIRST AID INFORMATION

First aid kits for minor injuries are located in the following rooms:

Room 968	Room 975
Room 920	Room 979
Room 967	Room 981

The disaster first aid kits are located in two locked cabinets. One is in the Women's Rest Room Quiet Room on the 9th floor; the other is in room 720. All members of Department of Mathematics Safety Team have the combination to these cabinets.

There are no hazardous materials stored in the Department.  
Floor plans are attached for each floor; exits, locations of fire extinguishers, fire hoses, fire alarm pulls, and emergency phones are indicated on each floor.

#### V. TRAINING

All individuals are encouraged to seek training in first aid, CPR, fire extinguisher use, and personal safety to prepare themselves to deal with emergency situations. For additional information see the Building Coordinator, Kathy Santos, 642-9104, 920 Evans Hall.

#### VI. INFORMATION FOR EMERGENCY SITUATIONS

##### A. ALARMS:

- a. Fire Alarm (It is a California State Law that you evacuate the building immediately upon hearing an alarm. You could be held personally liable for injuries if you do not allow a person to evacuate).
8. The fire alarm for Evans Hall is an audible voice alert that tells you what to do. Along with this alert there is a strobe light to notify those who are hearing impaired.
- c. When you hear the fire alarm or see the strobe light, immediately turn off all equipment and leave the building. All exits are clearly marked. The last person to leave each room should close and lock the door. Remain outside until authorized personnel have told you that it is all right to re-enter the building.

##### B. SPECIFIC EMERGENCIES

1. Fire: (It is a California State Law that you evacuate the building immediately upon hearing an alarm. You could be held personally liable for injuries if you do not allow a person to evacuate)
  - a. Alert everyone in the room and adjacent rooms.
  - b. Assist disabled individuals to an area away from the fire (see section10).
  - c. Assist others in evacuating the building.
  - d. Close all doors to isolate the fire.
  - e. Notify the Fire Department and building occupants by pulling the fire alarm.  
Familiarize yourself with alternative exits. Walk through them now; this will make it easier for you during an emergency. REMEMBER, DO NOT USE ELEVATORS DURING A FIRE!
  - f. Telephone 9-911 or 642-3333 and calmly and clearly:
    - 1) Give location of the fire.
    - 2) Give the extent of the fire.
    - 3) Give special circumstances or hazards, such as chemicals, valuable collections, or equipment. (No hazards of a chemical nature exist in Evans Hall.)
    - 4) Notify the Building Coordinator, Kathy Santos, 642-9104, 920 Evans Hall.
  - g. When you have completed previous steps a through f, now determine if the fire is small enough for you to fight. Do the following with great care:

- 1) Feel the top of the closed door.
- 2) If it is hot, leave the door closed and go to a place of safety and wait for the Fire Department or other emergency personnel to arrive.
- 3) If no warmth is felt, stand aside and open the door slightly. Look inside to evaluate the size of the fire.
- 4) If the fire is small (e.g.; size of a wastebasket or smaller), FIGHT IT, but try to have a second person standing by to give aid if needed.

Use the right extinguisher (all hose cabinets in addition to a fire hose also contain a Type A fire extinguisher. Some staff offices have small ABC type extinguishers).

A-type extinguishers are for CLASS A FIRES such as paper, trash, wood, cloth, etc. Put out Class A fires by lowering its temperature using a water or water-based extinguisher. Wet fire to cool. Soak to stop smoldering, or coat the burning combustibles with “multipurpose” dry chemicals. If you are using a FIRE HOSE to fight a CLASS A FIRE, hose cabinets require that *all of the hose be removed* from the hose rack and stretched out before the valve is turned on or the hose will tangle up under water pressure.

B-type extinguishers are for CLASS B FIRES.

Class B fires are those that involve burning liquid such as oils, paints and gasoline.

C-type extinguishers are for CLASS C FIRES.

Class C fires are those that involve energized electrical fires such as burning wires, switches, machinery, home appliances, computers and photo copiers.

Note: ABC type extinguishers can be used on all of the above listed classes of fires.

P. A. S. S.

When fighting any fire remember the basics of using an extinguisher:

Pull the safety pin at the top of the extinguisher.

Aim the nozzle, horn, or hose at the base of the flames.

Squeeze or press the handle.

Sweep from side to side at the base of the fire until it goes out.

- 5) Keep near the door when using extinguishing equipment so that you have an escape route (*always stay between the fire and the exit*).
  - 6) Stay low—out of heat and smoke.
  - 7) Aim extinguisher or fire hose at the base of the fire.
  - 8) If the fire becomes LARGER—get out, close doors!
  - 9) Have someone report to the arriving fire department personnel to advise them about the situation.
- h. If possible, meet the Fire Department by the Mining Circle entrance to Evans Hall and direct help to the site of the fire. Be sure to inform the Fire Department of any physically impaired persons needing assistance to evacuate.

## 2. EARTHQUAKE

- a. Stay calm. If you are inside, stay inside. If you are outside, stay outside. DO NOT go in or out of a building that is shaking.

- b. During the shaking, duck under a table, desk or bench. Stay away from windows.
- c. After the shaking has stopped, assist others; survey the area for damage and trapped persons. Leave the building by the closest exit route. DO NOT USE ELEVATORS. Go to the designated assembly area, which is to the west of Evans Hall.
- d. DO NOT SMOKE, LIGHT MATCHES, OR USE ANY ELECTRICITY.
- e. If possible, check for fire, or smoke. As soon as you can, call 911 or 642-3333 and report any leaks, fires, or injuries. Otherwise, do not use the telephone. If you see phones off the hook replace them, this helps the system to reset.
- f. Follow the instructions under the heading "Injury or Illness" on page 1. DO NOT TRY TO MOVE AN INJURED PERSON UNLESS THAT PERSON IS IN DANGER.
- g. Watch for downed wires or structural hazards such as loose or fallen ceiling tiles and light fixtures.
- h. Attachment 2 shows the locations of hospitals.
- i. Attachment 3 shows the locations of first aid stations.

### 3. ELEVATORS

There is a bell alarm in each elevator in Evans Hall. If you hear an alarm:

- 1) Look for the Building Coordinator, Kathy Santos, 642-9104, 920 Evans Hall, or a departmental staff member and inform them of the problem.
- 2) If you are unable to locate a staff member call 642-1909. (The Work Order Desk emergency line.)

- a. DO NOT TRY TO USE AN ELEVATOR IN AN EMERGENCY.
- b. Fire: If the fire alarm sounds and you are in an elevator, push the button for the next floor, get out and leave the building.
- c. Mechanical or Power Failure: STAY CALM. Press the alarm button to alert others of your problem. Locate the telephone on the left side of the elevator. These telephones are checked every month to make sure that they are in working order. To use the telephone, press the red button, this automatically calls the UCPD dispatcher. Inform the dispatcher which elevator you are in (the elevator number is located on a plaque on the top left side of the door). Sit on the floor, relax, and wait.
- d. Earthquake: If you are in an elevator and there is an earthquake that disables the elevator, press the alarm button to alert others of your problem. Locate the telephone on the left side of the elevators. Press the red button, this automatically calls the UCPD dispatcher. Inform the dispatcher which elevator you are in (the elevator number is located on a plaque on the top left side of the door). Sit on the floor, relax, and wait.

Note: In any of the above situations, should the alarm not sound, don't hesitate to pound hard on the door and yell loudly to get attention.

### 4. BOMB THREAT/SUSPICIOUS PACKAGES

#### A. Bomb Threat

- a. If you are told to evacuate the building due to a bomb threat, leave at once,

using the closest exit route (SEE ATTACHMENT 1. Take personal belongings with you. Do not close doors or windows. Go to the primary assembly area, which is to the west of Evans Hall.

- b. DO NOT RE-ENTER THE BUILDING UNTIL YOU ARE TOLD TO DO SO BY FIRE, UCPD OR BUILDING SAFETY PERSONNEL. IN ALL CASES, STAY CLEAR OF THE BUILDING. YOU SHOULD MOVE AT LEAST 50 FEET AWAY FROM EVANS HALL TO AVOID ANY GLASS THAT MAY FALL FROM THE BUILDING.
- c. If you receive a bomb threat by telephone, try to keep the caller on the line. If you can, try to signal someone else to listen in. Try to determine:
  - 1) Information to obtain (exact wording of the threat):
    - a) When will the bomb go off?
    - b) Where is the bomb right now?
    - c) What does it look like?
    - d) What kind of bomb is it?
    - e) What will cause it to explode?
  - 2) Other information to obtain if possible:
    - a) Did you place the bomb?
    - b) Why?
    - c) What is your address?
    - d) What is your name?

We realize you may not get this information, but try to do so if you can. Then call 9-911 or 642-3333 and the Building Coordinator, Kathy Santos, 642-9104, 920 Evans Hall.

#### B. Suspicious Packages

- a. Bombs are occasionally disguised as abandoned packages. If you see an unattended box, letter, briefcase, or package - and you don't know where it came from- *don't touch it*.
- b. Notify the Building Coordinator, Kathy Santos, 642-9104, 920 Evans Hall, or if the situation occurs after 4:30 PM, or on a weekend, call the UCPD.
- c. Do not leave boxes or packages in the hallways. If you need to dispose of a box, leave it in your office with a note on it for the custodians.

#### 5. FLOODING/PLUMBING FAILURE/LEAKING ROOFS

- a. Remember that wet surfaces can be very dangerous and slippery.
- b. Get clear of all electrical equipment. Turn off power (if safe) at the main power switch for the area; if known.
- c. If safe, remove or raise valuables/equipment away from water.
- d. Call the Work Order Desk at 642-1909, then call the Building Coordinator.

#### 6. POWER OUTAGE

- a. When power goes off, immediately unplug all computers.
- b. Departmental Safety Team members will check elevators for persons who are trapped in them. All elevator telephones will still work during a power outage.
- c. Staff will check with their supervisor to receive further instructions. Department Manager, Chair or their designee will determine at what level the Department should remain staffed.
- d. The State Fire Marshal's regulations require all exits and stairways to be

illuminated at all times buildings are occupied; consequently, buildings must be evacuated before corridors and stairwells become dark.

#### 7. DIFFICULT/DISRUPTIVE CLIENTS:

If someone come into your office and is:

- a. Unwilling to leave:
- b. Threatening you or others:
- c. Angry, yelling, or verbally abusive:
- d. Appears to be under the influence of drugs or alcohol:

Try to respond in this way:

- 1) Stay as calm as you can; it can keep tensions from escalating and may help defuse the situation.
- 2) Try to gain the cooperation of the individual causing the disturbance. Show empathy and concern. Try saying, "I can see your frustration, and I'm frustrated too. Unfortunately, the rules are..."
- 3) Place yourself behind a desk or chair near an exit to reduce your risk of physical assault.
- 4) Take all threats of violence seriously - even casual remarks. Many violent acts have prior warning signs.
- 5) If the person's behavior is violent, try to exit and retreat to a safe area. Call 9-911 as soon as possible.

Some tips on safe ways to deal with difficult situations:

- Attitude is important. Always treat people with respect, regardless of their behavior.
- Don't insist that you are right or contradict someone's statement. Instead, let the person know you see the situation differently. Tell them, "I can see we don't see this the same way," then try to bring in another person who can help.
- If someone is verbally abusive, tell them you will be able to help them better if they calm down, lower their voice and stop attacking you. Set limits: you do not have to tolerate abuse.
- Don't lie or make up stories to back out of a difficult situation. It could backfire and put you in an even more difficult situation.
- Humor can sometimes help relieve tension in a difficult situation. However, be respectful, *not* sarcastic.
- *Trust your intuition*. If you think someone may be potentially violent, try to exit and get help. For example, you can say, "Let me see if I can find someone who can help." Call 9-911.

*(Section 7, above was taken from the Healthy Office - Personal Safety handout developed by CAL-B SAFE and the CARE Services for Faculty and Staff and sponsored by Faculty and Staff HEALTH\*MATTERS.)*

#### 8. DISRUPTIVE, BUT NOT DANGEROUS SITUATIONS

(Examples: steam line failures, air system malfunctions)

- a. Contact the Building Coordinator, Kathy Santos, and 642-9104, 920 Evans Hall. If she is unavailable and it is a facilities problem, call the Work Order Desk at 642-1909. Otherwise call 911 or from a cell phone, 642-3333.

- 1) If odors come from the ventilation system, immediately notify the Work Order Desk at 642-1909 and the Building Coordinator, Kathy Santos, 642-9104, 920 Evans Hall. If an odor exists that does not present an immediate hazard, notify Environmental Health and Safety at 642-3073. If an odor does possess a hazard evacuate immediately.

## 9. SUSPICIOUS PERSONS

Notify the Building Coordinator, Kathy Santos, 642-9104, 920 Evans Hall. and call UCPD, 642-6760 if you see anyone suspicious.

## 10. ASSISTING DISABLED PERSONS IN EMERGENCIES

In situations where medical assistance, evacuation or other help is needed, always keep in mind that THE DISABLED PERSON IS THE BEST ONE TO ASK ABOUT WHAT ASSISTANCE SHE/HE NEEDS. Report the exact location of any disabled or trapped persons to the Building Coordinator, Kathy Santos. 2-9104/920 Evans Hall and emergency personnel

- a. If a person falls, do not attempt to lift her/him as transferring and lifting often requires some practice. If you must move someone, practice with another person first if possible; **DO NOT AUTOMATICALLY TRANSFER OR MOVE ANYONE IN AN EMERGENCY.**
- b. If someone cannot hear an alarm, try to get her/his attention by waving your arms or by gently touching the person. Don't yell or exaggerate your speech. A simple written message explaining what is going on will probably work if the person cannot understand what you are saying.
- c. If a person with speech impairment is trying to tell you something in an emergency and you cannot understand her/him, *don't panic*. Do not pretend you understand or try to ignore what the person is saying. Tell her/him you are having difficulty understanding what she/he is saying and ask if they can put it in a different way. Ask someone else to listen as well. Repeat what you think you have been told and ask for confirmation.
- d. If you are assisting a visually impaired person, explain what is happening. **DO NOT TAKE HER/HIS ARM AND TRY TO MOVE THE PERSON.** Ask how you can help. Visually impaired persons will usually place their hand on your arm, which indicates they will walk along with you. They will explain how you can be of the most assistance. **NEVER PULL OR DRAG SOMEONE ALONG.**

Remember that the disabled person is the expert on what assistance is needed. In some instances, you may find that the disabled person may have some additional expertise that may be of value. For example, in the case of a power outage, a blind person may be able to lead others to exits, or if the stairs are blocked a person who uses a wheelchair may know of alternative routes out of the building. Asking the person is always the best policy. Not following instructions/directions may create more problems.



## Miscellaneous and Hopefully Helpful Information:

### BearWALK Service

After dark, radio-equipped and trained student employees of UCPD, Community Service Officers (CSOs) provide a walking escort in conjunction with the Night Safety Shuttle to nearby residences, public transportation or parking facilities during the evening hours.

BearWALK Hours of Operation

Service hours are from dusk until 2 AM with the last call taken at 1:45 AM. Dusk usually begins at 7:30 PM during daylight savings time, 6 PM at other times of year. Call 642-WALK (9255) 15 minutes before you need the escort (more advance reservations not accepted.)

### Warn Me:

WarnMe is UC Berkeley's alerting and warning service for students, staff, and faculty. It is activated to contact you when there is an immediate threat to safety or health affecting the campus community. WarnMe can alert you by phone, text message, or email — you choose the best ways to reach you. (<https://warnme.berkeley.edu/>)

### Helpful websites:

Residency

<http://registrar.berkeley.edu/Residency/legalinfo.html>

University Health Services (Tang Center)

<http://www.uhs.berkeley.edu/index.shtml>

Graduate Division Forms

<http://www.grad.berkeley.edu/policies/forms.shtml>

Teaching

<http://gsi.berkeley.edu/>

Fellowships

<http://www.grad.berkeley.edu/financial/deadlines.shtml#extramural>

Graduate Assembly

<http://ga.berkeley.edu/>

International Students

BIO (Berkeley International Office):

<http://internationaloffice.berkeley.edu/>

### Helpful Phone Numbers:

Medical or other emergency: Dial 911

UC Berkeley Police: (510) 642-3333

Cal Student Central (Fees, Registration): 644-9181

Graduate Student Services:

Fellowships: 642-0672

Degrees: 642-7330

Appointments: 642-7101

GSI Training: 642-4456

University Health Services:	642-2000
Counseling:	642-9494
Health Insurance:	642-5700
Urgent Care	642-3188
Graduate Assembly:	642-2175
Disabled Students Program:	642-0518
Omsbudsperson:	642-5754