MATH 1040 - Introduction to Statistics – Fall 2014

Section 03 MWF, 10:00–10:50 am, SNOW 145, CRN 44454

Instructor: Bryan Bornholdt **Phone:** 879–4256
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Office Hours: Tuesday/Thursday 10 am – Noon; 2 pm – 3 pm; or by appt.

REQUIRED MATERIALS:

- **MyStatLab Access Code** (go to the Bookstore for best price).
- OPTIONAL: The textbook: *Statistics: Informed Decisions Using Data* (4th edition) by Michael Sullivan III is available electronically within your MyStatLab account. (See 'MyStatLab Registration' under your CANVAS account for details.) You may also purchase a loose leaf or hard cover text for reading.
- Technology for this course will be provided in MyStatLab using Statcrunch. A TI 83 or 84 graphing calculator may be useful but **all homework and exams will rely on Statcrunch in MyStatLab.** You may use a calculator on exams.
- Access to the internet for course homework using MyStatLab.
- Access to CANVAS for additional course material (Power Point notes, etc.)
- Access to DMAIL for instructor correspondence.

COURSE PREREQUISITES:

One of the following requirements must have been met within the past two years:

- Passed Math 1000 or Math 1010 with a "C" or better.
- Earned ACT math score of 23 or higher.
- Earned a suitable CPT score.

COURSE DESCRIPTION

Fulfills General Education Mathematics requirement for students majoring in Communications, Social & Behavioral Sciences, Fine Arts, and Liberal Arts. Math 1040 is an introduction to the basic concepts and methods used in statistical data analysis. Course topics include descriptive statistics, sampling methods, and inferential statistics while simultaneously emphasizing problem-solving and critical thinking skills. Includes the use of technology to perform statistical calculations, organize and analyze data, and construct graphs. Required for Utah Level 2 Math Endorsement. Satisfies the Mathematics prerequisite for Psy 3000.

Furthermore, Math 1040 is a lecture course with online homework, and tests—including a **comprehensive final exam**. The basic principles learned in Math 1040 can greatly benefit everyone regardless of which future career a person chooses.

ATTENDANCE

Attendance and participation are essential aspects of the course to facilitate learning and understanding of concepts, terminology, and the use of technology. Students who fail to attend the first scheduled class meeting without notifying the instructor in advance *may* be administratively dropped by the instructor. **Students who fail to attend any classes the first two weeks MUST be administratively dropped by the instructor.**

Tardiness is strongly discouraged.

After the second week, roll will be taken on randomly selected days. Attendance records may be used in determining borderline grades. Absences due to university-sponsored activities are handled as stated in Dixie State University policy #5-23 (see http://www.dixie.edu/humanres/policy/sec5/523.html).

COURSE OBJECTIVES

To convey to students the beauty and utility of mathematics, to illustrate some of its applications in modern society as well as to foster reasoning and decision making skills for life.

Statistics is the science of collecting, organizing, summarizing, and analyzing information to make decisions. Furthermore, statistics involves providing a measure of reliability or confidence in the results. No results or decisions are definitive but are subject to a level of confidence. This distinguishes statistics from mathematics.

All classes in mathematics at Dixie State College of Utah support the general education goals of the college. Each mathematics class will foster reasoning and decision making skills by
- Employing mathematical techniques in solving computational problems
- Interpreting mathematical models, tables, and graphs
- Construct quantitative and logical arguments
- Apply mathematical knowledge to solve real-world problems
- Communicate in the mathematical language through the proper use of notation and terminology
- Explore and analyze mathematical concepts including the use of technology as appropriate

Upon successful completion of Math 1040, a student will demonstrate the ability to:
- Compute and interpret descriptive statistics, including mean, median, mode, standard deviation, and interquartile range
- Employ and interpret graphical representations of data
- Construct confidence intervals for population parameters of interest
- Determine the lower-bound for the sample size required for a specified margin of error or to satisfy other pre-determined goals
- Test null hypotheses related to the mean, the proportion, or the variance of a sample
- Test null hypotheses related to the difference in mean or the difference in proportion between two samples
- Interpret the results of null hypothesis tests, including the role of the significance level α
- Describe both the strength and direction of correlations of bivariate data
- Apply various other statistical tests, including goodness-of-fit tests, and tests for independence of random variables

HOMEWORK

Homework will be completed online using MyStatLab. You must purchase a MyStatsLab access code for the course in order to access both homework and exams. These are available at the DSU Bookstore. Computer facilities designated for student use are available throughout campus. Homework assignments are due prior to the corresponding exam. **DO NOT WAIT UNTIL THE DAY BEFORE AN EXAM TO DO THE HOMEWORK!** Plan ahead and complete assignments as early as possible.

NOTE: Successful completion of homework (70% or higher) **is REQUIRED prior to taking an exam.** If you do not complete all of the homework assignments for a given exam, you will not be able to take the exam and will receive a ZERO (0) score for that exam.

Online help, videos, examples, and solutions are available in MyStatLab. Use these features as well as class time and your instructor's office hours to understand and master the material. Working problems is the best way to demonstrate your readiness for exams.

EXAMS – All exams will be given through the Testing Center using MyStatLab

There will be four exams and a comprehensive final exam. Each student is required to take the examinations as scheduled below. Make-up exams will be given at the discretion of the instructor, and ONLY if prior arrangements have been made. There are no retakes and no exam grade will be dropped.

> **Because the final exam is comprehensive, your lowest nonzero exam score may be replaced with the percentage of the final exam.** Exam scores of zero (0) will not be replaced by the final exam.

Exam 1 (1.1 – 3.5): Sept 16 – Sept 18 (9 am – 10 pm) ******
Exam 2 (4.1 – 6.2): Oct 7 – Oct 9 (9 am – 10 pm) ******
Exam 3 (7.1 – 9.3): Nov 1 – Nov 5 (9 am – 10 pm) ******
Exam 4 (10.1 – 11.3): Nov 22 – Nov 25 (9 am – 10 pm) ******
Final Exam (12.1 – 13.1 and Comprehensive): Dec 15 – Dec 17 (9 am – 10 pm) ******
** The Testing Center will allow you to not start an exam after 9 pm

GRADING
Grades will be based on **Homework 20%, Exams 15% each, and Final Exam 20%**. Letter grades will be assigned as follows:
   A (94-100%), **A-** (90-93.99%), **B+** (87-89.99%), **B** (83-86.99%), **B-**(80-82.99%), **C+**(75-79.99%),
   C (70-74.99%), **C-**(65-69.99%), **D+**(60-64.99%), **D**(55-59.99%), **D-**(50-54.99%), **F**(0-49.99%)

DISABILITY RESOURCE CENTER
Students with medical, psychological, learning or other disabilities desiring reasonable academic adjustment, accommodations, or auxiliary aids to be successful in this class will need to contact the DISABILITY RESOURCE CENTER (DRC) Coordinator (Baako Wahabu) for eligibility determination. Proper documentation of impairment is required in order to receive services or accommodations. Visit or call 652-7516 to schedule appointment to discuss the process. DRC Coordinator determines eligibility for and authorizes the provision of services.

Policy for Absences Related to College Functions
Please refer to college student policy 5.23 Attendance.
http://www.dixie.edu/humanres/polstu.html

Important dates/deadlines
http://www.dixie.edu/reg/calendar.html

Resources
Library - http://library.dixie.edu
Writing Center - http://new.dixie.edu/english/dsc_writing_center.php
Testing Center - http://new.dixie.edu/testing
Tutoring Center - http://new.dixie.edu/tutoring/

Math 1040 Fall 2014 MWF Schedule

Dates	Monday	Wednesday	Friday	Test Dates
Aug 25, 27, 29	Intro, 1.1	2.1	2.2	
September 3, 5	**Labor Day**	3.1	3.2	
Sept 8, 10, 12	3.3	3.4	3.5	
Sept 15, 17, 19	Review	4.1	4.2	Sept 16 - 18
Sept 22, 24, 26	5.1	5.2	5.3	
Sept 29, Oct 1, 3	Supplemental	6.1	6.2	
October 5, 7, 9	Review	7.1	7.2	October 7 - 9
Oct 13, 15, 17	8.1	8.2	**Fall Break**	
Oct 20, 22, 24	Supplemental	9.1	9.2	
Oct 27, 29, 31	9.3	Supplemental	Review	Nov 1 – Nov 5
Nov 3, 5, 7	10.1	10.2	10.3	
Nov 10, 12, 14	10.5	Supplemental	11.1	
Nov 17, 19, 21	11.2	11.3	Review	Nov 22 - 25
November 25	12.1	**Thanksgiving**	**Thanksgiving**	
December 1, 3, 5	12.2	12.3	13.1	
Dec 8, 10, 12	Review for Final	Review for Final	Review for Final	
Dec 15 - 17	**FINAL EXAM**			Dec 15 - 17