Central Connecticut State University  
Department of Mathematical Sciences

STAT 314  Introductory Statistics for Secondary Teachers  Fall 2018

Section 01  Tuesday and Thursday  1:40pm – 2:55pm

SSH 123

PREREQUISITES

MATH 218 and MATH 221.

CATALOG DESCRIPTION

Techniques in probability and statistics necessary for secondary school teaching. Topics include sampling, probability, probability distributions, simulation, statistical inference, and the design and execution of a statistical study. Computers and graphing calculators will be used. No credit given to those with credit for STAT 201, 216 or 453. Graphing calculator required.

COURSE DESCRIPTION


“The Advanced Placement Program offers a course description and exam in statistics to secondary school students who wish to complete studies equivalent to a one-semester, introductory, non-calculus-based, college course in statistics.

Statistics and mathematics educators who serve as members of the AP Statistics Development Committee have prepared the Course Description and exam to reflect the content of a typical introductory college course in statistics. The exam is representative of such a course and therefore is considered appropriate for the measurement of skills and knowledge in the field of introductory statistics.

In colleges and universities, the number of students who take a statistics course is almost as large as the number of students who take a calculus course. A July 2002 article in the Chronicle of Higher Education reports that the enrollment in statistics courses from 1990 to 2000 increased by 45 percent — one testament to the growth of statistics in those institutions. An introductory statistics course, similar to the AP Statistics course, is typically required for majors such as social sciences, health sciences and business. Every semester about 236,000 college and university students enroll in an introductory statistics course offered by a mathematics or statistics department.
Science, engineering and mathematics majors usually take an upper-level calculus-based course in statistics, for which the AP Statistics course is effective preparation”.

GOALS


“The purpose of the AP course in statistics is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students are exposed to four broad conceptual themes:

1. Exploring Data: Describing patterns and departures from patterns
2. Sampling and Experimentation: Planning and conducting a study
3. Anticipating Patterns: Exploring random phenomena using probability and simulation
4. Statistical Inference: Estimating population parameters and testing hypotheses”.

INSTRUCTOR

Dr. S. A. Lesik
MW 314
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My office hours for the Fall 2018 semester are:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
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<tbody>
<tr>
<td>Monday</td>
<td>11:30am – 2:00pm (see below for changes)</td>
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<tr>
<td>Tuesday</td>
<td>3:00pm – 4:00pm</td>
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<tr>
<td>Thursday</td>
<td>3:00pm – 4:30pm</td>
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My office hours will not be held on the following Mondays: September 24th, October 22nd, and November 26th. Instead they will be held from 11:30am – 2:00pm on the following Wednesdays: September 26th, October 24th, and November 28th.

RECOMMENDED TEXT


GRADES

Grades will be based strictly on the following criteria:

<table>
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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Three In-class Examinations</td>
<td>(20% each)</td>
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<tr>
<td>In-class Group Work</td>
<td>(10%)</td>
</tr>
<tr>
<td>Take-Home Quizzes</td>
<td>(10%)</td>
</tr>
<tr>
<td>Final Exam/Project</td>
<td>(20%)</td>
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</table>
In order to be fair to all students, extra-credit work will not be accepted at any time for any reason. As a general course policy there are no make-ups allowed for missed or late work (this also includes what some refer to as “excused” absences). There are no exceptions to this policy so please do not ask. However, if you know you are going to be out on the day when an in-class exam is scheduled, you can speak with me about trying to arrange a time to take the exam in advance. However, if such a request is made at the last minute, there is no guarantee that we will be able to find a time that fits both of our schedule, so taking in-class exams in advance with less than a one-week notice may not be able to be accommodated.

All in-class exams are closed books, closed notes, and closed friends. A formula sheet will be provided for each exam. You may also use a graphing calculator. If your grade on the final exam is greater than any single in-class exam grade, the in-class exam grade will be replaced by the grade you received on the final. If you miss an in-class exam you will receive the grade of 0 for that exam, and the grade you receive on the final exam will be averaged in for the missed exam in determining your final grade.

All in-class exams must be taken within the normally scheduled class time. Extra time on in-class exams is not available. If students have a documented disability and are allowed extended time on exams, the exam must be taken through the office of Student Disabilities Services. Students are not allowed to share calculators or notes during an exam.

In-class group assignments must be completed during the class period in which they are given. For a missed in-class group assignment, the grade of 0 will be recorded. In-class group assignments will be given randomly at the end of class. There are no make-ups for missed in-class group assignments and because they are given at random, they cannot be taken early. Take-home quizzes will be given throughout the course and will be posted on the course website the day they are handed out. Take-home quizzes cannot be handed in late under any circumstance. In calculating your final grade, I will drop the two lowest in-class group assignments and the two lowest take-home quiz grades.

Since there are dropped in-class group assignments and quizzes and the final exam/project can be used to replace your lowest in-class exam grade, excuses and doctor’s notes will not be accepted for work that is missed or late. If you have so much going on in your life that you are excessively absent and are unable to keep up with the workload within the allotted course time, you will need to seriously consider whether you should drop the course and take it at a time when you have less distracting you from your studies.

Please contact me privately to discuss your specific needs if you believe you need course accommodations based on the impact of a disability, medical condition, or if you have emergency medical information to share. I will need a copy of the accommodation letter from Student Disability Services in order to arrange your class accommodations. Contact Stephanie Scapeccia in Student Disability Services at: (860) 832-1952, Carroll Hall, Rooms 241-246, if you are not already registered with them. Student Disability Services maintains the confidential documentation of your disability and assists you in coordinating reasonable accommodations with faculty.

Cell phones, PDA’s, laptops, or other electronic devices (including classroom computers) are not to be turned on or used during exams or during class unless otherwise permitted. The exam format will be negotiated in class.
**COURSE ETIQUETTE**

All class participants will act appropriately at all times. I expect that students will work together to create a productive learning environment that includes giving others a chance to speak and respecting the rights and opinions of others. Excessive chatting and interruptions during class is a distraction to others who are trying to learn. Students who are disruptive or who do not act appropriately will be reported to the Office of Student Conduct.

**ELECTRONIC DEVICES POLICY**

Cell phones, laptops, or any personal electronic devices are not to be used during class, exams, or quizzes unless special accommodations are documented. You cannot listen to music, text, search the internet, etc., during class or during the exams. Any student who uses a cell phone or any other personal electronic device during an exam will automatically receive the grade of 0 for the exam and a report of academic misconduct will be filed.

**COMPUTING AND DATA ANALYSIS**

Statistical computing and data analysis are an integral part of statistical inference. We will be using both the TI-83/84 graphing calculators and the statistical software program Minitab throughout the course. Minitab package is available on classroom computers as well as on most computers on campus. You can also access Minitab virtually thorough the CCSU apps (http://apps.ccsu.edu). You can expect there to be some amount of take-home work that will require you to use this software.

**TENTATIVE LIST OF COURSE TOPICS**

Data Analysis  
Modeling Distributions of Data  
Describing Relationships  
Collecting Data  
Probability  
Random Variables  
Sampling Distributions  
Confidence Intervals  
Hypothesis Testing  
Comparing Two Populations  
Inference for Distributions of Categorical Data  
Regression

**STATEMENT ON DISCRIMINATION, HARRASSMENT, AND MISCONDUCT**

Central Connecticut State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon age; ancestry, color; gender identity and expression; intellectual disability; learning disability; mental disorder; physical disability; marital status, national origin; race; religious creed; sex, (including pregnancy, transgender status, sexual harassment and sexual assault); sexual orientation; or any other status protected by federal or state laws.
Any student who has concerns about this should contact the Office of Diversity and Equity (ODE) at 860-832-1652, Student Affairs at 860-832-1601, or his/her faculty member. The ODE is located in Davidson Hall, Room 102.

Central Connecticut State University (CCSU) will not tolerate sexual misconduct against students, staff, faculty, or visitors in any form, including but not limited to: sexual assault, sexual exploitation, sexual harassment or stalking, as defined in CCSU policies. For additional information, please consult the CCSU policies at http://www.ccsu.edu/diversity/policies/index.html.

To file a report, contact: Diversity and Equity (860-832-1652); Student Affairs (860-832-1601); Student Conduct (860-832-1667) or the University Police (860-832-2375). For support and advocacy, contact: Office of Victim Advocacy & Violence Prevention (Carroll Hall 248) at 860-832-3795 to speak with Sarah Dodd (sarahdodd@ccsu.edu); Student Wellness Services at 860-832-1945 (confidential), the Women’s Center at 860-832-1655, the local YWCA’s Sexual Assault Crisis Services Hotline at 860-223-1787 (confidential) and Prudence Crandall Center for Domestic Violence (confidential) at 888-774-2900 (24-hour hotline).

ACADEMIC MISCONDUCT

At Central Connecticut State University, personal integrity is fundamental to our interactions with each other. One of the purposes of a University education is for students learn to think critically, to develop evaluative skills, and to express their own opinions and voices. We place special weight on academic honesty in all of our intellectual pursuits because it is a value that is fundamental to academic life and scholarly practice. All members of the University community are obligated to uphold high standards of academic honesty in their scholarship and learning. Therefore, we expect students to take personal responsibility for their intellectual work and to respect and acknowledge the ideas of others. Academic honesty means doing one's own work and giving proper credit to the work and ideas of others. It is the responsibility of each student to become familiar with what constitutes academic dishonesty and plagiarism and to avoid all forms of cheating and plagiarism.

What is Academic Misconduct?

According to the Student Code of Conduct and Statement of Judicial Procedures, academic misconduct “includes, but is not limited to, providing or receiving assistance from another, in a manner not authorized by the instructor, in the creation of work to be submitted for academic evaluation (including papers, projects and examinations).”

“Plagiarism is defined as presenting, as one’s own, the ideas or words of another person, for academic evaluation, without proper acknowledgment. Plagiarism includes, but is not limited to: (i) copying sentences, phrases, paragraphs, tables, figures, or data directly or in slightly modified form from a book, article, or other academic source without using quotation marks or giving proper acknowledgment to the original author or source; (ii) copying information from Internet Web sites and submitting it as one’s own work; (iii) buying papers for the purpose of turning them in as one’s own work; and (iv) selling or lending papers to another person for submission by that other person, for academic evaluation, as his or her own work.”

Examples of Academic Misconduct

Exams
• Copying from another person's paper or receiving unauthorized aid from another person during an examination;
• Use of unauthorized materials or devices during an examination or any other form of academic evaluation and grading; e.g., use of signals, notes, books, or calculators during an examination when the instructor has not approved their use;
• Knowingly allowing another person to copy from one’s paper during an examination;

Improper Behavior

• Use of another person as a substitute in any form of academic evaluation or acting as a substitute for another person in any form of academic evaluation. e.g., a student cannot have another person take an examination for him/her;
• Acquisition or distribution of improperly acquired examinations; e.g., stealing examinations before the test period or taking a copy of an examination from a testing room without the permission of the instructor; (Examinations which have been distributed by an instructor are legitimate study tools);
• Submission of another's material as one’s own for academic evaluation;
• Preparation of work for another student to submit for academic evaluation;
• Unauthorized collaboration in the preparation of materials to be submitted for academic evaluation; e.g., working with another student on an assignment when the instructor has not authorized working together;
• Submission of the same work, or substantially similar work, in more than one course without prior consent of the evaluating instructor(s);
• Disruption in classroom, lab, or research and study areas; any conduct or actions that grossly or persistently interferes with the academic process. (See the CSU, Rights and Responsibilities, "Proscribed Conduct," No. 7, CCSU Student Handbook.)

Falsification or Misuse of Academic Information

• Falsification or misrepresentation of one’s own academic record or that of anyone else; e.g., altering a transcript for admission, hacking into the University's computer system and changing a grade, having another student take an examination in one’s place, signing someone else's name to an attendance sheet.
• Unauthorized use of information in University computer records or the computer files of other students (see Computer Use Policy);
• Using unauthorized materials or fabricated data in an academic exercise; e.g., falsifying data in a research paper or laboratory activity; conducting research on human or animal subjects without review by the appropriate panel or supervisor.

Plagiarism

• Copying sentences, phrases, paragraphs, tables, figures or data directly or in slightly modified form from a book, article, or other academic source without using quotation marks or giving proper acknowledgment to the original author or source.
• Copying information from internet websites and submitting it as one's own work;
• Buying papers for the purpose of turning them in as one's own work;
• Selling or lending of papers for the purpose of violating academic honesty policies (this may also be an academic crime, see Connecticut General Statutes, §53-392a.)