

*Course Information*

<b>Course Number:</b>	Math 6315
<b>Course Name:</b>	Introduction to Number Theory
<b>CRN:</b>	30746
<b>Location:</b>	MCS 211
<b>Class Hours:</b>	5-6:15pm MW
<b>Textbook:</b>	Elementary Number Theory and its applications by Rosen, 6 <sup>th</sup> edition
<b>Prerequisites:</b>	Consent of Instructor

*Instructor Information*

<b>Name:</b>	Dr. Jeffrey Beyerl
<b>Office Location:</b>	MCS 237
<b>E-mail:</b>	jbeyerl@uca.edu
<b>Phone:</b>	501-450-5652

**Course Description**

This course serves as an elective for the M.A. in mathematics education and provides an introduction to number theory for secondary and beginning collegiate teachers of mathematics. Topics include divisibility, prime number theory, numerical functions, the algebra of congruence classes, higher degree congruence classes, number theory on the reals, Diophantine equations, and applications.

**Office Hours**

My availability changes every day. Go to the website below for up to date availability. When you schedule an appointment, please specify what you're coming for.

Walk-ins are also welcome: if my office door is open, I'm available. However, if somebody with an appointment comes, they will receive priority.

Office Hours Website: <https://ucamath.youcanbook.me/>

**Course Objectives and Requirements**

This is going to be a course on classical number theory with applications to cryptography.

### Grading Policy

- Assignments will be given approximately every week.
- Final presentations will be during the final exam period.

Assignments	80%
Final Presentation	20%

### Student Learning Objectives

Upon completion of the course, student will be able to:

- Demonstrate proficiency with integers, their properties, and associated ideas
- Demonstrate an understanding of congruencies and arithmetic properties in finite characteristic.
- Understand cryptographic principles on their own and involving number theory.

### Important Dates

Last day to Drop Drop means the course is not on your record	January 18 <sup>th</sup>
Last day to Withdraw Withdraw means the course is on your record with a "W" but does not factor into your GPA	March 30 <sup>th</sup>
Final Presentations	Monday April 30 <sup>th</sup> 4-6pm

### Small Class Size Consideration

- Because this course has a small class size, after the last day to drop the students may choose to change the meeting time if they desire. Dr. Beyerl is busy at 9am MWF, 12-3pm. Any change in class time must be unanimous and approved by Dr. Beyerl
- Participation in class is necessary. Please be prepared to often speak up in class.

**Attendance Policy**

Your active participation in this course is expected and required for you to learn the material and earn a passing grade. If you miss more than two weeks of class meetings throughout the term, you may be administratively dropped from the course.

**Academic Integrity Statement**

The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the Student Handbook. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.

Academic integrity is taken seriously: cheating on a test will result in a failing grade in the course; allowing another student to copy off of your test will result in a one-letter-grade penalty.

**Americans with Disabilities Act Statement**

The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Office of Disability Services, 450-3613.

**Title IX disclosure:**

If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to "student-on-student" or "employee-on-student"), the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved. Any allegations made by a student may or may not trigger an investigation. Each situation differs and the obligation to conduct an investigation will depend on those specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: <https://uca.edu/titleix>. \*Disclosure of sexual misconduct by a third party who is not a student and/or employee is also required if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity.

**Sexual Harassment and Academic Policies Statement**

All students are required to familiarize themselves with the University of Central Arkansas policy on sexual harassment and on academic policies. These policies are printed in the Student Handbook.

**Building Emergency Plan Statement**

An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at <http://uca.edu/mysafety/bep/>. Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.