MATH TA TRAINING WORKSHOP

9/7/2022

Grab some food and get comfortable!

We will start the workshop shortly.
WHO ARE WE?

Bertrand Guenin - Associate Dean of Graduate Studies
Benoit Charbonneau - Associate Dean of Undergraduate Studies
Jordan Hamilton - Director of the Tutoring Centre
Diana Skrzydlo - Math Faculty Teaching Fellow
AGENDA

- Training
- TA expectations and responsibilities
- Break
- Helping students learn
- Providing good feedback and marking examples
- Break
- Student panel
LEARNING OBJECTIVES (TODAY)

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

- All modules available on Learn
- CMAHRO: Harassment and discrimination
- 3 additional safety modules (all UW employees)
  - Employee Safety Orientation
  - Workplace Violence
  - Workplace Hazardous Materials Information System
TA Mental Health Training

- An initiative by GSPA and the Centre for Teaching Excellence
- The Role of TAs in Supporting Student Mental Health
- Self-Care Strategies for TAs

https://uwaterloo.ca/graduate-studies-postdoctoral-affairs/current-students/mental-health-training-teaching-assistants
Learn training session for TAs

CTE staff will be offering two 90 min. hands-on sessions next week

**Monday, September 12** from 10-11:30 am in MC 2036: [https://uwaterloo.ca/centre-for-teaching-excellence/events/learn-tas-cte6550-22](https://uwaterloo.ca/centre-for-teaching-excellence/events/learn-tas-cte6550-22)

**Thursday, September 15** from 2-3:30 pm (online): [https://uwaterloo.ca/centre-for-teaching-excellence/events/learn-tas-cte6550-23](https://uwaterloo.ca/centre-for-teaching-excellence/events/learn-tas-cte6550-23)
The Undergraduate operations in the Faculty of Mathematics

- MUO = Math Undergrad Office

- Fall 2022 – 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) 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
This is not proctoring.
$100,000
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 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)
**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
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.
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 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](mailto:learnhelp@uwaterloo.ca)) or Paul Kates ([pkates@uwaterloo.ca](mailto:pkates@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
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?
HELPING STUDENTS LEARN
WHAT IS THE TUTORING CENTRE?

- The Tutoring Centre is a place where students can drop-in to get help with their courses.
- It is located in MC 3022 and virtually on MS Teams.
- It contains some of the highest quality tutors that UW has to offer (that's you!).
THE JOB

- Tutoring students on MS Teams or in-person.
- Tutors start on the second week of classes.
- You will get an email explaining how to sign up for your time slots, if you are working in the Tutoring Centre.
- Wear your name tags when tutoring in person! Tutors not wearing name tags will be considered absent since students will not be able to tell you're a tutor.
- Scan your watcard to sign in when tutoring in person. This is how we will track that you made it to your shift.
ANSWERING QUESTIONS

- Study the solutions in advance, if you see mistakes then point them out to the course coordinator.

- Don't just tell the students the solution. 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 them 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 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 it's 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 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 j4hamilt@uwaterloo.ca. Never hesitate to contact me if you have questions.
GIVING EFFECTIVE FEEDBACK AND MARKING EXAMPLES
**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

\[ \int x \arctan x \, dx \]

0/5

let \[ u = \arctan x \quad \frac{du}{dx} = \frac{1}{1+x^2} \]
\[ du = \frac{1}{1+x^2} \, dx \]
\[ v = \frac{x^2}{2} \]
\[ = (\arctan x) \frac{x^2}{2} - \int \frac{x^2}{2(1+x^2)} \, dx \]

\[ \text{cont. solve} \times \]

0/3

\[ \int x e^x \, dx \]
\[ \text{let } u = e^x \quad \frac{du}{dx} = e^x \]
\[ du = e^x \, dx \]
\[ v = \frac{x^2}{2} \]
\[ = \frac{x^2}{2} e^x - \int \frac{x^2}{2} e^x \, dx \times \]

2/5

let \[ u = \arctan x \quad \frac{du}{dx} = \frac{1}{1+x^2} \]
\[ du = \frac{1}{1+x^2} \, dx \]
\[ v = \frac{x^2}{2} \]
\[ = (\arctan x) \frac{x^2}{2} - \int \frac{x^2}{2(1+x^2)} \, dx \]

1.5

Try \[ \frac{x^{a+1} - 1}{1+x^a} = 1 - \frac{1}{1+x^a} \]

Try \[ u = x \quad \frac{du}{dx} = e^x \]
\[ du = e^x \, dx \]

3/3

\[ = \frac{x^2}{2} e^x - \int \frac{x^2}{2} e^x \, dx \]

1.5

Try \[ u = x \quad \frac{du}{dx} = e^x \]
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
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.
Student Panel Session
THANK YOU!

Slides and additional information will be available on the TA Training Website.
UNIVERSITY OF WATERLOO

FACULTY OF MATHEMATICS