CHIPOLA COLLEGE

COURSE SYLLABUS

Chipola's website: www.chipola.edu

COURSE TITLE:	COURSE NUMBER:
Number Theory	MAS 4203

COURSE DESCRIPTION (with prerequisites):

This course offers an approach to number theory in which students develop their capacity to formulate conjectures and proofs. Topics include divisibility and divisibility tests, greatest common divisor, mathematical induction, division and Euclidian algorithms, primes, number-theoretic functions, congruence, linear Diophantine equations, theorems of Euler and Fermat, linear congruences and the Chinese Remainder Theorem.
3 credit semester hours. Prerequisite: MAC 2312.

NAME(S) OF INSTRUCTORS:

TBD

EFFECTIVE ACADEMIC YEAR:

2023-2024

REQUIRED TEXTBOOKS AND INSTRUCTIONAL SUPPLIES:

Number Theory: A Lively Introduction with Proofs, Applications, and Stories,
Pommersheim, Marks, Flapan, Wiley 2010
ISBN 13: 9780470424131

GRADING POLICY:

The standing of a student in each course is expressed by one of the following letters and corresponding grading system:

A – 90 – 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 or less

The Chipola Catalog provides policies and procedures regarding the grading system. A student's Grade Point Average is derived from the grading system/quality point scale.

ATTENDANCE AND WITHDRAWAL POLICIES:

Chipola College expects regular attendance of all students. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola

policy allows each instructor to specify in the Instructor First Day Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.

A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.**

MAKE-UP POLICY:

Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

ACADEMIC HONOR CODE POLICY:

Students are expected to uphold the Academic Honor Code. Chipola College's Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

STUDENTS WITH DISABILITIES POLICY:

Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola's goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

NOTICE OF EQUAL ACCESS/EQUAL OPPORTUNITY AND NONDISCRIMINATION:

Chipola College does not discriminate against any persons, employees, students, applicants or others affiliated with the college with regard to race, color, religion, ethnicity, national origin, age, veteran's status, disability, gender, genetic information, marital status, pregnancy or any other protected class under applicable federal and state laws, in any college program, activity or employment.

Wendy Pippen, Associate Vice President of Human Resources, Equity Officer and Title IX Coordinator, 3094 Indian Circle, Marianna, FL 32446, Building A, Room 183C, 850-718-2269, pippenw@chipola.edu.

LIBRARY AND ON-LINE REFERENCE MATERIALS:

The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the *LINCCWeb* icon on the Chipola Library website at www.chipola.edu/library. If you have questions about database usage consult the "How to Use the Chipola Databases" on the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website.

See your Instructor First Day Handout for individual instructor recommendations and resources.

TECHNOLOGY RESOURCES:

The college's learning management system is **Canvas**. Classes become available on Canvas on the first day of the semester. It is the student's responsibility to log onto the Canvas system the first day of class to establish the first day of attendance and to check announcements. All official class communication must be through Canvas. For further information, contact your instructor or the Director of eLearning. The Canvas support hotline is available online in live chat and on the phone, toll-free, at 855-308-2812 for any issues in accessing or utilizing Canvas. The **Information Technology Center**, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website.

FREE TUTORING RESOURCES:

The Academic Center for Excellence (**ACE)** Lab, located in Building L, offers free tutoring from 8 a.m. to 5 p.m. and is equipped with computer workstations. ACE lab hours are posted each semester at the room entrance and on the website. Additionally, live online tutoring conferences and individual tutoring sessions are available for a variety of courses through ACE@Home. For a conference schedule or to schedule an individual appointment, visit "ACE Tutoring" in the left navigation from any course in Canvas.

ELECTRONIC DEVICE USAGE STATEMENT:

Classrooms should be free of all unnecessary distractions from the task of learning. Therefore, as a general rule, students should silence and avoid use of all electronic devices (laptops, phones, tablets, etc.) not being used for coursework. Consult first-day handouts for any specific policies related to the use of electronic devices in the classroom, as they may vary depending upon the nature of the course or the guidelines of the instructor. Faculty reserve the right to regulate the use of electronic devices and their accessories in class.

DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:

E – 1 Demonstrate understanding of instructional design and lesson planning by applying concepts from human development and learning theories.

E – 2 Demonstrate ability to maintain a student-centered learning environment that is safe, organized, equitable, flexible, inclusive and collaborative.

E – 3 Demonstrate effective instructional delivery and facilitation by utilizing deep and comprehensive knowledge of core content.

E – 4 Demonstrate understanding of assessment by analyzing and applying data from multiple assessments to diagnose learning needs and inform instruction.

E – 5 Demonstrate continuous improvement by designing purposeful goals to strengthen instructional effectiveness and impact student learning.

E – 6 Demonstrates professional responsibility and ethical conduct and fulfills expected obligations to students, the public, and the education profession.

MAS 4203 is not a General Education core course.

STUDENT LEARNING OUTCOMES FOR MAS 4203	2020 NCTM Standards Secondary Mathematics	FEAPs (Discipline Outcomes)	FL Competencies and Skills:		Assessment Activities/ Assignments
			Subject Area Mathematics 6-12	Prof. Ed.	
Formulate conjectures, proofs and counterexamples involving number theory concepts.	1a, 2b		9.1, 9.2		H, RPT, PS, UT, F
Develop divisibility tests.	1a				H, PS, UT, F
Find the greatest common divisor using various methods.	1a				H, PS, UT, F
Explore prime numbers.	1a				H, PS, UT, F
Solve linear Diophantine equations.	1a		1.2		H, PS, UT, F
Solve linear and quadratic congruence equations.	1a		1.2, 1.9		H, PS, UT, F
Solve systems of congruence equations using the Chinese Remainder Theorem.	1a		1.5		H, PS, UT, F
Solve problems involving the order of an element in a group.	1a				H, PS, UT, F
Solve applications to real-world and mathematical problem-solving situations.	1a, 2a				H, PS, UT, F

****Assessment Codes**

T = Tests **Pre/Post** = Pre- and Post-Tests **OT** = Objective Tests **UT** = Unit Tests **Q** = Quizzes **F** = Final Examination **CF** = Cumulative Final **EX** = Departmental Exam **SE** = Nat'l or State Standardized Exam	**RPT =** Report/Presentation **SP** = Skills Performance **SD** = Skills Demonstration **W** = Writing Assignments **E** = Essays **DE** = Documented Essays **RP** = Research papers **J** = Jury **R** = Recital	**Proj**. = Projects **Exp.** = Experiments **Cap. Proj.** = Capstone Project **Cap. Course** = Capstone Course **Prac.** = Practicum **Intern**. = Internship **H** = Homework **PS** = Problem Solving **DB** = Discussion Board	**BO =** Behavioral Observation **Clin.** = Clinicals **CS =** Case Study **CP =** Case Plan **Port.** = Portfolio **Obs.** = Teacher Observation **Sk. Check** = Skills Check-off Curriculum Frameworks **JP** = Judged Performance/Exhibition

MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:

1. Teacher facilitated: The instructor will be leading class discussions on the material during class periods.

2. Student-centered: The students will practice solving problems and make several presentations during class periods.
3. Office Hours: The instructor will be available during office hours for individual assistance.

ASSIGNMENT AND/OR COURSE OUTLINE

See your Instructor First Day Handout for individual instructor assignment schedule.