Term: 2nd Fall 2019 Term  
Course: MATH-1342-48400  
Course Dates: 10/22/2019 – 12/12/2019  
Class Location: Classes Meet Online on Blackboard

| Instructor: | Erika Glaser, Ph.D. |
| Phone: | (972)860-7006 |
| Email: | erikaglaser@dcccd.edu |
| Office & Office Hours: | C211  
Available online live through Collaborate  
or in C211: Mondays and Wednesdays from 10:30 a.m. – 1:00 p.m. |

| STEM Division: | C-Building, Room 202 | 972-860-7297 |
| Course Drop Date: | Wednesday, November 27 |
| Certification Date: | Monday, October 28 |
| Disclaimer: | The instructor reserves the right to amend this syllabus as necessary. |
| Institutional Policies: | Eastfield College Institutional Policies  
(www.eastfieldcollege.edu/syllabipolicies) |

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:  
- **Concepts in Statistics (Waymaker):** Please note that in this section of MATH 1342, a traditional textbook is not utilized. Instead an interactive online software program incorporating open educational resources will be used. All of the course materials are available through Blackboard. However, to take the required online quizzes, access to the Waymaker program is required. The cost for this program is $25 and is available through Eastfield College’s bookstore online, by phone, or in-person.

- **StatCrunch:** Students are required to have access to StatCrunch. This easy-to-use statistical data analysis package can be accessed online and will be necessary to analyze data throughout the course. The cost for 6-month access to this package is $14.99 and is available through the StatCrunch website.
• **Calculator**: Students may use a calculator in this course. For testing, the testing center at Eastfield College has graphing calculators that can be checked out. Additionally, graphing calculators can be checked out by students at no cost on a daily basis from the library (L200).

**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.

**Live Office Hours:**
Students will have the opportunity to engage live with the instructor and other students weekly on Blackboard using Collaborate. Please see office hour schedule above for days and times. During this session, the instructor will be available to answer any questions from students. Participation in the live office hours is strongly encouraged when possible.

**Instructional Components:**
This course is taught exclusively online using online interactive software. All assignments are completed on Blackboard with the exception of proctored midterm and final exams. Please see exams information below for more details.

This course is divided into modules. Each module includes pre-recorded lectures, study plan, and module quiz described below.

**Step 1**: Getting Started
- Why it Matters section introduces the module topics
- Show What You Know is a pre-quiz assignment that sets up the module for tailored questions throughout the study plan
- Can be accessed after due date

**Step 2**: Dive In
- Course objectives are presented through interactive course material
- Questions from the pre-quiz are presented for practice in preparation for the quiz – these questions do not count for a grade
- Can be accessed after due date
**Step 3: Finish Strong**
- Putting It Together section summarizes module topics
- Stat Tutor assignments (available for Modules 2, 3, 4, 7 and 8) are a preview of the mini project assignments
- Quiz Results section shows the quiz grade on both attempts

**Step 4: Module Quiz**
- Should be attempted after completing Steps 1 – 3 of the study plan
- Must be completed in one sitting
- Two attempts allowed for each quiz with only the best score counting toward overall course grade
- **Will not be accepted late under any circumstance (both quiz attempts are due by the due date).**

**Midterm and Final Exams:**
After completing modules 1 - 4, students will be ready to take the midterm exam. The comprehensive final exam will be completed after completing modules 5 – 8. Both exams are required and must be taken at the Eastfield College testing center. The testing center is located in Building C, Room 113. Students will need a photo id, a writing utensil, and a calculator to take the exams. For testing center hours and additional information about the testing center, please visit their [website](#). Keep in mind that exams are not issued to students one hour before closing. Please refer to the course calendar at the end of the syllabus for testing dates. No appointments are necessary if testing at Eastfield College. Students may request to take their exams at another DCCCD campus testing center. Requests for testing at another campus must be made to the instructor via email no later than the first week of the term.

Arrangements can be made for students to take their exams using the online proctor service [ProctorU](#). A webcam is required and there is a fee associated with this service ($25 per exam) that students are responsible for. To avoid any extra fees, students must schedule or reschedule their exam(s) more than 72 hours in advance. Otherwise, an additional premium fee will be added if a reservation is scheduled within a shorter period of time.

**Students must be present for the midterm and final exams. Students may not take the midterm or final exams late nor can they make up or retake these assessments.**

**Mini Projects:**
Five mini projects are required for Modules 2, 3, 4, 7, and 8. These assignments give students the opportunity to analyze real data sets using StatCrunch and provide a written summary of the analysis results. Students are expected to complete these assignments following the rubric posted on Blackboard by the dates indicated in the course calendar at the end of the syllabus. Mini projects are **not** accepted late under any circumstance.

**Grading Policy:**

<table>
<thead>
<tr>
<th>Mini Projects</th>
<th>25%</th>
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<tbody>
<tr>
<td>Module Quizzes (one lowest quiz grade will be dropped)</td>
<td>25%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>25%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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</tbody>
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**Grading Rationale:**

- 90 – 100………A
- 80 – 89 ………..B
- 70 – 79 ………..C
- 60 – 69 ………..D
- < 60 ……………F
ADDITIONAL RESOURCES
The Math Spot ([https://www.eastfieldcollege.edu/services/academic-support/tutoring/pages/default.aspx](https://www.eastfieldcollege.edu/services/academic-support/tutoring/pages/default.aspx)) provides tutoring in Mathematics and Developmental Mathematics. Students are encouraged to take advantage of this service for additional help in their course work. The Math Spot is located in room L200, and the phone number is 972-860-7174. Visit the link above for more information on tutors, hours of operation and policies.

### COURSE COVERAGE

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
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</table>
| 1      | Types of Statistical Studies and Producing Data  
Dive in Topics:  
- Types of Statistical Studies  
- Sampling  
- Conducting Experiments |
| 2      | Summarizing Data Graphically and Numerically  
Dive in Topics:  
- Categorical vs. Quantitative Data  
- Dotplots  
- Histograms  
- Measures of Center  
- Measures of Spread  
- Describing a Distribution |
| 3      | Examining Relationships  
Dive in Topics:  
- Scatterplots  
- Linear Relationships  
- Association vs Causation  
- Linear Regression  
- Assessing the Fit of a Line |
| 4      | Relationships in Categorical Data with Introduction to Probability  
Dive in Topic:  
- Two-Way Tables |
| 5      | Probability and Probability Distributions  
Dive in Topics:  
- Another Look at Probability  
- Probability Rules  
- Discrete Probability Distribution  
- Continuous Probability Distribution  
- Normal Random Variables |
| 6      | Linking Probability to Statistical Inference  
Dive in Topics:  
- Distribution of Sample Proportions  
- Statistical Inference |
| 7      | Inference for One Proportion  
Dive in Topics:  
- Estimating a Population Proportion  
- Hypothesis Testing  
- Hypothesis Test for a Population Proportion |
| 8      | Inference for Means  
Dive in Topics:  
- Distribution of Sample Means  
- Estimating a Population Mean  
- Hypothesis Test for a Population Mean |
<table>
<thead>
<tr>
<th>Due Date</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>Friday, October 25</td>
<td>• Research Consent Form</td>
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<tr>
<td></td>
<td>• Study Plan: Module 1</td>
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<td>• Quiz: Module 1</td>
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<td>Friday, November 1</td>
<td>• Study Plan: Module 2</td>
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<td>• Quiz: Module 2</td>
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<td>• Mini Project: Module 2</td>
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<td>Friday, November 8</td>
<td>• Study Plan: Module 3</td>
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<td>• Quiz: Module 3</td>
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<td>• Mini Project: Module 3</td>
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<tr>
<td>Friday, November 15</td>
<td>• Study Plan: Module 4</td>
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<td>• Quiz: Module 4</td>
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<td>• Mini Project: Module 4</td>
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<td>Monday, November 18</td>
<td>• Midterm Exam</td>
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<td>Friday, November 22</td>
<td>• Study Plan: Module 5</td>
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<td>• Quiz: Module 5</td>
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<td>Friday, November 29</td>
<td>• Study Plan: Module 6</td>
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<td>• Quiz: Module 6</td>
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<td>• Study Plan: Module 7</td>
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<td>• Quiz: Module 7</td>
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<td>• Mini Project: Module 7</td>
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<tr>
<td>Friday, December 6</td>
<td>• Study Plan: Module 8</td>
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<td>• Quiz: Module 8</td>
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<td>• Mini Project: Module 8</td>
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<tr>
<td>Thursday, December 12</td>
<td>• Final Exam</td>
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Revised: 10/14/19