

Department of Teaching and Learning
Inquire. Educate. Innovate.

Course Information

Prefix & Number	EDSC 453/CIS 553S
Title	Teaching Secondary Mathematics
Credits	3 Credit Hours
Semester	
Instructor	
Office/Phone/Email	
Class Location	
Office Hours	
Prerequisites	
Course Description (Course Introduction)	<p>Students in this class will analyze the nature of mathematics and its relation to mathematics education in grades 9-12. The main focus of the course will be to develop skills in planning and teaching mathematics lessons that are consistent with the Common Core State Standards. These lessons will incorporate appropriate use of technology, cooperative learning, and integrated connections. Planning and teaching skills designed to meet the needs of all students will be discussed. Evaluation procedures for determining the development of mathematical skills, concepts, and problem solving ability will be practiced</p>
SPA Standards Addressed: Standard Domain Areas Addressed in this Course	<p>Common Core State Standards Initiative (www.corestandards.org) Principles and Standards for School Mathematics (2000). Assessment Standards for School Mathematics (1995). Professional Standards for Teaching Mathematics (1991). Reston, VA: National Council of Teachers of Mathematics (www.nctm.org).</p>

<p>INTASC Principles Addressed in this Course (please insert three subcomponents to them (performance, essential knowledge, and critical dispositions</p>	<p>After completion of this course, the student should be able to:</p> <p>Knowledge</p> <ul style="list-style-type: none"> • Demonstrate knowledge of the current trends, issues, and research in secondary mathematics education. (inTASC standards 1, 4, 9) • Demonstrate knowledge of how secondary students learn and think mathematically and the psychological and sociological influences on students and curriculum. (inTASC standards 1, 2, 3) • Demonstrate knowledge of mathematical content appropriate for a contemporary secondary grades mathematics program of study (inTASC standards 2, 4, 5, 7). • Demonstrate knowledge of how mathematics instruction can be integrated with other subjects (inTASC standards 2, 4, 5, 7, 8). <p>Performance Skills</p> <ul style="list-style-type: none"> • Demonstrate application of the materials and resources available for implementing a 21st century learners approach to the teaching and learning of secondary mathematics (inTASC standards 1, 2, 3, 4, 7, 8, 10). • Demonstrate application of planning an effective mathematics lesson that respects the diversity of backgrounds in a classroom (InTASC standards 1, 2, 5, 6). • Demonstrate application of diverse techniques for assessing and evaluating the mathematical understandings of secondary students (inTASC standards 1, 2, 5, 6). <p>Dispositions</p> <p>Demonstrate a positive and professional attitude toward the teaching and learning of mathematics. (inTASC standards 3, 8, 9)</p> <p>Results</p> <p>Synthesize theoretical research and application literature into models of effective mathematics teaching (inTASC standards 1, 2, 3, 4, 5, 6, 7, 8).</p>
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COURSE REQUIREMENTS

Required Textbooks:

Brahier D.J. (2005). Teaching Secondary and Middle School Mathematics (2nd Edition). Pearson, Inc. See details of this book, please go to Amazon <http://goo.gl/Ib3a4B>

Due dates for turning in assignments are established in the course schedule. If work cannot be completed on time, make arrangements with the instructor prior to the due date.

1. Reflection No. 1

Drawing on class discussions and readings on Chapter 1 and 2, write a one to two pages double-spaced reflection paper that focuses on the questions below.

What are the key components of learning theories, such as those of Bruner and the van Hiele's?
What are the principles underlying the constructivists model of teaching and learning?

2. Reflection No. 2

Please write a one to two-page double-spaced reflection paper that focuses on the question:
What strategies do you use or plan to use to motivate your students to learn mathematics?

3. Pre and post lesson plan

Students will prepare and present individually a lesson introduction, a lesson exploration, and a lesson explanation. Topic: statistics and probability.

4. Lesson plan presentation

Students will develop a lesson based on based on a Common Core secondary grades mathematics standard(s). The lesson must include a **motivational activity** as well as some form of assessment and should be designed to last approximately 20 minutes. Each student will present the lesson to the class as if the class was the secondary school class for which the lesson was designed. Each student will be expected to hand-in a word-processed lesson plan. A lesson plan format will be provided. The purpose of the assignment is to judge your ability to supplement textbook instruction with meaningful conceptual questions and models.

5. Report on reading BLAST, feedback, tests, surveys

Will be available on Web-campus and in classes.

EVALUATION OF COURSE REQUIREMENTS

- Attendance is required and affects the final grade. For the purposes of this class, attendance is defined as **presence and participation** in class discussions and activities. Lack of participation may be considered as absence from class. Your attendance pattern (absences, late arrivals, early departures, and participation) will influence your final grade as follows:

Absences	Effect on grade
0-3	No change
4	5 point deduction
5	7 point deduction
6	10 point deduction
7 or more	F
Note: 3 tardies (late arrivals and earl departures) equal one absence.	

- Grading will be based on a total of 100 points.

	Item	Points
1	Reading reflection 1	5
2	Reading reflection 2	5
3	Pre-test on knowledge	10
4	Pre-survey on self-efficacy	10
5	Pre-Lesson Plan	10
6	Report on reading BLAST	10
7	Post-Lesson Plan	10
8	Feedback	10
9	Post-test on content knowledge	10
10	Post-survey on self-efficacy	10
11	Lesson presentation	10
	Sum	100

- Final evaluation for the course will be based on the following scale:

A	96-100	A-	91-95	B+	87-90	B	83-86	B-	80-82
C+	77-79	C	73-76	C-	70-72	D+	67-69	D	63-66
D-	60-62	F	<60						

SCHEDULE

Week	Class Date	Topic	Homework	Due Date
1		Class Introduction		
2		Chapter 1 and 2		
3		Chapter 5 How to write a lesson plan	Reading reflection1: Mathematics education theories	
4		Chapter 6 Teaching tools and strategies		
5		Chapter 7 Teach statistics and probability		
6		Chapter 7 Teach statistics and probability	Pre-test content knowledge and pre-survey self-efficacy in teaching statistics	
7		Online class: Chapter 8 The rule of assessment	Pre-Lesson Plan	
8		Online class: Read BLAST	Report on reading BLAST	
9		Online class: Read BLAST	Post-Lesson Plan and Feedback	
10		Discussion on BLAST; Chapter 9		
11		Chapter 10 and how to motivate students	Post-test content knowledge and post-survey in teaching statistics	
12		Lesson Presentation	Reading reflection 2: how to motivate students	
13		Lesson Presentation		
14		Lesson Presentation		
15		Study Week		
16		Final Exam		

Schedule is subject to change.

SPECIAL NOTES

Academic Misconduct

Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: <https://www.unlv.edu/studentconduct/student-conduct>.

Copyright

The University requires all members of the University Community to familiarize themselves with and to follow copyright and fair use requirements. You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws. Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

Disability Resource Center (DRC)

The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

Religious Holidays Policy

Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please

visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

Transparency in Learning and Teaching

The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information:

<https://www.unlv.edu/provost/teachingandlearning>

<https://www.unlv.edu/provost/transparency>

Incomplete Grades

The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Tutoring and Coaching

The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call [702-895-3177](tel:702-895-3177). The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

UNLV Writing Center

One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>.

Rebelmail

By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been

admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. Emailing within WebCampus is acceptable.

Final Examinations

The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at:

<http://www.unlv.edu/registrar/calendars>.

Library Resource

Students may consult with a librarian on research needs. For this class, the Subject Librarian is (https://www.library.unlv.edu/contact/librarians_by_subject). UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu/>.

Any other class specific information

(e.g., absences, make-up exams, status reporting, extra credit policies, plagiarism/cheating consequences, policy on electronic devices, specialized department or college tutoring programs, bringing children to class, policy on recording classroom lectures, etc.)