

DEPARTMENT OF MATHEMATICS  

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Colorado State University

# Graduate Student Handbook

Updated: August 25, 2009

# Policies and Procedures of the Mathematics Graduate Program

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Department of Mathematics  
Colorado State University  
101 Weber Building  
Fort Collins, CO 80523-1874

Welcome to the Mathematics Graduate Program at Colorado State University! The purpose of this handbook is to assist you in making a smooth transition to graduate studies.

The Department of Mathematics is part of the College of Natural Sciences along with seven other departments, including Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Psychology, Physics, and Statistics.

The Mathematics Graduate Program has approximately sixty graduate students, many of whom are supported by graduate teaching assistantships. Greater detail regarding the department, our programs, and the research interests of our faculty can be found on our web site:

<http://www.math.colostate.edu>

## **Disclaimer:**

Every effort is made for this document to be clear and concise, and as policies and procedures change this document will be updated in a timely manner. However, please keep in mind that updates cannot be made immediately. Please inform us if you should discover that something is not clear or has been omitted.

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# Part I: General Information

## 1. Application Information

If you have a GPA averaged over all your post high-school studies of 3.0 (A = 4.0) or higher, you are eligible to apply. A significant background in mathematics is expected, although a degree in mathematics is not required.

In order to apply, first complete the on-line application available on the Graduate School's website:

<http://graduateschool.colostate.edu/index.asp?url=apply>

The application has two parts. Once you have completed the online application you will be given the opportunity to pay the application fee. Log back in to complete the Graduate School's supplemental application. The \$50 non-refundable application fee must be paid before your application will be processed.

### **Supporting documents required to complete the application:**

#### **All applicants:**

- The GRE General test or the GRE Mathematics Subject test is required. Scores must be reported directly from ETS to Colorado State University using the institution code of **4075** (Photocopies will not be accepted).

#### **U.S. Citizens or Permanent Residents:**

- **Transcripts** - two official transcripts from all undergraduate and graduate institutions attended (Colorado State University transcripts are not required).
- **3 Letters of Recommendation** - There is no standardized format.

#### **International Applicants:**

- **Financial Support** - Proof of adequate financial support is required before an immigration document can be issued by Colorado State University. The financial support must cover all required expenses as specified in the Estimate of Expenses for International Students.

<http://wsprod.colostate.edu/cwis30/2007/ISSS/forms/estimatedexpenses.pdf>

Print the GS3F - Financial Support Statement. This form must be completed and submitted even if your only means of support would be an assistantship from the Mathematics Department.

<http://graduateschool.colostate.edu/index.asp?url=forms>

International Student and Scholar Services will issue an I-20 or IAP-66 (new version: DS-2019) only after this Financial Support Statement has been received and accepted by Colorado State University

- **TOEFL or IELTS Scores** – We require that TOEFL or IELTS scores be reported directly to Colorado State University using the institution code of **4075** ( Photocopies will not be accepted ). Applicants are exempted from the TOEFL or IELTS requirement if the official language of their country is English, or they have recently earned a degree at an American University. Minimum scores are as follows:

TOEFL

- Computer Based - 213
- Paper Based - 550
- Internet Based - 80

IELTS - 6.0

- **Transcripts** – Submit an official transcript and certified translation from all undergraduate and graduate institutions attended.
- **3 Letters of Recommendation** - There is no standardized format.

All supporting documents should be sent directly to the Mathematics Department using the following address:

Graduate Coordinator  
 Attn: Application Materials  
 Department of Mathematics  
 Colorado State University  
 Fort Collins, CO 80523-1874

## Application Deadlines

**A complete application includes all supporting documents described above. All components of the application are considered by the Graduate Committee in order to competitively award Graduate Teaching Assistantships. If any supporting document arrives late, this may reduce an applicant’s chances for receiving such an award.**

General deadlines for the receipt of a complete application (including all supporting documents) are listed below.

Term	Admission Only	Admission and Financial Support
Fall	April 1	February 1
Spring	September 1	July 15

## Once Your Application is Complete:

Your application will be reviewed by the Graduate Committee once all the required documents are received. You will receive notification if required documents have not arrived, and also when your application file is complete.

The Graduate Committee will recommend admission or denial of admission to the Graduate School. The Graduate School will notify you of the final admission decision.

If you have any questions about the status of your application please send an email to: [grad\\_program@math.colostate.edu](mailto:grad_program@math.colostate.edu)

## 2. Registration Requirements

**2.1 Registering for classes:** In order to register for classes you will need to obtain an eID (electronic identity). If you are new to the university we recommend that you do this before arriving on campus. This can be accomplished by visiting:

<http://eid.colostate.edu/>.

Registering for your classes will be done via RAMweb at:

<https://ramweb.colostate.edu/index.aspx>

**2.2 Continuous Registration:** All students admitted to the Mathematics Graduate Program at Colorado State University are required to be continuously registered in the fall and spring semester throughout their degree program. This policy applies from the time of first enrollment through the graduation term. Students may fulfill this requirement by registering for any graduate credit-bearing course (regular or non-regular).

Alternatively, students not being paid as a GTA or GRA may opt for a Continuous Registration (CR) status. Registration for CR is accomplished in the same way as registration for courses. CRN numbers appear in the class schedule under the CR prefix. Students registering for CR will be assessed a fee for each semester of CR registration. Students graduating in summer term are required to be registered for CR.

**2.3 Minimum Course Load for GTAs:** Unless otherwise approved, all GTAs must be enrolled in a minimum of 9 credit hours per semester. This requirement is part of the GTA contract and students that do not abide by it risk losing their assistantships. If you anticipate that you will fall below 9 credit hours for any reason, please seek formal approval in writing from the Graduate Director. Exceptions to the 9 credit hour requirement may be made for students who have completed their regular course credit requirements for the degree program in which they are enrolled. Students who believe they have completed their credit requirements for their degree should have this confirmed with their advisor and the Graduate Coordinator, before seeking formal approval from the Graduate Director for a reduction in the 9 credit hour requirement.

**2.4 Mathematics Seminar Requirement:** All graduate students are required to register for 1 credit of Seminar - MATH 592 every semester until they have a permanent advisor. Once a permanent advisor is chosen, the advisor will determine the nature of the seminar requirement, if any. During the course of each semester a minimum of 10 one-hour seminar meetings selected from the Green slopes, the Mathematics Colloquium, or research seminars organized by the mathematics faculty must be attended to satisfy the seminar requirement. Students will maintain an attendance sheet that will be signed by the seminar organizer and submitted to the Graduate Coordinator at the end of the semester.

### 3. Scholastic Standards

**3.1 Maintaining Good Academic Standing:** To remain in good academic standing a student must demonstrate acceptable performance in course work after being admitted to the graduate program. This requires a cumulative 3.00 grade point average in all regular and non-regular coursework. For Mathematics, non-regular coursework consists of:

- Independent Study - MATH 695
- Research - MATH 798
- Seminar - MATH 592
- Thesis – MATH 699
- Dissertation - MATH 799
- Supervised College Teaching - MATH 584.

Overall, a 3.00 grade point average must be maintained in regular and non-regular courses graded traditionally (A through F).

In addition, good academic standing requires satisfactory progress toward degree milestones. A student's advisor and committee, as well as the Mathematics Graduate Committee, may render judgments as to whether satisfactory progress is being made toward the degree.

**3.2 Academic Probation:** Failure to maintain a 3.00 grade point average will result in being placed on academic probation by the Graduate School as well as the loss of the Graduate Teaching Assistantship. The probationary period lasts for one semester allowing the student time to raise their GPA. Students on academic probation who do not regain good academic standing will be dismissed by the Graduate School.

However, new regularly admitted students will not be placed on academic probation or lose their Graduate Teaching Assistantship until they have completed 12 credits, or two semesters of graduate work, whichever comes first.

A student whose progress toward degree milestones is determined to be unsatisfactory may be placed on academic probation. The deficiency will be clearly documented in writing, stating the timeline for adequate improvement. Failure to meet this improvement plan will result in dismissal from the program. For more information on the department's dismissal policy, see section 6 below.

**3.3 Appeals Procedure:** Graduate students may appeal decisions concerning unsatisfactory performance. Informal resolution of appeals concerning unsatisfactory performance is encouraged whenever possible before initiating a formal appeal. The student should discuss the problem with the person or persons whose actions are challenged within 10 days following the adverse recommendation or decision. Typically, this is the student's advisor or the Graduate Director. If the matter is not resolved to the student's satisfaction within 20 days following the informal discussion, the student may initiate a formal appeal by submitting the matter in writing to the Vice Provost for Graduate Studies. Please see section 6 below, and the Graduate School Appeals Procedure contained in the Graduate Bulletin for more information.

## 4. Graduate Teaching Assistantships

**GTA training:** All incoming GTAs will complete GTA training and will be assigned a GTA mentor.

The two half-day training sessions will cover topics including:

- Policies of the department
- The teaching environment
- Preparing for teaching
- Technology workshop
- Teaching workshop-discussion
- Teaching workshop-practice

**GTA Mentors:** Each new GTA will be assigned a GTA mentor who will observe them two times in the classroom the first semester and give constructive feedback.

**Contracts:** GTA contracts should be signed in the semester preceding the assignment. The contract will stipulate your pay rate and includes the condition that non-residents must establish residency by the end of their first year. In addition, the contract stipulates a minimum course load of 9 credits per semester until coursework is completed. All new graduate students being paid by the University, including GTAs and GRAs, must meet with Sheri Hofeling (hofeling@math.colostate.edu or call 491-7047) to become active on the payroll system. This should be done as soon as possible after arriving on campus.

International students must obtain a social security number. Check with the office of International Programs regarding this process.

**Teaching Assignments:** GTA assignments are made by the Undergraduate Facilitator and department Chair in the weeks preceding the beginning of each semester. Please complete the Teaching Preferences form sent out each semester by the deadline posted so that we can take into account your class schedule and teaching preferences.

**Course Coordinator Meetings:** Most of the courses to which GTAs are typically assigned have course coordinators. The course coordinator maintains consistency across sections and will provide a class syllabus as well as examinations. Your coordinator will

meet with you in the week before classes as well as one hour per week during the semester. Your attendance at these meetings is mandatory.

**Duties:** GTA duties may take up to 20 hours per week, although ideally we would like to see students not average more than 18 hours per week. If you feel your work load is excessive, please discuss the situation with the course coordinator. If this does not resolve the situation please see any of the following: Undergraduate Director, Graduate Director, Graduate Coordinator, or Department Head.

You are responsible for your class. In the event of illness or other emergency, the front office staff can arrange for a sub (Phone: 491-7925). DO NOT recruit subs without getting front office approval. Missed classes must be made up - No exceptions.

**Pay Scale:** GTA contracts are for 9 months. The 9 month contract begins August 15 and ends May 15. We offer three stipend levels based on progress in the degree program

1. \$15,950 - All entering students
2. \$16,450 - Passed PhD qualifiers part (i)
3. \$16,950 - Passed PhD preliminary examination

In addition to the monthly stipend the Graduate Teaching Assistantship provides a full tuition waiver (See Establishing Residency for details and restrictions). However, there are miscellaneous fees of about \$640 per semester for the student to pay. These fees cover use of the student health center, athletic admissions, city bus pass, the university recreation center, and several other items.

**Minimum Course Load for GTAs:** Unless otherwise approved, all GTAs should be enrolled in a minimum of 9 credit hours per semester. This requirement is part of the GTA contract and students that do not abide by it risk losing their assistantships. If you anticipate that you will fall below 9 credit hours for any reason, please seek formal approval in writing from either your academic advisor or the Graduate Director. Students who believe they have completed their credit requirements for their degrees should have this confirmed with their advisor and the Graduate Coordinator.

**Physical Presence:** GTA contracts are from August 15 – May 15 and physical presence outside of University Holidays may be required. Attendance at pre-semester meetings is required of all GTAs. Please check with your course coordinator (once he/she is assigned) to determine the time of your meeting. In addition, certain departmental meetings as well as graduate student workshops are mandatory. Inform your course coordinator of any anticipated absences well in advance.

**Establishing Residency:** If you are a GTA and a US citizen, as part of your contract you will need to establish Colorado residency or be responsible for the difference between in-state and out-of-state tuition after your first year. (As it takes one full year to establish residency you must begin the process immediately upon arrival in Ft. Collins.) As part of the GTA stipend, the Department of Mathematics covers your full out-of-state tuition in your first year and in-state tuition in the out-years. The Office of Enrollment Services will assist students in establishing Colorado residency.

<http://sfs.colostate.edu/I20000.cfm>

Here is a quick summary (see link above for final word!): After completing the one-year residency requirement you must file a petition to become eligible for in-state status. Request and/or submit petition to: Colorado State University, Student Financial Services, Room 103 Administration Annex, Fort Collins, CO 80523-8024, phone 970-491-6321. To establish residency you must (necessary, not sufficient) obtain:

- Colorado driver's license or valid Colorado ID
- Colorado motor vehicle registration
- Colorado voter registration
- Change in permanent address on all pertinent records
- Payment of Colorado state income taxes as a resident

To complete a petition requires effort on your part to gather and submit the required documentation. Allow ample time to gather all the necessary information and documentation. Orientation classes to assist you are available.

### **Policy Regarding Length of GTA Support**

1. When a GTA is awarded, it is implicit that the assistantship will continue to be available, given satisfactory academic progress towards the degree as well as satisfactory performance of assistantship duties. Signs of unsatisfactory academic progress for GTAs might include failure to maintain a 3.0 GPA, dropping below the 9 credit hour minimum or lack of progress towards examination milestones. Signs of unsatisfactory performance of duties include, for example, not showing up for teaching your class, being chronically late, or inappropriate behavior. Student performance is reviewed at the end of each semester. We would like to emphasize that only rarely has it been necessary to discontinue a GTA prematurely.
2. For students entering the MS program, the normal period of support is two years measured from the date the program is begun. Support will not be continued beyond two years for an MS student except in special circumstances. These cases must involve some exceptional situation.
3. Support for students in the Ph.D. program will continue if the student makes satisfactory progress towards successful completion of the Ph.D. degree milestones: the Ph.D. qualifying examinations,--Parts I and II, the preliminary examination and the Final Dissertation Defense, but typically not longer than four years after successful completion of Part I of the qualifying examination. The graduate committee, in conjunction with the student's Ph.D. advisor and committee, is charged with deciding when satisfactory progress is not being made.
4. Note, however, that termination of GTA support does not necessarily constitute dismissal from the program. Students who are in good standing with the Graduate School of the University (which implies certain rules) are entitled to continue in the graduate program of the Department of Mathematics at their own expense.

5. The above rules outline the general intentions of the Department of Mathematics. However, in exceptional circumstances the Department may deviate from this policy.

## 5. The Mathematics Graduate Committee

**Mathematics Graduate Committee:** The Mathematics Graduate Committee is responsible for the administration of the graduate programs offered by the Department. Its responsibilities include making recommendations of admission or denial of admission to the Graduate School for each applicant to the mathematics graduate program, making decisions on GTA offers, and making proposals for faculty review and action regarding graduate course offerings and other aspects of the graduate programs.

The 2009-2010 Graduate Committee consists of the following members:

- Jeanne Duflot (Graduate Director and Committee Chair)
- Tim Penttila
- Alexander Hulpke
- Vakhtang Putkaradze
- Travis Olson (Graduate Student Representative)
- Bryan Elder (Graduate Coordinator)

**The Graduate Coordinator,** Bryan Elder, [elder@math.colostate.edu](mailto:elder@math.colostate.edu) is the initial point of contact for the graduate program, and is responsible for the processing of graduate applications, forms, and contracts, as well as providing information on graduate program requirements.

**The Graduate Director,** Professor Jeanne Duflot [duflot@math.colostate.edu](mailto:duflot@math.colostate.edu), is Chair of the Graduate Committee and provides information on academic aspects of the program, including course offerings and information on research areas of faculty. The Graduate Director also serves as temporary academic advisor for incoming students.

**The Graduate Student Representative (GSR),** Monks [monks@math.colostate.edu](mailto:monks@math.colostate.edu), is another point of contact for students in the program and serves as a liaison between the graduate students and the Graduate Committee.

## 6. Dismissal policy for Graduate Students, subject to revision after faculty review:

A graduate student in the Department of Mathematics may be dismissed from the graduate program for the following reasons:

All graduate students:

- 1) Cumulative GPA falls below 3.00, and remains below 3.00 after the probationary semester.
- 2) Student's advisor, in consultation with the student's advisory committee,

determines that progress towards degree completion is unsatisfactory and that satisfactory progress cannot reasonably be anticipated.

Ph.D. student only:

- 1) Failure to successfully complete Part I of the QE in a timely fashion
- 2) Failure to successfully complete Part II of the QE in a timely fashion
- 3) Failure of the Preliminary Examination
- 4) Failure of the Final Ph.D. Examination

MS student only:

- 1) Failure of the Final Examination.

### **Policies regarding the above:**

**Cumulative GPA falls below 3.00:** Graduate students may be dismissed by the Graduate School if cumulative GPA falls below 3.00. The rules, procedures and appeals process for such dismissals are specified in the Graduate and Professional Bulletin (see also section 3 above), and the Department of Mathematics will use these rules, procedures and appeals process if a graduate student's cumulative GPA falls below 3.00.

**Advisor makes unsatisfactory progress determination:** If a student's advisor and advisory committee determine that progress towards degree completion is unsatisfactory, and that satisfactory progress towards degree completion cannot reasonably be anticipated, then a recommendation to this effect must be made in writing and presented to the student and the Graduate Committee. According to Graduate School policy, this written recommendation must include substantive justification for dismissal in lieu of probation. If the Graduate Committee concurs with the recommendation to dismiss, then, according to Graduate School rules, it must be referred to the department chair for approval and the Vice-Provost for Graduate Studies for final action. Appeals may be made through the existing Graduate School appeals procedure contained in the Graduate Bulletin (<http://graduateschool.colostate.edu/index.asp?url=catalog>).

**Failures on Part I or Part II of Departmental Qualifying Examination:** If a Ph.D. student receives two Fail ratings for any final examination in Part I of the Qualifying Examinations, the student may be dismissed from the program. The QEC will recommend dismissal of the student to the Graduate Director and the Department Chair in writing. The student will be notified of the QEC's recommendation of dismissal in writing as soon as possible after the decision is made, and will have two weeks to prepare an appeal, if so desired, which will be made to the Graduate Director and the Department Chair. The final decision on dismissal will be made by the Department Chair, whether or not an appeal is made.

If a Ph.D. student does not fulfill other conditions, determined by a QEC and specified in writing to the student, that the student must satisfy to successfully complete Part I, then the student may be dismissed from the program. The QEC will recommend dismissal of the student to the Graduate Director and the Department Chair. The student will be notified of the QEC's recommendation of dismissal in writing as soon as possible after the decision is made, and will have two weeks to prepare an appeal, if so desired, which

will be made to the Graduate Director and the Department Chair. The final decision on dismissal will be made by the Department Chair, whether or not an appeal is made.

If a Ph.D. student fails to complete Part II of the Qualifying Examination in a timely fashion, then the Graduate Director and the student's advisor, together, may recommend that the student be dismissed from the program. The student will be informed of the decision in writing, and will have two weeks to prepare an appeal, if so desired, which will be made to the Graduate Director, the student's advisor, and the Department Chair. The final decision on dismissal will be made by the Department Chair, whether or not an appeal is made,

**Failure of the Preliminary Examination or the Final Examination:** According to Graduate School rules, a student may repeat a failed Preliminary or Final Examination once. Failure to pass the second exam results in dismissal from the Graduate School. See the Graduate and Professional Bulletin for further details.

<http://graduateschool.colostate.edu/index.asp?url=catalog>

## **Part II: Academic Program Requirements**

### **1. Selecting an advisor and committee**

Pursuing an MS or PhD degree requires considerable advice from a variety of sources. Initially this advice will come from the Graduate Director who serves as temporary advisor for incoming students. One of the main responsibilities of the temporary advisor is to assist in the initial planning of the degree program.

Entering students will undergo an initial diagnostic interview with the Graduate Director to plan an appropriate program of study. If the student's diagnostic interview identifies a deficiency, the program may be required to include courses to correct this. However, mathematics courses at the 300 level or below will not be counted toward the total credit hour requirement toward any graduate degree in mathematics.

Students must select a permanent advisor, including their committee, by the end of the third semester of residency; in other words, a student in the MS program must choose an MS committee by the end of the third semester in the MS program, and a PhD student should make the selections for the PhD committee by the end of the third semester in the PhD program. The MS with Outside Specialization program, however, has an earlier deadline (see section 2.2 below) If a student receives a MS degree from CSU's program, and then continues to pursue a Ph.D. in mathematics at CSU, the Ph.D. permanent advisor and committee need not be the same as the MS permanent advisor and committee.

The choice of committee is formally made by completing a GS6 form (see Appendix A - 1 below for more information), and must be approved by the Department Chair.

The advisor is the chief source of advice in the planning process and works closely with the student throughout their graduate career on all matters related to the degree program. A close, cordial, and professional relationship is therefore of the utmost importance.

Members of the committee should be chosen on the basis of the student's interests, the student's experience with faculty members, and the advisor's knowledge and expertise. As noted above, the makeup of a graduate committee must be approved by the department head and, of course, agreed to by the potential members themselves. It is the responsibility of the student to secure these approvals and agreements. The purpose of the committee is to make available to the student a broad range of knowledge and expertise. Committee members may aid in general advising of the student and may assist in planning the major elements of the program. The committee administers the final examination for an MS student, as well as the preliminary and final examinations for a PhD student.

The committee must consist of at least three faculty members for a master's degree program and at least four for a doctoral degree program. The members are as follows:

- The major, or permanent, advisor, who serves as chairperson of the committee, must hold academic faculty rank as a professor, associate professor, or assistant professor in the Department of Mathematics.

- For the MS degree programs, the committee must include one or more additional members from the Department of Mathematics.
- For the PhD degree program the committee must include two or more additional members from the Department of Mathematics.
- In any program, one member from a department outside Mathematics must be chosen as the “Outside Member”. A committee member with this designation cannot have a joint appointment in the Department of Mathematics.
- Co-advisors may be chosen from outside the Department of Mathematics.

Individuals who are not academic faculty but who have special expertise may serve on committees in addition to the prescribed members, but may not vote regarding examination results.

## **2. Master of Science Degrees:** Three different Master's Degrees are currently available:

- M.S. in Mathematics
- M.S. in Mathematics with Outside Specialization
- M.S. in Applied and Computational Mathematics

All M.S. degrees require at least 35 credit hours of coursework. Under the direction of the advisor, the committee will plan and supervise the course of study and the writing of the thesis (Plan A) or master's paper (Plan B.) See individual program descriptions in the Graduate Student Handbook or the Mathematics Graduate Program website for more details.

**Scholastic Standard for all MS degrees:** In addition to the GPA requirements outlined in section 3.1 above, a 3.0 average in all math courses at the 400 level and above must be maintained.

**2.1 MS in Mathematics:** This program is designed for the student who wants to obtain a general education in mathematics at the Master's level. This program is also an appropriate preparation for our Ph.D. program in mathematics. The recommended mathematical preparatory coursework for this program includes junior/senior level coursework in advanced calculus, abstract algebra and linear algebra.

### **General Requirements**

- A minimum of 35 credit hours of course work
- Math courses at the 300 level and below will not be counted towards the 35 hour requirement.
- A minimum of 24 credit hours taken on campus
- At most 6 of the 35 credit hours may be taken outside mathematics.
- Course work outside the department must be at the 300 level or above. Outside courses must be approved in advance by the graduate student's advisor and have some relevance to the student's mathematical program.
- A minimum of 18 hours of coursework in mathematics at the 500 level or above (excluding MATH x99 and MATH 530)

- The Seminar requirement must be satisfied – a maximum of 2 credits may be counted toward the 35 credit hour degree requirement.
- At most 1 hour of MATH 584 (Supervised College Teaching) may be counted towards the 35 credit hour requirement.

### **Course Requirements**

The program must include three out of the six courses:

- MATH 501
- MATH 517
- MATH 545
- MATH 550
- MATH 560
- MATH 566

The program requires two sequences selected from the following options:

- MATH 501-502
- MATH 517-617 or MATH 517-519
- MATH 545-546
- MATH 550-652
- MATH 560-640 or MATH 560-561
- MATH 566-567

(Note: if a sequence is not offered due to enrollment restrictions then students must select amongst the available sequences in any given year.)

The program must include at least one additional course selected from an area of mathematics, as approved by the student's advisor, not represented in the student's choices used to fulfill the requirements above.

### **MS Final Project and Examination**

A final oral examination is required for all MS degrees. The Examination is conducted by the Advisory Committee and is open to faculty and graduate students in the Department as well as other interested parties. The student must complete one of the following options for the MS.

- Thesis (plan A): The student completes a thesis that is not purely expository but reflects an element of originality on the part of the student. The student's program of study must contain a least 6 but not more than 9 credits hours of thesis research (MATH 699)
  - The format of the thesis must strictly adhere to the requirements of the Graduate School. A format Requirements Checklist and sample pages of the Title page, Copyright page, Signature page, and Abstract page are available on the Graduate School website:

<http://graduateschool.colostate.edu/current-students/thesis-dissertation.aspx>

- The thesis must be submitted to the Graduate School by published deadlines.

<http://graduateschool.colostate.edu/current-students/>

- Paper (plan B): The student writes an expository paper under the direction of the advisor. This paper must be approved by the advisor and the committee. The student's program of study must contain 3 credits hours of thesis research (MATH 699)
  - The Expository Paper will not be submitted to the graduate school.

The Graduate Coordinator will assist with room scheduling once the date and time for the defense have been established with your committee.

The student's committee must have adequate time to review the thesis or paper before the final examination. Therefore, the committee must have the thesis or paper at least two weeks (including two weekends) before the final examination which meets the following standards:

- The Paper or Thesis must be in final form
- The Print is letter quality, and a uniform style has been used throughout.
- Figures, printouts, etc. are clear and easy to read.
- Text is double-spaced and printed on only one side of the paper.

Results of the final oral examination will be reported on the GS24. Voting is limited to the members of the student's committee, and a majority vote is necessary to pass the examination. A tie vote is interpreted as failure to pass the examination. All committee members must vote to either Pass or Fail the student; there is no option to withhold a signature. Committee members who are not academic faculty do not have a vote on the final examination.

If significant revisions to the thesis or expository paper are required by the committee after the final oral examination is complete, a reasonable amount of time must be given for committee members to re-review the thesis once the revisions have been made.

A candidate who fails the final examination may be reexamined once and, for the reexamination, may be required to complete further work. The reexamination must be held not later than 12 months after the first examination. The examination must not be held earlier than two months after the first examination unless the student agrees to a shorter time period. Failure to pass the second exam results in dismissal from the Graduate School.

**2.2 MS in Mathematics with Outside Specialization:** This program is designed for the student who wants to combine a solid background in mathematics with an area of specialization outside the Mathematics Department (e.g. atmospheric sciences, biology, computer science, engineering, physics, statistics, etc.) The recommended mathematical preparatory coursework for this program includes junior/senior level coursework in advanced calculus and linear algebra.

### **Permanent Advisor**

Acceptance into the Master's program with outside specialization is subject to having obtained a permanent advisor from among the Mathematics faculty. Incoming students or students who do not yet have a permanent advisor remain in the "general" Mathematics masters program.

The outside area of specialization and the student's MS committee should be chosen as early as possible, preferably by the end of the first year of study. Areas of outside specialization must be approved in advance by the student's committee. The committee must include at least one member from the area of specialization plus at least two members from the Mathematics Department.. Under the direction of the advisor, the committee will plan and supervise the course of study and the writing of the thesis or master's paper.

### **General Course Requirements**

- A minimum of 35 credit hours of course work
- Math courses at the 300 level and below will not be counted towards the 35 hour requirement.
- A minimum of 24 credit hours taken on campus
- A minimum of 9 of the 35 hours taken in an outside area
- 6 hours of course work taken outside the department must be at the 600 level or above.
- A minimum of 18 hours of coursework in mathematics at the 500 level or above (excluding MATH x99 and MATH 530).
- The Seminar requirement must be satisfied – a maximum of 2 credits may be counted toward the 35 credit hour degree requirement.
- At most 1 hour of MATH 584 (Supervised College Teaching) may be counted towards the 35 credit hour requirement.

### **Other Course Requirements**

The program must include three out of the six courses:

- MATH 501
- MATH 517
- MATH 545
- MATH 550
- MATH 560
- MATH 566

The program must include at least one additional course selected from an area of mathematics, as approved by the student's advisor, not represented in the student's choices used to fulfill the requirements above.

**MS Final Project and Examination:** Same requirements as for the MS in Mathematics. See section 2.1 above.

**2.3 MS in Applied and Computational Mathematics:** The MS in applied and computational mathematics is a Master's program aimed at providing the graduate with the skills needed to deal with problems which typically arise in business and industrial situations.

The program is based on the following components:

- Computing skills
- Modeling
- Statistical tools
- Project development and communication (MATH 633)
- Area of specialization

### **General Course Requirements**

- A minimum of 35 credit hours of course work
- Math courses at the 300 level and below will not be counted towards the 35 hour requirement.
- A minimum of 24 credit hours taken on campus
- A minimum of 9 of the 35 hours taken in an outside area
- 6 hours of course work taken outside the department must be at the 600 level or above.
- A minimum of 18 hours of coursework in mathematics at the 500 level or above (excluding MATH x99 and MATH 530).
- The Seminar requirement must be satisfied – a maximum of 2 credits may be counted toward the 35 credit hour degree requirement.
- At most 1 hour of MATH 584 (Supervised College Teaching) may be counted towards the 35 credit hour requirement.

### **Other Course Requirements**

#### **Computing Skills**

Each student must demonstrate the ability to work in a professional programming language (e.g., C++, Java, C, FORTRAN). Several of the courses in the Department of Mathematics and some of the courses from related areas include a significant computing component. In these courses, the students will execute their assignments in an appropriate computer language. Introductory courses in programming languages are available for students having no previous programming skills.

Each student is required to complete a total of four computational courses. Mathematics courses which may be used to satisfy this condition include the following:

#### **Numerical Analysis**

- MATH 561
- MATH 550

- MATH 651
- MATH 652
- MATH 750
- MATH 751

### **Optimization**

- MATH 510
- MATH 520
- MATH 525
- MATH 620
- MATH 621
- GRAD 510
- GRAD 511

### **Modeling**

Mathematical modeling is the term used to refer to the process of formulating in mathematical context a problem arising in some area of applications. Each student is required to complete at least two one-semester courses in modeling. Mathematics courses which may be used to satisfy this condition include the following:

- MATH 531
- MATH 532
- MATH 750
- MATH 751

Examples of courses outside the Department of Mathematics which could be used to satisfy this requirement include:

- CIVE 631
- CIVE 633
- ATS 601
- ATS 602

### **Statistical Skills**

Students are required to complete at least 6 credit hours in statistics. There are a large variety of courses offered by the Statistics Department and students should seek the advice of their faculty advisor in making a selection. With special approval of the graduate committee, the student may be excused from this condition by courses taken in the undergraduate program. In this case the undergraduate hours may not be counted toward the 35 hour total.

### **Project Development and Communication: MATH 633--Industrial and Applied Mathematics**

Students will have the opportunity to develop problem solving and communication skills as part of MATH 633. The core requirements of this course include:

- Developing an innovative solution to an industrial problem.
- Participating in and leading classroom discussions on the problem.
- Working in student teams on project components including brainstorming, problem formulation, coding and work plan development.
- Preparation of a final project report detailing the student's contribution to the project.

The plan A/B paper can be based on the subject matter from this course. The final examination can be based on the evaluation of the final project report written by the student. As part of the examination, each student will submit to his/her committee a written report detailing their role in the project.

### **Area of Specialization**

Each student will design a program containing at least one area of specialization. An area of specialization consists of at least two related courses, not necessarily from within the Department of Mathematics. Selections from within the Department of Mathematics that would serve to fulfill this condition include:

MATH 517-617, 517-519  
MATH 561-651  
MATH 560  
MATH 550-652  
MATH 750-751  
MATH 545-546  
MATH 540-640, 540-641  
MATH 510-520  
MATH 620-621  
MATH 501-502, 601-602

Course selections from outside the Department of Mathematics that would serve to fulfill this condition could be chosen, for example, from course offerings in any of the following areas: Statistics, Computer Science, Atmospheric Science, Fluid Dynamics, Hydrology and Ground Water Engineering, Electrical Engineering.

**MS Final Project and Examination:** Same requirements as for the General MS in mathematics. See section 2.1 above.

### 3. Doctor of Philosophy Degree

Entering students will have a diagnostic and advising interview with the Graduate Director to plan an appropriate program of study.

#### General Requirements:

- A minimum of 72 credit hours beyond the bachelor's degree – all at the 300 level or above.
- Two thirds of the course work should be in mathematics.
- Course work in mathematics must be at the 400 level or above in order to be used towards the 72 credit hour requirement.
- 3.0 GPA must be maintained in all course work.
- 3.0 GPA must be maintained in all mathematics courses at the 400 level or above, excluding work in seminars and doctoral research.
- No more than 24 credit hours of research/thesis may be counted towards the 72 credit hour requirement.
- The Seminar Requirement must be satisfied – at most two additional credits beyond the two allowed for the MS may be counted towards the 72 hour requirement.
- At most 1 hour of MATH 584 (Supervised College Teaching) may be counted towards the 72 credit hour requirement.
- MATH 530 may not be counted toward the 72 hour requirement.

Students entering with a master's degree in mathematics may receive up to 30 credit hours towards the 72 credit hour requirements. For these students, a minimum of 42 credits must be earned at CSU after admission to a doctoral program, and at least 21 credits beyond the master's degree must be earned in courses numbered 500 or above. For students enrolled in a continuous master's/Ph.D. program at Colorado State University, all courses taken during the master's program may be applied to the doctoral degree, even if the total master's degree credits exceed 30.

It must be stated on the Ph.D. program of study that all credits earned on the MS will be counted toward the PhD; furthermore, this must be approved by the student's advisory committee, the Department of Mathematics, and the Graduate School. For more detailed information on university-wide Ph.D. requirements, please consult the Graduate School website:

<http://graduateschool.colostate.edu/>

**Breadth Requirement:** To fulfill the breadth requirement for the Ph.D., all students will be required to take and pass, with a grade of B- or higher, at least 14 three (or more) credit MATH courses at the 500 level or above excluding:

- MATH 530
- MATH 699
- MATH 798
- MATH 799

Students entering with a master's degree in mathematics from another institution may use courses approved to count towards the 72 credit hour requirement to also count towards this requirement.

At least two courses must be chosen from each of the lists below. This breadth requirement may be completed over the course of the student's graduate program. Credit earned for comparable courses taken at other institutions may be evaluated by the Graduate Director, at the student's request, to determine suitability for substitution for particular course(s) in the lists below.

<b>List I</b>	<b>List II</b>	<b>List III</b>
MATH 501	MATH 517	MATH 510
MATH 502	MATH 519	MATH 520
MATH 566	MATH 617	MATH 545
MATH 567	MATH 618	MATH 546
MATH 570	MATH 619	MATH 560
MATH 571	MATH 717	MATH 561
MATH 601	MATH 718	MATH 620
MATH 602		MATH 621
MATH 666		MATH 640
MATH 667		MATH 645
MATH 672		MATH 646
MATH 673		

### **Departmental Qualifying Examination**

The departmental Ph.D. qualifying exam consists of two examinations, parts I and II.

### **Part I of the Qualifying Examination**

#### **Purpose of Part I of the Qualifying Examination**

The student will complete Part I of the Qualifying Examination in order to present evidence of performance at an appropriate level to the faculty. This evidence will be used as a basis for judging the candidate's qualifications for continuing in the Ph.D. program in mathematics.

### **The Suite of Qualifying Courses: Overview**

Each student seeking to pursue a Ph.D. in Mathematics will propose a Suite of Qualifying Courses. The Graduate Committee will review each proposal. There are Standard Suites of courses that are automatically approved. A student may alternatively propose a Special Suite of courses.

## What is a Proposal for a Suite of Qualifying Courses?

A Suite proposal always consists of

1. A list (Suite) of specified courses that the student has completed, or will complete, during his or her graduate studies,

AND

2. For each course on the list, a specification of the documentation that will be provided by the student for assessment purposes. If the course is a QE course\*, this documentation MUST be the student's completed final examination in the course.

\*A QE course (Qualifying Examination course) is any course in a Standard Suite.

There are two types of Suites of Qualifying Courses (described below): Standard Suites and Special Suites.

### How is a Suite proposal made?

1. The student, together with a faculty advisor, will complete the [Suite Proposal form](#) and return it to the Graduate Coordinator. Note that the Graduate Director will act as the default faculty advisor for all Standard Suite proposals.
2. The signature of the faculty advisor, indicating the advisor's support for the proposal, is necessary to complete each Suite Proposal.
3. The Graduate Committee will review the proposal for approval.
4. Each approved Suite Proposal will be announced to the faculty.

More details on policies and procedures for the review of Suite proposals are included in the [departmental policies and procedures manual](#).

### What is a Standard Suite of Qualifying Courses?

Currently there are two Standard Suites:

- Classic Suite 1: MATH 517, MATH 617, MATH 519, MATH 566 and MATH 567.
- Classic Suite 2: MATH 517, MATH 617, MATH 519, MATH 566 and MATH 560.

Using one of the Standard Suites as Part I of the Qualifying Examination is the appropriate choice for most students in the program.

The Graduate Director will act as the default faculty advisor for all Standard Suite proposals. The Graduate Director will automatically approve all Standard Suite proposals, if properly made.

## **What is a Special Suite of Qualifying Courses?**

Any other sort of Suite is a Special Suite. Special Suites may include QE courses.

For example,

A student who has successfully completed a graduate-level course, comparable to one of the QE courses at another university, may request that this course be included in a Special Suite, OR that a more advanced CSU course in the same area, or a closely related one, be included in a Special Suite.

A student's CSU faculty advisor may recommend the inclusion of a particular graduate level course (not necessarily a CSU course) in a Special Suite to the student. Such a course does not have to be a mathematics course. It must be a graduate-level course.

A proposal for a Special Suite must specify the documentation that the student will submit to allow assessment of performance in each non-QE course in the Suite.

## **How does a student complete Part I of the Qualifying Examination?**

Once a student's Suite of Qualifying Courses is approved by the Graduate Committee, the student must provide the assessment documents specified in the student's Suite Proposal to a Qualifying Examination Committee (The roll of the QEC is defined in the [department policies and procedures manual](#)) after each course in the Suite is completed. A student must receive a Pass- rating or higher from a QEC for each course in his or her Suite in order to complete that component of his or her Part I Examination. For more details on policies and procedures for assessment and evaluation of courses in Suites, consult the [department policies and procedures manual](#).

### **Part II of the qualifying examination:**

After the selection of a permanent advisor, the student together with the Ph.D. advisor, and sometimes in consultation with additional faculty, will devise a second evaluation to be completed by the student before the preliminary examination, and after the completion of Part I of the qualifying examination. This evaluation must be completed within two academic years following the passing of Part I of the qualifying examination. The student should demonstrate proficiency on material approximately at the 600-level.

### **Departmental Preliminary Examination**

At some time after a Ph.D. advisor and committee have been assigned, the student will be required to pass an oral preliminary examination prepared and administered by the student's committee. This examination must be passed at least one academic year (two semesters; the summer session may be included) before defense of the dissertation. The purpose of this oral examination is to evaluate the student's proposed research project.

Two weeks prior to the examination, the student must provide to the Ph.D. committee a written copy of the dissertation proposal, including a survey of the relevant literature, a description of the problem to be investigated, and an outline of methodology to be considered. The student either passes, passes provisionally (certain additional conditions must be met), or fails. In case the student fails the examination, it may be repeated once subject to Graduate School regulations. After this examination has been passed, the student becomes a Ph.D. candidate.

A written report of the examination will become part of the student's file.

### **PhD Dissertation and Final Examination**

Each Ph.D. candidate must prepare a dissertation containing original mathematical research that is acceptable to the students committee. The student must successfully defend this dissertation in an open oral examination before the committee as well as other interested parties. This examination can be given no sooner than two semesters (including summer) after the student becomes a Ph.D. candidate.

The Thesis:

- The format of the thesis must strictly adhere to the requirements of the Graduate School. A format Requirements Checklist and sample pages of the Title page, Copyright page, Signature page, and Abstract page are available on the Graduate School website:

<http://graduateschool.colostate.edu/current-students/thesis-dissertation.aspx>

- The thesis must be submitted to the Graduate School by the published deadline.

<http://graduateschool.colostate.edu/current-students/>

Three additional forms are required for the PhD and can be found on the Graduate School website:

<http://graduateschool.colostate.edu/current-students/thesis-dissertation.aspx>

- Doctoral Dissertation Agreement Form
- Survey of Earned Doctorates
- Dissertation Release Form

The Graduate Coordinator will assist with room scheduling once the date and time for the defense have been established with your committee.

The student's committee must have adequate time to review the thesis before the final examination. Therefore, the committee must have the thesis at least two weeks (including two weekends) before the final examination which meets the following standards:

- The Thesis must be in final form
- The Print is letter quality, and a uniform style has been used throughout.
- Figures, printouts, etc. are clear and easy to read.
- Text is double-spaced and printed on only one side of the paper.
- Spiral bound

Results of the final oral examination will be reported on the GS24. Voting is limited to the members of the student's committee, and a majority vote is necessary to pass the examination. A tie vote is interpreted as failure to pass the examination. All committee members must vote to either Pass or Fail the student; there is no option to withhold a signature. Committee members who are not academic faculty do not have a vote on the final examination.

If significant revisions to the thesis are required by the committee after the final oral examination is complete, a reasonable amount of time must be given for committee members to re-review the thesis once the revisions have been made.

A candidate who fails the final examination may be reexamined once and, for the reexamination, may be required to complete further work. The reexamination must be held not later than 12 months after the first examination. The examination must not be held earlier than two months after the first examination unless the student agrees to a shorter time period. Failure to pass the second exam results in dismissal from the Graduate School.

## Appendix A: Graduate School Forms

**1. Program of Study (GS6):** The advisor and committee are appointed through filing a Program of Study (GS6) with the Graduate School, which lists the advisor, committee members, and all courses which will be taken in pursuit of the degree. This is the formal statement of what will be done to fulfill degree requirements. The Program of Study must be filed with the Graduate School before the time of the fourth regular semester registration. Students who fail to meet this requirement may be denied subsequent registration. For Track III Admission students in combined bachelor's/master's degree programs, the GS6 must be filed before the end of the student's first semester after admission to Graduate School.

While it is important for a student to plan the Program of Study, together with the advisor and committee, early in the graduate career, it is understood that plans may develop and change. Reconciliation of courses planned on the Program of Study and those actually taken will be made when applying to graduate using the GS25 application for graduation form. Courses which have been taken and for which a grade has been received (A through F, I, S or U) may not be removed from the Program of Study.

Note that when a student who has received an MS degree in mathematics from our program decides to continue in the Ph.D. program, the student must complete a second GS6 form for the Ph.D. program of study, usually some time after completing the GS7 form (see section 4.3 below).

**2. Change of Committee Member (GS9A):** A member of the committee, including the advisor, may resign from the committee, or be replaced by the student. Any permanent changes in committee membership are recorded through the filing of a GS9A.

**3. Change of Degree Program (GS7):** Students may opt to change degree programs with or without completing the degree in which they are currently enrolled. Students may change degree programs because they are no longer interested in finishing the degree in which they are currently enrolled, or they were originally admitted to a PhD program, but want to first graduate with a master's degree. Any permanent changes to the degree program are recorded through the filing of a GS7.

Continuation to the PhD program after completing the MS is not automatic. Students wishing to continue must have passed the PhD qualifiers part (i), and received approval from the Graduate Director and Department Chair. This will be accomplished by filing the GS7 with the department. Once approved, the GS7 will be sent to the Graduate School.

**4. Application for Graduation (GS25):** Students must apply for graduation by submitting form GS25. Deadlines are available on the Graduate School's website. Reconciliation of courses planned on the Program of Study and those actually taken will be made on this form. Students must be registered for a minimum of 1 credit or CR (see Part I - 2.2 above) during the semester they plan to graduate.

**5. Report of Preliminary Examination (GS16):** The Graduate Coordinator will supply the GS16 to the Advisor several days before the preliminary examination. Once the examination is complete and the outcome is known it is the responsibility of the student to return the form to the Graduate Coordinator. This must be done in a timely manner as the form is due to the Graduate School within two working days.

**6. Report of Final Examination (GS24):** The Graduate Coordinator will supply the GS24 to the Advisor several days before the final examination. Once the examination is complete and the outcome is known it is the responsibility of the student to return the form to the Graduate Coordinator. This must be done in a timely manner as the form is due to the Graduate School within two working days.

**7. Departmental Requirement Clearance form (GS25B):** The Graduate Coordinator will complete this form and forward to the Graduate School once all departmental requirements have been met. It is not necessary for the student to complete this form.

## **Appendix B: Mathematics Department Staff**

### **Assistant to the Chair – Christie Franklin**

If you need assistance with one of the following, contact Christie at 491-6452

- Pre-tenure/post-tenure reviews
- Maintain policy and procedure manual
- Maintain committee agendas and minutes
- Coordinate annual report activity
- Supervise Actuary Examination
- Maintain faculty files, teaching records, and scholarship records
- Math Day Coordinator; maintain website
- Faculty and post doctoral searches coordination
- Assist new hires – faculty and post docs
- Responsible for Weekly Links; maintain website
- Department chair calendar
- Faculty VISA updates

### **Undergraduate Coordinator/Office Leader – Annette Gonzales**

If you need assistance with one of the following, contact Annette at 491-6327

- Advisee Assignments/Information as well as SMART forms and Advising guides
- Semester schedule of courses and teaching preferences
- Textbook ordering
- Test copying
- Night examination and final examination room scheduling
- Class rolls
- Curriculum changes
- Enrollment numbers
- Graduation contracts
- Math majors/minors
- Override documentation
- Course Syllabi files
- Minutes for undergraduate committee meetings
- Supervise, train, hire and evaluate student employees and staff new hires
- Maintain annual/sick leave data on faculty and staff
- Worker's Compensation claim forms and maintenance of employee leave records

### **Graduate Coordinator – Bryan Elder**

If you need assistance with one of the following, contact Bryan at 491-7925

- Equipment check in/out
- Substitute teachers for faculty and GTA's
- Room arrangements for thesis defenses
- Graduate school interaction
- Graduate School forms
- Graduate office desk assignments
- Graduate student alumni records
- Graduate application/forms/deadlines/contracts
- International/Visa Process
- Qualifying examination information
- Reference letters
- Maintain department home pages on the website

**Front Office Administrative Assistant – Karena Alons-Topf**

If you need assistance with one of the following, contact Karena at 491-1303

- Schedule use of computer lab room 205/206
- Conference/Seminar room reservations and/or catering needs
- Corporate Calendar appointments
- Maintain perpetual department calendar
- Course evaluations/filing/updating
- Phone list information update
- Weber room reservations
- Semester office hours and class schedules
- Special mailing
- Copier assistance
- Supplies requests
- Fax information
- Assist in the absence of undergraduate and/or graduate coordinators
- Coordinate department commencement
- Colorado Combined Campaign department representative

**Building Proctor – Bryan Elder**

If you need assistance with one of the following, contact Bryan at 491-7925

- Building/office repairs
- Problems with building/facility
- Special cleaning needs
- Phone system
- Department construction liaison to facilities management
- Key Manager

After hours or in case of a true emergency, call Facilities Services dispatch at 491-0077.

**Accounting Tech III – Sheri Hofeling**

If you need assistance with one of the following, contact Sheri at 491-7047

- Financial reporting
- Long distance statements
- Salary and hourly payroll, including timesheets
- Purchasing/accounting issues
- Research grants/Start-up accounts/Dept accounts
- Travel – including in-house & pre-travel forms
- Department post-travel
- New hires, including faculty, staff, or student employees
- Arranging computer access (ISIS, ORACLE, CIS, Newton)
- ACARD
- Scholarships
- Student Hourly Employees/Payroll
- Bi-monthly time sheets

**Systems Administrator – John Dzuber (Zube)**

If you need assistance with one of the following, contact Zube at:

[zube@math.colostate.edu](mailto:zube@math.colostate.edu)

- Assistance with hardware and software purchases
- Computer set-up for new employees; network access; installing computer programs

- General computer/network troubleshooting
- Maintaining department printers and scanners

**Web Master** – Bryan Elder

If you need assistance with one of the following, contact Bryan at 491-7925 or [elder@math.colostate.edu](mailto:elder@math.colostate.edu)

- Maintaining and updating department websites
- Maintaining and updating faculty and graduate website
- Updating and design of current Mathematics website and links

## Appendix C: Miscellaneous

**Copies:** There is a copier in the main office Weber 102 to use for university related business (i.e. teaching or research).

Copyright laws prevent copying more than 10% of a book.

**Faxing:** The fax number to the machine in the main office is 970-491-2161. You may request a fax be sent by completing the fax form and submitting it to any one of the office staff

**Office Supplies:** If you are doing work related to your appointment as a GTA or GRA, we will give you the supplies you need to do this work.

**Parking:** You will need to purchase a parking permit if you wish to park your car in the university parking lots on campus. Commuter students will need to purchase a Z-lot permit. Permits can be purchased at Parking Services, 201 Green Hall. Permits for a one-year period will allow you to park in any lot designated as a Z-lot. As a graduate instructor, you may be able to purchase a “restricted A-lot” parking permit for an additional cost. This permit will allow you to park in limited faculty lots on campus. Check with Parking Services

[\(http://www.parking.colostate.edu/\)](http://www.parking.colostate.edu/)

Bicycling provides a cheap, convenient way to get to campus. Numerous bike racks are located around campus and the Weber building. All bikes must be registered with the University Police Department. Be sure to familiarize yourself with the regulations for bicycling on campus (e.g., you must have lights on your bike for night or evening biking).

**Public Transportation:** *Transfort* is Fort Collins’ bus service. Bus passes have historically been free to all full-time students, but you should check to make sure that this is still the case. The service has stops near several student living areas and drops students off in the center of campus at the new bus stop located at the student center. Information about fares and routes is available at

<http://fcgov.com/transfort/>

### Computers

Among the first things you should do as a student at CSU is sign up for an electronic identity (eID). The eID is required for many services on campus, including:

- Free CSU Computer Account
- E-mail
- WebCT
- Services for Modem Access
- Use of computers in the mathematics graduate student computer labs

**Office and Phone:** Upon arrival GTAs will be assigned an office and phone number that will be shared with other students. Offices will be assigned to self supported students if available.

**Mailbox:** All graduate students will be issued a mailbox. They are located in Weber 102 in the main office suite.

**Keys:** All graduate students will be issued keys to the main entrance of the Weber building, the mailroom and library. Those students assigned a desk will have keys to their office as well.

Records are maintained in the department's main office of all keys issued throughout the department. Lost keys must be reported immediately to the Key Manager. The Key Manager will notify Facilities Key Desk and prepare the required paperwork for the lost keys and replacing the lost keys. Upon leaving the university, key holders must return all keys issued in their name to the department Key Manager. Grades and/or paychecks can be withheld until clearance for all keys is received.

**Math email:** You will meet with Zube, Mathematics system administrator, to set up a math email address [yourlastname@math.colostate.edu](mailto:yourlastname@math.colostate.edu). It is strongly recommended that you use this email in all of your electronic communications with the department given email relay restrictions. Please check your email daily as this will be the primary means of communication within the department.

**Graduate Student Offices - Rules of Common Courtesy:** Please recognize that these are shared offices and rules of common courtesy should apply. Following the rules below, and being courteous and considerate in general, will ensure that you have a pleasant experience in the Math Department.

1. Offices are work and study places and a work/study environment has priority over social or recreational activities.
2. As GTAs, we all have office hours. Be courteous to your office mates in determining how you conduct your office hours.
  - No more than 2 students can be effectively helped at your desk.
  - If no one else is using the office, problem solving at whiteboards in your office is effective for 1-3 students. However, if others are in the office working and/or the group exceeds 3 students, move to a study/review room: These rooms can be reserved in advance by asking Karena or Bryan
    - Room 9
    - Room 14 & 15
    - Room 130
    - Other rooms on campus
  - It is recommended that you be at your desk during your office hours. This ensures that students will be able to easily find you and not have to search from room to room.

Note: Rooms 9, 14, and 15 are specifically for office hours and graduate studies. In particular, during business hours, these are not undergraduate

study rooms; nor should they be used for private tutoring. Space is at a premium, and we cannot provide study areas for undergraduate students. Please check with the office staff for availability/scheduling of a study/review room when necessary.

3. Not everyone considers music appropriate for a work environment. If you would like to listen to music, headphones are highly recommended.
4. Computers are provided for professional use, to include email, website management, grade records, and research. Please be courteous to your fellow students. During business hours, refrain from using the computers for recreational activities (games, web surfing). After business hours, professional activities still have priority. Remember that not all computers have the same capabilities. Just because other computers are not in use, this does not mean that someone else does not need the computer you are using to play.
5. Please clean up after yourself (fridge, microwave, common tables). Let Bryan know if you need supplies for cleaning.
6. Please keep all cell phones on a silent or quiet tone. While not in the office, please either take your phone with you or turn it off.
7. University policy is “no pets are allowed in buildings,” and since the office areas are shared space, rules of courtesy reinforce this policy. Other than fish, please do not bring your pets into the office.

## **Housing:**

**On-Campus Housing:** The University has on-campus options for both single and family housing.

There are two sets of apartments for single graduate students: Lory Apartments and International House. Both offer one bedroom, and two-bedroom (shared with a roommate) apartments. There is no choice of roommate in the shared apartments, but odds are you will get to live with someone from another country, as these apartments are well liked by international students.

Two and three bedroom family housing is available at Aggie Village North and South, and University Village East and West.

Information regarding both types of housing is available on the Housing and Dining Services website.

<http://www.housing.colostate.edu/apartments/index.htm>

Graduate students are not guaranteed an apartment, so you should file your application well in advance. These apartments are only rented to graduate students or non-traditional students, so the apartments are extremely quiet.

**Off-Campus Housing:** Finding a place to live in Fort Collins at the beginning of the semester can be difficult. Fort Collins has a fair amount of off-campus housing available; however each fall brings a crowd of students, so try to make rental arrangements as early as possible. The influx usually begins at about mid-July and crescendos until classes begin. As with most college towns, you pay for the convenience of being close to the campus. But remember that the popular advertisement "close to campus" is less meaningful to math graduate students since the majority of apartments are west of the university, and the Weber Building is on the east side of campus.

Off-Campus Student Services, located in the Lory Student Center is an excellent resource to assist you in your search for off-campus housing:

<http://www.ocssral.colostate.edu/>

Here are just a few free services that they offer:

- Assistance in finding a place to live off campus
- Help in finding potential roommates
- Assistance in learning the stages of renting, pre to post-tenancy
- Aid in understanding your rights and responsibilities as a tenant if Fort Collins
- Information on selecting and developing healthy roommate relationships
- Tips on being a good neighbor and building community
- Help with Budgeting
- Transportation information
- Ways to get involved on campus

The classified ads in either the Collegian (the CSU paper) or the Coloradoan (the local Fort Collins paper) are also a great resource for off-campus housing.

### **Mandatory Health Insurance Policy:**

Starting fall semester 2008, all new, incoming full-fee paying (registered for 6 or more credits) resident-instruction graduate students will be required to enroll in the CSU student health insurance plan or to opt-out by demonstrating health insurance coverage at a comparable level. Any student who has been continuously enrolled in a resident instruction graduate program at CSU will be considered "grandfathered" and not subject to the health insurance requirement until the fall semester 2011. Beginning fall semester 2011 all full-fee paying resident-instruction graduate students, regardless of the year of matriculation, will be required to be enrolled in the CSU student health insurance plan or one that is determined to be comparable to or better than the health plan offered by CSU.

### **How does this policy affect me?**

Any student who was enrolled in the Mathematics Graduate Program at CSU prior to Fall 2008 will be considered "grandfathered" and not subject to the health insurance requirement until the fall 2011 semester. Any returning student who is starting a NEW

graduate degree program at CSU beginning Fall 2008 semester is not "Grandfathered" under the old policy. International graduate students are still subject to the health insurance requirement regardless of new or returning status.

"Grandfathered" students will have an option to participate in the CSU student insurance plan or decline enrollment until fall 2011. Students who choose to participate in the CSU student insurance plan and meet the following criteria will be given an insurance contribution of \$350 towards the cost of the CSU insurance:

- The student has an assistantship of 10 hours (1/4-time) or more.
- The student is registered for 6 credit hours or more.

"Grandfathered" students who decline to participate in the CSU student insurance plan and meet the following criteria will receive the \$200 stipend.

- The student has an assistantship of 10 hours (1/4-time) or more.
- The student is registered for 6 credit hours or more

All new, incoming mathematics graduate students will be required to enroll in the CSU student health insurance plan or to opt-out by demonstrating health insurance coverage at a comparable level. New students who meet the following criteria will be given an insurance contribution of \$350 towards the cost of the CSU insurance:

- The student has an assistantship of 10 hours (1/4-time) or more.
- The student is registered for 6 credit hours or more.

This contribution is only applied when the CSU Student Insurance plan is elected. If a student does not elect the CSU plan, but provides proof of comparable insurance, the student will not receive any contribution.

By fall 2011, the \$200 stipend will be phased out and all students, regardless of new or "grandfathered" status, will be required to purchase the CSU insurance or provide proof of comparable coverage.

See the Graduate School's website for details regarding the Mandatory Health Insurance Policy. Included on that page are links to Hartshorn Health Services, which provides details of the insurance plan, as well as a section for frequently asked questions.

<http://graduateschool.colostate.edu/prospective-students/apply/health-insurance/index.aspx>