

## Introduction to Statistics (3.0 Credits)

Math 1040-03 (CRN# 44349)

Fall 2015 (Aug 24, 2015 – Dec 18, 2015)

MWF 9:00 - 9:50 AM

SNOW 150

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**Office Hours:** MW 2:00pm – 2:30pm, TR 11:00am-Noon & by appointment

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### REQUIRED MATERIALS:

- MyStatLab Access Code
- **OPTIONAL:** The textbook: Statistics: Informed Decisions Using Data (4<sup>th</sup> edition) by Michael Sullivan III is available electronically within your MyStatLab account. 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 DMAIL for instructor correspondence.

**To register for MyStatLab (MSL),** go to <http://www.mystatlab.com/> and

- Under the heading “Register”, click “Student”.
- When you are asked for the CourseID enter **chellamuthu15301**
- Follow the instructions to either create an account, or sign in if you have an existing account. If you are creating a new account, you will need to purchase a student ACCESS CODE from either the publisher as you are registering or ahead of time from the bookstore. Check both places to see which is less expensive.
- When you enter your email account, please make sure you use the email that you check most often. The instructor will mainly email to your DMAIL account.
- If you have questions, please go to <http://www.pearsonmylabandmastering.com/northamerica/students/get-registered/index.html> and watch the video found by scrolling towards the bottom of the screen or you may contact customer support service (<http://www.mymathlab.com/student-support>).
- A 14-day free trial is available through the MML website.

### 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 statistical principles learned in Math 1040 can greatly benefit everyone regardless of which future career a person chooses.

### **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.

All classes in mathematics at Dixie State University support the general education goals of the university. 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 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 significance level  $\alpha$
- Describe both the strength and direction of correlation of bivariate data
- Apply various other statistical tests, including goodness-of-fit tests, and tests for independence of random variables.

**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.

It is essential that students attend class, and after the second week, roll will be taken on randomly selected days in order to ensure student attendance. Tardiness is strongly discouraged. 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 (located at <http://www.dixie.edu/humanres/policy/sec5/523.html>).

**Policy for Absences Related to College Functions:**

<http://www.dixie.edu/humanres/policy/sec5/523.html>

**HOMEWORK:**

Although this section is taught in a traditional lecture format, it also includes an extensive computer-based component. In particular, all homework assignments are to be completed online through Pearson's MyStatLab (located at <http://www.mystatlab.com/>). Some homework exercises require students to use StatCrunch (an online data analysis tool located at <http://www.statcrunch.com/>). Students must purchase access to the MyStatLab educational environment (which includes access to an electronic version of the required course text) and must also have access to a computer with an Internet connection on a daily basis. Access codes for Pearson's MyStatLab are available for purchase at the Dixie State University Bookstore (located on the second floor of the Gardner Center) or online at <http://www.mystatlab.com/>.

Computer facilities designated for student use are available throughout campus.

**ACADEMIC INTEGRITY:**

Students are expected to uphold the highest standards of academic integrity. Section 4, Article XI of Dixie State University Policy #5-33 (located at <http://www.dixie.edu/humanres/policy/sec5/533.html>) outlines the standards of student academic conduct. While students are encouraged to collaborate on homework assignments, their submitted work should accurately reflect the results of their individual efforts. Students must do their own work during exams. Talking, having discussions, comparing papers, copying, and collaborating are not allowed on exams. The use of notes, unapproved calculators, and communication devices such as cell phones is also prohibited during exams. Academic dishonesty will result in the failure of written work and may lead to failure of the course and/or university disciplinary action.

**Pop quizzes (in class):**

There might be few pop-up quizzes given randomly during the lecture in class. Pop quizzes may be given anytime during the class period; therefore, please be on time and plan to attend the entire period. Late arrivals or early departures that miss a quiz will not be permitted a makeup. If you anticipate having to leave class early, please notify me in advance before the beginning of class. Regular attendance is crucial for success in this course.

**EXAMS:**

All exams (including the final exam) are administered in the Dixie State University Testing Center (<http://www.dixie.edu/testing> located in the North Plaza Building) via the use of Pearson's MyStatLab (located at <http://www.mystatlab.com/>). There will be four midterm exams and one (comprehensive) final exam. Students are required to achieve a score of 70% or higher on all of the homework sets associated to any given exam prior to taking that exam. *Students who fail to achieve a score of 70% or higher on all of the homework sets associated to a particular exam will receive no credit for that exam.*

Exams are administered according to the following schedule:

Midterm I (1.1 – 3.5): 9:00AM-9:00PM (Sept 15 – 19)

Midterm II (4.1 – 6.2): 9:00AM-9:00PM (Oct 7 – 11)

Midterm III (7.1 – 9.3): 9:00AM-9:00PM (Oct 30 – Nov 3)

Midterm IV (10.1 – 11.3): 9:00AM-9:00PM (Nov 20 – 24)

**Final Exam (12.1 – 13.1 and Comprehensive): Dec 14 - 18 @ Testing Center.**

Make-up exams are given only in extenuating circumstances, and only if prior arrangements are made. The instructor reserves the right to make evaluations on a case-by-case basis.

**GRADING:**

Homework/Pop Quizzes	20%	94 - 100%	A
Midterm I	15%	90 - 93%	A-
Midterm II	15%	87 - 89%	B+
Midterm III	15%	83 - 86%	B
Midterm IV	15%	80 - 82%	B-
Final	20%	75 - 79%	C+
		70 - 74%	C
		65 - 69%	C-
		60 - 64%	D+
		55 - 59%	D
		50 - 54%	D-
		0 - 49%	F

**Respect for Others:** Please plan to arrive on time and be prepared to work (i.e., have your pencil, eraser, book, paper, homework, and calculator). Additionally, please feel free to offer your opinions and questions to the class, but do not carry on side discussions.

**Cell phones should be turned off during class and please refrain from text messaging.** In general, students may not engage in an activity which the instructor deems disruptive or counter-productive to the goals of the class. Instructors have the responsibility to remove offending students from the class. Repetition of offensive behavior may result in expulsion from the class.

**Dishonesty:** Dishonesty will not be tolerated in any form. Any student cheating on a test will receive a zero. Giving as well as receiving information is dishonest, so be aware of those around you while taking tests.

<http://www.dixie.edu/humanres/policy/sec3/334.html>. Instructors are required, by college policy, to report dishonesty to the student conduct committee.

**Disability Resource Center (DRC):** If you are a student with a medical, psychological, or learning disability or think you might have a disability and would like accommodations, contact the Disability Resource Center (652-7516) in the North Plaza. The Disability Resource Center (<http://dixie.edu/drcenter/>) will determine eligibility of the student requesting special services and determine the appropriate accommodations related to their disability.

**Title IX Statement:** DSU seeks to provide an environment that is free of bias, discrimination, and harassment. If you have been the victim of sexual harassment/misconduct/assault we encourage you to report this. If you report this to a faculty member, she or he must notify our college's Title IX coordinator about the basic facts of the incident.

**Writing Center:** The Writing Center is located on the fourth floor of the Holland Centennial Commons if you need assistance with a written assignment in any class. For more information go to [http://dixie.edu/english/dsc\\_writing\\_center.php](http://dixie.edu/english/dsc_writing_center.php)

**Tutoring Center:** The Tutoring Center is located on the fourth floor of the Holland Centennial Commons. Drop-in mathematics tutoring is available. More information is available at <http://dsc.dixie.edu/tutoring/index.htm>

**Testing Center:** <http://dixie.edu/testing>

**Computer Lab:** The Computer Lab is located in the Smith Computer Center. For more info go to <http://dixie.edu/cit/cis/>

**Dmail:** You are required to frequently check your Dmail account. Important class and university information will be sent to your Dmail account, including DSU bills, financial aid/scholarship notices, notices of cancelled classes, reminders of important dates and deadlines, and other information critical to your success at DSU and in your courses. To access your Dmail account, visit [go.dixie.edu/dmail](http://go.dixie.edu/dmail). If you do not know your Dmail username or you have forgotten your PIN, visit [go.dixie.edu/mydixie](http://go.dixie.edu/mydixie) and follow the respective instructions.

**MyMathLab (MML):** Please make sure you check your MML account frequently. Go to <http://www.mymathlab.com/> to access MML.

**Withdrawing from or dropping a class:** If you never attend a class, the instructor may withdraw you from it. If you attend even one day, the instructor cannot withdraw you from the class. Since not all instructors will withdraw you for non-attendance, you should take care of that transaction for yourself by going to the registration window. If you quit attending and do not withdraw from the class, you will receive an F or WF which averages into your GPA as an F.

**Changing your schedule:** It is your responsibility, as the student, to ensure the accuracy of your class schedule. Be sure to check at the beginning of the semester and after every change you make to your schedule. Run a hard copy and keep it!

**Complete Withdrawal:** Dropping all classes by phone or online does not withdraw you from the college and you may receive all F's. You must contact the Advisement Center, complete a withdrawal form, and surrender your student ID card

**Changes:** Although unlikely, this syllabus and/or the assignment schedule may be changed if deemed necessary by the instructor. All changes will be announced in class and/or sent to you via MML.

**Important Dates:** <http://new.dixie.edu/reg/?page=fall2015>

### **CLASS SCHEDULE:**

The (tentative) schedule for the class is as follows:

Dates	Monday	Wednesday	Friday	Test Dates
Aug 24, 26, 28	Intro/1.1	1.1/2.1	2.2	
Aug 31, Sep 2, 4	2.2/3.1	3.2/3.3	3.3/3.4	
Sep 7, 9, 11	LABOR DAY	3.4	3.5	
Sep 14, 16, 18	REVIEW 1	4.1	4.1/4.2	Sept 15 - 19
Sep 21, 23, 25	4.2	5.1	5.2	
Sep 28, 30, Oct 2	5.3	SUPPLEMENTAL	6.1	
Oct 5, 7, 9	6.2	REVIEW 2	7.1	Oct 7 - 11
Oct 12, 14, 16	7.2	8.1	FALL BREAK	
Oct 19, 21, 23	8.2	SUPPLEMENTAL	9.1	
Oct 26, 28, 30	9.2	9.3	REVIEW 3	Oct 30 – Nov 3
Nov 2, 4, 6	10.1	10.2	10.3	
Nov 9, 11, 13	10.5	SUPPLEMENTAL	11.1	

Nov 16, 18, 20	11.2	11.3	REVIEW 4	Nov 20 - 24
Nov 23, 25, 27	12.1	THANKSGIVING	THANKSGIVING	
Nov 30, Dec 2, 4	12.2	SUPPLEMENTAL	13.1	
Dec 7, 9,11	FINAL REVIEW	FINAL REVIEW	FINAL REVIEW	
<b>Dec 14, 16, 18</b>	<b>FINAL EXAM</b>			<b>Dec 14 - 18</b>