

LCGE1372-30 Contemporary Mathematics Spring Semester, 2020 Monday, 8:00 -10:00 pm

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Mission Statement

New Orleans Baptist Theological Seminary and Leavell College prepare servants to walk with Christ, proclaim His truth, and fulfill His mission.

Core Value

Each academic year, a core value is emphasized. This academic year, the core value is **Spiritual Vitality**: We are a worshiping community emphasizing both personal spirituality and gathering together as a Seminary family for the praise and adoration of God and instruction in His Word. Spiritual Vitality is addressed by reminding students that a dynamic relationship with God is vital for effective ministry.

Course Description

This course is intended to provide the student with essential mathematical concepts including uses of mathematical modeling and logical thinking in problem solving. Selected topics will include logic and sets, the real number system, functions and their graphs, probability and statistics.

General Education Competencies (GECs)

Leavell College has identified four General Education Competencies:

- 1. Critical Thinking
- 2. Oral Communication
- 3. Written Communication
- 4. Quantitative Reasoning

This course addresses GEC #4.

Bachelor of Arts in Christian Ministry Program Student Learning Outcomes (BACM

SLOs) AND Bachelor of Arts in Music with an Emphasis in Worship Program Student Learning Outcomes (BAM PSLOs)

Leavell College has identified three Program Student Learning Outcomes for the BACM and three Program Student Learning Outcomes for the BAM:

- 1. Biblical Interpretation (BACM PSLO #1)
- 1. Worship Leadership (BAM PSLO#1
- 2. Service and Leadership (BACM PSLO #2 and BAM PSLO #2)
- 3. Historical and Theological Interpretation (BACM PSLO #3 and BAM PSLO #3)

Course Student Learning Outcomes (CSLOs)

At the conclusion of the semester, the student will be able to:

- 1. Distinguish between inductive and deductive reasoning.
- 2. Identify math concepts used in contemporary situations.
- 3. Classify elements of the real number line.

Course Texts

Smith, Karl J. *The Nature of Mathematics*. 13th edition. + webassign, 1 term (6 months), 13 edition. Boston: Cengage Learning, 2017.

All students will need to purchase the textbook through the Webassign course. Please follow the instructions provided in the Student Quick Start Guide available in the Blackboard course under the information tab.

Course Requirements and Grading

1. Complete homework assignments. 20%

This assignment relates to GEC #4; BACM SLOs #2; and CSLOs #1, #2, and #3.

2. Five Sectional tests. 40%

This assignment relates to GEC #4 and CSLOs #1, #2, and #3.

3. Complete midterm exam. 20%

This assignment relates to GEC #4 and CSLOs #1, #2, and #3.

4. Complete comprehensive final exam. 20 %

This assignment relates to GEC #4 and CSLOs #1, #2, and #3.

COURSE GRADING

GRADING SCALE

Participation/Homework	20%	A: 93 - 100
Sectional Exams	40%	B: 85 - 92
Midterm	20%	C: $77 - 84$
Final Exam	20%	D: $70 - 76$
		F: below 70

Course Schedule

Week	Week of	Topic	Textbook Reading	Assignment
1	January 27	Introduction, Chapter 1:	Chapter 1	Pretest
		The Nature of Problem	(Intro & 1.1)	Trecese
		Solving	,	
2	Feb. 3	Chapter 1 cont'd: <i>Inductive and Deductive</i>	Chapter 1	
		Reasoning, Scientific	(1.2 & 1.3)	
		Notation		
3	Feb. 10	Chapter 2:	Chapter 2	Test Chapt. 1
		The Nature of Sets	(2.1)	
4	Feb. 17	Chapter 2 cont'd:	Chapter 2	
		Operations, Applications,	(2.2, 2.3, &	
		Finite and Infinite Sets	2.4)	
5	Feb. 24	Chapter 3:	Chapter 3	Test Chapt. 2
		The Nature of Logic	(3.1 & 3.2)	
			, ,	
6	March 2	Chapter 3 cont'd:	Chapter 3	
		Operators, Nature of Proof	(3.3, 3.4 &	
		& Problem Solving (3.3, 3.4 & 3.5)	3.5)	
		& 3.3)		
7	March 9	Chapter 4:	Chapter 4	MIDTERM (Chpts. 1-3)
		The Nature of Numeration	(4.1 & 4.2)	
		Systems		
8	March 16-20	Spring Break		
9	March 23	Chapter 4 cont'd:	Chapter 4	
		Different Numeration	(4.3 & 4.4)	
		Systems and Binary	Í	
10	March 30	Chapter 5:	Chapter 5	Test Chapt. 4
10	Iviaich 30	Chapter J.	Chapter 3	1 cst Chapt. 4

			Textbook	
Week	Week of	Topic	Reading	Assignment
		The Nature of Numbers	(5.1 & 5.2)	
11	April 6	Chapter 5 cont'd:	Chapter 5	
	-	Integers and Rational Numbers	(5.3 & 5.4)	
12	April 13	Chapter 12:	Chapter 12	Test Chap. 5
		The Nature of Counting	(12.1, 12.2	•
		, o	12.3)	
13	April 20	Chapter 11:	Chapter 11	Test Chap. 12
		The Nature of Financial	(11.1 &11.2)	_
		Management		
14	April 27	Chapter 11 cont'd:	Chapter 11	
	-	Sequences and Series	(11.3 & 11.4)	
15	May 4	Review		
16	May 11	Final Exam		Final Exam

ADDITIONAL COURSE INFORMATION

- 1. <u>Academic Honesty Policy</u>: All students, whether on-campus, Internet, or extension center students, are expected to adhere to the highest Christian standard of honesty and integrity when completing academic assignments for all courses in every delivery system format. The Bible provides our standard for academic integrity and honesty. This standard applies whether a student is taking tests or quizzes, writing papers, answering Discussion Board prompts, or completing any other course requirement.
- 2. <u>Attendance Policy</u>: Leavell College follows the attendance policy as stated in the Leavell College catalog.
- 3. <u>Writing Style Guide</u>: Writing assignments should follow the NOBTS/Leavell College Manual of Form and Style (revised August 2019). To access this manual on the seminary website, please use the following link: https://www.nobts.edu/_resources/pdf/writing/StyleGuide.pdf.
- 4. <u>Electronic Devices</u>: Electronic devices should be used only for classroom purposes as indicated by the professor.
- 5. <u>Emergency Plan</u>: In the event the NOBTS schedule is impacted due to a natural event, go to the seminary's website for pertinent information. Class will continue as scheduled

- through the Blackboard site. Please note announcements and assignments on the course's Blackboard site.
- 6. <u>Policy for Late Submissions</u>: All assignments are to be submitted as indicated in the *Course Requirements* section. Late assignments will be assessed an initial 5-point penalty and 1-point penalty for each additional day, including weekends, after the due date. No assignment will be accepted past two weeks of the original due date. No assignment will be accepted after Noon on May 11th.
- 7. <u>Classroom and Online Decorum</u>: Each student is expected to demonstrate appropriate Christian behavior. The student is expected to interact with other students in a fashion that will promote learning and respect for the opinions of the others in the course. A spirit of Christian charity is expected at all times.
- 8. <u>Plagiarism Policy:</u> A high standard of personal integrity is expected of all Leavell College students. Copying another person's work, submitting downloaded material without proper references, submitting material without properly citing the source, submitting the same material for credit in more than one course, and committing other such forms of dishonesty are strictly forbidden. Although anything cited in three sources is considered public domain, we require that all sources be cited. Any infraction may result in failing the assignment and the course. Any infraction will be reported to the Dean of Leavell College for further action.
- 9. <u>Special Needs:</u> If you need accommodations for a disability, please set up a meeting with the professor for consideration of any modifications you may need.
- 10. <u>Blackboard/Self-Serve</u>: The student is responsible to check Blackboard for grades, assignments, course documents, and announcements. The student is also responsible for maintaining current information and current e-mail address on the Blackboard system and Self-Serve. As Blackboard and Self-Serve do not communicate with one another, students will need to enter updates on both platforms.
- 11. Technical Assistance: For general NOBTS technical help, go to www.NOBTS.edu/itc/.

Selected Bibliography

Bullock, Gregory. *Algebra in Words: A Guide of Hints, Strategies and Simple Explanations*. Acute Books: 2014.

Conway, J. H. The Book of Numbers. New York: Springer - Verlag, 1996

Coughlin, R. The Ascent of Mathematics. New York: McGraw-Hill, 1984.

Courant & Robins. What is Mathematics? Oxford: Oxford University Press. 1969.

Feller, William. Introduction to Probability Theory. New York: Wiley, 2008.

Freedman, David, Robert Pisani, Roger Purves, *Statistics*, 4th ed., New York: W. W. Norton & Company, 2007.

Gelfand, Israel M. and Shen, Alexander. Algebra. Berlin: Birkhäuser: 2002.

Huettenmueller, Rhonda. *Algebra DeMYSTiFieD*. 2nd ed. New York: McGraw-Hill Professional, 2010.

Kline, M. *Mathematical Thought from Ancient to Modern Times*. New York: Oxford University Press, 1972.

Lang, Serge. Algebra. 2nd ed. New York: Addison-Wesley Pub. Co., 1984.