

Course Syllabus

[Jump to Today](#)

3/4 Edit

MARIAN UNIVERSITY

Indianapolis

PSY 205 Statistical Methods 3 Credits

Semester and Year: First Eight-Weeks, Summer 2025

Email: Contact via Canvas email

Required Textbook:

[Spatz, C. \(2019\) *Exploring Statistics: Tales of Distributions, 12th ed.* Outcrop Publishing E→ \(<https://exploringstatistics.com/>\)](#)

Students are required to purchase the items listed above prior to the start of the course. Look into all of your options - new, used, rental core-books. If you choose a rental option, be sure to understand the policies and the due dates for the returns. While you have the option to obtain your course materials from any source, ordering from the MU Book Store can be a convenient option. Please note that you can also charge bookstore purchases to your student account or use your MU financial aid if applicable. Visit www.bkstr.com/marianustore/home E→ (<http://www.bkstr.com/marianustore/home>) .

Additional Resources: In this course, you will learn how to perform a variety of statistical analysis using a free, downloadable, program called JASP. Below are links to two resources you will need.

- **JASP Website:** [Click here to access the JASP website E→ \(<https://jasp-stats.org/>\)](https://jasp-stats.org/) . From the website, you can download the latest version of the program. The website also contains links to guides, tutorials, and a variety of other web-based resources for learning and using JASP.
- **JASP Student Guide:** Click the link to access the [Statistical Analysis in JASP: A Guide for Students \(2022\). E→ \(\[https://jasp-stats.org/wp-content/uploads/2022/04/Statistical-Analysis-in-JASP-A-Guide-for-Students-\\(2022\\).E→\]\(https://jasp-stats.org/wp-content/uploads/2022/04/Statistical-Analysis-in-JASP-A-Guide-for-Students-\(2022\).E→\)\)](https://jasp-stats.org/wp-content/uploads/2022/04/Statistical-Analysis-in-JASP-A-Guide-for-Students-(2022).E→) This guide provides more in-depth instructions than those provided in the video tutorials embedded in various weekly deliverable instructions. Use this guide to help you complete activities that require the use of JASP.

Prerequisites: At least one year of high school algebra is recommended.

Course Description

This course is designed to provide the student with an introductory knowledge of the statistical methods used in the behavioral sciences and experience with their use. Basic concepts, uses, and methods of statistical computation, including descriptive statistics, correlation, probability, estimation, sampling, design, hypothesis testing, t-tests, ANOVAs, and Chi Square are presented in this course. This is a computational and interpretational statistics course designed to prepare students for upper division/graduate courses in research, data evaluation, and analytic reasoning.

Course Learning Objectives

Upon successful completion of this course, students will be able to:

Objective

1. To demonstrate computational accuracy for basic algebra skills including solving for unknowns, using the rules of summation and order of operation, using exponents, expanding binomials, and factorials.

Method of Assessment

Computational Quiz 1

| | |
|--|--------------------------------|
| 2. To demonstrate computational accuracy for descriptive statistics including measures of central tendency and variability and the ability to create and interpret graphs, tables, and frequency distributions | JASP Report 1 |
| 3. To demonstrate accurate logic and computation of research data by identifying and applying statistical tests and procedures, recognizing inappropriate values and problem solutions, and correctly applying the appropriate statistical problem solving | JASP Reports 2 & 3 |
| 4. To demonstrate the comprehension of statistical concepts such as probability, theoretical distributions, samples from populations, critical values, and statistical assumptions | Midterm & Final Exam |
| 5. To accurately interpret and evaluate tests of statistical hypotheses performed by hand and using the JASP software | JASP Reports & Final Portfolio |

Transformational Journey Program Learning Objectives

| Objective | Method of Assessment |
|--|--------------------------|
| 1. Problem Solving - Criterion A: Articulate a clear and thoughtful problem statement. | <i>Final Deliverable</i> |
| 2. Problem Solving - Criterion B: Identify multiple approaches to solving a problem. | <i>Final Deliverable</i> |
| 3. Problem Solving - Criterion C: Develop an informed and logical plan to solve a problem. | <i>Final Deliverable</i> |

Teaching Strategies

This course utilizes a variety of instructional techniques. Typically, for each assigned chapter of the textbook, there is a full-length (20 - 40 minute) video lecture covering essential concepts from the chapter. Each module also contains supplementary videos (e.g., YouTube videos by Crash Course statistics) that review relevant concepts. To provide practice with the formulas and other mathematical skills covered in the current chapter, each module also contains computational worksheets. Finally, peer-to-peer instruction is utilized in the discussion threads. There is a discussion thread per week/module where you will discuss concepts covered recently.

Methods of Evaluation:

- **Worksheets:** For each Chapter of the textbook, there is a corresponding worksheet that will provide practice performing the computations covered in the chapter and the corresponding concepts. Worksheets are worth 10 points each.
- **Weekly Discussion Threads:** Each week, we will have a class discussion thread. The weekly discussion threads are a valuable way for you to learn from and share with your classmates. Explaining concepts that we've learned recently will help you consolidate this new information, will provide a valuable opportunity for classmates to learn from one another, and will allow me to assess how well you're grasping concepts. Each discussion is worth 20 points (10 points for your initial post and 5 points each for two replies to classmates).
- **Weekly Deliverables:** Each week (except for the final week) you will have a deliverable that will provide an opportunity for you to practice the analysis and skills covered in that module. You will use either Microsoft Excel or JASP (a free statistical analysis tool) to complete the weekly deliverable. Each of the 7 weekly deliverables is worth 25 points.
- **Final Deliverable:** At the end of the course, you will have a final deliverable due. This final deliverable asks you to combine the skills obtained (e.g., selecting, performing, and interpreting statistical analyses) in a project of your choosing. During Week 5 of the course, you will select a propose a project based on a dataset that you will find and/or modify. Once your project has been approved, you will perform the analyses and write up a report of your findings using APA format (worth 80 points).

Grade Distribution

| Assessment | Point Value | Total Points | Percent of Final Grade |
|--------------------------------------|------------------------|--------------|------------------------|
| <i>Computational Worksheets (13)</i> | 10 points /worksheet | 130 | 24% |
| <i>Discussion Threads (8)</i> | 20 points / discussion | 160 | 29% |

| | | | |
|-------------------------|----------------------|-----|------|
| Weekly Deliverables (7) | 25 / deliverable | 175 | 32% |
| Final Deliverable (1) | 80 points | 80 | 15% |
| | Total Points: | 545 | 100% |

Grading Scale

To determine the final grade, point values will be converted to a percentage and rounded to the nearest whole number. The grading scale for this course is as follows:

| Letter Grade | Percentage |
|--------------|------------|
| A | 93% - 100% |
| A- | 90%-92% |
| B+ | 87%- 89% |
| B | 83%- 86% |
| B- | 80%-82% |
| C+ | 77%- 79% |
| C | 73%- 76% |
| C- | 70%-72% |
| D+ | 67%- 69% |
| D | 60%- 66% |
| F | < 60% |

Course Policies

Late Policy & Due Date Extensions:

Assignments will close for submission 72 hours after the due date. Any assignment submitted late in that 72 hour time period will receive a 10% late penalty. For any final exam, paper, etc. that is due the last day of the term/session, the 72-hour late policy does not apply past the date the term or session ends. Late initial posts in discussion boards will receive a 2-point deduction in the rubric.

Further extensions and accommodations, including exams, may be given consideration for unforeseen, documented hardships, such as medical emergencies, documentable technical issues, death of a loved one, travel and weather emergencies, etc. However, simply forgetting, time zone differences, going on vacation, or not performing as well as intended are not acceptable excuses. If you believe an extension or accommodation is warranted, please contact your instructor.

Extra Credit: There is no extra credit in this course.

Plagiarism Statement: Plagiarism is using the words or ideas of another as your own without giving credit to the source author. This also includes taking a paper found online and submitting it as one's own paper and/or cutting and pasting from a website and submitting it as your work product.

Plagiarism is defined in detail in the [Code of Student Rights and Responsibilities](https://www.marian.edu/docs/default-source/campus-life/codeofstudentrightsandresponsibilities.docx?sfvrsn=14) (https://www.marian.edu/docs/default-source/campus-life/codeofstudentrightsandresponsibilities.docx?sfvrsn=14) under Section 8: Academic Conduct Procedures, as well as an extended description of academic dishonesty.

The following are some helpful websites for understanding plagiarism, documentation and citation:

- Marian University's library: <https://www.marian.edu/current-students/library> (Links to an external site.) (https://www.marian.edu/current-students/library)
- org: <https://plagiarism.org/> (Links to an external site.) (https://urldefense.com/v3/ https://plagiarism.org/ ;!!DUogwUQ!T yXRW2Aa1Gbx09gkwJ Q3X0PNE2Ks282Huuyz BFJGgO hCio vdzWWvWc0ADF-
- Purdue OWL: <https://owl.purdue.edu/> (Links to an external site.) (https://urldefense.com/v3/ https://owl.purdue.edu/ ; !!DUogwUQ!T yXRW2Aa1Gbx09gkwJ Q3X0PNE2Ks282Huuyz BFJGgO hCio vdzWWvWc0WY

Adherence to Academic Integrity & Use of AI and Chat GPT:

At Marian University, all students are called to uphold academic integrity in all their academic endeavors, including the responsible use of AI tools, reflecting both the institution's commitment to intellectual and moral integrity and its foundational Franciscan values. Students are expected to

exemplify honesty, honor, and respect for the truth, demonstrating their intellectual and moral integrity as outlined in the [Code of Student Rights and Responsibilities](#) (<https://urldefense.com/v3/https://www.marian.edu/academics/assets/documents/student-code-of-rights-and-responsibilities.pdf>; <https://www.marian.edu/academics/assets/documents/student-code-of-rights-and-responsibilities.pdf>). By embodying these responsibilities, students contribute to a just and flourishing academic community. Students are allowed to use advanced automated tools (artificial intelligence or machine learning tools such as ChatGPT or Dall-E 2) on assignments in this course if that use is properly documented and credited. For example, text generated using ChatGPT-3 should include a citation such as: "Chat-GPT-3. (YYYY, Month DD of query). "Text of your query." Generated using OpenAI. <https://chat.openai.com/> (<https://chat.openai.com/>)"

Material generated using other tools should follow a similar citation convention. Decisions are at the discretion of the instructor, so students are encouraged to communicate with their instructors.

Accommodation/Accessibility Statement: Marian University, through policy and practice, is committed to providing equitable access to learning opportunities for all students. If you experience, or anticipate experiencing, barriers to your education due to a disability please contact the Personalized Learning Center by emailing plc@marian.edu (<mailto:plc@marian.edu>) or calling **317.955.6540** to start a conversation.

Although a student may request an accommodation at any time, it is best to initiate the accommodation process as early as possible as it may take time to complete the interactive process and accommodations will not be implemented retroactively. If a reasonable accommodation is determined, a Course Accommodation Letter will be created at the Personalized Learning Center for the student to provide to their faculty members with information related to their accommodations. Faculty will not set up disability-related accommodations without a current semester Course Accommodation Letter.

Faculty, Staff or Student questions or concerns regarding the accommodation process can be sent to plc@marian.edu (<mailto:plc@marian.edu>) or Mandie Greiwe, agreiwe@marian.edu (<mailto:agreiwe@marian.edu>), Director of the Personalized Learning Center.

Diversity and Inclusivity: Marian's adult and online programs at Marian University is a collaborative academic community committed to fostering a diverse and inclusive community across the intersections of races, ethnicities, religions, sexual orientations, gender identities, ages, disability status, socio-economic backgrounds, political perspectives, cultures, immigration status, and national origins. I am committed to creating a safe, just environment of respect for students, faculty, and staff following our shared Franciscan values. I believe that every individual can improve their skills, learn from their mistakes, and be successful in this course.

Student Handbook

Please refer to the MAP [Student Resources](https://marian.instructure.com/courses/7545464/modules) (<https://marian.instructure.com/courses/7545464/modules>) and [Student Support Resources](https://marian.instructure.com/courses/7545464/modules) (<https://marian.instructure.com/courses/7545464/modules>) modules for information regarding academic and school of policies including [Services for Students with Disabilities](http://marian.edu/campus-life/academic-support-services/services-for-students-with-disabilities) (<http://marian.edu/campus-life/academic-support-services/services-for-students-with-disabilities>)

**Any changes to this syllabus will be communicated to the students.

Please click here to download a PDF of the syllabus.

Course Summary:

| Date | Details | Due |
|------------------|---|----------------|
| | <input type="checkbox"/> Discuss: Module 1 - A Picture is Worth 1,000 Words | due by 11:59pm |
| | <input type="checkbox"/> Practice: Chapter 1 | due by 11:59pm |
| Sun May 11, 2025 | <input type="checkbox"/> Practice: Chapter 2 | due by 11:59pm |
| | <input type="checkbox"/> Submit: Weekly Deliverable 1 - Build a Dataset & Create a Data Visualization | due by 11:59pm |
| Sun May 18, 2025 | <input type="checkbox"/> Discuss: Module 2 - How do Americans Spend their Time? | due by 11:59pm |

| Date | Details | Due |
|------------------|---|----------------|
| | <input type="checkbox"/> Practice: Chapter 3 https://marian.instructure.com/courses/7545464/assignments/50196221 | due by 11:59pm |
| | <input type="checkbox"/> Practice: Chapter 4 https://marian.instructure.com/courses/7545464/assignments/50196222 | due by 11:59pm |
| | <input type="checkbox"/> Submit: Weekly Deliverable 2 • Perform Descriptive Analysis of the Titanic Passengers https://marian.instructure.com/courses/7545464/assignments/50196230 | due by 11:59pm |
| | <input type="checkbox"/> Submit: Weekly Deliverable 4 - Perform & Interpret Correlational Analyses https://marian.instructure.com/courses/7545464/assignments/50196232 | due by 11:59pm |
| | <input type="checkbox"/> Discuss: Module 3 • Show Me the Data: Our World in Numbers https://marian.instructure.com/courses/7545464/assignments/50196211 | due by 11:59pm |
| Sun May 25, 2025 | <input type="checkbox"/> Discuss: Module 4 - What's Trending? Exploring Correlations using Google Trends https://marian.instructure.com/courses/7545464/assignments/50196210 | due by 11:59pm |
| | <input type="checkbox"/> Practice: Chapter 5 https://marian.instructure.com/courses/7545464/assignments/50196223 | due by 11:59pm |
| | <input type="checkbox"/> Practice: Chapter 6 https://marian.instructure.com/courses/7545464/assignments/50196224 | due by 11:59pm |
| | <input type="checkbox"/> Submit: Weekly Deliverable 3 - Create a Descriptive Statistics Report https://marian.instructure.com/courses/7545464/assignments/50196231 | due by 11:59pm |
| | <input type="checkbox"/> Discuss: Module 5 • Final Deliverable Project Brainstorm Session https://marian.instructure.com/courses/7545464/assignments/50196209 | due by 11:59pm |
| Sun Jun 1, 2025 | <input type="checkbox"/> Practice: Chapter 7 https://marian.instructure.com/courses/7545464/assignments/50196225 | due by 11:59pm |
| | <input type="checkbox"/> Practice: Chapter 8 https://marian.instructure.com/courses/7545464/assignments/50196226 | due by 11:59pm |
| | <input type="checkbox"/> Submit: Weekly Deliverable 5 - Propose a Project for your Final Deliverable https://marian.instructure.com/courses/7545464/assignments/50196233 | due by 11:59pm |
| | <input type="checkbox"/> Discuss: Module 6 - Stats in Action! How Data Improve Society & Inform Policy https://marian.instructure.com/courses/7545464/assignments/50196208 | due by 11:59pm |
| Sun Jun 8, 2025 | <input type="checkbox"/> Practice: Chapter 10 https://marian.instructure.com/courses/7545464/assignments/50196216 | due by 11:59pm |
| | <input type="checkbox"/> Practice: Chapter 9 https://marian.instructure.com/courses/7545464/assignments/50196227 | due by 11:59pm |
| | <input type="checkbox"/> Submit: Weekly Deliverable 6 • Perform & Interpret T-tests https://marian.instructure.com/courses/7545464/assignments/50196234 | due by 11:59pm |

| Date | Details | Due |
|------------------|--|----------------|
| Sat Jun 14, 2025 | <input type="checkbox"/> Practice: Chapter 11 . (https://marian.instrLiclLire.com/COLlrse/7545464/assignments/50196217) | due by 11:59pm |
| | <input type="checkbox"/> Discuss: Module 7 - How Big Data is Reshaping Industry & Institutions . (https://marian.instrLiclLire.com/coLlrse/7545464/assignments/50196207) | due by 11:59pm |
| | <input type="checkbox"/> Practice: Chapter 13 . (https://marian.instrLiclLire.com/COLlrse/7545464/assignments/50196218) | due by 11:59pm |
| Sun Jun 15, 2025 | <input type="checkbox"/> Submit: Weekly Deliverable 7 - Perform & Interpret ANOVAs . (https://marian.instrLiclLire.com/coLlrse/7545464/assignments/50196235) | due by 11:59pm |
| | <input type="checkbox"/> Discuss: Module 8 • Using Chi-Square to Analyze the 50 States . (https://marian.instrLiclLire.com/coLlrse/7545464/assignments/50196206) | due by 11:59pm |
| Sat Jun 21, 2025 | <input type="checkbox"/> Practice: Chapter 14 . (https://marian.instrLiclLire.com/coLlrse/7545464/assignments/50196219) | due by 11:59pm |
| | <input type="checkbox"/> Submit: Final Deliverable - Construct & Analyze a Dataset & Report your Findings . (https://marian.instrLiclLire.com/coLlrse/7545464/assignments/50196228) | due by 11:59pm |