

Marshall University
Math 480/690: Special Topics: Algebraic Combinatorics

Course Title/Number	MTH 480/690 CRN: 30175/3108
Semester/Year	Fall 2016
Days/Time	MWF 2-2:50 PM
Location	Waec 3121
Instructor	Dr. Elizabeth Niese
Office	Smith Hall 721
Phone	(304)696-3609
Email	niese@marshall.edu
Office Hours	Mondays & Wednesdays 9:00 AM - 10:00 AM, Wednesdays 3:00 - 4:00 PM, Fridays 9:00 AM - 11:00AM If you can't make my scheduled office hours, please make an appointment for another time. To make an appointment, please email 24 hours in advance when possible.
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to http://www.marshall.edu/academic-affairs and clicking on "Marshall University Policies. Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802 Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

Course Webpage

All important course information will be posted on our class MUOnline page.

Required Texts: *Bijective Combinatorics* by Nicholas A. Loehr, CRC Press, ISBN: 9781439848845.

Technology

Cell phones may not be used in class for texting or other social media.

Student Learning Outcomes for this course	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Students will learn basic techniques in algebraic combinatorics	In class activities, Homework	Exams, Presentation, Proof Portfolio
Students will improve written and oral communication skills with respect to mathematics	In class activities, Homework	Exams, Presentation, Proof Portfolio
Students will improve ability to reason rigorously in mathematical arguments	In class activities, Homework	Exams, Presentation, Proof Portfolio

Course Requirements:

Reading& In-class discussion: You will be assigned readings to prepare for most class meetings. These readings will form the basis for our class discussions and activities. Failure to complete the reading will be noticeable in a small class and will affect your participation grade.

Homework: Weekly problem sets will be assigned for the purpose of practicing course content. Each problem will be graded on a 5 point scale:

5 Points: All mathematical arguments are correct. No more than 2 typographical/minor grammatical errors.

4 Points: All mathematical arguments are correct. Grammatical & typographical errors do not impede understanding.

3 Points: Most mathematical arguments are correct.

2 Points: Significant mathematical errors are present, but the arguments show some understanding.

1 Point: Incorrect techniques are used and little understanding of the problem is evident.

Any proof receiving a score between 1 and 3 may be redone (to earn up to a 4) within one week. Both the original and corrected proof must be submitted.

To complete problem sets you may consult your notes, your textbook, other textbooks, scholarly papers, classmates, and your professor. Please note any sources (including classmates) that you have used outside of your assigned textbook, notes, and office hours. The work you turn in should represent your own understanding. Copying from other sources (including classmates) is strictly prohibited and constitutes academic dishonesty.

Paper Presentation: Each student will choose a paper on a topic in algebraic combinatorics to present. Papers will be chosen in consultation with the professor. More details will be given in class and posted on MUOnline.

Midterm Exam: One midterm exam covering the basic topics in the course will be given. Studying for this exam provides an opportunity to work at gaining a broader perspective on algebraic combinatorics.

Proof Portfolio: Your final course assessment will be a proof portfolio. The portfolio will be a mix of new and previously written proofs. More details on grading and individual proof assignments will be given in class and posted on MUOnline.

Grading Policy:

Your final course grade will be calculated as follows:

Reading/Participation:	10%
Presentation:	15%
Homework:	35%
Midterm Exam:	20%
Proof Portfolio:	20%

> 90%	A
80% – 89%	B
70% – 79%	C
60% – 69%	D
< 60%	F

Attendance Policy:

Attendance at all scheduled class times is expected. Make-up tests will only be given in the event of an excused absence. If you know in advance that you will be absent, please make arrangements to take the test early if possible. If you are ill and cannot make it to class, it is courteous to send me an email notifying me. You are responsible for all material missed and should try to get a copy of a classmate's notes.

Tentative Schedule:

Week 1:	Chapter 1
Week 2:	Chapter 2
Week 3:	Chapter 2 & 4
Week 4:	Chapter 4 & 6
Week 5:	Chapter 6
Week 6:	Chapter 7
Week 7:	Chapter 7
Week 8:	Midterm, Chapter 8
Week 9:	Chapter 8
Week 10:	Chapter 9
Week 11:	Chapter 9
Week 12:	Chapter 10
Week 13:	Chapter 10
Week 14:	Chapter 10
Week 15:	Selections from Chapters 11 & 12