STEM Division

MATH 1342-42490 - 3 Credit Hours
Elementary Statistical Methods
Wintermester 2017-18

Classes Meet Online using My Stat Lab Online Software

Instructor:
Erika Glaser, Ph.D.

Contact Information:
Office: C211
Office Hours: By appointment.
Phone: (972)860-7006 – please follow up phone calls with an email.
Email Address: erikaglaser@dcccd.edu – this is my preferred method of contact. You can usually expect a response from me within 24 hours on weekdays.

Course Description:
Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. (3 Lec.)

Prerequisite:
Two years of high school algebra and an appropriate assessment test score or Developmental Mathematics 0310.

Textbook and Other Course Materials:

- **Calculator:** Students are required to have access to a TI-83 or TI-84 calculator. Instructions on how to use technology to apply concepts are at the end of relevant sections in the textbook under the heading “Technology Step-by-Step.”

- **My Stat Lab** - Please note that in this section of MATH 1342, My Stat Lab access is required. My Stat Lab access grants you access to the electronic version of the textbook. The paper text is not required but can be purchased if that is the student’s preference. My Stat Lab access is not included with the purchase of a used book, and may not be included with the purchase of a new book. Therefore, use caution when purchasing your textbook.

  **Microsoft Windows 7 and 8 users should use one of the following browsers with My Stat Lab courses-- Chrome, Firefox or Internet Explorer 10 and 9. Click here for other system requirements.**
Instructional Methodology:
This course is taught exclusively online using video lectures. Most assignments including all homework, quizzes, and tests are completed on My Stat Lab. A comprehensive final exam is required and must be taken at the [Eastfield College testing center](https://www.eastfieldcollege.edu/testing-center).

Discussion Board Posts: A series of discussion board topics will be presented. The discussion board is located in My Stat Lab. Students are expected to contribute to these discussion board topics by the dates indicated in the course calendar at the end of the syllabus. Please note that discussion board posts are **not** accepted late.

Instructional Components: This course is divided into modules. The components of each module are described below.

**Step 1: Video** – Video lecture introduces each section of module
- Must be accessed before each homework assignment
- Grade omitted from course average
- Can be accessed after due date

**Step 2: Homework** – Consists of problems from each section
- Problem can be repeated until mastered – select “Similar Exercise” after each 3rd incorrect attempt
- All “Help” buttons available
- Can be accessed after due date
- Late problems penalized 10%
- Must be in “Homework,” not “Review” mode to save progress
- Problems saved individually

**Step 3: Quiz** – Consists of problems that summarize multiple sections
- Must be completed immediately following the homework for the relevant sections
- Have a time limit of 60 minutes
- Must complete the quiz in one sitting
- Two attempts allowed for each quiz with only the best score taken into account
- Can’t be accessed after due date
- Will not be accepted late under any circumstance

**Step 4: Module Test Review** – Helps prepare students for module test
- Score NOT included in homework average
- Can be accessed after due date

**Step 5: Module Test** – Assesses student understanding of module
- Must be in lockdown browser mode
- Must be completed within 120 minutes
- Reviewed by student only immediately after submission
- Late submission not allowed under any circumstance

Final Exam:
After completing modules 1 - 3, you will be ready to take the comprehensive final exam. This exam will be administered at the Eastfield College testing center. The testing center is located in Building C, Room 114. You will need a photo id, a writing utensil, and your graphing calculator to take the test. For testing center hours and additional information about the testing center, visit their [website](https://www.eastfieldcollege.edu/testing-center). Keep in mind that tests are not issued to students one hour before closing. Please refer to the course calendar at the end of the syllabus for testing dates. **Students must be present for the final exam. You may not take the final exam late nor can you make up or retake this assessment.**
Grading Policy:

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<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Discussion Board Posts</td>
<td>5%</td>
</tr>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>Tests</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
</tbody>
</table>

Grading Rationale:

90 – 100 ........... A
80 – 89 .......... B
70 – 79 ........... C
60 – 69 ........... D
< 60 ............... F

Student Learning Outcomes:
After completing this course, the student should be able to:
1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

Core Objectives:
MATH 1342 develops the following Core Objectives:

1. **Critical Thinking** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. **Communication** - to include effective development, interpretation and expression of ideas through written and visual communication.
3. **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

**Core Objective Development Statements:** MATH 1342 develops **Critical Thinking, Communication**, and **Empirical and Quantitative Skills** by requiring students to collect, analyze, present and interpret data and probability.
Attendance Policy:
You are expected to regularly attend all classes in which you are enrolled. Students have the responsibility to attend class and to consult with the instructor when an absence occurs. Please note that for certification purposes, participation in this course is defined as students registering for the course, accessing course materials on My Stat Lab, and completing the orientation assignment. If you have not logged on to My Stat Lab by the certification date, you will not be certified. You are expected to regularly log in to My Stat Lab to complete work for the course in which you are enrolled. Students have the responsibility to consult with the instructor when a deadline cannot be met.

If a student is unable to complete a course (or courses) in which he/she is registered, it is the responsibility of the student to withdraw from the course by the appropriate date. (The date is published in the academic calendar each year and in each semester’s class schedule). If a student does not withdraw, he/she will receive a performance grade, usually a grade of “F”.

Drop Date:
Last date to drop with a grade of “W” is Friday, December 22.

Institutional Policies:
Institutional policies relating to this course can be accessed from the following link: https://www.eastfieldcollege.edu/au/fastfacts/legal/pages/policies-for-syllabi.aspx

Additional Resources:
**Math tutoring is available in the second floor of the library (L200). Students are encouraged to take advantage of this service for additional help in their course work. Additionally, students can check-out TI – 84 calculators on a daily basis from the library.

COURSE COVERAGE:

<table>
<thead>
<tr>
<th>Sections</th>
<th>Topics</th>
</tr>
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<tbody>
<tr>
<td>1.1 – 1.6</td>
<td>Practices of statistics, Observational and experimental studies, Sampling, The design of an experiment</td>
</tr>
<tr>
<td>2.1 – 2.4</td>
<td>Qualitative and quantitative data, Time-Series data displays, Misrepresentation of data</td>
</tr>
<tr>
<td>3.1 – 3.5, 4.1 - 4.2</td>
<td>Measures of central tendency, Measures of dispersion, Grouped data, Measures of position, Outliers, Scatter Diagrams, Correlation, Regression</td>
</tr>
<tr>
<td>5.1 - 5.5</td>
<td>Probability rules, Addition and complement rules, Independence and multiplication rules, Conditional probability and the general multiplication rule, Counting techniques</td>
</tr>
<tr>
<td>8.1 – 8.2; 9.1 - 9.2 &amp; 9.4</td>
<td>Distribution of the sample mean and sample proportion, Estimating a population proportion and mean, Putting it all together</td>
</tr>
<tr>
<td>10.1 - 10.3 &amp; 10.5, 13.1</td>
<td>Language of hypothesis testing, Hypothesis testing for a population proportion and mean, Putting it all together, ANOVA</td>
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SYLLABUS REVISION:
The guideline in this syllabus may be changed, deleted, or amended any time by the instructor. The attached course outline is intended as an aid in helping you know your responsibilities for the semester. It is possible that some changes in the course outline or class policies will be made during the semester.
Revised: 12/16/2017
# Course Pacing Calendar

<table>
<thead>
<tr>
<th>Due Date</th>
<th>ASSIGNMENTS</th>
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<tbody>
<tr>
<td>Tuesday, December 12</td>
<td>• Orientation Assignment on My Stat Lab&lt;br&gt;• Introduction Post on Discussion Board on My Stat Lab</td>
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<tr>
<td>Wednesday, December 20</td>
<td>• Video, HW, Quiz §1.1 - 1.6&lt;br&gt;• Video, HW, Quiz §2.1 - 2.4&lt;br&gt;• Video, HW, Quiz §3.1 - 3.5&lt;br&gt;• Video, HW, Quiz §4.1 - 4.2&lt;br&gt;• HW Review for Test Module 1 (optional) Module Test 1</td>
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<tr>
<td>Wednesday, December 27</td>
<td>• Video, HW, Quiz §5.1 - 5.5&lt;br&gt;• Video, HW, Quiz §6.1 - 6.2&lt;br&gt;• Video, HW, Quiz §7.1 - 7.3&lt;br&gt;• Post on Discussion Board on My Stat Lab&lt;br&gt;• HW Review for Test Module 2 (optional) Module Test 2</td>
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<tr>
<td>Thursday, January 4</td>
<td>• Video, HW, Quiz §8.1 – 8.2&lt;br&gt;• Video, HW, Quiz §9.1 – 9.2&lt;br&gt;• Video, HW, Quiz §10.1 -10.3, §13.1&lt;br&gt;• Post on Discussion Board on My Stat Lab&lt;br&gt;• HW Review for Test Module 3 (optional) Module Test 3</td>
</tr>
<tr>
<td>Friday, January 5</td>
<td><strong>HW Final Exam Review</strong>&lt;br&gt;The comprehensive final exam will cover everything that was covered in the semester. The comprehensive final exam must be taken by the end of business day on this date. Please see the <a href="#">testing center’s website</a> for hours of operation, policies, etc.</td>
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**Note:** All past due homework is due by 11:59 p.m. on Thursday, January 4.