



**Course Assessment/Methods of Evaluation:**

Assignments <sup>1</sup>	Points	Percentage
Exam 1	100	20%
Exam 2	100	20%
Exercise 1	10	2%
Exercise 2	20	4%
Exercise 3	20	4%
Exercise 4	20	4%
Exercise 5	20	4%
Exercise 6	20	4%
Exercise 7	20	4%
Exercise 8	20	4%
Exercise 9	20	4%
Exercise 10	20	4%
Exercise 11	20	4%
Exercise 12	20	4%
Exercise 13	30	6%
Exercise 14	30	6%
<u>Participation</u>	<u>10</u>	<u>2%</u>
<b>Total</b>	<b>500</b>	<b>100%</b>
Extra Credit	25	

<sup>1</sup> Assignments are due on the Wednesday at 11:00 pm following the week of assignment unless otherwise instructed. Late assignments will be penalized 5%. Assignments not turned in before the Instructor begins grading will receive a zero.

**Course Grade Scale (points): A: 450 to 500, B: 400 to 449, C: 350 to 399, F: < 350 points**

**Linked MPH Program Learning Outcomes:**

The student learning outcomes listed above address the following MPH Program PLOs:

- PLO1 - The student will demonstrate mastery in each of the five core knowledge areas in public health: Biostatistics, Epidemiology, Social & Behavioral Sciences, Health Policy and Management, and Environmental Health Sciences.
- PLO2 - The student will demonstrate proficiency in the four core functions of public health, as well as be able to explain the principles and interrelatedness of the ten essential public health services.
- PLO3 - The student will demonstrate proficiency in using multiple informational resources to gather, analyze, apply and report solutions to public health problems with a special emphasis on rural community health.
- PLO4 - The student will demonstrate proficiency in English communication in both oral (public speaking) and written forms as they pertain to conveying key concepts in public health.
- PLO5 - The student will demonstrate proficiency in using computers and other forms of digital technology and media as they pertain to research, office management and public health issues.
- PLO6 - The student will demonstrate independent and critical thinking skills.

**Linked MHA Program Learning Outcomes:**

The student learning outcomes listed on pp. 1 and 2 address the following MHA Program PLOs:

- PLO A.1 – The student will identify appropriate sources and gather information, effectively and efficiently.
- PLO A.2 – The student will appraise literature and data critically that enhances community health.
- PLO A.3 – The student will develop, understand and use data from performance, surveillance or monitoring systems.
- PLO A.5 – The student will understand and apply basic statistical methods relevant to public health and health administration practice.
- PLO A.8 – The student will analyze, design, or improve an organizational process, including the use of quality management, process improvement, marketing and information technology principles and tools.
- PLO A.10 – The student will implement a decision-making process that incorporates evidence from a broad analysis that includes uncertainty, risk, stakeholders, and organizational values.
- PLO B.1 – The student will speak and write in a clear, logical, and grammatical manner in formal and informal situations; prepare cogent business presentations; facilitate an effective group process.
- PLO B.2 – The student will receive, process, and respond appropriately to information conveyed by others.
- PLO B.3 – The student will perceive and respond appropriately to the spoken, unspoken, or partly expressed thoughts, feelings, and concerns of others.

**Required Textbook:**

Ozcan, Yasar A. (2017). *Analytics and decision support in health care operations management: History, diagnosis and empirical foundations*, 3<sup>rd</sup> ed. San Francisco, CA: Jossey-Bass.

**Other Required Readings:** As assigned.

**Course Content:**

Schedule	Assigned Readings
<p><b><u>Week 1 (Begins Monday, August 23) – Zoom Session</u></b>  <i>Synchronous Session - Thursday, August 26 from 6:00 – 9:00 pm</i></p> <p><i>Introduction to Analytics and Decision Support in Health Care Operations Management.</i></p> <p><b>Exercise 1 Assigned</b></p>	Chapter 1
<p><b><u>Week 2 (Begins Monday, August 30) – Online</u></b>  <i>Decision Making in Health Care</i></p> <p><b>Exercise 2 Assigned</b></p>	Chapter 3
<p><b><u>Week 3 (Begins Monday, September 6) – Zoom Session</u></b>  <i>Synchronous Session - Thursday, September 9 from 6:00– 9:00 pm</i></p> <p><i>Predictive Analytics</i></p> <p><b>Exercise 3 Assigned</b></p>	Chapter 2

Schedule	Assigned Readings
<p><b><u>Week 4 (Begins Monday, September 13) – Online</u></b> <i>Facility Location and Facility Layout</i></p> <p><b>Exercise 4 Assigned</b></p>	<p>Chapters 4 and 5</p>
<p><b><u>Week 5 (Begins Monday, September 20) – Zoom Session</u></b> <i>Synchronous Session - Thursday, September 23 from 6:00– 9:00 pm</i></p> <p><i>Work Design and Measurement</i></p> <p><b>Exercise 5 Assigned</b></p>	<p>Chapter 6 (pp. 203 – 223)</p>
<p><b><u>Week 6 (Begins Monday, September 27) – Online</u></b> <i>Staffing and Scheduling</i></p> <p><b>Exercise 6 Assigned</b></p>	<p>Chapters 7 &amp; 8</p>
<p><b><u>Week 7 (Begins Monday, October 4) – Zoom Session</u></b> <i>Synchronous Session - Thursday, October 7 from 6:00– 9:00 pm</i></p> <p><i>Productivity and Performance Benchmarking</i></p> <p><b>Exercise 7 Assigned</b></p>	<p>Chapter 9</p>
<p><b><u>Week 8 (Begins Monday, October 11) – Online</u></b> <i>Exam 1 (Online Exam)</i></p> <p><i>Schedule with ProctorU between 6:00 pm, Monday, October 11 and Thursday, October 14, 2021</i></p>	
Schedule	Assigned Readings
<p><b><u>Week 9 (Begins Monday, October 18) – Zoom Session</u></b> <i>Synchronous Session - Thursday, October 21 from 6:00– 9:00 pm</i></p> <p><i>Resource Allocation</i></p> <p><b>Exercise 8 Assigned</b></p> <p><i>October 20 - Last day to drop courses or withdraw from the university without WP or WF</i></p>	<p>Chapter 10</p>
<p><b><u>Week 10 (Begins Monday, October 25) – Online</u></b> <i>Resource Allocation</i></p> <p><b>Exercise 9 Assigned</b></p>	<p>Chapter 10</p>
<p><b><u>Week 11 (Begins Monday, November 1) – Zoom Session</u></b> <i>Synchronous Session - Thursday, November 4 from 6:00– 9:00 pm</i> <i>Supply Chain and Inventory Management</i></p> <p><b>Exercise 10 Assigned</b></p>	<p>Chapter 11</p>

Schedule	Assigned Readings
<p><b><u>Week 12 (Begins Monday, November 8) – Online</u></b> <i>Queuing Models and Capacity Planning</i></p> <p><b>Exercise 11 Assigned</b></p>	Chapter 14
<p><b><u>Week 13 (Begins Monday, November 15) – Zoom Session</u></b> <i>Synchronous Session - Tuesday, November 18 from 6:00– 9:00 pm</i></p> <p><i>Introduction to Discrete Event Simulation</i></p> <p><i>Simulation Modeling – Process Simulator (Sim 1 Model)</i></p> <p><b>Exercise 12 Assigned</b></p>	Chapter 15
<p><b><u>Week 14 (Begins Monday, November 22) – Online</u></b> <i>Simulation Modeling – Process Simulator (Call Center Model)</i></p> <p><b>Exercise 13 Assigned</b></p>	Chapter 15
<p><b><u>Week 15 (Begins Monday, November 29) – Zoom Session</u></b> <i>Synchronous Session - Thursday, December 2 from 6:00– 9:00 pm</i></p> <p><i>Establishing the Correspondence between Queuing and Discrete Event Simulation</i></p> <p><i>Simulation Modeling – Process Simulator (Pharmacy Model)</i></p> <p><i>System Dynamics – Stella Architect</i></p> <p><i>Simulation Modeling – Process Simulator (Blood Donor Model)</i></p> <p><i>Exam 2 Review</i></p> <p><b>Exercise 14 and Extra Credit Exercise Assigned</b></p>	
<p><b><u>Week 16 – Exam 2) – Online</u></b> <i>Simulation Modeling</i> <i>Exam 2 (Online Exam)</i></p> <p><i>Schedule with ProctorU between 6:00 pm, Monday, December 6 and Thursday, December 9, 2021</i></p> <p><b>Exercise 14 and Extra Credit Exercises Due</b></p>	

**A more comprehensive class schedule will be presented in the Learning Management System.**

**Other Class Policies:****Attendance:**

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

**Academic Honesty:**

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

**Cheating**

Dishonesty of any kind involving examinations, assignments, alteration of records, wrongful possession of examinations, and unpermitted submission of duplicate papers for multiple classes or unauthorized use of keys to examinations is considered cheating. Cheating includes but is not limited to:

- Using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class.
- Falsifying or inventing any information, including citations, on an assigned exercise.
- Helping or attempting to help another in an act of cheating or plagiarism.

**Plagiarism**

Plagiarism is presenting the words or ideas of another person as if they were your own. Materials, even ideas, borrowed from others necessitate full and complete acknowledgment of the original authors. Offering the work of another as one's own is plagiarism and is unacceptable in the academic community. A lack of adequate recognition constitutes plagiarism, whether it utilizes a few sentences, whole paragraphs, articles, books, audio-visual materials, or even the writing of a fellow student. In addition, the presentation of material gathered, assembled or formatted by others as one's own is also plagiarism. Because the university takes such misconduct very seriously, the student is urged to carefully read university policies on Misconduct in Research and Other Scholarly Activity 05.00. Examples of plagiarism are:

- Submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another.
- Submitting a work that has been purchased or otherwise obtained from an Internet source or another source.

Incorporating the words or ideas of an author into one's paper without giving the author due credit.

**Adding/Dropping:**

The official deadline for adding and dropping courses is as published in the academic calendar and Graduate Bulletin (typically the day before Census Day). However, students are strongly encouraged to meet with their graduate advisor or the Program Coordinator prior to adding/dropping courses. Movement into and out of classes after the 4th class day requires approval of the Program Director. Students can drop until mid-semester without a WP or WF. Drops after mid-semester require approval of the Dean. Each student is responsible for their own enrollment status with the university.

**Disability Accommodations:**

UTHSCT abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, which mandate reasonable accommodations be provided for students with documented disabilities. If you have a disability and may require some type of instructional and/or examination accommodations, please contact me early in the semester so that I can provide or facilitate provision of accommodations you may need. If you have not already done so, you will need to register with the Student Services Office (located on the UT Tyler Campus). You may call 903-566-7079 for more information.

## References:

- Austin, C. J., & Boxerman, S. B. (1995). *Quantitative analysis for health services administration*. Ann Arbor, MI: AUPHA Press/Health Administration Press.
- Denton, B. T. (2013). *Handbook of healthcare operations management: Methods and applications*. New York: Springer.
- Dutta, A. and Roy, R. (June 2002). System dynamics. *OR/MS Today*, 29 (3), 30 – 35.
- Fisher, D. (2007). *Modeling dynamic systems: Lessons for first course*, 2<sup>nd</sup> edition. Hanover, New Hampshire: ISEE.
- Gogg, T. J., & Mott, J. R. (1992). *Improving quality and productivity with simulation*. Palos Verdes Estates, CA: JMI Consulting.
- Harrell, C. (2011). *Simulation using ProModel*. (3<sup>rd</sup> ed.). Boston, MA: McGraw-Hill.
- Law, A. M. (2014). *Simulation modeling and analysis*. (5<sup>th</sup> ed.). New York: McGraw-Hill, Inc.
- Ragsdale, C. T. (2014). *Spreadsheet modeling and decision analysis: A practical introduction to business analytics* (7<sup>th</sup> ed.). Stamford, CT: Centgage Learning.
- Richmond, B. (2001). *An introduction to systems thinking*. Hanover, New Hampshire: High Performance Systems, Inc.
- Schrage, M. (2000). *Serious play*. Boston: Harvard Business School Press.
- Sterman, J. D. (2000). *Business dynamics: Systems thinking and modeling for a complex world*. Boston: Irwin McGraw-Hill..

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