MTH 124-01: Math Perspectives II, Fall 2018
TR 7:40-9:10, HSC Room 150

Professor: Dr. Pamela Richardson

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Email Policy

Email is the official means of communication at Westminster College. Please feel free to contact me via email, but be sure that you email the correct Dr. Richardson! All messages received after 4:00PM may not be answered until the following day.

Prerequisite

A grade of C- or better in MTH 110, MTH 131, MTH 135, or appropriate advanced placement credit is required to take this course. Math Perspectives II is intended only for students with an education-related major or minor. If you do not satisfy this prerequisite, please see me.

Texts

There is no required textbook for this course. Students who wish to read about the topics covered can access the following texts, copies of which are on reserve in the library.

- For All Practical Purposes: Mathematical Literacy in Today’s World, 9th Edition by COMAP
- Number Theory: A Lively Introduction with Proofs, Applications, and Stories by Pommersheim, Marks, and Flapan

We will occasionally have homework assignments from the first textbook listed. The second book, while aimed at a slightly more advanced audience, is an entertaining read.

Calculator

A calculator is required for this course. A scientific calculator is recommended. You should bring a calculator to class every day. Using a cell phone, tablet, etc. will not be allowed on quizzes and exams.
Course Description

Mathematical Perspectives II is a two-credit-hour course specifically created to allow education majors and minors to fulfill the Pennsylvania Department of Education certification requirement for 6 credit hours of mathematics without having to take (and pay for) an academic overload. Several other mathematics courses Westminster can be used to fulfill the PDE requirement, but MTH 124 is the only one which is a two-credit-hour course. The course is a continuation of the Liberal Studies mathematics course and fulfills the requirements for the mathematics content course as specified for PDE certification. This course is NOT a course about teaching mathematics in the Elementary School; we will not discuss teaching methods. Topics include weighted averages, divisibility, prime and composite numbers, greatest common factor and least common multiple, arithmetic in bases other than 10, modular arithmetic, and applications of these topics.

Course Outcomes

In this course, students will learn quantitative concepts and skills that will enable them to interpret and reason with quantitative information. By the end of the course, students should be able to do the following.

1. **Apply concepts and skills introduced in class to solve new problems.**

2. Correctly use the mathematical vocabulary of the course.

3. Determine whether or not an integer is divisible by a positive integer.

4. Apply the Division and Euclidean Algorithms.

5. Determine the prime factorization of a number and use it to find the least common multiple and greatest common divisor of a set of numbers.

6. Perform and explain addition, subtraction and multiplication in bases other than 10.

7. Perform and explain modular arithmetic.

8. Explain the value of and calculate check digits given the check digit schemes.

9. Encrypt and decrypt messages using additive, decimation, linear, and vigenère ciphers.

Attendance and Participation:

Attendance is very important in this course. If you must miss class, you are responsible for all material covered and announcements given in class. Any materials distributed to the class will be posted on the course site on D2L. Active participation in class will be expected of every student for the entire class period. Ten percent of your final grade will be an assessment of your participation and engagement in class activities and discussions. Please note that this grade will be based on active participation and not merely attendance! If you are texting, checking e-mail, playing Tetris,
chatting with classmates, etc., you are NOT engaging in the course material, and your grade will reflect this behavior.

**Homework:**

Homework problems will be assigned after each class and will be posted under “Content” on our course page in D2L; be sure to check it often for updates. Answers to the homework problems will also be posted on D2L so that you can check your work. You should complete homework posted after one class before the next class. Homework will not be collected; it is designed to serve as practice for exams and quizzes.

**Quizzes**

We will have brief (approximately 15 minute) individual quizzes each Thursday (except on exam days). The first quiz will be a syllabus quiz that you will take on D2L. For all other quizzes, the problems on each quiz will be similar to in-class and homework problems from the previous Thursday and Tuesday. The lowest quiz score will be dropped to allow for any unusual circumstances, and therefore no makeup quizzes will be given.

**Exams:**

There will be two written exams in this course. The tentative dates of the exams are as follows:

- Thursday, September 20
- Thursday, October 11.

Makeup exams may only be given if both Dr. Richardson and Dean McMinn approve the reason and alternative arrangements are made BEFORE the exam is given in class.

**Course Grades:**

Your course grade will be determined by the following distribution:

- Participation & Engagement: 10%
- Quizzes: 30%
- Exams: 30% each.

The grading scale will be

- B+: 88-89
- C+: 78-79
- D+: 68-69
- A: 92-100
- B: 82-87
- C: 72-77
- D: 62-67
- F: 0-59
- A-: 90-91
- B-: 80-81
- C-: 70-71
- D-: 60-61.
**Academic Integrity:**

*Central to the purpose and pursuit of any academic community is academic integrity. All members of the Westminster community, including students, faculty, staff, and administrators, are expected to maintain the highest standards of honesty and integrity, in keeping with the philosophy and mission of the College.*

Westminster College 2017-18 Undergraduate Catalog, p. 65

Some forms of academic dishonesty include (but are not limited to): copying a classmate’s work (homework, quizzes, or exams), divulging answers or information to another student during or about an exam or quiz, and using unauthorized aids (e.g., solution manuals, internet sites, etc.) on an assignment, quiz, or exam. Academic dishonesty will not be tolerated in this class. The penalty for academic dishonesty is a grade of 0 on the assignment. Any event of academic dishonesty is reported to the Dean of the College. Other details of violations and consequences are given in the Catalog.

**Students with Disabilities:**

Westminster College actively strives for the full inclusion of all our students. Students with disabilities who require access solutions for environmental or curricular barriers should contact Faith Craig, Director of Disability Resources, located in 414 Thompson-Clark Hall. You may reach her at 724-946-7192 or craigfa@westminster.edu. No accommodations can be given without documentation from the Disability Resources Office.

**Important Dates:**

- 9/3   Last Day to Add/Drop
- 9/20  Exam 1
- 9/28  Last Day to Withdraw
- 10/11: Exam 2
- 10/11: Course ends