



## **HPEM 5317 Health Business Statistics**

**Credit Hours: 3**

**Semester:** Fall 2024

**Year:** 2023

**Class Days/Times:** Tuesday 6:30-9:30 Synchronous

**Location:** Online

**Instructors of Record:** Jessica Escareno Alvarado, PhD, MPH

**Office:** H243

**Office Phone:** (903) 877-7397

**E-Mail:** Jessica.escareno@uttyler.edu (Preferred contact method)

**Office Hours:** Tuesday (3-4pm) or Thursday (10-12pm) or by appointment

**Course Description:** This course presents basic statistical concepts and methods commonly used to make evidence-based decisions in business settings, with a focus on healthcare applications. This course will cover commonly used statistical tools needed by healthcare executives. During the course, techniques to collect, summarize, analyze, and interpret business related data will be reviewed. Topics in this course may include defining and formulating problems, formulating, and testing hypotheses, sampling methods and sampling distributions, creating descriptive statistics, statistical inference, and using the results to make decisions.

**Prerequisite:** None.

**Co-requisite:** None

**Student Learning Outcomes (SLO or “course objective”):** Upon successfully completing this course, the student will be able to:

- use descriptive statistics to summarize data. PLO 1.5
- use statistical tests, Chi-square, t-tests, ANOVA, and regression to discover relationships between variables. PLO 1.5
- recognize the appropriate statistical test for the data available and goal of the research. PLO 1.5
- develop competency in running statistical software. PLO 1.5
- demonstrate information literacy. PLO 1.1 and 1.2
- identify critical variables, build models, select, and run appropriate statistical tests, interpret results, and communicate findings. PLOs 1.5 and 1.10
- write and present a case analysis. PLOs 1.1, 1.2, 1.3, 1.5 and 2.1

**Linked MHA Program Learning Outcomes:** The student learning outcomes address the following MHA Program PLOs:

- PLO 1.1 - Identify appropriate sources and gather information, effectively and efficiently.
- PLO 1.2 - The student will appraise literature and data critically that enhances community health.
- PLO 1.3 - Develop, understand, and use data from performance, surveillance or monitoring systems.
- PLO 1.5 - Statistical analysis: Understand and apply basic statistical methods relevant to public health and health administration practice.
- PLO 1.10 - Decision making: Implement a decision-making process that incorporates evidence from a broad analysis that includes uncertainty, risk, stakeholders, and organizational values.
- PLO 2.1 - Convey: Speak and write in a clear, logical, and grammatical manner in formal and informal situations; prepare cogent business presentations; facilitate an effective group process

### **Required Textbooks:**

1. Kros, J. F., & Rosenthal, D. A. (2016). Statistics for health care management and administration: Working with Excel (3rd ed.). San Francisco, CA: Jossey-Bass. [K&R]
2. Bihl, T. (2017). Biostatistics using JMP®: A practical guide. Cary, NC: SAS Institute, Inc. [Bihl]



Other readings as assigned.

**Course Assessment/Methods of Evaluation:** Methods of assessing student performance in the course include Test Your Knowledge assignments, a discussion board post, two examinations and a small-group case analysis and presentation.

- Test Your Knowledge (TYK) Assignments – TYK assignments will periodically assess your grasp of course content. They may consist of problem sets, short assignments or quizzes based on in-class or asynchronous presentations. Emailed assignments will not be accepted. Late work will not be accepted.
- Discussion Board Post - Developing Analytical Context. Students will be asked to provide an original discussion board post to contribute to course context. Topics may include statistical pioneers, an overview of data sets applicable to health and human services, or contemporary issues in data analytics.
- Examinations. Two examinations will test content knowledge and application. Exams will be divided into two parts.
- Case Analysis and Presentation. Students will work in small groups to present the analysis of a data set related to health and human services.
- Extra Credit Assignments: Throughout the semester, extra credit opportunities will be available.

Assessment	Grading Scale	Percentage
Test Your Knowledge Assignments	0-100	18%
Discussion Board	0-100	2%
Exam 1	0-100	25%
Exam 2	0-100	25%
Case Analysis and Presentation	0-100	30%
Total		100%

**Course Grade Scale (points): A: 90 – 100%, B: 80 – 89%, C: 70 – 79%, F: < 70%**

### **Student Resources:**

- [UT Tyler Student Accessibility and Resource \(SAR\) Office](#) (provides needed accommodations to students with document needs related to access and learning)
- [UT Tyler Writing Center](#)
- [The Mathematics Learning Center](#)
- [UT Tyler PASS Tutoring Center](#)
- [UT Tyler Supplemental Instruction](#)
- [Upswing \(24/7 online tutoring\) - covers nearly all undergraduate course areas](#)
- [Robert Muntz Library](#) and [Library Liaison](#)
- [Canvas 101](#) (learn to use Canvas, proctoring, Unicheck, and other software)
- Digital Support Toolkit (for supported courses only. Students are automatically enrolled in the toolkit for supported courses)
- LIB 422 -- Computer Lab where students can take a proctored exam
- [The Career Success Center](#)
- [UT Tyler Testing Center](#)
- [Office of Research & Scholarship Design and Data Analysis Lab](#)

Resources available to UT Tyler Students



- [UT Tyler Counseling Center](#) (available to all students)
- [MySSP App](#) (24/7 access to Student Support Program counseling through phone or chat and online wellness resources available in a variety of languages)
- [Student Assistance and Advocacy Center](#)
- [Military and Veterans Success Center](#) (supports for our military-affiliated students)
- [UT Tyler Patriot Food Pantry](#)
- [UT Tyler Financial Aid and Scholarships](#)
- [UT Tyler Student Business Services](#) (pay or set up payment plans, etc.)
- [UT Tyler Registrar's Office](#)
- [Office of International Programs](#)
- [Title IX Reporting](#)
- [Patriots Engage](#) (available to all students. Get engaged at UT Tyler.)

## **University Policies and Information**

### **Withdrawing from Class**

Students may [withdraw](#) (drop) from this course using the [Withdrawal Portal](#). Withdrawing (dropping) this course can impact your Financial Aid, Scholarships, Veteran Benefits, Exemptions, Waivers, International Student Status, housing, and degree progress. Please speak with your instructors, consider your options, speak with your advisor, and visit the One-Stop Service Center (STE 230) or email [enroll@uttyler.edu](mailto:enroll@uttyler.edu) to get a complete review of your student account and the possible impacts to withdrawing. We want you to make an informed decision. UT Tyler faculty and staff are here for you and often can provide additional support options or assistance. Make sure to carefully [read the implications for withdrawing from a course and the instructions](#) on using the [Withdrawal portal](#).

Texas law prohibits students from dropping more than six courses during their entire undergraduate career\*. The six courses dropped includes those from other 2-year or 4-year Texas public colleges and universities. Consider the impact withdrawing from this class has on your academic progress and other areas, such as financial implications. We encourage you to consult your advisor(s) and Enrollment Services for additional guidance. **CAUTION #1:** Withdrawing before census day does not mean you get a full refund. Please see the [Tuition and Fee Refund Schedule](#). **CAUTION #2:** All international students must check with the [Office of International Programs](#) before withdrawing. All international students are required to enroll full-time for fall and spring terms. **CAUTION #3:** All UT Tyler Athletes must check with the Athletic Academic Coordinator before withdrawing from a course. **CAUTION #4:** All veterans or military-affiliated students should consult with the [Military and Veterans Success Center](#).

\* Students who began college for the first time before 2007 are exempt from this law.

### **Artificial Intelligence Statement**

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional



approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy. For this course, **AI is not permitted in this course at all.** The work submitted by students in this course will be generated by themselves. This includes all process work, drafts, brainstorming artifacts, editing, and final products. This extends to group assignments where students must collaboratively create the project. Any instance of the following constitutes a violation of UT Tyler's Honor Code: a student has another person/entity do any portion of a graded assignment, which includes purchasing work from a company, hiring a person or company to complete an assignment or exam, using a previously submitted assignment and/or using AI tools (such as ChatGPT).

### Final Exam Policy

Final examinations are administered as scheduled. If unusual circumstances require that special arrangements be made for an individual student or class, the Dean of the appropriate college, after consultation with the faculty member involved, may authorize an exception to the schedule. Faculty members must maintain student final examination papers for a minimum of three months following the examination date.

### Incomplete Grade Policy

If a student, because of extenuating circumstances, is unable to complete all of the requirements for a course by the end of the semester, then the instructor may recommend an Incomplete (I) for the course. The "I" may be assigned in place of a grade *only when all of the following conditions are met*: (a) the student has been making satisfactory progress in the course; (b) the student is unable to complete all coursework or final exam due to unusual circumstances that are beyond personal control and are acceptable to the instructor, and (c) the student presents these reasons before the time that the final grade roster is due. The semester credit hours for an Incomplete will not be used to calculate the grade point average.

The student and the instructor must submit an Incomplete Form detailing the work required and the time by which the work must be completed to their respective department chair or college dean for approval. The time limit established must not exceed one year. Should the student fail to meet all of the work for the course within the time limit, then the instructor may assign zeros to the unfinished work, compute the course average for the student, and assign the appropriate grade. If a grade has yet to be assigned within one year, then the Incomplete will be changed to an F, or NC. If the course was initially taken under the CR/NC grading basis, this may adversely affect the student's academic standing.

### Grade Appeal Policy

Disputes regarding grades must be initiated within sixty (60) days from the date of receiving the final course grade by filing a Grade Appeal Form with the instructor who assigned the grade. A grade appeal should be used when the student thinks the final course grade awarded does not reflect the grades earned on assessments or follow the grading scale as documented in the syllabus. The student should provide the rationale for the grade appeal and attach supporting document about the grades earned. The form should be sent via email to the faculty member who assigned the grade. The faculty member reviews the rationale and supporting documentation and completes the instruction section of the form. The instructor should return the form to the student, even if a grade change is made at this level. If the student is not satisfied with the decision, the student may appeal in writing to the



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Chairperson of the department from which the grade was issued. In situations where there is an allegation of capricious grading, discrimination, or unlawful actions, appeals may go beyond the Chairperson to the Dean or the Dean's designee of the college from which the grade was issued, with that decision being final. The Grade Appeal form is found in the [Registrar's Form Library](#).

NOTE: The Grade Appeal Form is different from the Application for Appeal form submitted to the Student Appeals Committee, which does not rule on grade disputes as described in this policy.

## Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA), the University of Texas at Tyler offers accommodations to students with learning, physical, and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler/> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with the Assistant Director Student Accessibility and Resources/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <https://www.uttyler.edu/disability-services>, the SAR office located in the Robert Muntz Library, LIB 460, email [saroffice@uttyler.edu](mailto:saroffice@uttyler.edu), or call 903.566.7079."

## Military Affiliated Students

UT Tyler honors the service and sacrifices of our military-affiliated students. If you are a student who is a veteran, on active duty, in the reserves or National Guard, or a military spouse or dependent, please stay in contact with your faculty member if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress. It is important to make your faculty member aware of any complications as far in advance as possible. Your faculty member is willing to work with you and, if needed, put you in contact with university staff who are trained to assist you. The [Military and Veterans Success Center \(MVSC\)](#) has campus resources for military-affiliated students. The MVSC can be reached at [MVSC@uttyler.edu](mailto:MVSC@uttyler.edu) or via phone at 903.565.5972.

## Students on an F-1 Visa

To remain in compliance with Federal Regulations requirements you must do the following:

- Traditional face-to-face classes: Attend classes on the regular meeting days/times.
- Hybrid Classes: Attend all face-to-face classes convened by the instructor according to the schedule set for your specific course.
- Online course: Only one online course can count toward your full-time enrollment. Students are expected to be fully engaged and meet all requirements for the online course.

## Academic Honesty and Academic Misconduct



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The UT Tyler community comes together to pledge that "Honor and integrity will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Therefore, we enforce the [Student Conduct and Discipline policy](#) in the Student Manual Of Operating Procedures (Section 8).

## FERPA

UT Tyler follows the Family Educational Rights and Privacy Act (FERPA) as noted in [University Policy 5.2.3](#). The course instructor will follow all requirements to protect your confidential information.

## Absence for Official University Events or Activities

This course follows the practices related to [Excused Absences for University Events or Activities](#) as noted in the Catalog.

## Absence for Religious Holidays

This course follows the practices related to [Excused Absences for Religious Holy Days as noted in the Catalog](#).

## Absence for Pregnant Students

This course follows the requirements of Texas Laws SB 412, SB 459, SB 597/HB 1361 to meet the needs of pregnant and parenting students. Part of the supports afforded pregnant students includes excused absences. Faculty who are informed by a student of needing this support should make a referral to the Parenting Student Liaison. NOTE: Students must work with the Parenting Student Liaison in order to receive these supports. Students should reach out to the Parenting Student Liaison at [parents@uttyler.edu](mailto:parents@uttyler.edu) and also complete the [Pregnant and Parenting Self-Reporting Form](#).

## Campus Carry

We respect the right and privacy of students who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>.

## Course Policies:

*Communications:* Students are responsible for monitoring Canvas Announcements, postings to the Canvas Inbox, and email on a frequent basis. The Patriot account should be used as the primary email account.

*Attendance:* Regular and punctual attendance is expected. If a student misses a class or lab, the student is responsible for obtaining any information distributed during those times. Make-ups are possible only under certain instances (labs cannot be made up). Arrangements for any make-ups and/or missed labs should be discussed directly with the instructor for that day's class.

*Participation:* Attendance and participation in class is important. Students will be frequently asked to review concepts and online presentations prior to the scheduled class, so that class time can be used for hands-on



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activities and work on assignments. Students will often be building Excel, Visio, and simulation models with the Instructor.

*Late Work Policy:* Assignments are expected to be submitted by the specified deadline. Late submissions will incur the following penalties:

- 1 day late: 10% deduction from the total possible points.
- 2-3 days late: 20% deduction from the total possible points.
- More than 3 days late: Assignments will not be accepted, and a grade of zero will be recorded.

Exceptions to this policy will only be made under extenuating circumstances, such as a documented medical emergency or other significant life events. In such cases, students must notify the instructor as soon as possible to discuss potential accommodations.

**Makeup Exam Policy:** Makeup exams are generally not offered except in cases of documented emergencies or university-approved absences. If you know in advance that you will miss an exam due to an approved reason, please notify the instructor at least one week prior to the exam to arrange a makeup.

In the event of an emergency on the day of the exam, you must contact the instructor within 24 hours to discuss your situation. Documentation will be required to support your request for a makeup exam.

Please note that makeup exams may differ in format from the original exam and must be completed within one week of the original exam date unless otherwise arranged with the instructor.

**Note: The Instructor retains the right to change this syllabus.**



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## Course Calendar

Module #	Dates	Asynchronous/Synchronous	Assigned Readings	Assignments
1	August 27	Synchronous 6:30-9:30pm	K&R: Chapter 1&2	Discussion Board due 9/2 TYK 1 due 9/3
2	September 3	Asynchronous	K&R: Chapter 3	TYK 2 due 9/9
3	September 10	Synchronous 6:30-9:30pm	K&R: Chapter 4	TYK 3 due 9/16
4	September 17	Asynchronous	K&R: Chapter 5	TYK 4 due 9/23
5	September 24	Synchronous 6:30-9:30pm	K&R: Chapter 6	TYK 5 due 9/30
6	October 1	Asynchronous	K&R: Chapter 7	TYK 6 due 10/7
7	October 8	Synchronous 6:30-9:30pm	<b>Exam 1</b>	
8	October 15	Asynchronous	K&R: Chapter 8	TYK 7 due 10/21
9	October 22	Synchronous 6:30-9:30pm	K&R: Chapter 9	TYK 8 due 10/28
10	October 29	Asynchronous	K&R: Chapter 10	TYK 9 due 11/4
11	November 5	Synchronous 6:30-9:30pm	K&R: Chapter 11	TYK 10 due 11/11
12	November 12	Asynchronous	K&R: Chapter 12 & 13	TYK 11 due 1/18
13	November 19	Synchronous 6:30-9:30pm	K&R: Chapter 14	TYK 12 due 12/2
	November 26	<b>Holiday</b>		
14	December 3	Asynchronous	<b>Exam 2</b>	
15	December 10	Synchronous 6:30-9:30pm	<b>Group Presentations</b>	
	December 17	<b>Grades due</b>		