

THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES

Course Number: MATM 3303 (CRN 21116)

Course Title: Fundamentals of Number Theory from an Advanced Standpoint

Credit Hours: 3

Term: Spring 2023

Course Type: Hybrid

- 50% Asynchronous online
- 50% In-person (LART 205; Thursdays 1:30 PM - 2:50 PM)

Prerequisite Courses: MATH 2303 with a grade of "C" or better

Instructor: Kien Lim (He/him)

Office Location: Bell Hall 301

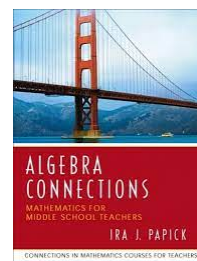
Contact Info: E-mail Address: kienlim@utep.edu
Office Phone: (915) 747-6772
Emergency Contact: (915) 747-5761

Office Hours: 4:00 PM – 5:00 PM Tuesday
11:30 AM – 12:30 PM Thursday
By appointment via Zoom: <https://tinyurl.com/LimHours>

Course Description Students will work middle-school level problems in number theory, with the intention of both mastering the problems and developing understandings of how the problems are approached by middle school students.

Textbooks: (Required) *Algebra Connections: Mathematics for Middle School Teachers* by Ira J. Papick

(Supplementary) *Mathematics for Elementary Teachers with Activities* by Sybilla Beckmann



Course Objectives: Students will

- investigate and explore concepts in number theory and algebra
- conceive mathematics as a problem-solving endeavor that involves visualizing, investigating, and analyzing
- develop the habit of attending to meaning, of analyzing problem situations, making connections, justifying, and explaining
- develop good learning skills like reading math text, posing questions, making connections, creating notes, and using representations
- cultivate a growth mindset where the focus is learning and effort rather than looking good

- Coursework:**
- This course uses the flipped instructional model. You learn some materials ahead of time by reading the textbook, watching math videos via Edpuzzle (join at <https://edpuzzle.com/join/zoofati>), and answering embedded.
 - During class meetings, you ask questions to affirm your understanding, take an in-class assessment, and apply your knowledge to solve problems.
 - You are expected to put in an average of 9 hours per week for a 3-credit hour course.

- Course Structure:** Asynchronous work (Mon - Wed)
- Complete online work on OneNote Class Notebook by Wed 11 pm
 - Read and understand the assigned text
 - Watch Edpuzvideos and answer embedded questions
 - Answer questions on OneNote Class Notebook
 - Take an online quiz via Respondus Lockdown Browser on Wed 7 – 11 pm

In-class Meetings (Thurs)

- Review homework for last week
- Math activities to build on concepts learned in asynchronous work or to introduce math concepts
- Take an in-class assessment

Homework (Thurs - Sun)

- Complete homework on OneNote Class Notebook by Sun 11pm
- May work collaboratively but must write in your own words. (If two responses are similar, then each response will only receive ½ of the score).

Exams

- Exam items are designed to assess your understanding of the concepts and application of your understanding (i.e., you need to think).
- You are allowed a scientific calculator.
- Since the final exam is comprehensive, you are allowed a cheat sheet (8½-by-11) with notes on both sides.

- Grading Scheme:** Participation & Engagement (10%)
 Asynchronous work & Homework (35%)
 Online Quizzes & In-class Assessments (15%)
 Mid-term Exam (15%)
 Final Exam (25%)

To compensate for the higher-cognitive demand in assessments and exams, the following scale is used:

A	≥ 80%
B	70% - 80%
C	60% - 70%
D	45% - 60%
F	< 45%

- Important Dates:**
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|--|------------|
| Census Day (Last Day to Drop without W) | February 1 |
| Mid-term Exam (1:30 pm – 2:50 pm) | March 9 |
| Course Drop Deadline (Last Day to Drop with a “W”) | Mar 30 |
| Final Exam (1:00 pm – 3:45 pm) | May 11 |

If you feel that you are unable to complete the course successfully, please let me know and then contact the [Registrar’s Office](#) to initiate the drop process. If you do not, you are at risk of receiving an “F” for the course.

Tentative Schedule:	Weeks	Chapter	Topics
	1 – 5	2	Arithmetic and Algebra of the Integers
	6 – 9	3	The Division Algorithm and the Euclidean Algorithm
	10 – 13	4	Arithmetic and Algebra of the Integers Modulo n
	14 – 15	1	Patterns

Culture-of-Care Statement: UTEP espouses a culture of care and excellence. In this course, I strive to model kindness and do my best to support your learning while maintaining high expectations and learning outcomes.

Make-up Policy:

- The lowest scores of your asynchronous work, homework, and assessment will be dropped because there will be no make-up.
- If you should miss the exam, the possibility of make-up will be determined on an individual basis. If you cannot provide documentation to support your reason, your exam grade will be counted as the missed-exam grade.

Incomplete Grade Policy: All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. The College of Science allows a period of one month to complete this contract. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.

Academic Integrity Policy: Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the [Office of Student Conduct and Conflict Resolution \(OSCCR\)](#) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline](#).

Accommodation Policy: The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services \(CASS\)](#). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at cass@utep.edu, or apply for accommodations online via the [CASS portal](#).

Copyright Statement for
Course Materials:

All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

Covid-19 Precautions

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit <https://www.epstrong.org/>.

Services & Resources: [Help Desk](#)

Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

[UTEP Library](#)

Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.

[Math Tutoring Center \(MaRCS\)](#)

Ask a tutor for help and explore other available math resources.

[University Writing Center \(UWC\)](#)

Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.

[RefWorks](#)

A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

[Military Student Success Center](#)

Assists personnel in any branch of service to reach their educational goals.

[Center for Accommodations and Support Services](#)

Assists students with ADA-related accommodations for coursework, housing, and internships.

[Counseling and Psychological Services](#)

Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.