MATH 105   FALL 2013
CRN ...   ... – ... TuTh 110 Fen

Instructor: ...   **Office Hours:**
Office/Phone: .../...   ...
Email: ...   or by appointment
(Please include Math 105 and your discussion leader's name
in the subject line when emailing me, e.g. Math 105-Bishel.)

Discussions on Thursdays:
12:00 – 12:50 CRN 14029 – DEA 209 – ... – kbischel@uoregon.edu
1:00 – 1:50 CRN 14030 – ANS 193 – Todd Holiday – holiday@uoregon.edu
1:00 – 1:50 CRN 14031 – DEA 209 – Kirk Forstrom – kforstro@uoregon.edu
2:00 – 2:50 CRN 14032 – DEA 102 – Keith Dunaway – kdunaway@uoregon.edu
2:00 – 2:50 CRN 14033 – DEA 106 – David Parker – dap@uoregon.edu

Textbook: *University Mathematics I and II, Math 105/106 7th ed.* by Johnson/Mowry or *Mathematics, A Practical Odyssey*, 7th edition by Johnson/Mowry. Either text will work fine since they are both the same text and are the texts used for both Math 105 and Math 106. There is a copy of the book in the Knight Library and in the Mathematics Library (218 Fenton Hall).

Calculator: A scientific or graphing calculator is required and will be allowed on tests.

Prerequisites: The prerequisite for this course is successful completion of Math 95 or an acceptable score on the placement test.

Course Goals: This course satisfies the Bachelor of Science degree requirements at the University of Oregon. The course has three different topics.

Chapter 1 is on **Logic**. In the end the students are expected to be able to easily answer questions like this:
- Write down the negation of the following statement: *You lose if he wins.*
- True or false: $p \to (p \vee q)$ is a tautology.
- Trye or false: $(p \leftrightarrow q) \equiv ((p \to q) \wedge (\sim p \to \sim q))$.

Chapter 2 is on **Combinatorics**. In the end the students are expected to be able

to easily answer questions like this:

• Six distinct objects are to be put into four distinct boxes. Find the number of ways this can be done if: (a) there are no restrictions; (b) no box is empty.

• A group of 10 women and 9 men must select a three-person committee. (a) How many committees are possible if a committee must contain one woman and two men? (b) How many committees are possible if a committee can contain any mixture of women and men? (c) How many committees are possible if a committee must contain a majority of men? (d) How many committees are possible if a committee must contain only women?

• Find the number of (distinguishable) permutations of the letters in the word ISHKABIBBLE.

Most of the Chapter 2 will be used in the key *Chapter 3* on **Probability**. In the end the students are expected to be able to easily answer questions like this

• Five cards are dealt from a standard deck of 52 cards. Find the probability of getting a $2 + 2$ combination.

• There are two bears - white and dark. (a) What is the probability that both bears are male? (b) Assume it is known that the white bear is male. What is the probability that both of them are males? (c) Assume it is known that one of the bears is male. What is the probability that both of them are males?

• You bet that you can roll at least one 6 in four rolls of a die. What is the probability of winning.

• True or false: if the events A and B are independent, then A and B' are also independent.

Attendance: Attendance is required, since the most important material, as well as key concepts, vocabulary, and examples, will be emphasized in class. Absences (and tardiness) are probably the main reason people fail this course. If you do miss a class, it is your responsibility to find out what you missed and obtain notes from a classmate.

Homework: Homework will be collected weekly at discussion sections. There will be time at the beginning of discussion sections for homework questions. Any further questions you have can be addressed during TA's or instructor's office hours. Not all of the assigned problems will be graded. Each week, I will randomly choose some problems to be graded for accuracy. You have to show work to get credit.

Worksheets: Thursday discussion classes will be a combination of answers to your homework questions and worksheets. Worksheets will be collected and graded.

Exams:

Midterm I: Tuesday, October 29 (30% of your grade)

Final Exam: Monday, December 9th, 8:00-10:00 (30% of your grade)

Grading:

Homework/Worksheets − 40%

(HW and WS scores are all 20 points each. 2 lowest scores will be dropped)

Midterm Exam − 30%

Final Exam − 30%

NOTE (on all homework, worksheets, and exams): Unless you have a documented excuse, no late work will be accepted and no make-up exams will be given.

Grading Breakdown: A: 90% or better, B: 80% -89%, C: 70%-79%, D: 60%-69%, F: below 60%. Plus grades will be awarded when the last digit is 8 or higher (98%-100% is an A+). Minus grades will be given if the last digit is either a 0 or 1. Your final percentage will be rounded to the nearest whole number. You must get at least 70% to receive a pass (P) grade (if you are taking this course with the Pass/No Pass option).

Math 105 Fall 2013 Tentative Class Schedule:

Week	Sections Covered	Discussion
1	1.1, 1.2	Worksheet # 1
2	1.3, 1.4	Worksheet # 2
3	1.5, 2.1	Worksheet # 3
4	2.2, Review for Exam	Worksheet # 4
5	Midterm Exam, 2.3	Worksheet # 5
6	2.4, 2.5	Worksheet # 6
7	3.1, 3.2, 3.3	Worksheet #7
8	3.4, 3.5	Worksheet #8
9	3.6, Thanksgiving	no discussion
10	3.7, Review for Final	Worksheet #9
11	Final Exam (on chapters 2 and 3)	

Important Dates:

- Monday of the 2nd week – last day to drop without a 'W'

- Wednesday of the 2nd week – last day to add a class

- Sunday at the end of the 7th week – last day to drop the course or change your grading option to P/N.