

Department of Mathematics and Statistics

Graduate Student Instruction Training Program

Graduate Program Directorate

November 1, 2015

Purpose and Target Audience

The purpose of this program is to provide instructional training and skills development for graduate students, in particular for doctoral candidates who are interested in becoming instructors in a post-secondary educational environment. This competitive program is intended for full-time graduate students who exhibit excellent performance in academics as well as teaching. Training must take place during semesters for which trainees are paying tuition fees. Participation for both students and faculty in any of the steps of the program is strictly voluntary.

Proposed Schedule

Step n of the training program is expected to be completed in year n or $n+1$ of the graduate student's program.

STEP 1 – Graduate Student Instruction Learner

Eligibility: Any student enrolled in the Mathematics and Statistics graduate program.

Preparation: Students who are interested in completing this step should approach a faculty member with the request to act as their mentor for this step of the program. This should be an instructor other than the student's supervisor for whom the student has served or is serving as a TA.

Application: There is no formal application process or deadline. However, applicants must have at least one semester of TA experience in the U of C Mathematics & Statistics Department before they may request a faculty mentor. The prospective mentor is encouraged to check with the Graduate Program Director on the applicant's academic standing prior to accepting the mentoring assignment.

Program: The faculty mentor will provide the Graduate Student Instruction Learner (GSIL) with opportunities to observe their lectures, as well as coaching in developing lecture notes and instruction skills. At the discretion of the mentor, the GSIL will teach one or two lectures for a course, for which the faculty mentor will provide materials (notes, handouts). The GSIL may be required to do some very limited lecture material preparation under the mentor's guidance (e.g. work out an example).

The GSIL will complete the *Instructional Skills Workshop* offered by the U of C Taylor Institute for Teaching and Learning in the same year; see <http://ucalgary.ca/taylorinstitute/edu/programs/isw>. U of C graduate students are eligible to participate in this workshop at no cost. Applicants are advised to register **early** since space is limited and ISW offerings tend to fill up quickly.

Evaluation: The faculty mentor will provide feedback to the GSIL. The GSIL should arrange for the mentor to provide a brief written report to the Graduate Program Director describing the mentorship activities and the GSIL's instructional skills. The report should include a recommendation by the mentor on the GSIL's suitability to continue to Step 2 if the GSIL has been successful in completing Step 1. The Graduate Program Director will notify the GSIL of their progress in the training program and issue a formal completion certificate to the GSIL if completion was successful.

Remuneration: None.

STEP 2 – Graduate Student Instruction Trainee

Eligibility: Graduate Student Instruction Learners enrolled in the Mathematics and Statistics graduate program who are in good academic standing and have successfully completed Step 1. Prior TA performance of high quality is expected.

There will be limited positions available for this step of the program in any given year. Candidates will be selected based on their step 1 evaluations, previous TA performance, and academic standing. Priority will be given to PhD students, particularly those who have passed their oral candidacy exam.

Preparation: Prior to applying, the applicant approaches a faculty member with a request to act as their mentor for this step of the program. This should be an instructor other than the student's supervisor with whom the applicant has a prior professional relationship, e.g. the student has previously successfully served as TA for the instructor or contributes to his or her research group. The mentor may or may not be the applicant's step 1 faculty mentor. The prospective mentor must obtain approval from the Department Head before agreeing to serve as mentor for the student.

Application: Students should submit in writing the following application materials to the Graduate Program Director:

- A letter from the applicant requesting to enter this step of the training program and providing a rationale by outlining future plans regarding teaching.
- A copy of the applicant's CV.
- Proof of completion of the *Instructional Skills Workshop*. If applicants are registered for the ISW but have not yet completed it by the application deadline, proof of registration is required; proof of completion must be submitted to the Graduate Program Director immediately after completion.

Applicants should also arrange for the following materials to be submitted separately to the Graduate Program Director:

- A reference letter from the applicant's supervisor.
- A reference letter from the prospective step 2 mentor commenting on the applicant's teaching abilities and declaring their willingness to serve as mentor for this step of the program.

Acceptance into this step of the program is subject to approval by the Department Head. Students wishing to be considered for step 3 should state this request in their application to step 2. Subject to successful completion of step 2 and availability of space, students will normally conduct their step 3 teaching during the academic year following the year during which step 2 training took place.

Deadline: **June 1** for training during the fall term of the same year.
November 1 for training during the winter term of the following year.

Program: The mentor will provide the Graduate Student Instructor Trainee (GSIT) with opportunities to observe their lectures and teach approximately one third of the lectures for their course. Alternative teaching settings may also be considered for this step of the program (e.g. Calculus Connections).

Responsibilities: In consultation with the faculty mentor, the GSIT will be assigned lectures to teach, for which the mentor will provide materials. It is expected that prior to teaching, the GSIT will attend an appropriate number of lectures taught by the mentor and may be called upon to answer student questions after these lectures. The number of lectures attended by the GSIT and taught by the

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mentor should not exceed 1/3 of the total number of lectures. The GSIT will hold one office hour/week to assist students in the course. In partnership with the mentor, the GSIT may also be required to participate to a reasonable extent in marking (e.g. the GSIT could mark an exam problem).

The faculty mentor will provide ongoing feedback and guidance to the GSIT on their teaching. It is expected that the faculty mentor will make all course materials (notes, handouts, quizzes) etc) available to the GSIT. The GSIT may be required to develop some material under the mentor's guidance and instructions (e.g. prepare some handouts or examples, an exam review, or all materials for one or two lectures). At the discretion of the faculty mentor, the GSIT and mentor will agree on some lectures being conducted by the GSIT without the mentor in attendance. This is to allow the GSIT to develop experience in teaching independently, which is an important achievement in progressing to Step 3 of the program. It is therefore strongly recommended that the faculty mentor attend some but not all lectures taught by the GSIT.

Evaluation: Students in the course taught by the faculty mentor and GSIT will be asked to complete a Faculty Survey on the GSIT (separate from the one for the instructor). Following the standard review by the Department Head, the faculty mentor and the GSIT will review the survey results. The GSIT will submit a brief report to the Graduate Program Director describing their responsibilities and activities during Step 2 as well as providing any comments he or she deems relevant. After reviewing the GSIT's survey results, the faculty mentor will provide a written report to the Graduate Program Director describing the mentorship activities and the GSIT's skills. The report should include a recommendation by the mentor on the GSIT's suitability to continue to Step 3 if the GSIT has successfully completed Step 2. The Graduate Program Director will notify the GSIT of their progress in the program and issue a formal completion certificate to the GSIT if completion was successful.

Remuneration: 1/3 GAT equivalent, constituting one third of the student's regular GAT assignment. Two sample GSIT workload distributions are provided below.

Sample Step 2 GSIT Workload Distributions

Duties	Hours (3 lectures/week)	Hours (4 lectures/week)
Office hours during lecture period	12*	10**
Office hours during final exam period	3	0
Final exam invigilation	2	2
Lectures attended	6	6
Lectures taught	13	17
Independent material preparation:	6	4
Review of mentor's lecture materials	7	9
Meetings with mentor	11	14
Marking	5	4
Miscellaneous	3	2
Total:	68	68

* Weeks 2-13

** Weeks 4-13

Step 3 – Graduate Student Instructor

- Eligibility:** Graduate Student Instruction Trainees enrolled in the Mathematics and Statistics PhD Program who have passed their oral candidacy exam and have successfully completed Steps 1 and 2. There will be a very limited number of positions available for this step of the program; typically 2 in any given year depending on course offerings and Departmental teaching needs. Candidates will be selected based on their step 2 evaluations and academic standing. Priority will be given to applicants who have not previously completed this step of the program.
- Preparation:** Applicants must consult with the Graduate Program Director and the Associate Head prior to applying.
- Application:** Students should submit in writing the following application materials to the Graduate Program Director:
- A declaration from the applicant requesting to enter this step of the training program.
 - A copy of the applicant's CV.
 - A brief teaching dossier (1-2 pages) consisting of a teaching philosophy statement (1-2 paragraphs), followed by short description of outlining what the applicant has done in their labs to implement their teaching philosophy.
 - Any other information or supporting documentation relevant to the applicant's teaching abilities.
- Applicants should also arrange for a reference letter from the applicant's supervisor to be submitted separately to the Graduate Program Director. Acceptance into this step of the program is subject to approval by the Department Head.
- Deadline:** Students will have requested consideration for step 3 in their application to step 2. Step 3 teaching will normally take place during the academic year following the year of completion of step 2, in consultation with the Associate Head.
- Program:** The Graduate Student Instructor (GSI) will be assigned a faculty mentor by the Department Head. For a coordinated multi-section course, this will usually be the Course Coordinator. The GSI will be assigned as an instructor for a course and the faculty mentor will provide feedback and guidance to the GSI in developing lecture and assessment materials.
- Responsibilities:** In consultation with the faculty mentor, the GSI will develop all relevant course materials, including the course outline, lecture notes, handouts, assignments, quizzes, and exams. The GSI will maintain the website or Blackboard application for the course, hold office hours and provide guidance to any Teaching Assistants assigned to the labs and tutorials for the course; this may include providing answer keys and grading schemes where appropriate. For coordinated multi-section courses, some of the responsibilities outlined above may be shared with the other instructors as determined by the Course Coordinator. The GSI is also responsible for determining and submitting final grades for his or her course, which will be reviewed by the mentor prior to submission. The faculty mentor will periodically observe the lectures and provide constructive feedback to the GSI throughout the duration of the course. He or she will also review the GSI's final grades.
- Evaluation:** Students in the course taught by the GSI will be asked to complete a Faculty Survey on the GSI. Following the standard review by the Department Head, the faculty mentor and the GSI will review the survey results. After reviewing the GSIT's survey results, the faculty mentor will provide a written report to the Graduate Program Director commenting on the instructional skills of the GSI.
- Remuneration:** 1 GAT equivalent. This will represent the student's regular full GAT assignment.