



## **MAT 120**

### **Probability and Statistics**

3 credit hours

3 contact hours (3 lecture hours, 0 lab hours)

**Catalog Description** This course includes introductory probability and statistics, including organization of data, sample space concepts, random variables, counting problems, binomial and normal distributions, Central Limit Theorem, confidence intervals and test of hypothesis for large and small samples, type I and II errors, linear regression, and correlation.

**Prerequisite** MAT 101 (C or higher) or appropriate placement score

### **Textbook and Required Materials**

*Elementary Statistics, 4th edition*, by Larson and Farber (Pearson)

Calculator (The department recommends the TI-83, TI84 or TI34II, and will provide appropriate instruction; some specified sections use only the TI83 or TI84.)

### **Core Curriculum Competencies**

All courses approved for the general education core curriculum develop a student's critical thinking and/or communication skills.

This course develops critical thinking skills through instruction that emphasizes the understanding of mathematical concepts and the ability to apply these concepts to solving a problem. This will be demonstrated by assessments at the end of each unit and on the common final exam. The student will demonstrate the following critical thinking objectives:

- Work with descriptive statistics by constructing and interpreting statistical charts and tables and by computing standard statistical measures for sets of data using accepted statistical theorems and principles in a logical manner.
- Work with probabilities and probability distributions by computing probabilities of simple and compound events and by solving problems dealing with the binomial distribution, normal distribution, and distribution of sample means using accepted statistical theorems and principles in a logical manner.
- Work with inferential statistics by finding and explaining a confidence interval for a population mean and by formulating and testing hypotheses and explaining conclusions using accepted statistical theorems and principles in a logical manner.

This course develops communication skills through instruction that emphasizes the presentation of mathematical ideas in appropriate, clear, and precise mathematical language. The student will demonstrate the following communication objectives:

- Interpret and explain solutions of the types to problems listed above using clear, appropriate, and precise statistical symbols and terminology.

**Grading System and Policy** The College-wide grading scale is

91-100 = A, 81-90 = B, 71-80 = C, 65-70 = D, below 65 = F

There will be a comprehensive departmental final exam, which everyone must take (no exemptions), and which counts 25% of the final grade. The remaining 75% will be specified by your instructor's syllabus addendum.

**Attendance/ Withdrawal** Before attending classes, you must meet all prerequisites and officially register for all courses. Prompt and regular attendance is your responsibility. You are responsible for all material covered and all assignments made in class. Any time you are absent from a class, laboratory or other scheduled events, it is your responsibility to make satisfactory arrangements for any make-up work permitted by the instructor. An absence is defined as nonattendance for any reason, including illness, emergency or official leave. If you arrive late to class, you may not be allowed into the classroom and may be considered absent for that period. If you leave before the

instructor dismisses class, you may also be considered absent. All class sessions are important. Any time you miss a class you increase your risk of making a failing grade.

If you quit coming or participating in the course and do not officially withdraw by the withdrawal date for each semester, you will receive a grade of *F*. Your instructor cannot assign a grade of *W*. If you receive financial aid or veterans' aid, your aid may be revised as a result of any changes in your course schedule.

**Instructor availability** Your instructor is available to you outside of class for academic assistance. Full-time faculty members maintain and post regularly scheduled office hours. Part-time faculty members are accessible in a variety of ways, which may include conferences before and after class or by appointment, telephone conferences, and E-mail. The phone number for reaching your instructor is provided on your syllabus addendum.

**See your syllabus addendum** This is a departmental syllabus for all sections of the course. As such, it tries to address issues common to all sections. There will be issues (grading details, office hours, and the like) that are specific to your section, and these details will be covered in an addendum issued by your instructor.

### **Activated Electronic Communication Devices**

These devices, such as cell phones and pagers are NOT permitted in TTC classrooms. On-call emergency personnel are required to report to their instructors and cannot communicate by electronic means during a testing situation.

**For Students Enrolled in Online or Other Distance-Learning Sections** To confirm that you are actively involved in this course you need to contact the instructor at least once per week. Forms of contact can include (but are not limited to) posting/receiving emails, participating in online class discussions or chat rooms, and completing and submitting course assignments. Please see the instructor's addendum for any additional instructions.

**ADA Statement** The College will make reasonable accommodations for persons with documented disabilities. Students with disabilities should notify Services for Students with Disabilities (located in the Student Success Center) and their instructors of any special needs. Instructors should be notified on the first day of classes.

**Is a calculator allowed? How much memorization is required?** A calculator is not just allowed—one is expected. Don't even try to do the arithmetic by hand. Get the right calculator (see earlier) and learn to use it. We try to keep memorization at a minimum by allowing a formula sheet on tests (there is a departmental formula sheet, but some instructors prefer their own). Remember the department's attitude toward this course: We are not training future statisticians—we are exposing students from a wide variety of backgrounds to the important concepts of statistics.

### **Textbook Portions Covered**

Unit 1	Descriptive Statistics	Ch. 1, Ch. 2 (1-5), Ch. 9 (1-2)
Unit 2	Probability & Counting	Ch. 3 (1-4), Ch. 4 (1)
Unit 3	Probability Distributions	Ch. 4 (2), Ch. 5 (1-4)
Unit 4	Inferential Statistics	Ch. 6 (1-2), Ch. 7 (1, 2, 4), Ch. 8 (1)

**College Information** TTC uses Campus Cruiser e-mail as the standard communication system to send information to students and uses TTC Express to post final course grades. To access your accounts go to [www.tridenttech.edu](http://www.tridenttech.edu).

**Supplementary Help** The Learning Center (920 bldg, rm 211) offers additional resources for help with this course, including tutoring, group study sessions, videos, and publisher dvds. New texts also come with access to My Math Lab, an online homework/ tutorial/ebook resource. Contact your instructor for a CourseID if you desire to use this resource.

**Department Head** Elizabeth White at 574-6538  
**Division Admin. Asst.** 574-6015 (emergencies only)

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