<table>
<tr><td colspan="2" align="center">MAT 260 Discrete Mathematics
Course Syllabus
Siena Heights University
Winter 2015</td></tr>
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Instructor:	Jeff Kallenbach
Phone:	264-7641
Office:	SC29B
Hrs:	MWF 10:00, 1:00
Course Meets:	TR 1:00-2:15
Prerequisites:	MAT102 or Equivalent
Text:	*Discrete Mathematics With Applications*
Software:	We will make use of Maple Computer Algebra System and MS Project
Handheld:	A TI-NSpire or NSpire CAS will be the handheld model of choice
Course Management:	My web site and Engrade will be the host for this course

Amendments:

The instructor reserves the right to make changes to this syllabus as needed.
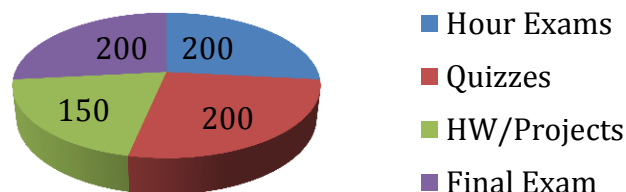
Course Objectives:

Discrete Mathematics introduces the university student in mathematics and computer science to the beginnings of higher mathematics. We cover the basics of logic and reasoning, proofs, sets, relations and functions, number theory, modular arithmetic, counting and discrete probability, and graph theory. We explore the theory and applications of these topics, including computer algorithm efficiency and the odds in games of chance. Students will write rigorous proofs and use modern technology to further investigate the topics.
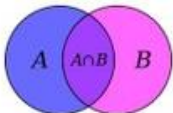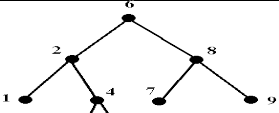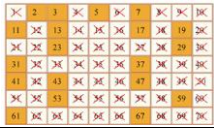
Method of Evaluation for MAT260

Exams, written assignments, and technology projects will determine the course grade. In studying mathematics, students are encouraged to work in groups in order to achieve comprehensive understanding. However, **work submitted for credit should be the creation of the individual student.**

Grading Scale	
90%+ - Outstanding	A
80-89.9% - Good	B
60-79.9% - Average	C
60-69.9% - Minimum	D
0-59.9% - Credit not awarded	E

Grades

- Hour Exams — 200
- Quizzes — 200
- HW/Projects — 150
- Final Exam — 200

Topics Covered include:

Sets, Relations, Function	
Graph Theory	
Trees	
Number Theory	
Counting	$\binom{105}{3} = \dfrac{105!}{(105-3)!\,3!}$

Computer Applications	`for (j =1; j <= n; j++) {`
	`    for (k =1; k <= j; k++) {`
	`        p = p * 20 * z;`
	`    }`
	`}`

Homework

Homework problems will be assigned for each section. Some problems will be collected and graded, counting as shown above and on the master schedule for the course. The others will be for practice, and form the basis for the exams and homework quizzes. They will be due at class time on the specified day, and there will be no extensions or late papers accepted.

Homework Quizzes

Every class day, unless we are having an hour exam, we will have a homework quiz consisting of 3-4 problems identical or very similar to the uncollected homework problems. This is just another measure of your understanding of the material. There will be no make-up quizzes, but I will drop your lowest grade at the end of the semester.

Technology projects

We will have a few labs during the course, using the NSpire, Maple, or other applicable software.

Final Exam

There will be a comprehensive final exam.

Hour Exams

There will be approximately 3 hour exams, in-class, during the semester. These will be 75 minutes and 100 pts each. Specific format will be discussed as the exams near.

Methods of Instruction

- A variety of methodologies will be employed.
  - **Reading the text book** – You will need to read the text to obtain facts not presented in class. It is a reasonably easy text to read for the purposes required. "We didn't go over that in class" is not a valid excuse for not knowing something.
  - **Working examples** – You will be expected to keep up with the assigned homework and do additional problems if you feel you need more practice. You should keep a notebook of worked examples and written homework assignments, and read through them periodically to keep the material fresh.
  - **Technology Activities** – We will explore some of the topics using technology such as the TI NSpire, Maple, MS Project, and others.

On Getting Through the Course

- Come to class prepared: review notes, read book, do problems.
- *Read the book.* It's readable and will provide supplementary information to what we cover in class. "We didn't go over that in class" is not a valid excuse for not being able to do a problem.
- USE YOUR GRAPHING CALCULATOR & COMPUTER whenever possible (even if not assigned). Graphs & Numerical tables provide concrete visual representations of important concepts, patterns & abstract relationships. Technology gives you the freedom to explore realistic problems & examples, and to spend your time learning concepts, w/o getting bogged down by difficult and/or tedious hand calculations.
- **Ask** questions **DURING** class: if you're confused, seek clarification. Someone else likely has the same question.
- **Answer** questions **DURING** class. Lead group discussions and help others: tell us what you've learned and let us learn from you.
- Study in groups as **SOON** after class as possible: help -- but don't copy from each other ...we call that plagiarism. Come to my office hours with questions.
- **Come to see me in my office** (Science 29...264-7641). One of the things I get paid for is helping students outside of class.

Learning Outcomes

The Mathematics Department has identified the following five learning outcomes to be achieved by majors and minors in its program.
1. Students will read and understand mathematics, differentiating between correct and incorrect mathematical reasoning.

Academic Honesty:

The search for truth and dissemination of knowledge are the central missions of a university. Siena Heights University pursues these missions in an environment guided by our Roman Catholic tradition and our Dominican heritage. Integrity and honesty are therefore expected of all members of the University community, including students, faculty members, administration, and staff. Actions such as cheating, plagiarism, collusion, fabrication, forgery, falsification, destruction, multiple submission, solicitation, and misrepresentation, are violations of these expectations and constitute unacceptable behavior in the University community. The penalties for such actions range from verbal warning, all the way to expulsion from the University.

Students are responsible for their own work and accomplishments. You are encouraged to discuss problems with others, but the actual written work submitted should be your own. The first occurrence of cheating on any assignment will result in a grade of zero on that assignment. The second time the same student is observed cheating will result in that student being given an E for the course. All cases of academic dishonesty will be documented and reported to the appropriate authorities on campus. for a complete explanation of the Academic Dishonesty Policy, refer to page 169 of the SHU Undergraduate Catalog 2004-2006.

Students With Disabilities

Section 504 of the rehabilitation act of 1973 and the Americans With Disabilities Act of 1990 require that the institutions such as SHU not discriminate against qualified students with disabilities and that effective and reasonable academic accommodations be provided for eligible students. In accordance with University policy and the equal access laws, I am available to discuss appropriate academic accommodations that you may be eligible for as a student with a disability. Please contact me for an appointment to discuss possible accommodations. Students must register with the Office for Students with Disabilities for disability verification and determination of reasonable accommodations. Requests for accommodations must be done in a timely manner.