

MATH 1040 INTRODUCTION TO STATISTICS Spring 2020

REQUIRED MATERIALS:

TEXT: Fundamentals of Statistics, 5th Edition, Michael Sullivan

CALCULATOR: A graphing calculator with statistical functions. (TI-84 recommended)

COURSE DESCRIPTION: This course is a study of statistics using exploration and data. As this is an introductory course, there is emphasis on terminology as well as basic concepts. Common sense and intuition will be nearly as useful as experience and background. Statistics used to describe (descriptive), statistics used to predict (inferential), and probability are three major themes in this course.

Learning activities will include homework, activities, group problem solving, projects, tests, etc. We will examine statistics by looking at data and making decisions and interpretations, with the numerical analyses being done by calculator or computer.

CLASS RULES:

Each student is expected to conduct himself/herself in a mature respectable manner. Any student whose behavior is unacceptable will be warned. If inappropriate behavior continues, administrative actions will be taken. Disrespect for the rights of others will not be tolerated. The following classroom rules will be adhered to

- 1. Follow all Jordan District and Copper Hills High School policies and guidelines.
- 2. Be honest and respectful. Failure to follow procedures during a test is considered cheating. Other forms of academic dishonesty, including plagiarism, are considered cheating. Penalties for cheating are severe. The result will be a zero that cannot be made up.
- Come to class prepared and ready to learn.

<u>PARENTS and STUDENTS</u>: Unauthorized use of electronic devices are NOT allowed in our classrooms. This also applies to students with headphones in their ears.

- 1. This statement is our students 1st warning with a reminder of the school-wide policy.
- 2. 2nd Offense: we will place phones in a secure area in the classroom until the end of class.
- 3. 3rd Offense: the phone will be removed and given to the appropriate VP and be available to pick up after school.
- 4. Subsequent offenses: same as 3^{rd} with which a Parent will have to come meet with the VP and student in order to retrieve the phone.
 - The student will be referred to administration for insubordination during enforcement of the school cell phone policy.
 - Example: If a student refuses to give up the cell phone they will be referred to administration for violation of the school-wide cell phone policy.

COURSE OBJECTIVES: Upon completion of this course students will be able to:

- 1) Understand the process of statistics and its relation to decision making
- 2) Effectively summarize data
- 3) Calculate and interpret probabilities
- 4) Understand and use probability distributions
- 5) Understand the concept of a sampling distribution and the results of the Central Limit Theorem
- 6) Perform and interpret a linear regression analysis
- 7) Understand ideas of statistical inference including estimation and hypothesis testing
- 8) Organize and communicate their statistical work clearly and logically, using correct notation and precise explanations

PREREQUISITES: Within the past year you must have completed an intermediate algebra course (such as Math 0980 or Math 1010), with a grade of C or better. Acceptable

substitutions for this course are an appropriate Accuplacer, ACT, or SAT math score, also within the past year. Additionally, RDG 0900 with a grade of C or better, or an appropriate Accuplacer, ACT, or SAT reading score. If you do not have documentation for these prerequisites, you should enroll in a math class more appropriate for your background.

SLCC is committed to fostering and assessing the following student learning outcomes in its programs and courses:

- Acquiring substantive knowledge in the field of their choice
- Developing quantitative literacy
- Developing the knowledge and skills to be civically engaged
- Thinking critically
- Communicating effectively

Collaboration: Students benefit from collaboration with their peers. During the course of this collaboration students in this class may view and/or evaluate the work of their peers. If you feel your child would not benefit from such collaboration, please inform me. Student information and grades will be kept confidential and will not be shared without the necessary authorization as per FERPA Regulations – See JSD Policy.

ATTENDANCE: Class attendance is expected. Regular attendance is essential to achieve satisfactory results. It is the student's responsibility to be aware of all material covered, test dates, and assignment due dates and to make it up!

- Tardy students should go to class. Students check in the attendance office only with a parent note.
 - Punctuality is an important life skill and tardiness is extremely disruptive to the educational process. The school-wide policy for tardies will be followed.
- The complete attendance policy can be found at http://copperhillhigh.org/resources/handbook/#attendance policy

Dress Code: School dress code policy will be followed.

TEACHER AVAILABILITY: Teachers are available for extra help or for conferences, on Monday through Thursday mornings 7-7:30 a.m. and when available, Monday through Friday from 2:30-3:00 p.m. If you would like to set up a conference, please call 256-5300 or contact me by e-mail.

Contact Information:

n: Copper Hills High Phone: 801-256-5300 susan.nelson@jordandistrict.org

Students may also access my website for pertinent information.

Class Website:

http://learningwithnelson.weebly.com

COURSE STRUCTURE and ASSESSMENTS

GRADING: Course grades will be assigned according to this scale:

| Α | 93-100% | С | 73-76% |
|----|---------|----|-----------|
| A- | 90-92% | C- | 70-72% |
| B+ | 87-89% | D+ | 67-69% |
| В | 83-86% | D | 63-66% |
| B- | 80-82% | D- | 60-62% |
| C+ | 77-79% | Ε | Below 60% |

The grade you earn will be recorded on your SLCC transcript. Grades are not negotiable. No work will be accepted after the last day of class. Limited, if any, extra credit opportunities may be

available. If you need to achieve a certain grade in this course be careful to complete all assignments, plan appropriate time for studying, and get help as needed so that you achieve your goal.

ASSESSMENTS: Your grade will be based on an accumulation of scores as follows:

| Homework | 20% |
|---------------------|-----|
| Activities/Projects | 10% |
| Quizzes | 5% |
| Mid-term Exams (4) | 40% |
| Final Exam | 25% |

HOMEWORK: The assigned homework exercises are the required minimum for you to demonstrate the learning objectives of the course and the mastery of the course concepts. You are encouraged to work more exercises than those assigned. Regular practice is essential in learning statistics. You should be prepared to spend at least two hours studying outside of the class for each hour you spend in class. Many students find that much more time is required in order to perform as well as they desire on exams. Some instructors will require homework to be submitted online. Details of how and when homework is due will be discussed in class.

ACTIVITIES/PROJECTS: Throughout the semester various activities are assigned. These will allow you to engage with the course material, explore applications, learn to use technology for statistical analyses, and practice statistical reasoning and reporting. Some of these may be quite short, some will take longer.

Your instructor will let you know which of these projects to post in your SLCC ePortfolio. Along with a polished final draft of the project, you will include a summary reflection paper. Your paper will be one page double spaced. You may use one or more of the following ideas to build your reflection paper.

- What have you learned?
- Discuss how the mathematics and statistics skills that you applied in this project will impact other classes you will take in your school career.
- Identify specific parts of the project and your own process in completing it that may have applications for other classes.
- Discuss how the project helped to develop your problem solving skills.
- Discuss how this project changed the way you think about real-world statistics
 applications. If your thinking was not changed, then discuss how the project supported
 your views about real-world math applications. (Note that the question is not about YOUR
 individual life or career. While you may include that if relevant, the question is about the
 broader world.)

General Education ePortfolio—Each student in General Education courses at SLCC maintains a General Education ePortfolio. Instructors in every Gen Ed course will ask you to put at least one assignment from the course into your ePortfolio, and accompany it with reflective writing. It is a requirement in this class for you to add to your ePortfolio, and this syllabus details the assignments and reflections you are to include. Your ePortfolio will allow you to include your educational goals, describe your extracurricular activities, and post your resume. When you finish your time at SLCC, your ePortfolio will then be a multi-media showcase of your educational experience. For detailed information visit: http://www.slcc.edu/gened/eportfolio or http://eportresource.weebly.com

If you would like in-person help with your ePortfolio please visit an ePortfolio Lab on the Taylorsville-Redwood, Jordan, or South City Campus during business hours, and staff will help

you. No appointment necessary. For lab hours and locations please look at the following site: http://eportresource.weebly.com/lab-information.html. For Digication tutorials, please go to the following site: https://slcc.digication.com/slcc_digication_tutorials/Welcome/

Questions regarding the ePortfolio can be directed to Emily.Dibble@slcc.edu.

MID-TERM EXAMS:

The midterm exams will be paper/pencil exam. The majority of the test questions will not be multiple choice, but will require you to carefully show your work. You may earn partial credit on these questions. Show all steps toward your final solution clearly and concisely. Answers with no logical steps or work that cannot be read or clearly followed will be marked incorrect.

FINAL EXAM:

The final exam for Math 1040 will be a paper/pencil comprehensive departmental examination emphasizing topics listed under the course objectives. You will have 120 minutes to complete the exam. More information is available in your CANVAS course.

It is an SLCC Math Department policy that students attaining a score of less than 60% on the final shall receive a grade no higher than "D" for the course.

POSTING OF GRADES: Grades will be posted in your SLCC MyPage account by the end of the semester.

SUCCEEDING IN A MATH CLASS

Statistics is a challenging course, however there are many available resources to help you succeed.

STRATEGIES FOR SUCCESS:

PUT IN THE TIME, STAY ON SCHEDULE! It is very important in this class that you set aside time each day to work on the course so that you can remain on schedule. You can do a better job at both understanding and retaining the material if you learn at an even pace. Trying to "cram" too much in one sitting will result in frustration and lower retention of the material. Recognize that you need time both to learn the material and time to complete your homework, etc. It will take a significant investment of time each day to be successful in this course. It is important that you have the course calendar readily available and refer to it frequently.

LEARN HOW TO LEARN AND WHERE TO GET HELP As with any math course, you need to find the <u>best way for you to learn</u> the concepts and skills. There are many options, including reading the textbook, taking notes, listening to an audio lecture, watching a video lecture, and many others. It is also crucial that you <u>seek help when you need it</u>. At the very beginning of the course you should spend time familiarizing yourself with available resources.

The STEM Learning Resources department works in collaboration with the Mathematics department to provide a variety of free academic support services. These services include tutoring, workshops and project-based learning. For times and locations please go to this website: http://www.slcc.edu/stem/hours.aspx

CALCULATOR: Help in learning to use a calculator (and some math software) is available in the graphing utilities appendix in your textbook, in the *MyStatLab* site if your instructor uses online homework (see the "Tools for Success" folder), in the campus math lab or Learning Centers.

USE THE SLCC RESOURCES General Learning Support & Tutoring Services provide support for SLCC students enrolled in any class at the College. All resources are provided free-of-charge. Ask your instructor about discipline-specific learning support and tutoring services.

Tutoring: index of all tutoring resources.

STEM Learning Centers: provide free assistance in Math, Science, Accounting, CSIS and Allied Health Classes at 6 campus locations.

Student Writing Center: provides in-person and online feedback on all writing assignments. **Academic Literacy Center**: provides tutoring in reading and conversation.

Library Services: provides research help, print and online resources, computers and study space.

ePortfolio Lab: provides drop-in assistance for all ePortfolio questions.

eLearning Support: provides support for navigating online and hybrid classes.

Business Resource and Innovation Center: provides tutors and a study space for students in Business and CSIS courses.

STANDARDS and INFORMATION

Permanent Folder: To minimize the possibility of computer or human error all graded homework, projects, exams, and other course work should be kept by the student until you have received your final grade for the course.

Add Policy: Students may add courses through February 4th.

Drop Policy: Students may drop from the course (with refund) through February 11th.

Withdraw Policy: Students may withdraw (no refund) from the course through April 1st.

Electronic Devices in the Classroom: No video or audio recording in the classroom is allowed without written authorization from the instructor. Cell phones and other electronic devices should be in silent mode and should not be on the desk during lectures, tests, and final exam. In case of emergency, students should exit the classroom before they email, text, or use their cell phones. If students choose to use a computer or electronic device to take notes, they may do so without distracting their classmates. Computer activities that are not related to the class directly should not be done during class time. Students who text, talk on their cell phone, or use their devices to do activities not directly related to the class may be asked to leave the classroom.

Student Code of Conduct Statement

The student is expected to follow the <u>SLCC Student Code of Conduct</u>.

The Disability Resource Center

SLCC values inclusive learning environments and strives to make all aspects of the College accessible to our students. If you have a disability and believe you need accommodations to improve access to learning materials or the learning environment, please contact the Disability Resource Center: (phone) 801-957-4659; (email) drc@slcc.edu; (website) www.slcc.edu/drc.

Department and College Policies: Read and follow the regulations set forth in the current Class Schedule for this semester, in the SLCC college catalog, and on the Mathematics Department website http://www.slcc.edu/math/policies.aspx.

General Education Statement This course fulfills the Quantitative Literacy requirement for the General Education Program at Salt Lake Community College. It is designed not only to teach the information and skills required by the discipline, but also to develop vital workplace skills and to teach strategies and skills that can be used for life-long learning. General Education courses teach basic skills as well as broaden a student's knowledge of a wide range of subjects. Education is much more than the acquisition of facts; it is being able to use information in meaningful ways in order to enrich one's life.

While the subject of each course is important and useful, we become truly educated through making connections of such varied information with the different methods of organizing human experience that are practiced by different disciplines. Therefore, this course, when combined with other General Education courses, will enable you to develop broader perspectives and deeper understandings of your community and the world, as well as challenge previously held assumptions about the world and its inhabitants.

Title IX Statement Title IX of the Educational Amendments of 1972 prohibits discrimination based on sex in any educational institution that receives federal funding. Salt Lake Community College does not tolerate sex discrimination of any kind including: sexual misconduct; sexual harassment; relationship/sexual violence and stalking. These incidents may interfere with or limit an individual's ability to benefit from or participate in the College's educational programs or activities. If you have questions or concerns regarding your rights or responsibilities, or if you would like to file a Title IX complaint please contact:

Kenneth Stonebrook, J.D.
Title IX Coordinator
Salt Lake Community College
Taylorsville Redwood Campus – STC 276A
(801) 957-5027
ken.stonebrook@slcc.edu

Online Reporting Form: http://www.slcc.edu/title-ix/complaint.aspx

Students may also report incidents to an SLCC faculty or staff member, who are required by law to notify the Title IX Coordinator. If a student wishes to keep the information confidential, the student may speak with staff members of the Center for Health and Counseling, (801) 957-4268.

For more information about Title IX, go to: http://www.slcc.edu/title-ix/index.aspx

Important Information for Students

General Education

Regardless of your major, <u>General Education</u> courses build a foundation of broad knowledge and skills that help you in your further career and life.

General Learning Support and Tutoring Services General Learning Support & Tutoring Services provide support for SLCC students enrolled in any class at the College. All resources are provided free-of-charge. Ask your instructor about discipline-specific learning support and tutoring services.

Tutoring: index of all tutoring resources.

- <u>STEM Learning Centers</u>: provide free assistance in Math, Science, Accounting, CSIS and Allied Health Classes at 6 campus locations.
- <u>Student Writing Center</u>: provides in-person and online feedback on all writing assignments.
- Academic Literacy Center: provides tutoring in reading and conversation.
- <u>Library Services</u>: provides research help, print and online resources, computers and study space.
- ePortfolio Lab: provides drop-in assistance for all ePortfolio questions.
- **eLearning Support**: provides support for navigating online and hybrid classes.
- <u>Business Resource and Innovation Center</u>: provides tutors and a study space for students in Business and CSIS courses. Located in BB 226 on Taylorsville-Redwood Campus.

Advising and Counseling Support Services Advising and Counseling Support Services provide support for students enrolled in any class as the college.

- <u>Center for Health and Counseling</u>: provides health care, mental health counseling, massage therapy services and healthy lifestyle programs.
- <u>Veterans' Services</u>: assists hundreds of students in using their VA education benefits each semester.
- <u>Academic and Career Advising</u>: helps students plan, explore, make decisions, access resources and evaluate their academic and career goals.
- <u>Academic Achievement Center</u>: helps students achieve GPA requirements for graduation.