



**Texas A&M University - San Antonio**  
**Department of Science and Mathematics**  
**Math 3325 – Spring 2020**

Instructor:	Hoan Duong	Credit hours:	3
Class Meeting:	TR 2:00-3:15pm	Office phone:	784-2253
Classroom:	STEM 231B	Office:	STEM 311G
Office hours:	M 14:30-15:50 & W 14:30-16:50 TR 15:30–16:50pm <i>Other times by appointment.</i>	E-mail:	<a href="mailto:hduong@tamusa.edu">hduong@tamusa.edu</a>

***Course Description and Materials***

***Catalog Description:*** Principles and techniques of discovering and writing correct mathematical proofs. Independently prove theorems from various areas of mathematics, which may include topics from logic, the structure of the real number system, number theory, geometry and algebra. Prerequisite: Math 2313.

***Required Text:*** Solow, D.(2014). *How to read and do proofs: An introduction to mathematical thought processes*, (6<sup>th</sup> ed.). Hoboken, NJ: John Wiley & Sons, Inc. (ISB 9781118164020)

***Other resources (not required):***

- <https://wstein.org/ent/ent.pdf>
- <http://abstract.ups.edu/download/aata-20160809.pdf>
- <https://www.jirka.org/ra/realanal.pdf>

***Student Learner Objectives:*** The course provides a foundation to study higher level mathematics, guides the student in being able to think and to express him/herself mathematically, and helps students strengthen their oral and written communication skills in mathematics. The student will

- Become familiar with concepts and techniques of a wide variety of mathematical proof techniques.
- Be able to apply and explain logical reasoning and arguments using a variety of mathematical concepts.
- Develop basic proficiency in reading, understanding, constructing and writing mathematical proofs in the context of some basic mathematical subject areas.

***Course Requirements and Expectations***

***Class Attendance/Preparation:*** Students are expected to attend class as scheduled as attendance is fundamental for participation which is included in Assignments/Participation grade. Students are to be prepared to participate in discussions to include in-class exercises and problem presentations by reviewing chapter videos BEFORE class as assigned by instructor (See Assignments Tab in Blackboard). In addition, minimize class interruption if you cannot avoid situations that prevent you from being on time or if you must leave early.

***All students are welcomed and encouraged to communicate, in advance if possible, any special circumstances (e.g., pending medical appointments, disability accommodations, upcoming deployment, drill requirements, et al). Military connected personnel are encouraged to visit the Patriots' Casa in person, or to contact the Office of Military Affairs with any questions at (210) 784-1174.***

***Examinations:*** There will be three exams during the semester covering the material as noted in the schedule and a comprehensive final exam during finals week. Students are expected to take all examinations at regularly scheduled times. Exceptions for a legitimate reason may be granted if approved by the instructor. Your instructor may be notified by phone [including voice-mail], e-mail, or in person. Inform your instructor in advance to make arrangements if you know in advance that you will be unable to take an exam at the regular time. Students who fail to follow the prescribed procedures will receive a grade of zero on the missed exam.

Assignments: Problem sets will be assigned within the chapters of the text. Each problem set will be due for in-class discussion as indicated in assignment scheduled posted on Blackboard. Problem sets or parts of a Problem set as identified by the instructor will be submitted according to the assignment schedule and assigned a grade based on selected problems and reviewing for overall completeness and effort. Assignments *must follow the Problem Set Expectations discussed on the first day of class and posted on Blackboard. Each student must acknowledge Problem Set Expectations by submitting signed and initialed sheet used as a cover sheet with the first assignment. Failure to do so will result in a 0 for the assignment.* Graded assignments should be returned within one week of submission. *No assignments will be accepted late except for a legitimate reason as approved by the instructor.*

Evaluation of Student Performance: Student's grade will be based solely on his/her performance as follows: Assignments/Participation 15%; Exams I-III 20% each; and Final Exam 25%.

Course grades will be based on percentage of total points earned –  
A: 90-100%, B: 80-89.9%, C: 70-79.9%, D: 60-69.9%, F: < 60%.

As indicated above, attendance is important as is participation. However, attendance and participation alone are *not sufficient* to earn a passing grade. In particular, *students should not expect to get a passing grade for attendance and effort alone.*

Blackboard: Students are responsible for checking blackboard regularly for announcements, assignments, and other support materials posted on Blackboard.

Electronic Devices: Only wireless phones, laptops, PC tablets, etc. *used for class purposes are permitted.* Otherwise *turn off* electronic devices while class is in session.

Disputing Answers to Exam Questions: Students must discuss disputes or clarification about graded exams or assignments with instructor after class or during office hours within one week of receiving graded work.

Dropping the Course: **It is the student's responsibility to drop a course.** *The instructor may not automatically drop you. Last day to drop with an automatic "W" is Mar. 27. Last day to drop a course or withdraw from the university is May 1.* Please contact the Welcome Center at 784-1300 if you desire to drop the course.

## *Services*

*Tutoring:* Tutoring Services is a free, appointment-based, one-on-one and group tutoring program for currently enrolled Texas A&M University-San Antonio students (call 784-1332 or email [Tutoring@tamusa.edu](mailto:Tutoring@tamusa.edu) for an appointment – walk-ins welcomed, but priority granted to those with an appointment).

*JAGS:* Additional academic skill resources can be found in *The JAGS (Jaguar Academic Guides to Success) Program*. JAGS offers academic skill building strategies and can assist you in developing an effective academic success plan. If you are interested in the JAGS program, please contact the Student Academic Success Center at (210) 784-1352.

*Student Academic Success Center:* The Student Academic Success Center takes a developmental approach to help students complete their academic goals from orientation through graduation. The Center offers academic and skills workshops, one-on-one appointments, and online resources to help retention efforts at Texas A&M University-San Antonio. The goal of the Center is to help students discover, self-reflect, and become independent learners. Student Academic Success is located in the Madla Building, Suite 336. To contact the Center, please call 210-784-1352 or email at [Student.Success@tamusa.edu](mailto:Student.Success@tamusa.edu).

## *General Policies*

*Student Misconduct:* Appropriate conduct is essential to the effective functioning of the university. University policy defines unacceptable conduct, both academic and non-academic misconduct, and penalties for such behavior. All policies and procedures for the Student Code of Conduct may be accessed on-line at <http://www.tamusa.tamus.edu/uploadfile/folders/aprado/Pdf/Pdf-635139861789259476-10.100.20.118.pdf>.

*Your Instructor's Commitment to Academic Honesty and Integrity:* Your instructor is sympathetic to the pressures faced by many students (e.g., full time employment, family responsibilities), and will do his best to provide you with any assistance you may need to succeed in this course. However, he also committed to awarding grades based on students' honest efforts. Therefore, your instructor will accept no excuses for any form of academic misconduct. All incidents of suspected academic dishonesty will be investigated and pursued to the fullest extent permitted by university policy.

*Academic Dishonesty:* Students at Texas A&M University-San Antonio are expected to adhere to the highest standards of academic honesty and integrity. Academic Dishonesty for which a student is subject to penalty includes cheating, plagiarism, fabrication, multiple submission, misrepresentation of academic records, facilitating academic dishonesty, unfair advantage, violating known safety requirements and ethical misconduct. This includes holding other students to same standards and reporting any incidents of alleged violation of the honesty policy to the instructor involved or, if necessary, to the appropriate academic department head. All students are responsible for being familiar with the Academic Dishonesty Policy which may be found in the Texas A&M University-San Antonio Student Handbook.

*Nonacademic conduct:* The University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede the exercise of those rights. Some examples are: physical or verbal abuse or threats; sexual misconduct or harassment; theft of property or services; and disruptive activities (see p.29 of the student handbook for the complete list). Such incidents will be adjudicated by the College Dean/Director of Student Rights and Responsibilities.

*The Six Course Drop Rule:* "Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "Fs" and will impact the student's GPA.

## *Disability Statement*

**STUDENTS WITH DISABILITIES:** The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disability. If you believe you have a disability that may require accommodations, please contact Counseling and Disability Support Services for the coordination of services. DSS is located on main campus, 2<sup>nd</sup> floor of the Central Academic Building, Suite 210, and on the Brooks City-Base Campus in Room 149. If you have any questions or need additional information, please contact us at (210)784-1335 or email us at [dsupport@tamusa.tamus.edu](mailto:dsupport@tamusa.tamus.edu).