

MATH TA TRAINING WORKSHOP

9/6/2023

Grab some food and get comfortable!

We will start the workshop shortly.



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WATERLOO

FACULTY OF
MATHEMATICS



WHO ARE WE?

Bertrand Guenin - Associate Dean of Graduate Studies

Cecilia Cotton - Associate Dean of Undergraduate Studies

Faisal Al-Faisal - Director of the Tutoring Centre

Diana Skrzydlo - Math Faculty Teaching Fellow



AGENDA

- Policy 30
- Training
- TA expectations and responsibilities
- *Break*
- Helping students learn
- Providing good feedback & marking examples
- *Break*
- Student panel



LEARNING OBJECTIVES

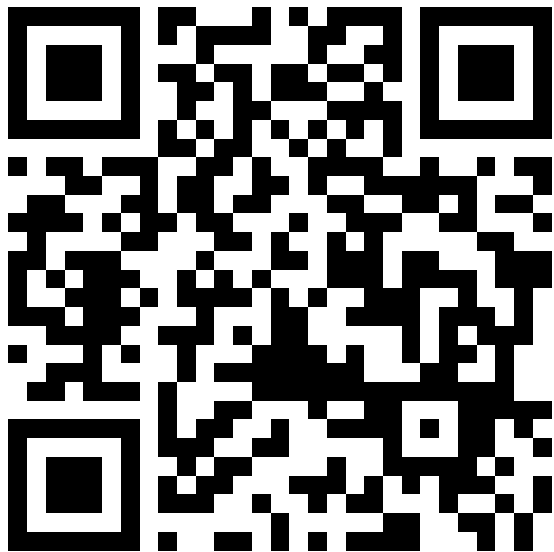
- TA expectations & duties
- Good/bad TA
- Tools: Learn, Tutorial Center, Piazza, Crowdmark
- Student discipline / academic integrity / privacy
- Hands-on marking activity

Policy 30 - Governs Employment of Graduate Student Teaching Assistants

Describes your rights & responsibilities, you are encouraged to read it.



Need a (digitally) signed contract for each TA assignment



Deadline: **Thursday September 7th, end of day !!!**

You will be considered to have declined if you do not answer.

The graduate teaching assistant (GTA) agreement:

Defines expectations of all parties in all areas, including,

- time commitments,
- contributions to course delivery,
- appropriate timeframes for responding to communications.

Not yet received the GTA agreement?



Contact your instructor

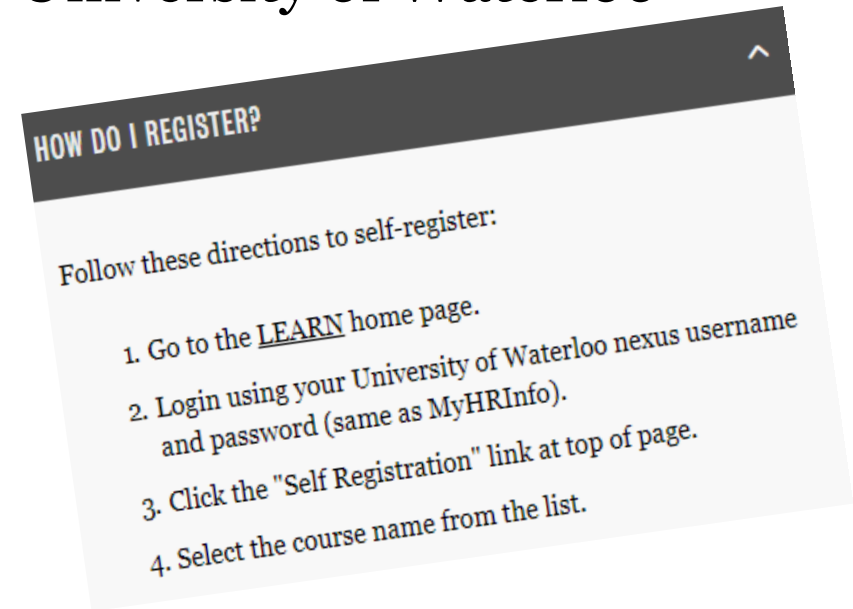
Training

Working as a TA or RA makes you an **employee** of the University of Waterloo



Must complete 4 online training sessions:

- Employee Safety Orientation (*SO1081*)
- Workplace Violence (*SO1081*)
- Workplace Hazardous Materials Information System (*SO2017*)
- Accessibility Training (*AODA_training*)



All Math TAs must also complete following modules:

- Conflict Management and Human Rights Office Training
(*CMAHRO TA Training - Mathematics*)

Failure to complete may prevent you from working as a TA and affect your funding

Recommended:

- Preparing to TA at Waterloo

The Undergraduate operations in the Faculty of Mathematics

- MUO = Math Undergrad Office
- Fall 2023 – MATH has over 9,300 undergrad (~1,800 new)
- All Undergrad students in Math must take a large set of core courses.
- **Associate Dean Undergraduate (ADUG) is responsible for assigning almost 400 graduate TAs in during a year to 33 core and service courses.**
 - **Approximately \$2,000,000 per year in support to teaching mission through teaching assistantships.**
 - **ADUG is your employer as a TA for those courses.**
- **Many TAs are assigned by other units**

WHY TA?

- You are part of a team supporting the Undergraduate Teaching Mission of UW!
- Build presentation and teaching skills
- Develop interdisciplinary skills (with students, instructors, other TAs, etc.)
- **We need you!** Instructors rely on you to support their teaching
- **Students need you!** Student rely on you to support their learning.

TA ASSIGNMENTS AND FIRST STEPS

- Student's preferences, skills, knowledge, qualifications, and previous TA performances are taken into account when students are assigned a course as TAs.
- Most students are assigned to either a faculty course (e.g., MATH###) or a course from their respective units (e.g., CO###, AM###, PM###, CM###, etc.)
- Graduate students that are starting their degrees at UW will typically be assigned duties as a Marker in their first year
 - Training provided here by the Math Undergraduate and Graduate Office
- Contact/meet with your course coordinator/instructor (TA Agreement)

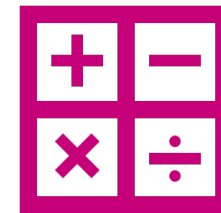
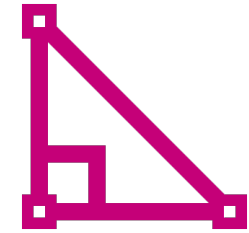
TA EXPECTATIONS AND RESPONSIBILITIES

- Breakdown of hours
 - One TA unit = ~ 5 hours/week over 16 weeks = 80 hours
 - Two TA unit = ~ 10 hours/week over 16 weeks = 160 hours
 - Hours **will not** be evenly distributed throughout the term
- Expect to be available from the first day of class until grades have been submitted
 - Note that the last day of exams is Friday Dec. 23 so you might have to mark quite late.
- Time needed to learn course material is not included in these hours, unless otherwise stated by your instructor
- If you cannot fulfill your duties (e.g., illness, attending a conference, etc.), please contact the course coordinator/instructor

TA DUTIES

Some responsibilities are:

- Marking
- Proctoring
- Giving oral exams
- Office hours
- Tutorials
- Record grades
- Write solutions
- Monitor discussion boards
- Etc. (be sure to ask your instructor)



Graduate Teaching Assistant Agreement (Description of TA Duties and Allocation of Hours Form)

Term: _____

Name of TA: _____

Course Code: _____

TA supervisor: _____

Task (select from dropdown or type)	Description	Mandatory, Recommended, or Optional	Estimated Hours	Revised Hours (if applicable)
[Select/type]				
Pool proctoring	Proctoring a midterm or exam for another course as assigned by MUO	Mandatory	3.5	
		Estimated Total Hours		



General Expectations (Default fields may be modified as needed, at least in Acrobat)

Expectation Type	Description
Confidentiality	Hold confidential any and all student information as outlined in Policy 46.
Professionalism	Conduct oneself respectfully and professionally in all interactions with students, faculty, and staff.
Absence from duties	Inform instructors as soon as possible in the event of an absence and, if possible, arrange a replacement.

Relevant Dates and Deadlines

- It is the TA's responsibility to consult the course outline for any relevant dates not listed below.
- The date of a final exam may not be known at the start of term. It is the TA's responsibility to consult the final exam schedule for this

Assessment Type	Details



TA EVALUATIONS

- Every grad TA will be evaluated at the end of each course
- This information will be shared with the units involved
- Goal is to give you constructive feedback
- The categories include:
 - Overall
 - Quality of Work
 - Timeliness
 - Communication

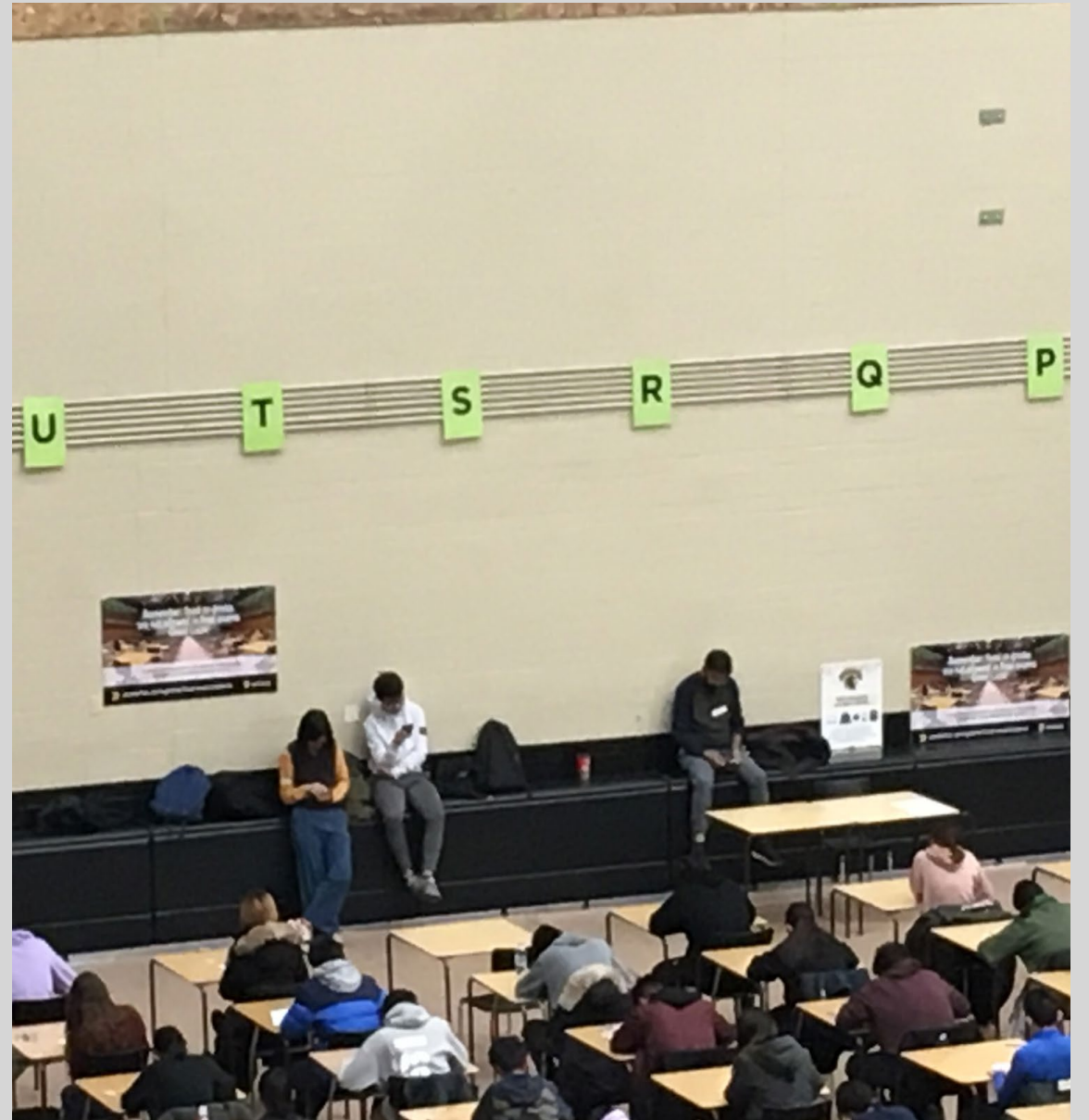


TA Expectations and Responsibilities - Pool Proctoring

The MUO maintains a “pool” of all the graduate TAs (regardless of unit assigning)

- Proctors are selected at random each term to help with midterm and final examination proctoring.
- As part of the 80h (1 unit) of TA duty, 3.5h are pre-allocated to assisting in the proctoring of a **midterm OR final examination** in a course other than the one(s) to which they were assigned.
- **Hence, this leaves 76.5 hours (=80h-3.5h) of other TA duties for the rest of the term.**
 - Midterms= 4th to the 11th week of term.
 - Final Examinations = We give you as much advance notice as we can, typically one week.

This is not proctoring.



Pool Proctoring - Continued

- Please respond soon after contacted
- If you have an academic reason why you cannot proctor, we will find someone else.
- You will be given information where to go and when
- Please make sure to follow instructions carefully
 - Including when to arrive for the exam setup!!!
- Instructor will give you information on what is expected of you
- If you find evidence of cheating, contact an instructor ASAP



WHAT IS LEARN?

- LEARN is the University of Waterloo's learning management system. Students who take fully online and face-to-face courses access their course materials through LEARN.
- How and when do I get access to LEARN?
 - Log in using your WatIAM credentials. It may take a few days to add your WatIAM account to the LEARN system and then to add you to the course itself.
- Difficulties logging into LEARN?
 - Contact your instructor first to confirm whether the request has been sent. Otherwise, contact the LEARN Support Team (learnhelp@uwaterloo.ca) or CTE Math Liaison Shayla Redin Hume shayla.hume@uwaterloo.ca



WHAT MAKES A GREAT TA? WHAT MAKES A BAD TA?

Some of our ideas:

- Caring (realistically everything else is a subset of this)
- Responsible
- Diligent/punctual
- Inquisitive (Don't just accept the status quo)
- Have effective communication
- Confidence



STUDENT DISCIPLINE

What to do if students are caught cheating and the chain of command:

- Please review [Policy 71 - Student Discipline](#)
- Assignment:
 - Collect the evidence
 - Inform your instructor/coordinator



The screenshot shows the University of Waterloo Secretariat website. The header includes the University of Waterloo logo and navigation links: ADMISSIONS, ABOUT WATERLOO, FACULTIES & ACADEMICS, OFFICES & SERVICES, SUPPORT WATERLOO, and a SEARCH icon. The main heading is "SECRETARIAT". The page content includes a sidebar with links like "Secretariat home", "About the Secretariat", "Governance", "Committees and councils", "Documents of potential interest", "Information and Privacy", "Organization charts", "Policies, procedures & guidelines", "Policy Renewal Project", and "University Records Management". The main content area is titled "Policy 71 – Student Discipline" and includes the following information:

- Established: June 6, 1989
- Last updated: September 13, 2010
- Class: G
- [Printer-friendly version](#)
- [link to previous version of Policy 71](#)

1. INTRODUCTION

This policy applies to University of Waterloo (University or UW) students, including individuals who were students at the time of the event(s) upon which a disciplinary proceeding is based.

A discipline decision of an academic support unit (e.g. athletics, library, parking, on-campus pubs and student residences) is handled under the unit's internal mechanism and not under this policy unless the matter is referred to an associate dean.

Resources to advise students include the Conflict Management and Human Rights Office, Student Resource Office, Secretariat and faculty undergraduate and graduate offices. Resources to assist students include Counselling Services, Health Services, and AccessAbility Services.

Authority to deal with matters under this policy rests with the undergraduate and graduate associate deans. In cases where criminal proceedings have been initiated against a student, the authority usually vested in an associate dean rests with the vice-president, academic & provost, who will keep the associate dean of the student's home faculty informed. A decision of the vice-president, academic & provost is appealable to the University Committee on Student Appeals but remains in effect during the appeal process.

RESPONDING TO DISRUPTIVE OR EMOTIONALLY CHARGED STUDENTS

In general:

- Be calm and courteous
 - Lose your temper = Lose your credibility
- Give students the benefit of doubt
- Focus on the behaviour, not the student
- Don't take disruptions personally
- Talk to students one-on-one/email

Tips:

- Safety first!
- Recommend Campus Services
 - Counselling, Health Services, Student Success Office, AccessAbility Services, **Campus Police (ext. 22222)**
- Calm students down - ask them to take a seat or you can stand and have water/tissues handy
- Ask to understand the student (e.g., why do you need this mark?)

QUESTIONS?

BREAK

HELPING STUDENTS LEARN



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TUTORING

- Your duties might include contact hours with students.
- These can take the form of office hours (either virtual or in-person) for the specific course to which you've been assigned, or tutoring in the Tutoring Centre.
- You might also be expected to run tutorials.



OFFICE HOURS

- Always show up on time. If you're going to be late/absent, let the relevant people know (course instructor or Tutoring Centre coordinator).
- If you have to use a shared office, let your office mate know.



ANSWERING QUESTIONS

- Be prepared. Study the material in advance. If you have access to assignment solutions, be sure to look at them before your office hour / tutoring session. (And if you see mistakes in the solutions, be sure to let the instructor know!)
- Don't just hand over answers. Give hints on how to start or keep going if they are stuck. Maybe tell them what concept or strategy might be useful.
- You can also work through a similar example with them so they can see how it is done.



ANSWERING QUESTIONS

- Be encouraging! Congratulate students when they've solved a problem well or figured out a problem that was giving them trouble.
- Don't be insulting or mocking! We don't want to discourage students from coming back.
- There may be other ways to solve a problem different from the solutions you are given. Make sure you check their work carefully and see if what they have done is correct.



TUTORING ON MS TEAMS

- You may be asked to tutor or hold virtual office hours, often via MS Teams.
- If you have a tablet, whiteboard, or some other method for writing so that students can see, that would be preferred.
- Still, treat these questions the same as you would in-person: help students work through the problems themselves, don't give answers.



PIAZZA

- Piazza is an online message board system that accepts LATEX for answering questions. You may be asked, as part of your duties, to help answer questions on Piazza.
- Instructors, TAs, and other students can answer questions.
- Follow-up questions/discussions are common.
- Treat these questions the same as you would in-person. Don't just give answers—help them work through the problems themselves.
- Additionally, don't post or allow students to post full assignment problem solutions before they're due.
- You don't have to answer the questions extremely quickly either. Giving students a chance to help each other or to answer their own question is a good idea.



CROWDMARK

- Crowdmark is an online marking system which can make marking more efficient (no more shuffling papers, and you can mark from any computer).
- You will receive an email inviting you to grade an assignment.
- The submissions are arranged in a grid. Each row represents one student, with one question per column. So when you are marking, you will typically mark down a column (for example, marking all of question # 2).
- The system is fairly simple and intuitive but the online help and tips are generally excellent. Other TAs and instructors will all know how to use the system, so if you have any questions feel free to ask them.



QUESTIONS?

My email address is faisal.al.faisal@uwaterloo.ca.
Never hesitate to contact me if you have questions.

GIVING EFFECTIVE FEEDBACK AND MARKING EXAMPLES



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MARKING ACTIVITY

- Read the question, solution, and marking scheme
- Grade the three example papers as if they would be given back to students

REFLECTION

Think back in your personal experiences:

- What is the most useful feedback on a math assignment you've received?
- What made it useful?



EVALUATION VS. FEEDBACK

Evaluation

- What words first come to mind when you think of the term “**Evaluation**”?
- Comparison to a standard
- Assessment
- Informs student performance

Feedback

- What words first come to mind when you think of the term “**Feedback**”?
- Modify thinking or behaviour
- Actionable information
- Improves student learning



MARKING EXAMPLES

$\int x \arctan x \, dx$
 $\frac{0}{5}$ let $u = \arctan x$ | $dv = x \, dx$
 $du = \frac{1}{1+x^2} dx$ | $v = \frac{x^2}{2}$
 $= (\arctan x) \frac{x^2}{2} - \int \frac{x^2}{2(1+x^2)} dx$
 can't solve \times

$\int x e^x \, dx$, let $u = e^x$ | $dv = x \, dx$
 $du = e^x dx$ | $v = \frac{x^2}{2}$
 $= \frac{x^2}{2} e^x - \int \frac{x^2}{2} e^x \, dx$ \times

$\int x \arctan x \, dx$ $\textcircled{2}$
 $\frac{3.5}{5}$ let $u = \arctan x$ | $dv = x \, dx$
 $du = \frac{1}{1+x^2} dx$ | $v = \frac{x^2}{2}$
 $= (\arctan x) \frac{x^2}{2} - \int \frac{x^2}{2(1+x^2)} dx$ $\textcircled{1.5}$

Try $\frac{x^2+1-1}{1+x^2} = 1 - \frac{1}{1+x^2}$
 $\int x e^x \, dx$, let $u = e^x$ | $dv = x \, dx$
 $du = e^x dx$ | $v = \frac{x^2}{2}$ $\textcircled{0.5}$
 $= \frac{x^2}{2} e^x - \int \frac{x^2}{2} e^x \, dx$ $\textcircled{1}$ Try $u = x$
 $dv = e^x dx$

GIVING EFFECTIVE FEEDBACK

- Avoid Binary Marking
- Spend your time on big-picture concerns
- Include justification for why their work is “poor/good/great”
 - If you had turned in this work, what feedback would you want?
- Actionable information
- Be consistent (make a list of special cases)
- Be constructive
- Report common errors/mistakes to the instructor (be proactive)
- Do the problems that you will mark before you start marking

I like a teacher who gives you something to take home to think about besides homework.

~ Author Unknown



<https://www.flickr.com/photos/wecometolearn/80668631>

ACADEMIC INTEGRITY

- Clarify expectations with course coordinator at the beginning of term
- Alert the course coordinator of possible cases
- **DO NOT** take disciplinary action



FINAL TIPS

- Back up all electronic records
- Don't post marks or dispose marked assignments publicly
 - Violates Canadian Privacy Law
 - Post online to D2L
- Communicate with your course instructor
- Do not rush your marking but be mindful of your own time
 - Let the instructor know if you think you will go over hours
- Pace yourself and take breaks



QUESTIONS?

My email address is dkchisho@uwaterloo.ca.
Never hesitate to contact me if you have questions.

BREAK

Student Panel Session

THANK YOU!

Slides and additional information will be available on the [TA Training Website](#).

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\$100,000