

**College of the Environment, Forestry, and Natural Sciences**

**Department of Mathematics and Statistics**

**HANDBOOK FOR  
GRADUATE  
TEACHING ASSISTANTS**

**2020 – 2021**

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# DEPARTMENT OF MATHEMATICS AND STATISTICS

## GRADUATE TEACHING ASSISTANT POLICIES

### I. INTRODUCTION

This handbook sets forth some of the requirements regulating the teaching and classroom management of Graduate Teaching Assistants (GTAs) in the Department of Mathematics and Statistics at Northern Arizona University. In addition, this handbook provides suggestions and resources for new and continuing GTAs who are facing challenges in the classroom or who strive to improve their teaching. Finally, this handbook explains the structure of support and accountability for GTAs provided by members of the Department of Mathematics and Statistics.

See also the Graduate College GA Handbook in the Resources tab at <https://nau.edu/graduate-college/>.

### II. GENERAL INFORMATION

A number of teaching assistantships are offered each year by the Department of Mathematics and Statistics. This number varies from year to year according to budgetary limitations. A GTA is required to work approximately 20 hours per week performing teaching responsibilities.

Subject to the normally available funding and satisfactory progress toward completing the degree plan, a student who is offered an assistantship may expect four semesters of support as a GTA. Satisfactory progress for a teaching assistant means completion of 9 hours of coursework in their program each semester while maintaining a 3.0 cumulative grade point average. Continued support also requires that teaching duties be carried out in a professional manner. See Sections IV and V below.

Because of the coronavirus and its impact on life, the 2020-2021 Academic Year will be a new experience for all students and faculty at NAU. The situation is very fluid at the time of the posting of this handbook. NAU is beginning the academic year fully remote, and the university administration has indicated that it hopes to evolve into a more traditional face-to-face teaching environment soon. Regardless, as teachers, GTAs need to be prepared to engage with their students in an online format. This means that being trained on how to use classroom technology, and how to be effective remote educators, are essential skills that the LMC team hopes to provide to all GTAs.

#### **The following is a tentative schedule of GTA duties for the 2020-2021 Academic Year:**

Wednesday, August 5 – Tuesday, August 11: Faculty Work Week/GTA Training

\*\*All GTAs should plan on being in Flagstaff no later than Tuesday, August 4.

Wednesday, August 12: Fall 2020 Semester Begins

Monday, September 7: Labor Day holiday (no classes)

Friday, October 14: Midterm Grades Due

Wednesday, November 11: Veterans Day holiday (no classes)

Friday, November 20 – Wednesday, November 24: Final Exams

\*\* You will be required to review student grades with your Course Coordinator before submitting final grades. This may occur with your entire coordination group or on an individual basis. You need to stay in Flagstaff until this meeting occurs. Please speak with your specific Coordinator regarding the final grading schedule for your course.

Monday, January 4 – Friday, January 8: Faculty Work Week/GTA Training

\*\* All GTAs should plan to return to Flagstaff no later than Sunday, January 3.

Monday, January 11: Spring 2021 Semester Begins

Friday, March 12: Midterm Grades Due

Monday, March 15 – Friday, March 19: Spring Break

Monday, May 3 – Thursday, May 6: Final Exams

\*\* You will be required to review student grades with your Course Coordinator before submitting final grades. This may occur with your entire coordination group or on an individual basis. You need to stay in Flagstaff until this meeting occurs. Please speak with your specific Coordinator regarding the final grading schedule for your course.

The stipend for a GTA in the Department of Mathematics and Statistics working 20 hours per week for the 2020-2021 academic year is \$15,000 and will be allocated in biweekly paychecks between Friday, August 28 and Friday, May 21. The gross amount of most paychecks is approximately \$769. However, be aware that:

- The August 28 paycheck will be considerably smaller than others.
- There is some variation in paycheck amounts due to when your GTA paperwork was processed; whether you are a US citizen or and international GTA; individual tax withholding choices.
- Paychecks dated December 19, January 2 and January 16 may be smaller than others, due to the fact that you will not be enrolled as full-time students during these pay periods.

All GTAs at the university whose appointment is at least 10 hours per week receive a tuition waiver each semester of their appointment. GTAs who work 20 hours per week also receive a waiver of the student health insurance premium. All GTAs are expected to pay other applicable fees. The schedule of tuition and fees for the Fall 2020 semester is available at: [http://nau.edu/SDAS/Tuition-Fees/Fall\\_Tuition/](http://nau.edu/SDAS/Tuition-Fees/Fall_Tuition/).

Graduate College Policy states that a new GTA is on a probationary appointment for one semester, and that during this probationary period, a GTA can be released from employment without cause, without notice, and without a statement of reasons. For full details see the Probationary Period section of the Graduate College GA Handbook at: [http://www2.nau.edu/gradcol/GA/GA\\_Handbook.pdf](http://www2.nau.edu/gradcol/GA/GA_Handbook.pdf).

### **III. SUPPORT FOR GTAS**

Many members of the faculty and staff throughout the Department of Mathematics and Statistics serve roles in which they provide direct support and guidance for GTAs in both their teaching and academic endeavors.

#### **GTA COORDINATOR**

The GTA Coordinator – Jeff Rushall – supervises the teaching responsibilities of GTAs. He organizes training for the Faculty Work Week and conducts monthly meetings with all GTAs. The GTA Coordinator works closely with course coordinators and graduate faculty to ensure GTAs are receiving the support they need to be successful students and teachers. The GTA Coordinator serves as the primary supervisor and evaluator of GTA performance.

#### **ACADEMIC ADVISOR**

Upon acceptance to the graduate program, each graduate student is assigned an Academic Advisor. In addition to fulfilling the normal advising duties (providing course and program information, career advice, etc.), Academic Advisors support students in setting up their Comprehensive Oral Examination Committee or Research Committee.

#### **GRADUATE OPERATIONS COMMITTEE**

This committee oversees the majority of academic issues for graduate students in the department. GTAs will be introduced to the chair of this committee – Graduate Coordinator, Dr. Terry Blows – and should address questions to him concerning advisor changes, transcript issues, degree requirements, course availability, thesis and oral exam possibilities, and any other academic questions that cannot be answered by an Academic Advisor.

#### **COURSE COORDINATOR**

Each GTA will teach one of the department's highly coordinated courses under the supervision of a Course Coordinator, who oversees and supports the teaching responsibilities of the GTA. Course Coordinators provide significant resources, guidelines, and informed advice regarding the teaching of a particular course.

Course Coordinators are required to observe the teaching of each GTA in their course at least once per semester, complete an evaluation form, and share their observations with the GTA and GTA Coordinator. At the end of the semester, the Course Coordinator will provide the GTA Coordinator with a summary evaluation of the GTA's work within the course.

#### IV. TYPICAL TEACHING DUTIES OF A GTA

In their first year, a GTA can expect to be assigned to work in the Lumberjack Mathematics Center (LMC) teaching two sections of either MAT 108: Algebra for Precalculus, MAT 114: Quantitative Reasoning, or MAT 125: Precalculus. Some second-year GTAs will have the opportunity to teach STA 270: Introduction to Statistics (this course is not taught in the LMC) and MAT 121: Finite Mathematics With Calculus (this course is not taught in the LMC) .

When a GTA is assigned as the instructor of a course in the department, they are responsible for all aspects of the delivery and management of that course, under the supervision of a Course Coordinator (described above). Both first- and second-year GTAs are involved in training during faculty work week.

During faculty work week, each GTA will attend course coordination meetings. In these meetings, GTAs will receive all necessary course information and materials. Since these are coordinated courses, the syllabus and policies are consistent across all sections. It is the responsibility of the GTAs to know, understand, and enforce all course, department, and university policies. Additional coordination meetings are held weekly throughout the semester. *Attendance at these weekly meetings is mandatory.*

To further meet the needs of their students, GTAs will hold office or lab hours (as assigned by the LMC Lab Manager) on a consistent, scheduled basis. The priority for office and lab hours must always be attention to students.

In addition to these *teaching* responsibilities, GTAs must also prioritize their time to diligently fulfill all the requirements of the courses they are taking as a *student*. The department strives to support and assist all GTAs in every aspect of their GTA experience. GTAs should utilize the aforementioned support positions – GTA Coordinator, Academic Advisor, etc. – when necessary in an effort to ensure their success as both students and teachers.

#### V. REQUIREMENTS OF GTAS

The following are some of the requirements to which GTAs must adhere in their teaching and classroom management. All other pertinent policies mentioned in other official documents of the Department of Mathematics and Statistics and Northern Arizona University must also be followed by GTAs. **Failure to adhere to these policies and otherwise maintain an acceptable level of professionalism will result in an Incident Report (See Appendix 2). Accumulating numerous incident reports could lead to the termination of the assistantship.**

1. GTAs are required to be on time to teach *all* of their classes. GTAs **must** be in the classroom at least 5 minutes before class is scheduled to begin so that class can start on time. Classes must also end on time; students will not be let out early nor will they be held late.

*If a GTA co-teaches a course in the LMC and must miss a class session due to an unforeseen circumstance (illness, emergency, etc), they should email their Course Coordinator, co-teacher, GTA Coordinator ([Jeffrey.Rushall@nau.edu](mailto:Jeffrey.Rushall@nau.edu)), and LMC Director ([Gina.Nabours@nau.edu](mailto:Gina.Nabours@nau.edu)).*

*If a GTA solo teaches a course in the LMC and must miss a class session due to an unforeseen circumstance (illness, emergency, etc), they should email their entire coordination team to find a suitable replacement, copying GTA Coordinator ([Jeffrey.Rushall@nau.edu](mailto:Jeffrey.Rushall@nau.edu)), and LMC Director ([Gina.Nabours@nau.edu](mailto:Gina.Nabours@nau.edu)).*

*If a GTA teaches a course in Adel and must miss a class session due to an unforeseen circumstance (illness, emergency, etc), they should email their entire coordination team to find a suitable replacement, copying GTA Coordinator ([Jeffrey.Rushall@nau.edu](mailto:Jeffrey.Rushall@nau.edu)), and [AdelMathematics@nau.edu](mailto:AdelMathematics@nau.edu).*

2. GTAs are required to hold regularly scheduled office hours (for Adel courses) or lab hours (for LMC courses) to provide further assistance to their students. GTAs are expected to be physically available to their students during their regularly-scheduled lab and office hours—no online or phone-in office hours are permitted. Missing any office or lab hours without prior notice is strictly prohibited.

*If a GTA works in the LMC Lab and must miss scheduled lab hours for any reason (appointment, illness, emergency, etc), they should offer up their shift on the WhenToWork trade board and email fellow GTAs in an effort to get the shift covered, copying the LMC Lab Manager ([Roland.Shay@nau.edu](mailto:Roland.Shay@nau.edu)) and LMC Director ([Gina.Nabours@nau.edu](mailto:Gina.Nabours@nau.edu)). They should meet with the LMC Lab Manager upon their return to schedule make-up hours.*

*If a GTA teaches in Adel and must miss scheduled office hours, they should email their students, copying the Course Coordinator and [AdelMathematics@nau.edu](mailto:AdelMathematics@nau.edu) to notify the department office as well.*

3. All GTAs, regardless of the course they teach, will be scheduled to proctor exams in the LMC Testing Room.

*If a GTA is scheduled to work in the LMC Testing Room and must miss their scheduled time due to an unforeseen circumstance (illness, emergency, etc), they should offer up their shift on the WhenToWork trade board and email fellow GTAs to get the shift covered, copying the LMC Lab Manager ([Roland.Shay@nau.edu](mailto:Roland.Shay@nau.edu)) and LMC Director ([Gina.Nabours@nau.edu](mailto:Gina.Nabours@nau.edu)). They should meet with the LMC Lab Manager upon their return to schedule make-up hours.*

4. GTAs are required to attend all regularly scheduled meetings held by their Course Coordinator and the GTA Coordinator.
5. GTAs are required to maintain an active working relationship with their Course Coordinator. Course Coordinators will either provide course teaching materials or support GTAs and instructors in creating their own. Any documents created by GTAs must be approved for classroom implementation by their Course Coordinator prior to distribution. Course Coordinators must also approve mid-semester and end-of-semester grades before they can be submitted by a GTA.
6. GTAs are responsible for enforcing policies in their classrooms, the LMC Lab, and LMC Testing Room, when applicable. These include, but are not limited to, policies on food, headphones, cell phone use, and academic integrity. The steps to be taken if a student violates the [Academic Integrity Policy](#) are detailed elsewhere.
7. GTAs must be aware of and hold to the guidelines for distributing student information determined by the Family Educational Rights and Privacy Act (FERPA). Online FERPA training is provided through the university and must be completed before GTAs can access important course information, such as class rosters. Access to this report can be found in the GTA Training BbLearn Module.
8. GTAs must complete an online NAU CERT (Conduct, Ethics, Reporting and Transparency) Report annually. Access to this report can be found in the GTA Training BbLearn Module.
9. Northern Arizona University requires that an instructor have a course syllabus, to be distributed to students on the first day of class. The Course Coordinator will provide the syllabus for all GTAs.
10. Each Course Coordinator will provide instructions for grade record keeping for their specific course. The GTAs must update grades for students each week.

11. To provide important and timely feedback, GTAs must return all assessments, written assignments, and projects to students as quickly as possible, except for the Final Exam. **Copies of Final Exams are never returned to students.** If a student would like to see their graded Final Exam, please direct them to your Course Coordinator. After submitting course grades, GTAs must clearly label and organize graded Final Exams and give them to the department office or LMC office.
12. The department makes every effort to equip all faculty with enough resources and facilities to provide excellent instruction to its students. Nevertheless, it is the responsibility of each instructor to be conscientious in their use of department resources, minimizing waste, and seeking ways to limit the use of department supplies and equipment.
13. GTAs must adhere to all other applicable policies of the department and university. See also the *Ethics and Professionalism section of the Graduate College GA Handbook* at [http://www2.nau.edu/gradcol/GA/GA\\_Handbook.pdf](http://www2.nau.edu/gradcol/GA/GA_Handbook.pdf)

## VI. SUGGESTIONS FOR TEACHING

The following are suggestions for teaching and classroom management. They should support you in improving the quality of instruction you provide.

1. *Understand the syllabus.* The syllabus is a type of contract between the instructor and the students, so careful attention is paid to the details which are included in it. Questions or concerns students have regarding course policies and procedures are often addressed in the syllabus, reducing decisions and difficulties that could arise throughout the semester. (Examples include policies about calculators, cell phones, makeup tests, and extra credit.) You are expected to clearly understand these policies.
2. *Strive to make the first day of class a clear reflection of the structure and nature of the overall course.* First impressions are very important, and **students often draw strong conclusions about a course or instructor after the very first day.** At a minimum on the first day, GTAs should call roll; distribute, review, and answer questions on the syllabus; and possibly provide a small amount of lecture. Carefully explaining the syllabus informs students of class procedures (when homework will be assigned and collected, how much material will be covered on each exam, whether calculators or notes can be used on tests, etc.). Providing time for lecture on the first day allows students to become familiar with their instructor's style of teaching.
3. *Learn student names as quickly as possible.* Knowing names and attempting to connect with students on a personal level shows them that you have an interest in their individual performance. Using "table tents" is a good way to have student names available without memorizing all of them.
4. *Understand the content you teach from many perspectives.* Having a solid understanding of the material being covered is essential for effective instruction. As graduate students in mathematics or statistics, GTAs have significantly more background knowledge and experience with mathematical concepts than their students in introductory level mathematics courses. The art of teaching comes from being able to present course material while understanding and clarifying student content misconceptions in a way that supports their learning.
5. *Make an effort to observe the teaching of faculty with more experience in courses similar to the one you are teaching.* GTAs should make the time to sit in on courses taught by several different instructors, especially during their first semester of teaching. This will expose them to management styles and methods for covering content.
6. *Build the answer to the question "Why?" into your lectures and presentations.* In preparing to teach a topic, you should make every effort to anticipate questions students may have and incorporate the answers to these questions into your explanation. A very common example of this in mathematics and statistics courses is "why do we need to know this?" By understanding and showing the

importance and application of the material, both within the particular course it is taught and within other courses and disciplines, an instructor can increase student interest and appreciation for a topic, as well as improve their overall motivation toward the course.

7. *Use a "snapshot philosophy" when working at the board or document camera.* For reasons good and bad, students often lose track of a lecture and must copy notes from the board or projector without following the flow of what they are writing or understanding its context. Recognizing this, you should not only endeavor to write clear and thorough notes on the board, but you should arrange your notes on the board in such a way that, if students were to take a "snapshot" of the board at any given time, they could make out the flow of thought and purpose behind the examples, definitions, explanations, etc. which you have written. Producing such a "snapshot" involves many factors, including: always proceeding in your notes from left to right and from top to bottom, just as English is read; writing in complete sentences with correct spelling; limiting the use of personal shorthand or abbreviations, and only using these when they are preceded by a careful explanation; clearly labeling drawings and graphs and annotating examples with pertinent references and reminders; distinguishing between different categories of text (*e.g.* definitions, theorems, examples, etc.); **and writing everything you expect the students to know and remember on the board.**
8. *Be conscientious and assertive regarding classroom management.* Even though GTAs will be teaching university courses, the possibility for discipline and behavior issues still unfortunately exists. As often as possible, situations should be avoided by stating clear policies in the syllabus governing issues such as attendance (including arriving late to and leaving early from class), cell phone use, etc. If instances do occur which the GTA feels merit attention, they must notify their Course Coordinator as soon as possible. In the event that instances recur, the GTA should document these in writing and update their Course Coordinator as needed.
9. *Have fun.* Teaching is a rewarding opportunity to challenge and interact with students. GTAs should value the chance they have to be a positive influence on their students' academic pursuits and should approach their teaching with excitement and enthusiasm. Unfortunately, many students in introductory mathematics courses have anxiety toward school in general and mathematics in particular, but a GTA who shows real enjoyment of the content being taught can make such students relaxed and more receptive to the material.

## VII. GTA OVERSIGHT

The Department of Mathematics & Statistics is committed to the professional development of its GTAs. The GTA Coordinator is available to support all aspects of GTA life. Teaching-specific support for a GTA is provided by their Course Coordinator, who will provide feedback through teaching observations and course coordination meetings. The Course Coordinator will also complete a summary evaluation at the end of the semester. Student-specific support for a GTA is provided by their Academic Advisor, who will meet with them to ensure adequate progress is being made toward graduation requirements.

Teaching support for GTAs will occur in the following ways:

1. Each GTA will be observed in their classroom by their Course Coordinator within the first three-four weeks of the semester. Their Course Coordinator will then complete a GTA Observation Form (Appendix 1). As soon as possible after the observation, the Course Coordinator will meet with the GTA to discuss the observation and both will sign the GTA form to document their discussion. This will be sent to the GTA Coordinator.

When appropriate, the Course Coordinator or GTA Coordinator will conduct further classroom observations later in the semester, completing a GTA Observation Form (Appendix 1) each time, meeting again with the GTA to discuss the observation, and signing the form along with the GTA to document their discussion.

2. The Course Coordinator will check the gradebook for regular updates. Not updating grades on a regular basis, determined by your Course Coordinator, may result in an Incident Report (Appendix 2).
3. Prior to the submission of midterm and final semester grades, the Course Coordinator will discuss overall course grades with the GTA. GTAs are required to stay in Flagstaff at the end of each semester until these final semester grade meetings occur.
4. The GTA Coordinator will follow-up with Course Coordinators weekly regarding GTA performance. The Course Coordinator, Department of Mathematics & Statistics and LMC Staff, and others as appropriate are required to report a GTA for any perceived negligence, inappropriate behavior, failure to fulfill required duties, unsatisfactory performance, etc. Except in cases of the most serious violations, the GTA will be given an opportunity to correct any problems that arise. When necessary, every effort will be made to support GTAs in improving their performance. Repeated issues with GTAs who are unable to improve their performance will be documented and shared with the Graduate Operations Committee and the Department Chair. A consistent pattern of poor performance may lead to the termination of the assistantship.

## APPENDIX 1: GTA Observation Form

<b>Your Name</b>	<b>GTA's Name</b>	
<b>GTA's Teaching Assignment</b>	<b>Semester</b>	<b>Date</b>

Approximate number of students present

Briefly comment on these aspects/features of the class you observed:

GTA's punctuality

GTA's demeanor

Organization and delivery of course content

Student engagement

Other observations

Some specific things this GTA could improve upon

Overall summary

The signatures below document that we have met and discussed this observation. We have also discussed the recommendations of the observer and appropriate follow-up measures.

Observer's Signature	Date
GTA's Signature	Date

## APPENDIX 2: GTA Incident Report

<b>Your Name</b>	<b>GTA's Name</b>
<b>GTA's Teaching Assignment</b>	<b>Semester</b> <span style="float: right;"><b>Date</b></span>

*Note: If multiple GTAs were involved in a single incident, please complete a separate form for each GTA*

Description of Incident

Are you aware of any previous occurrences of this or related incidents involving this GTA? If so, briefly describe the details of any previous occurrences.

Briefly describe the resolution of and/or plan of action discussed to address the incident documented above.

Please promptly submit this form to the GTA Coordinator.

***Note: Repeated or serious incidents must be reported (via the most immediate form of communication possible) to the Department Chair in addition to the completion and submission of this form.***

The signatures below document that we have met and discussed this incident which motivated this GTA Feedback Form. We have also discussed recommendations for resolving related issues.

Supervisor Signature	Date
GTA Signature	Date