



# CHIPOLA COLLEGE

## COURSE SYLLABUS

Chipola's website: [www.chipola.edu](http://www.chipola.edu)

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**COURSE TITLE:**

Number Theory

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**COURSE NUMBER:**

MAS 4203

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**COURSE DESCRIPTION (with prerequisites):**

This course offers an investigative approach to number theory in which students develop their capacity to formulate conjectures and explore their ideas and inquires through the use of a computer algebra system. Conjectures are developed based in part on computer-generated data and formal proofs are then constructed. There is an emphasis on gaining an understanding of the nature of mathematical thinking and learning. Prerequisite: MAC 2312. 3 semester hours credit

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**NAME(S) OF INSTRUCTORS:**

Dr. Irma Cruz-White

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**EFFECTIVE ACADEMIC YEAR:**

2016-2017

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**REQUIRED TEXTBOOKS AND INSTRUCTIONAL MATERIALS:**

**Discovering Number Theory**, By J. Holt & J. Jones, W. H. Freeman & Company 2001.

**Print:**

ISBN 10: 0-7167-4284-5

ISBN 13: 978-0-7167-4284-5

**eText:**

ISBN 10: 1-4292-5887-X

ISBN 13: 978-1-4292-5887-6

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**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.

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**ATTENDANCE AND WITHDRAWAL POLICIES:**

Chipola College expects regular attendance of all students, and all instructors record attendance daily. 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.

Karan Davis, Associate Vice President of Human Resources, Equity Officer and Title IX Coordinator, 3094 Indian Circle, Marianna, FL 32446, Building A, Room 183A, 850-718-2205, [davisk@chipola.edu](mailto:davisk@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](http://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:**

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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 **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:**

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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, Chipola College has contracted **Smarthinking**, a Pearson Company, for online tutoring services, accessible especially from 5 p.m. to 8 a.m. and weekends. Smarthinking can be accessed through Canvas.

### **ELECTRONIC DEVICE USAGE STATEMENT:**

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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:**

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- 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 mathematics.
- 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.**

<b>LINKING COURSE-LEVEL STUDENT LEARNING OUTCOMES WITH DISCIPLINE-SPECIFIC COMPETENCIES, ASSESSMENT METHODS, AND ARTIFACTS</b>			
<b>STUDENT LEARNING OUTCOMES FOR MAS 4203</b>	<b>NCTM Standards Secondary Mathematics</b>	<b>FL Competencies and Skills:</b>	<b>Assessment Activities/ Assignments</b>
		<b>Subject Area Mathematics 6-12</b>	
Students will develop their capacity to formulate conjectures and explore ideas through the use of a computer algebra system. They will develop conjectures and construct formal proofs.	Standard 2: 2a, 2b, 2c,	9.1, 9.2, 9.3, 9.4	UT, H, PS
Students will learn the major concepts in number theory, such as divisibility, primes, factors, multiples, congruences and primitive roots. They will also be able to explore applications to real-world and mathematical problem situations.	Standard 1a: A.1.2 Standard 2: 2c	2.7	UT, H, PS, F
<b>**Assessment Codes</b>			
<b>T</b> = Tests <b>Pre/Post</b> = Pre- and Post-Tests <b>OT</b> = Objective Tests <b>UT</b> = Unit Tests <b>Q</b> = Quizzes <b>F</b> = Final Examination <b>CF</b> = Cumulative Final <b>EX</b> = Departmental Exam <b>SE</b> = Nat'l or State Standardized Exam	<b>RPT</b> = Report/Presentation <b>SP</b> = Skills Performance <b>SD</b> = Skills Demonstration <b>W</b> = Writing Assignments <b>E</b> = Essays <b>DE</b> = Documented Essays <b>RP</b> = Research papers <b>J</b> = Jury <b>R</b> = Recital	<b>Proj.</b> = Projects <b>Exp.</b> = Experiments <b>Cap. Proj.</b> = Capstone Project <b>Cap. Course</b> = Capstone Course <b>Prac.</b> = Practicum <b>Intern.</b> = Internship <b>H</b> = Homework <b>PS</b> = Problem Solving <b>DB</b> = Discussion Board	<b>BO</b> = Behavioral Observation <b>Clin.</b> = Clinicals <b>CS</b> = Case Study <b>CP</b> = Case Plan <b>Port.</b> = Portfolio <b>Obs.</b> = Teacher Observation <b>Sk. Check</b> = Skills Check-off Curriculum Frameworks <b>JP</b> = Judged Performance/Exhibition

### **MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:**

1. Attend and participate in class regularly.
2. Read all assigned material before class.
3. Study in-class notes and on-line (Canvas) materials.
4. Complete assigned projects in a timely manner to enable reflections and revisions on the final product.
5. Seek opportunities to practice teaching skills through tutoring and substituting in 6 – 12 schools.
6. Collaborate with peers and other professionals.

### **ASSIGNMENT AND/OR COURSE OUTLINE**

#### **GRADE DISTRIBUTION:**

**4 Unit Tests            4/6**  
**Final Examination 1/6**

Homework 1/6

**COURSE OUTLINE:**

**Unit 1:** Course Guide, Chapters 1 – 2

**Unit 2:** Chapters 3 – 5

**Unit 3:** Chapters 6 – 8

**Unit 4:** Chapters 9 – 11

**Final Examination: Cumulative material from Unit 1 through Unit 4.**

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