

Syllabus

MATH 1700H/PSYC 2001H Spring 2022
TuTh 12:30 PM to 1:45 PM Straz Hall 502

Instructor: Daniel B. Rowe, Ph.D.

Email: daniel.rowe@marquette.edu

Office Hours: TuTh 11:30AM - 12:30PM, 3:15PM - 3:45PM, and by Arrangement

Office: CU 313

Textbook: WebAssign: Elementary Statistics, 11th edition, by Johnson and Kuby, 2012.

(https://www.cengage.com/coursepages/Marquette_WebAssign)

Calculator: Some sort of scientific calculator.

MATH 1700H Course Description: Fundamental theory and methods of statistics without calculus. Descriptive statistics, elements of probability theory, estimation, tests of hypotheses, correlation, regression, ANOVA, introduction to computer methods of statistical tabulation and analysis. Offered with a laboratory component and is recommended for students seeking a general introduction to statistical concepts. Students learn to compute various statistical measures - both with and without the aid of a computer. Not intended to be a final course in statistics for students who need a thorough working knowledge of statistical methods. May not be taken for credit by students who have received college credit for another probability or statistics course. As an Honors Program course, includes a more intensive research or project component. Prereq: Two years of college preparatory mathematics; and admission to Marquette University Honors Program.

PSYC2001H Course Description: Logic and rationale of psychological measurement. Scales of measurement and statistical techniques. Descriptive statistics, the normal distribution and sampling theory, introduction to statistical inference. T-test, simple analysis of variance, chi square, measures of correlation. As an Honors Program course, includes a more intensive research or project component. Prereq: PSYC 1001 or equiv.; three years of high school mathematics or MATH 1100 or equiv.; admission to University Honors Program.

Core of Common Studies Mathematical Reasoning Learning Outcomes: You should be able to:

1. Evaluate the effectiveness of the mathematical sciences in describing the world.
2. Analyze quantitative information symbolically, graphically, numerically, and verbally for the purpose of solving problems or drawing conclusions.
3. Construct logical arguments in support of mathematical assertions.

Learning Objectives:

1. Understand a few necessary concepts of probability.
2. Understand the difference between descriptive statistics and inferential statistics.
3. Understand the estimation problem.
4. Understand the hypothesis problem.
5. Calculate Linear Correlation and Line of Best Fit.
6. Understand tests of independence and goodness of fit for categorical data.

Homework: The homework is designed to provide you with practice using the concepts taught in the course. Practice is essential to be prepared for the quizzes and tests in this class. Online homework will be assigned and graded through WebAssign. These assignments will be graded with a 20% adjustment. This means that if you score 80% or higher for your online homework you will receive the full 10% towards your overall score. If you score less than 80% I will calculate your percentage as $(\text{Your percentage})/80\%$. In other words, if you end the semester with 70% you will receive $70/80=87.5\%$ for your homework score.

WebAssign page: <https://www.webassign.net/wa-auth/login>

WebAssign course key: marquette 1546 7649

Exams: Apart from cumulative final exam, there will be two 60 minutes long exams.

MAKE-UP POLICY: There **will NOT** be any make-up exam. If you have an unavoidable absence as defined in Arts and Sciences Undergraduate Bulletin, the percent of the missed Exam will be added to your Final Exam percentage. Contact me if it is University event absence.

Grading:

WebAssign Homework	10%
Midterm Exam 1	15%
Midterm Exam 2	15%
Final Exam	25%
Projects	10%
Lab	25%

Everyone must be given the same opportunity to do well in this class. Individual exams **WILL NOT** be curved; However, I **MAY** use attendance and class participation to adjust at the end of the semester.

Grades and Points

95-100	A
92-94.9	A-
87-91.9	B+
83-86.9	B
80-82.9	B-
77-79.9	C+
73-76.9	C
70-72.9	C-
67-69.9	D+
60-66.9	D
Below 60	F

Attendance – <http://bulletin.marquette.edu/undergrad/academicregulations/#attendance>

1. You are expected to regularly attend and participate in class. You should arrive on time and have the appropriate lecture outline printed from D2L. If you have a reason, such as an illness or personal problem, it is your job to communicate with me to find possible, alternative arrangements that will allow you to succeed in the class. Poor attendance along with uncompleted homework generally leads to poor test and quiz scores.

2. If you stop attending class, do not assume that I will drop you with a grade of WA (withdrawal due to absences). It is your job to withdraw from class. The last day for you to withdraw, September 4th, is also the last day that a grade of WA may be given. Beyond this date, you will receive the grade that you earned.

Academic Honesty –

<http://bulletin.marquette.edu/undergrad/academicregulations/#academicintegrity>

ACADEMIC INTEGRITY

Academic integrity is the foundation of learning, research, and scholarship. To that end, it is imperative that all members of the university community adhere to a shared understanding of the standards outlined in this policy. All faculty, staff, and students are required to recognize, respect and uphold:

The Statement on Academic Integrity

The Honor Pledge

The Honor Code

Best Practices

Academic Misconduct Policy

Statement on Academic Integrity

We, the scholars of Marquette University, recognize the importance of personal integrity in all aspects of life and work. We commit ourselves to truthfulness, honor, and responsibility by

which we earn the respect of others. We support the development of good character in our academic community and commit to uphold the highest standards of academic integrity as an important aspect of personal integrity. Our commitment obliges us as students, faculty, and staff to conduct ourselves according to the Marquette University Honor Code set forth below. We do this in pursuit of Marquette University's mission, which is the search for truth, the discovery and sharing of knowledge, the fostering of personal and professional excellence, the promotion of a life of faith, and the development of leadership expressed in service to others.

Students are asked to commit to academic integrity through the following honor pledge. Faculty may require students to sign the pledge in their courses or for any individual assignment.

ACADEMIC DISHONESTY applies equally to electronic media and print, and involves text, images, and ideas. It includes -

1. Copying from others during an examination.
 2. Communicating exam answers with other students during an examination.
 3. Offering another person's work as one's own.
 4. Sharing answers for a take home quiz or assignment unless specifically authorized by the instructor.
 5. Tampering with an examination after it has been corrected, and then returning it for more credit.
 6. Using unauthorized materials, such as notes, phone, or audio device, during an examination.
- Absolutely no electronic devices, except possibly a calculator, may be used during the test. This includes phones, iPods, recordings, and computers. For various reasons before or during a test, I may find it helpful to move someone to another desk. No one should assume that I suspect that person of cheating, but rather I want to reduce temptation for those around him/her. This often is due simply to the placement of the desks in the room.

Special Statement on COVID-19

Marquette University recognizes that this is a difficult time which may be filled with uncertainty as we move forward with the academic year. Your safety, health, and well-being, as well as that of our faculty and staff are our primary concern and we want to be able to support you in any way that we can. To live our Cura Personalis or care for the whole person, we ask that you adjust your behavior to best keep yourself and others safe. We have expectations that you act responsibly in order to mitigate risk to others. As your faculty, I too am committing to these behaviors that I will ask you to follow.

The University understands that at this time you may be facing some obstacles that would make it difficult to meet your academic goals. Please use the [Student Resources](#) page on the [Marquette COVID-19 Response webpage](#) for information and resources on basic needs such as housing, food, financial aid, and medical and mental health. The webpage also offers information on official University communications, access to technology, and student services. Your professors and advisors are also here for you. Visit the [Marquette COVID-19 Response Page](#) regularly as information may change as the semester rolls out.

Remember, you are not alone and together we will navigate these extraordinary and challenging times. We are Marquette!

EXPECTED BEHAVIOR:

Wearing Masks in Classrooms is Mandated

Marquette requires all students, faculty, and staff to wear face masks or cloth face coverings in classrooms, laboratories and other public spaces where in-person instruction occurs. We require the wearing of masks covering the nose and mouth in all physical classrooms to help mitigate the transmission of COVID-19. Marquette as a community views the adoption of mask wearing as a sign of our being men and women for others. It is a mark of respect, compassion for your classmates, faculty, staff and for the greater Milwaukee community. Students who cannot wear a face covering due to a medical condition or disability, or who are unable to remove a mask without assistance, should seek an accommodation through the [Office of Disability Services](#). If you do not adhere to this practice you will be asked to leave the room.

Facemasks are not a Substitute for Social Distancing

You should maintain appropriate social distancing guidelines where possible while in the classroom, laboratory, or other instructional spaces and in public areas. You should avoid congregating around instructional space entrances before or after class sessions. Expectations for seating arrangements will be communicated at the beginning of the semester. Some instructional spaces may have designated entrance and exit doors for you to use. You should exit the instructional space immediately after the end of instruction to help ensure social distancing and allow for the persons attending the next scheduled class session to enter.

Commitment to Inclusion and Equity

I would like to create a learning environment for my students that supports a diversity of thoughts, perspectives and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, etc.). I also understand that the current crisis of COVID, economic disparity, and health concerns could impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Marquette to be people for and with others and to care for the whole student (Cura Personalis). If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you (Marquette can provide financial assistance, food assistance, computers, and counseling services, and provide a specific request if you complete a [Concern and Care Form](#)).

Health-related Class Absences

Please regularly evaluate your own health according to current [CDC](#), [State of Wisconsin](#), and [city guidelines](#). Do not attend class or other on-campus events if you are ill.

You are encouraged to seek appropriate medical attention for treatment of illness from [Student Health Services](#). In the event of having a contagious illness such as influenza or COVID-19, please complete the [voluntary form](#) upon diagnosis and do not come to class or to campus to turn in any work. Instead, email me about your absence as soon as you are able so that appropriate accommodations can be explored.

Please note that documentation (a Doctor's note) for medical absences is not required. As part of their commitment to maintain confidentiality, to encourage more appropriate use of healthcare

staff resources, and to support meaningful dialogue between instructors and students, Marquette Student Health Services will not provide documentation of illness.

I am committed to working with students with pre-existing medical and mental health needs, as well as new needs that may arise within the semester. I encourage you to reach out to me as early as possible to discuss any adjustments you think may be necessary in this course. Reasonable accommodations may include leveraging the course modules that have been developed in creative ways to maximize your access during times when students need to quarantine due to COVID exposure, or during an absence related to a disability or COVID-19 diagnosis. While I cannot guarantee any specific outcome, I am committed to working with you to explore all the options available in this course.

To begin this process, contact the [Office of Disability Services \(ODS\)](#).

Attendance and Participation

Our class meets on MW, from 5:00 PM to 6:15PM. If you cannot meet in-person due to COVID-19 restrictions, online engagement may be an appropriate alternative. As stated above, you will need to contact the Office of Disability Services if you need to explore the viability of that option. Though I cannot guarantee that every requested adjustment will be possible, due to the challenges we face with the COVID-19 pandemic, I will adapt and adjust to your situation to the greatest extent possible.

Class participation and active learning are important aspects of this class, so your engagement is critical to your success regardless of modality/delivery. However, I understand that sometimes you must miss examinations or other academic obligations affecting your grades because of illness, personal crises, and other emergencies. As long as such absences are not excessive. I will work with you as best I can to help you succeed in the course. Please contact me as soon as possible when such absences arise so we can make arrangements to get you caught up. This policy will not apply in the case on non-emergency absences.

Technology Requirements:

To be successful in this course, you will need to have foundational experience with D2L, the University's Learning Management System, and the videoconferencing tool Microsoft Teams. If you're not familiar with these technologies, review the [D2L Student Help resources](#) and [Students Use Microsoft Teams for online/live classes webpage](#).

I recommend you also visit the [Technology for Remote Learning webpage](#) for information on the technology you will need to be successful.

For general questions about technology, contact the ITS Help Desk at helpdesk@mu.edu or 414-288-7799.

Tentative Schedule of Topics

Class #	Week	Date	Topics	Sections
1	1	Tu Jan 25	Introduction, Syllabus, Math Review, Statistics, Definitions	Math Review, 1.1
2		Th Jan 27	Graphs (pie diagram, bar graphs, stem-and-leaf displays, dot plot), Frequency distributions and histograms, Measures of Central Tendency	2.1, 2.2, 2.3, 2.4
3	2	Tu Feb 1	Measures of Dispersion, Measures of Position, Box-Plot, z-scores, Bivariate Data	2.5, 3.1
4		Th Feb 3	Linear Correlation, Linear Regression	3.2, 3.3
5	3	Tu Feb 8	Probability of Events, Conditional Probability,	4.1,4.2
6		Th Feb 10	Rules of Probability, Mutually Exclusive, Independent Events	4.3,4.4,4.5
7	4	Tu Feb 15	Random Variable, Discrete Random Variable, Binomial Probability Distribution	5.1, 5.2, 5.3
8		Th Feb 17	Review Chapters 1-5 for Exam 1	
	5	Tu Feb 22	SNOW DAY	
9		Th Feb 24	Exam 1	
10	6	Tu Mar 1	Normal Distribution, Standard Normal Distribution	6.1, 6.2, 6.3
11		Th Mar 3	Sampling Distributions, The Sampling Distribution of Sample Means, Application of the Sampling Distribution of sample means	7.1, 7.2, 7.3
12	7	Tu Mar 8	The Nature of Estimation, Estimation of Mean μ (σ known)	8.1, 8.2
13		Th Mar 10	Estimation of Mean μ (σ known), Hypothesis Test of μ (σ known): p-value approach	8.3, 8.4
		Tu Mar 15	Spring Break	
		Th Mar 17	Spring Break	
14	8	Tu Mar 22	Hypothesis Test of μ (σ known): classical approach	8.5
15		Th Mar 24	Inference about the mean μ (σ unknown)	9.1
16	9	Tu Mar 29	Review Chapters 6-8 for Exam 2	
17		Th Mar 31	Exam 2	
18	10	Tu Apr 5	Inference about the Binomial Probability of Success	9.2
19		Th Apr 7	Inference about the Variance and Standard Deviation	9.3
20	11	Tu Apr 12	Dependent and Independent Samples, Inferences concerning the Mean Difference Using Two Dependent Samples 1	10.1, 10.2, project
21		Th Apr 14	Easter break	
	12	Tu Apr 19	Inferences concerning the Difference between Means Using Two Independent Samples	10.3
22		Th Apr 21	Inferences Concerning the Difference between Proportions Using Two Independent Samples	10.4, 10.5
23	13	Tu Apr 26	Chi-Square Statistic, Inferences Concerning Multinomial Experiments	11.1, 11.2, 11.3
24		Th Apr 28	Introduction to the ANOVA, Logic Behind ANOVA	12.1, 12.2
25	14	Tu May 3	Survey of one, two, and three or more population Hypothesis Tests	
26		Th May 5	Review Chapters 9-12 for final Exam	
27	15	Tu May 10	Problem Solving and Question Answering	
28		Tu May 17	Final Exam 10:30 am-12:30pm	