MTH 355 SECTION 001 DISCRETE MATHEMATICS - 3 CREDITS - WINTER 2016

Class Meetings TR 10:00AM - 11:20AM in KIDD 278

Instructor Chris Jennings-Shaffer

- Office: KIDD 268 (early January), KIDD 312 (beginning late January)
- E-mail: jennichr@math.oregonstate.edu
- Office Hours: Wednesday 4:00PM - 4:50PM, Thursday 11:30AM - 12:20 PM, Thursday 4:00PM - 4:50PM

Required Text A Discrete Transition to Advanced Mathematics by Richmond and Richmond

Prerequisites MTH 253 and MTH 341 recommended

Webpage http://people.oregonstate.edu/~jennichr/MTH355W16/
This page will be updated throughout the course.

Attendance Regular attendance is expected

Honor Code Students are expected to be familiar with the Oregon State University’s Student Conduct Code. The code of conduct can be found at http://studentlife.oregonstate.edu/studentconduct

Students with Disabilities Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

Course Description This is a one quarter course in discrete mathematics. In this course you will learn various techniques, framed in the context of discrete mathematics, as part of the transition from lower division to upper division classwork. Topics include sets and logic, quantifiers, proof techniques (including mathematical induction), basic counting principles, elementary combinatorics, the binomial theorem, equivalence relations, and functions. Time permitting, we will also investigate recurrence relations, generating functions, and graph theory.

Learning Outcomes Upon completing MTH 355 a successful student is expected to be able to do the following:

- construct simple proofs,
- construct an inductive argument,
- solve combinatorics problems and be familiar with the binomial theorem,
- understand properties of functions and their inverses, and
- be able to identify and understand relations and their properties (in particular equivalence relations).

Course Assessment Your overall grade will be determined by the following:

- Homework 20%
- Quizzes 10%
- Class Participation 20%
- Midterm Exam 20%
• Final Exam 30%

**Homework** Homework will be assigned weekly. While students may collaborate with others, each student must write up their own solutions independently. All homework should be written clearly and in the form of full sentences. Late homework will not be accepted.

**Quizzes** Approximately every other week there will be a short in class quiz on Thursday.

**Class Participation** On most Thursdays you will spend the part of class working in groups on worksheets, discussing homework, and other projects. Being able to communicate mathematical ideas is of great importance, so students are required to form groups rather than work individually. Also to facility a diverse experience and eliminate people settling into specific roles in groups, the groups will be assigned and changed each time.

**Exams** We will have one midterm examination in class, tentatively scheduled on Tuesday February 16th. We have a final examination on March 14th from 9:30AM - 11:20AM at a location to be determined.

**Faculty Evaluations** You are strongly encouraged to complete an evaluation of the course at the end of the quarter. The online Student Evaluation of Teaching form will be available in week 9 and close at the end of finals week. Students will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. Students will log in to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted. Course evaluation results are very important and are used to help improve courses and the learning experience of future students. Results from questions are tabulated anonymously and go directly to instructors and unit heads/supervisors. Unless a comment is “signed”, which will associate a name with a comment, student comments on the open-ended questions are anonymous and forwarded to each instructor. “Signed” comments are forwarded to the unit head/supervisor.