Carnegie Mellon
HeinzCollege

Course Information	95–796 K3: Statistics for IT Managers
	6 Unit Course
	February 2021
	
	Instructor: Janusz Szczypula
	    Office: Faculty Area, Level 1
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	Office hours: available on class website
	
	Teaching Assistants (TAs): schedule of office hours & zoom IDs will be posted to class website
	
	Lectures: Monday & Wednesday, 5:30 p.m. – 6:50 p.m. [Adelaide, Australia: (GMT+9:30)]
	Minitab Lab sessions: Saturday, 3:00 p.m. – 4:00 p.m. [Adelaide, Australia: (GMT+9:30)]
	
	Course Website: *www.cmu.edu/canvas*

Prerequisites	There are no prerequisites for this course.
Description	This introductory class in data analysis and statistical inference requires no background in statistics. Its objective is to provide students with the basic statistical tools for analyzing and interpreting data. The course is divided into three components: descriptive statistics, fundamentals of statistical inference, and regression analysis. The emphasis of the class on descriptive statistics is the calculation and interpretation of summary statistical measures for describing data. The sessions on fundamentals of statistical inference are designed to provide students with the background for executing and interpreting hypothesis tests and confidence intervals. The final component of the course focuses on regression analysis, a widely used statistical methodology. Further, to provide students with opportunity to apply the knowledge they learn from the lectures, various homework assignments will be given.

Course Materials	**Lecture Notes:**
	    Lecture notes will be provided for each class. They can be used during the semester you take the class. They cannot be shared after the class is concluded without permission of the instructor.
	
	Textbook:
	    McClave, Benson, & Sincich, "Statistics for Business and Economics," (13th Edition), Pearson Prentice Hall, 2018
	
	Software:
	    Throughout the course we will use the statistical software package Minitab.

Course Objectives		
	Objective	**How Assessed**
	Apply techniques for analyzing and interpreting data to real-world datasets relevant to IT management.	Homework Assignments, Final Exam
	Use sample characteristics, such as the mean, median, standard deviation, etc., to describe data and to estimate and summarize the distribution of the population.	Homework Assignments, Final Exam
	Perform and interpret elementary statistical inference methods (such as confidence intervals and hypothesis tests) both by hand and by using statistical tools (such as MINITAB)	Homework Assignments, Final Exam
	Use correlation and regression analysis to describe the statistical relationship among two or more random variables.	Homework Assignments, Final Exam

Evaluation Method

Student's performance in the class will be evaluated based on two components:

Homework Assignments	50%
Final Exam	50%
	100%

Homework Assignments:
The homework assignments require students to think critically when applying the concepts learnt in the lectures. The range of topics covered in the assignments includes: describing given datasets, choosing appropriate method for data analyzes, performing elementary statistical inferences, performing regression analysis, and interpreting results. Most homework problems would require using the statistical software package Minitab.

Exam:
The exam will be a comprehensive closed book, closed notes exam. The exam is to be completed individually *without* help of any other student. The date for the exam is specified in the class schedule (see below). The exam will be graded by class TAs and reviewed by the Instructor.

Final grades will be posted in the official Student Information System that can be accessed by students directly through the Internet.

Grading Scale

A+	97% – 100 %	B+	85% – 88.99 %	C+	73% – 76.99 %
A	93% – 96.99 %	B	81% – 84.99 %	C	69% – 72.99 %
A–	89% – 92.99 %	B–	77% – 80.99 %	C–	65% – 68.99 %

Scores below 65% equate to a failing grade (R)

Course Policies & Expectations	*Lectures*: While no attendance will be taken, it is in your interest to attend each lecture. Class participation is encouraged and expected. As research on learning shows, unexpected noises and movement automatically divert and capture people's attention. I encourage you to avoid any activity not related to class. Please turn off your phone notifications and limit other likely sources of technology disruption, so you can fully focus on the lectures. This will create a better learning environment for everyone. No student may record any classroom activity without the express written consent of the instructor. This is to protect your FERPA rights and those of your fellow students. If a student believes that he/she has a learning disability and needs to record classroom lectures/activities, he/she should contact the Office of Disability Resources to request an appropriate accommodation. *Missed Classes*: Students are responsible for obtaining class material, which may have been discussed on days when they are absent. This can be done through the class website, contacting a classmate who was present in class, or by contacting the instructor. *Assignments*: All assignments have due dates indicated in the class schedule and are to be submitted in a pdf format by the date and time indicated on the class website. No assignments submitted after the deadline will be accepted, unless permission is granted by the instructor prior to the due date. Late assignments, if approved, should be submitted directly to the instructor. Do not submit any late assignments to class Teaching Assistants. Each assignment must be typed, and diagrams created using PowerPoint or an equivalent tool. No collaboration in any form on assignments is allowed. It is important that the work you turn in is wholly your own. All assignments are graded by class TAs and reviewed by the instructor before they are returned to students within a week of submission. If you believe that your assignment was graded incorrectly, you may request that it be re-graded. To do this, turn in your graded assignment in question with an explanation of your arguments within a week from the time the assignment was returned to you. The entire assignment is subject to re-grading, not just the specific item(s) in question and the grade may go up or down.

	Accommodations for Students with Disabilities: If you have a disability and have an accommodation letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at access@andrew.cmu.edu. *Statement of Support for Students' Health & Well-being:* This semester is unlike any other. We are all under a lot of stress and uncertainty at this time. Attending Zoom classes all day can take its toll on our mental health. Make sure to move regularly, eat well, and reach out to your support system if you need to. We can all benefit from support in times of stress, and this semester is no exception. If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 1 412 - 268 - 2922 (CMU main campus) and visit their website at http://www.cmu.edu/counseling/. Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.

Academic Honesty and Integrity	All CMU students are expected to follow the ethical guidelines and adhere to the policies as defined in your Program's <u>Student Handbook</u> or in any other source describing such policies as they apply to students at Carnegie Mellon University. These policies and guidelines are available on the CMU web site. Please read them carefully! You will be held accountable for any violations of these policies and guidelines.
	
	Individual assignments must reflect individual effort. Although I expect you to attempt solving each problem on your own, I encourage you to seek help from the class TAs if you struggle with any assignment. Sharing your assignments with any other student in any form (whether it is a paper document, an electronic document such like a MS Word document, or a document in any other format) is not permitted and will be considered cheating. Any "discussion" between students that results in a similar HW submission is also not allowed. If you are in possession of any other person's document or file from this or any other semester, you are in jeopardy.
	
	Any violations of academic integrity in this class will have the following consequences:
	  (a) no credit for assignment in question <u>and</u> lowering final grade by one letter
	     (e.g., from B to C),
	  (b) in more serious offences, failing the class.
	
	All incidents are reported to the Office of Community Standards & Integrity at Carnegie Mellon University. Additional penalties may be imposed.