**Instructor**: **Mrs. Kelley Roberts** Office: Tarpley 316

E-mail: Kelley.roberts@reinhardt.edu Phone: 276-591-6612

Web resources: <https://eagleweb.reinhardt.edu/ics/Campus_Life/Campus_Groups/Math>

Office Hours: by appointment via Teams, always available by email.

**Learning Management System and Textbook:** Canvas and Beginning Statistics,Third Edition, by Wiley, Denley, Atchley, Hawkes Learning Systems. **An individual license (and access code) for the software is required**. Information is posted on our Canvas page. At time of registration you will need to enter the course ID **ReinhardtBEG3,** then choose your instructor and section number. Hawkes Learning Systems can provide a **free** **temporary access code upon your request at their website.**

**Calculator:** You are not required to have a graphing calculator. We will use Excel for all statistical analysis and computation.

# I. COURSE COVERAGE: Chapters 1-12 (selected topics, see below)

# CREDIT HOUR STATEMENT

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# Over 15 weeks, students should expect to spend 7.5 hours per week interacting with course content through a combination of direct instruction and out of class student work.  Examples of direct instruction may include viewing or reading course lectures, engaging in class forum discussions with the course instructor and other students, viewing or reading supplementary online content required by the instructor, completing course quizzes and/or examinations, and reading instructor announcements related to course material and instructor feedback on assignments.  Examples of out of class student work may include reading the assigned course textbook, doing independent library research, completing essay assignments, developing more extensive research papers, and studying in preparation for exams and quizzes.

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# II. CATALOG DESCRIPTION: This course is an introduction to elementary descriptive and inferential statistics. Topics include frequency distributions, measures of central tendency and variation, elementary probability theory, binomial and nor-mal distributions, hypothesis testing, tests on two means, sample estimation of parameters, confidence intervals, coefficient of correlation and linear regression. *Prerequisite: University placement, or a grade of P, or C or better in any MAT course numbered 100 or above.*

# III. CONCEPTUAL FRAMEWORK:

# The Mathematics Department at Reinhardt University believes that all students should have an exposure to the ideas of science and the scientific method. This includes exposure to laboratory procedures, familiarity with some of the vocabulary of science and ability to read scientific articles in the newspaper or in popular magazines.

**The Mathematics Department at Reinhardt University believes that all students should be familiar with the systematic development of science through history.** This includes an understanding of the effects that science has had on history and that history has had on scientists.

**The Mathematics Department at Reinhardt University wishes to convey to students that science is a continuing endeavor that will not ever be finished.** This includes an introduction to the interaction of theory and observation.

# IV. COURSE RELATIONSHIP TO CONCEPTUAL FRAMEWORK: This course will be taught using applied problems, exercises, and a graphing calculator. Mathematical tools will be introduced as needed in the applications.

**V. MATHEMATICS PROGRAM OBJECTIVES:** The Mathematics Program at Reinhardt University offers courses geared to
**MPO1** Analyze and solve problems by using reasoning, logic and evidence, and by bringing knowledge from a wide range of mathematical areas.

**MPO2** Use effective written and oral expression of mathematical concepts in the creation of a mathematical argument by recognizing a wide range of mathematical terms and vocabulary.

**MPO3** Apply axiomatic systems.

**MPO4** Apply mathematical research methodologies by using libraries, informational technologies, computer programming and numerical methods in order to create solutions to problems.

**MPO5** Apply ethical, legal, and policy issues to Information Technology

**MPO6** Create IT solutions to solve organizational problems.

**VI. MATHEMATICS PROGRAM STUDENT LEARNING OUTCOMES:** Taking this course, students will be able to

**SLO1** Solve a word problem by applying the appropriate mathematical setup, obtaining the mathematical solution, and interpreting this solution in the context.

**SLO2** Solve a theoretical problem by identifying the appropriate mathematical context, interpreting the question and the nature of the solution, and checking that the solution is correct.

**SLO3** Complete a proof or produce a mathematical object that satisfies specific properties.

**SLO4** Solve a problem by consulting various resources, applying appropriate technological tools, and using adequate approximations.

**SLO5** Analyze how information technology affects ethical and legal issues.

**SLO6** Synthesize appropriate solutions to organizations' problems.

**VII. ALIGNMENT TO REINHARDT UNIVERSITY SLO’s:**

|  |  |  |
| --- | --- | --- |
| **Math PO** | **Math SLO** | **RU SLO** |
| 1 | 1 | 1, 2, 4 |
| 2 | 2 | 1-4 |
| 3 | 3 | 1-4 |
| 4 | 4 | 1-4 |
| 5 | 5 | 1-4, 7 |
| 6 | 6 | 1-4 |

# VIII. COURSE OBJECTIVES: As a result of passing MAT 103 a student should be able to

1. graphically present statistical data in a number of ways (SLO1, SLO2, and SLO4),
2. evaluate measures of central tendency (mean, median, mode) and variation (standard deviation, range) (SLO1, SLO2, and SLO4),
3. apply basic techniques of discrete probability (sample spaces, addition rules, multiplication rules, conditional probability) (SLO1, SLO2, and SLO4),
4. know the basic characteristics of the binomial distribution, the Poisson distribution and the hypergeometric distribution (SLO1, SLO2, and SLO4),
5. understand and apply normal distributions and the central limit theorem (SLO1, SLO2, and SLO4),
6. evaluate confidence intervals for the mean of a set of data (SLO1, SLO2, and SLO4),
7. apply the basic methods of hypothesis testing (SLO1, SLO2, and SLO4),
8. test the difference between means, variances and proportions (SLO1, SLO2, and SLO4),
9. apply a linear regression analysis (SLO1, SLO2, and SLO4),
10. evaluate chi-squared tests for goodness of fit, independence and homogeneity of proportions (SLO1, SLO2, and SLO4),
11. create and present a report based upon statistics (SLO1, SLO2, and SLO4).

**IX. POLICES:**

**Cell Phone Policy:** Please turn off or turn all cellular phones on silent. Do not use them in class without prior permission by your instructor.

**Attendance:** Students are expected to attend each session. If you miss a class, you are responsible for finding out what was covered and getting the work done.
**Late Policy:** Work submitted late will be penalized unless there is a documented extenuating circumstance provided to the instructor. 

**Academic Dishonesty:** The Reinhardt University academic dishonesty policy will be followed. You will earn a zero for the assignment or exam in which you are found cheating.

**Quality of Student Work**: Use of proper grammar, correct spelling, and writing principles are expected in all work. Full credit will not be granted for work that contains grammar or spelling errors.
**Expectations**: You are expected to read and study our textbook. Reading a section before it is covered in class is a great habit!

**Communications:** All written communications will be through Reinhardt email, do not use your personal email when contacting instructors. Begin the subject line with the courseID and then the topic of the email, for example: MAT 103 41P help with frequency distribution.

**X. GRADE DETERMINATION:** Your grade will be the one reported on EagleWeb. Your grade will be based on four midterm exams, a final, and homework, with the following weights:

Exams (3 tests & Final) 50%

Homework 50%

Total 100%

**Homework: Certify.** You will be assigned “Lessons” through Hawkes Learning Systems (HLS), as scheduled below at point XV. You need to complete each assignment by its due date (reported on HLS and Canvas), usually by **Sunday night at midnight**. The goal of these assignments is to help you better understand the material explained in class. This is the number-one-way to get a good grade in this class – do your homework each day and then you will be ready to learn the new information. It is much more difficult to catch up than to keep up! Homework will be graded by the software and you will receive an immediate feedback. Please, use all the tools available to you in order to succeed in this course. Late homework will be penalized. It is suggested that you start homework about a section the same day this section has been covered in class. Homework can be completed before its due date.
**Pre-Test and Post-Test.** These are two web-based tests (or Web-Tests), administered through HLS at the beginning and at the end of this semester, and they are comprehensive. They are worth **10%** of your final grade as follows:
Pre-Test is 2.5% and it is graded upon completion,
Post-Test is 7.5% and it is graded upon performance (HLS grade reported in Canvas).
**NOTE**: once started, a Web-Test must be completed within the time limit (1 or 2 hours) AND the due time. For instance, a Web-Test due by Sunday at 11:59 PM should be started not later than Sunday at 9:59 PM in order to have the full time available (120 minutes).

**Exams:** The lowest exam will be dropped. No make-up exams will be given. *For University related absences on a test day*, it is possible to schedule an *earlier date for the test*: **it is the student's responsibility to make arrangements at least a week before the scheduled absence**. The Final Exam will be comprehensive.

*Final Exam Exemption*: If after Exam3
1) you have not missed any tests,
2) you have 3 or less unexcused absences, and
3) you completed both the Pre-Test and the Post-test,
then **you may exempt the final exam**.

An Excel file is created to show your work during an exam. This file will be uploaded to Canvas immediately after completing the exam.

REQUIRED: proper filename convention – CourseNumber\_AssignmentName\_YourLastName.fileExtension

ex: MAT103\_Test1Upload\_Roberts.xlsx

**XI. GRADING SCALE:** A=[90, ∞), B=[80, 90), C=[70, 80), D=[60,70), F=[0, 60)

**XII. CSS:** The Center for Student Success (CSS) is located at the lower floor of Lawson, room 035. **CSS offers free peer and faculty tutoring for all subjects**. For appointments, go to Reinhardt webpage and click Center for Student Success.

**XIII. ADA and ASO:** The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a documented disability requiring an accommodation, please contact the Academic Support Office (ASO).

Reinhardt University is committed to providing reasonable accommodations for all persons with disabilities. Therefore, if you are seeking classroom accommodations under the Americans with Disabilities Act, you are required to register with the Academic Support Office (ASO). ASO is located in the basement of Lawson Building. Phone is 7707205567. To receive academic accommodations for this class, please obtain the proper ASO letters/forms. Students with disabilities needing accommodations must contact the **A**cademic **S**upport **O**ffice prior to contacting me. The ASO will then inform me about your (free of charge) arrangements.

**XIV. OFFICE HOURS AND SCHEDULE: Always available through email at** **kjr@reinhardt.edu**

**XV. PROJECTED COURSE OUTLINE** (subject to change at instructor’s discretion)

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| --- | --- | --- |
| **Week**/date | **Class Coverage** | **Special events** |
| **01**: Oct 9 – 15 | Syllabus, Chapter 1 | **Pre-Test** |
| **02**: Oct 16 - 22 | Chapter 2 |  |
| **03**: Oct 23 – 29 | Chapter 3 | **Exam 1 (covers ch 1-3)** |
| **04**: Oct 30 - Nov 5 | Chapter 4 |  |
| **05**: Nov 6 – 12 | 5.1, 5.2, 6.1-6.4 | **Exam 2 (covers ch 4-6)** |
| **06**: Nov 13 – 19 | 7.1, 7.2, 8.1, 10.1, 10.2 |  |
| **07**: Nov 20 – 26 | 10.6, 12.1, 12.2 | **Exam 3 (covers ch 7-12)** |
| **08**: Nov 27- Dec 3 | All coursework turned in | **Post-Test, Final Exam (unless exempt)** |
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