

COURSE OUTLINE
MT. HOOD COMMUNITY COLLEGE DISTRICT
Gresham, Oregon 97030

* New _____
 * Revised 09/20/2007
 * Review only (no changes) _____
 (Date)

* COURSE TYPE Please check appropriate box:

- Lower Division Collegiate
 Occupational Supplementary
 Occupational Preparatory
 Other Education, Including General Ed & Adult Ed

COURSE TITLE Probability and Statistics I

COURSE NUMBER MTH 243 COURSE CREDIT 4

* Lecture Hours 4 | _____ Lab Hours _____ | _____ Seminar Hours _____ | _____
 Wkly/Term Wkly/Term Wkly/Term

* GRADING STATUS:

- Letter Grade Only
 S/U Only
 Optional
 No Grade

* HEADCOUNT LOADING:

- Yes
 No * Factor _____

Guided Studies Requirement:
 Student must be proficient in:

- Reading (RD90)
 Writing (WR90)
 Mathematics (MTH20)
 Not applicable

For Instruction Office Use Only General Education Category Apply general requirement or distribution to:		
AA _____	AS _____	AS/OT-Bus _____
AAS _____	AGS _____	
VP Approval _____	Date _____	

Mathematics Department 09/20/07

1) Prepared by _____ Date _____

4) Approved by Dean _____ Date _____

2) Approved by Distance Education Admin. _____ Date _____

5) Curriculum Committee _____ Date _____

3) Approved by Department Chair _____ Date _____

6) Approved by VP for Student Learning _____ Date _____

* See legend/definition for explanation

COURSE DESCRIPTION: (for catalog)

This course is a descriptive statistics course including frequency distributions, common measures of central tendency and variability with elementary concepts of probability. Certain probability distributions such as the normal and binomial distributions are covered. The Central Limit Theorem is included, as are confidence intervals for the mean and for the population proportion. Some computer software experience is provided. A graphing calculator (TI-83+ or TI-84) is required, and a computer lab component is incorporated.

PREREQUISITE:

MTH 105 with a C or better or MTH 111 with a grade of C or better

INSTRUCTIONAL MATERIALS REQUIRED OF STUDENT: (text, supplies, etc.)

Text, Graphing calculator

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. **Communicate** statistical concepts effectively (orally and in writing).
2. **Critique** statistical representations of data that are presented in a misleading way.
3. **Characterize sets of data** using descriptive statistics.
4. **Construct graphs** that effectively represent data sets.
5. **Calculate probabilities** for simple and complex events, using both formal and conceptual approaches.
6. **Identify various distributions**, including the normal distribution, the binomial distribution and the uniform distribution.
7. **Determine probabilities** for normally or binomially distributed events.
8. **Identify** the appropriate sample estimator for the mean, population proportion and population variance.
9. **Apply the Central Limit Theorem** to find probabilities of events described as sample means.
10. **Create and interpret confidence intervals** for the mean and the population proportion.
11. **Determine sample sizes** required to achieve a given margin of error.
12. **Utilize technology** to prepare statistical reports.
13. **Interpret** the output of statistics software.

EVALUATION PROCESS:

Passing this course with a C or better serves as a prerequisite for Math 95.

Grades are based on a balanced variety of grading opportunities spread throughout the term. Although a student may not experience every method below, a variety of assessment methods will be used by the instructor. Student evaluation will include problems or activities that incorporate and integrate several outcomes, and closely resemble situations that exist in the real world.

- Worksheets
- Projects
- In-class Individual Exams
- In-class Team Exams
- Take-Home Individual Exams
- Take-Home Team Exams
- Writing Assignments
- Daily Homework
- Attendance
- Student collaboration (teamwork)/Participation

