

MATH 265.01

Transition to Advanced Mathematics

Fall 2016 Syllabus

Instructor: Dr. Angela Berardinelli

Office: Old Main Tower 403

Office Phone: 814-824-2421

E-mail: aberardinelli@mercyhurst.edu

Class Times: MWF 10:00-10:50 AM, Hirt 209

Office Hours: MW 1:30-3:30PM, TuTh 9:00-10:00AM, or e-mail to request an appointment

Course Webpages: <http://math.mercyhurst.edu/~aberardine/classes/MATH265/> and <http://math.mercyhurst.edu/moodle/>

1 Course Description

This course is designed to facilitate the mathematics student's transition to courses requiring a higher level of mathematical maturity. Emphasis will be on the reading and writing of proofs, and on communicating mathematically - both orally and in writing. Topics will include logic, set theory, functions, relations, and number theory. 3 credits.

Prerequisites: MATH 150 and MATH 171, or permission of instructor.

2 Required Resources

Textbook: *Introduction to Mathematical Proofs*, 2nd Edition, by Charles E. Roberts, Jr.

3 Grading

Final Grade Calculation:

	Percentage of Final Grade
Written Homework Assignments	40%
Discussion Board Posts	15%
Exam 1	15%
Exam 2	15%
Final Exam	15%

Letter Grade Scale:

If you have a weighted
average of at least: 94% 90% 84% 78% 70% 65% 60% 0%

then you will earn a(n): A B+ B C+ C D+ D F

4 Homework

Homework problems will be assigned weekly and collected the following Friday. Homework is due in my hand or under my office door by noon on Friday. Late homework will be assessed a 10% penalty; late homework will not be accepted (and will be assigned a grade of zero) after noon on the following Monday.

Any homework assignment completely typeset using L^AT_EX will receive +5 bonus points. We will spend some class time discussing L^AT_EX in the first two weeks of class, and we may have one or more optional out-of-class L^AT_EX-learning sessions in the lab if there is enough student interest.

Your lowest three homework scores (out of the 13 homework scores) will be “dropped.” The 13th (final) homework assignment will be due on the final day of class (December 9). I will *not* accept this homework assignment late.

There will be an additional short assignment to be completed in lieu of class on September 30, 2016. This assignment score cannot be one of the dropped scores.

5 Discussion Board

We will have a class discussion board on Moodle. Beginning the week of September 12, there will be weekly discussion board assignments. Students will be randomly assigned to one of three groups (A, B, or C) on the first day of class. Each week, the group required to post in the discussion board will rotate (starting with group A). A second group will also be required to reply to the original posts (starting with group B).

The discussion board posts will be due at 5PM each Tuesday. Each post will be on an assigned topic (usually a proof).

Discussion board replies will be due before class each Friday. Replies should be a question or critique of the original post concerning some specific part of it that you find confusing.

6 Exams

Exam 1 will focus on Chapters 1, 2, and 6 in the textbook (propositional logic, properties of number systems, proof-writing techniques). It will be held in class on Wednesday, September 28.

Exam 2 will focus on Chapters 3, 4, and 5 in the textbook (sets, relations, functions). It will be held in class on Monday, November 21.

Final Exam: The final exam is scheduled for 10:30AM-12:30PM on Wednesday, December 14th. It will be comprehensive, covering material from Chapters 1-8.

Make-Up Exams: No make-up exams will be given. If you know you are going to miss a scheduled exam for a pre-scheduled event (examples: Mercyhurst-operated sporting event, academic event for another Mercyhurst course, doctor’s appointment, wedding, etc.), you must contact me via e-mail or in office hours at least seven days before the exam is scheduled to take

place to arrange to take the exam early. That is, you may arrange to take the exam prior to the scheduled date and time, but you may not make an exam up after it has been administered in class. If you miss an in-class exam, you will receive a zero.

7 Classroom Policies

Attendance: Students are responsible for all information (notes, announcements, etc.) given in class, regardless of attendance.

E-mail: You can always e-mail me with course-related questions or to request an appointment outside of office hours. I will attempt to return e-mails as thoroughly and promptly as possible. However, it is generally better to ask complicated questions during class or in office hours. Sometimes, I will need to send out e-mail communications to the class. These communications will be sent to your Mercyhurst e-mail address.

Academic Integrity: Cheating and plagiarism in any form are serious offenses and will be dealt with as such. University policy related to this issue may be found in the Student Handbook under Academic Affairs. <https://my.mercyhurst.edu/handbook/academic-affairs/>

Classroom Etiquette: Please be courteous to the instructor and your fellow students and silence your cell phone before class and do not send or receive calls or text messages during class time. Take off your headphones; do not read the newspaper or other books. Avoid disrupting the instructor and your classmates by arriving to class late or leaving class early unless absolutely necessary.

Regarding Learning Differences: Students with disabilities, including learning disabilities, who wish to request accommodations in class, should register with the Learning Differences Program early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the LDP coordinator. LDP provides academic accommodations for students with disabilities. In keeping with university policy, any student with a disability who needs academic accommodations must call the Learning Differences Program office at 824-3017 to arrange a confidential appointment with the director of the Learning Differences Program during the first week of classes.

Support of the Mercy Mission: This course supports the mission of Mercyhurst University by creating students who are intellectually creative. Students will foster this creativity by: applying critical thinking and qualitative reasoning techniques to new disciplines; developing, analyzing, and synthesizing scientific ideas; and engaging in innovative problem solving strategies.

Final Note: This syllabus is subject to change if deemed necessary. Any syllabus changes or addendum will be communicated in class.

Department of Mathematics and Information Technology Outcomes and Assessment

Mathematics majors will be assessed in this course on the Student Learning Outcome:

A graduate earning a B.A. in Mathematics from Mercyhurst University must be able to write mathematics correctly.

The assessment tool will be selected problems on the final exam.

The Student Learning Outcome will be assessed according to the rubric below for each problem selected. Note that this rubric is for assessment purposes only and is not a grading rubric.

Score	Assessment of SLO
5 points	The student has demonstrated exceptional ability in the SLO.
4 points	The student has produced above average work toward the desired SLO.
3 points	The student has produced satisfactory work toward the desired SLO.
2 points	The student did not show proficiency in his/her work toward the desired SLO.
1 point	The student failed to demonstrate a baseline understanding of the skills necessary to achieve this SLO.
0 points	The student did not attempt the problem.