

EASTERN WYOMING COLLEGE

Statistics

Student Philosophy Statement

Eastern Wyoming College is committed to providing a student experience that promotes academic success in a challenging and supportive environment, facilitates the transition to college for first time students, and helps all students identify and achieve their individual goals. EWC's student experience is designed to foster personal growth by increasing independence, promoting ethical behavior and personal responsibility for learning, and affording opportunities for student involvement in campus activities to enhance social development.

COURSE NAME	Fundamentals of Statistics
COURSE NUMBER.....	STAT 2050-40/90
CREDIT HOURS	4 credit hours
CONTACT HOURS	4 contact hours
SEMESTER	SPRING 2013
TIME	On-Line
LOCATION	LANCERNET
INSTRUCTOR	Rick Vonburg
OFFICE	TEB 212
OFFICE HOURS	M - F 10:00–10:55 a.m., F 1:00-2:00 p.m. or by appointment
TELEPHONE	532-8299 (office)
E-MAIL.....	rvonburg@ewcmail.wy.edu

COURSE DESCRIPTION

A presentation of the central ideas and applications of statistical inference. Topics include the collection and tabulation of data, statistical description of frequency distributions, elements of probability, applications of statistical distributions, confidence interval estimation, tests of hypotheses, analysis of variance for the one-way classification, and simple linear regression and correlation.

Prerequisite: MATH 1000 or MATH 1400 or equivalent with a grade of "C" or better.

COURSE RATIONALE

Statistics is a course frequently required in many majors, including business, education, mathematics, and science and science related majors.

COURSE OBJECTIVES

After successfully completing this course, the student should be able to:

1. Construct and read various types of graphs.
2. Calculate measures of central tendency, of variation, of position.

3. Apply basic concepts of probability and of counting.
4. Apply various types of probability distributions and binomial distributions.
5. Apply normal distributions, including the standard normal distribution and find normal approximations to binomial distributions; use the central limit theorem.
6. Find confidence intervals.
7. Do hypothesis testing with one and two samples.
8. Determine correlations and measures of regression.

REQUIRED MATERIALS

Textbook: *Discovering Statistics*, Hawkes and Marsh, 2nd Edition, Hawkes Publishing, 2005. ISBN 0-918091-85-3 Bundled with a disc you will need for class.

Calculator: We will be basing class exercises and discussion on the TI-83 Plus calculator. These are available for students to loan out for the semester from the Math/Stat Departments. If you choose to use another calculator, that will be fine, but you will be responsible for understanding how to use it to obtain the calculations.

GRADING CRITERIA

Your final grade will be a reflection of your performance in these areas, with points allocated **approximately** as follows:

Class Activity	Total Points	Weighted Points	Per cent of Grade
Hawkes Learning System Chapter Certifications	740	500	50%
Chapter Exams (every 2 Chapters)	656	300	30%
Field Project on a selected Hypothesis Test	50	50	5%
Final Exam	150	150	15%
Total Possible Points	1536	1000	100%

You will receive 10 points for each Hawkes Learning Systems (HLS) lesson certification for a total of 740 points (half of your grade). An 80% comprehension is needed to successfully certify a lesson. You will have unlimited times to attempt a lesson in order to achieve the 80%. There will be a one point deduction from the 10 points for every day late the certification is completed. The exams are a one-time only attempt and you must complete them in one sitting, so allow yourself enough time to complete the exam once you start. Exams must be completed by the due date.

Grades will be based on the following scale:

GRADE	% OF POINTS NEEDED TO RECEIVE GRADE
A	90% - 100%
B	80% - 89%
C	65% - 79%
D	50% - 64%
F	0% - 49%

INSTRUCTOR'S POLICY

- § **The option for a “W” grade after the official last day to drop classes will only be given in emergency cases.** Official drop day for this semester is April 25th.
- § Attendance/participation will be monitored by the Hawkes Learning Systems software.
- § Assignments are to be completed when due. There is a point a day deduction for late homework.
- § Exams will be due when assigned, no exceptions.

All exams will be “open” textbook, notes, or any additional materials, but your efforts must be your own!! Calculators cannot be shared during an exam. Honest, individual effort is required. A violation of this policy will result in a zero being recorded as an exam score.

The instructor reserves the right to suspend a student from class if his or her behavior does not conform to these minimal standards.

WITHDRAWAL POLICY

April 25th = LAST DAY TO DROP REGULAR SEMESTER CLASSES

Withdrawal from the course must be initiated by the student following procedures outlined in the current EWC GENERAL CATALOG.

ATTENDANCE POLICY

A student at Eastern Wyoming College is expected to actively participate in each course in which the student is enrolled. Active participation in all scheduled learning activities is essential for the student to satisfactorily achieve the educational objectives of any course; therefore, **an instructor is authorized to withdraw a student from a course whenever activity ceases.**

TENTATIVE SCHEDULE:

<u>Week of:</u>	<u>Topics Covered</u>	<u>Chapter in Text</u>	<u>Lessons</u>
Jan 15	Statistics & Problem Solving and Data, Reality, & Problem Solving Lesson Certifications due Thursday, Jan 17 Chapter 2 Review Certification due Monday, Jan 21	Chapter 1 Chapter 2	1.1 - 1.3 2.1 - 2.6
Jan 21	<u>EXAM #1</u> Chapters 1 & 2 due Wednesday, Jan 23 Organizing, Displaying, & Interpreting Data Lesson Certifications due Thursday, Jan 24 Chapter 3 Review Certification due Monday, Jan 28	Chapter 3	3a - 3d
Jan 28	Describing Data from One Variable Lesson Certifications due Thursday, Jan 31 Chapter 4 Review Certification due Monday, Feb 4	Chapter 4	4.1 - 4.10
Feb 4	<u>EXAM #2</u> Chapters 3 & 4 due Wednesday, Feb 6 Discovering Relationships Lesson Certifications due Thursday, Feb 7 Chapter 5 Review Certification due Monday, Feb 11	Chapter 5	5.2 - 5.6
Feb 11	Probability, Randomness, & Uncertainty Lesson Certifications due Thursday, Feb 14 Chapter 6 Review Certification due Monday, Feb 18	Chapter 6	6.1 - 6.12b
Feb 18	<u>EXAM #3</u> Chapters 5 & 6 due Wednesday, Feb 20 Probability Distributions Lesson Certifications due Thursday, Feb 21 Chapter 7 Review Certification due Monday, Feb 25	Chapter 7	7.1 - 7.9
Feb 25	Continuous Random Variables Lesson Certifications due Thursday, Feb 28 Chapter 8 Review Certification due Monday, Mar 4	Chapter 8	8.3a - 8.5
Mar 4	<u>EXAM #4</u> Chapters 7 & 8 due Wednesday, Mar 6 Samples and Sampling Distribution Lesson Certifications due Thursday, Mar 7 Chapter 9 Review Certification due Monday, Mar 11	Chapter 9	9.6 - 9.7
Mar 11	Estimating Means and Proportions Lesson Certifications due Thursday, Mar 14 Chapter 10 Review Certification due Monday, Mar 18	Chapter 10	10.1 - 10.9
Mar 13	<i>Midterm</i>		

Mar 18	<u>EXAM #5</u> Chapters 9 & 10 due Wednesday, Mar 20 Introduction to Hypothesis Testing	Chapter 11	11.1 – 11.4c
	Lesson Certifications due Thursday, Mar 21		
	Chapter 11 Review Certification due Monday, Apr 3		
<i>Mar 25-Apr 2 Spring Break/Easter Break</i>			
Apr 3	Additional Topics with Hypothesis Testing	Chapter 12	12.1a – 12.5
	Lesson Certifications due Thursday, Apr 4		
	Chapter 12 Review Certification due Monday, Apr 8		
Apr 8	<u>EXAM #6</u> Chapters 11 & 12 due Wednesday, Apr 10 Regression, Inference, & Model Building	Chapter 13	13.2 - 13.8b
	Lesson Certifications due Thursday, Apr 11		
	Chapter 13 Review Certification due Monday, Apr 15		
Apr 15	Analysis of Variance (ANOVA)	Chapter 14	14.2, 14.4
	Looking for Relationships in Qualitative Data	Chapter 15	15.2 - 15.3
	Lesson Certifications due Thursday, Apr 18		
	Chapter 15 Review Certification due Monday, Apr 22		
Apr 22	Statistical Process Control	Chapter 17	17.3 – 17.5
	Lesson Certifications due Thursday, Apr 25		
	Chapter 17 Review Certification due Monday, Apr 29		
Apr 29	<u>EXAM #7</u> Chapters 13, 14, 15, & 17 due Wednesday, May 2 Lessons A.4 – A.8	Appendix I	A.4 – A.8
	Lesson A.10	Appendix II	A.10
	Lesson Certifications due Thursday, May 2		
May 7	Project due May 6		
	<u>FINAL EXAM</u> Over All Material due Thursday, May 9		

Academic Dishonesty Policy

Academic dishonesty is not tolerated. Dishonesty includes plagiarism, cheating and any conscious act by a student that gives him or her an undue advantage over fellow students.

Plagiarism

Copying or using the ideas of another without giving proper credit through the use of quotation marks, footnotes, or other forms of reference.

Cheating

Making unauthorized use of answers to examinations, tests, quizzes, in-class work, or homework assignments, as well as **copying from fellow students** or submitting work that has been done by

someone else.

Students shall complete all assigned course work individually unless otherwise indicated. Academic dishonesty of any kind shall result in a score of zero on the assignment or examination and may result in withdrawal from the course or a grade of F, as the instructor deems appropriate. In addition, the instructor may refer the student to the appropriate EWC official for further discipline.

GENERAL EDUCATION REQUIREMENTS

- **Communication Skills:** Graduates will be able to understand and communicate ideas and information in written and spoken English that reveals a mastery of terminology appropriate to their disciplines.
- **Analytical and Quantitative Reasoning:** Graduates will be able to solve problems through critical thinking involving analytical and quantitative reasoning at a level appropriate to their disciplines.
- **Technology Skills:** Graduates will be able to demonstrate competence using technology appropriate to their disciplines.
- **Social Awareness:** Graduates will be able to demonstrate an awareness of the relationship between the individual and the world.
- **Information Literacy:** Graduates will be able to locate, evaluate, and use information effectively.

ADA ACCOMODATIONS:

Eastern Wyoming College is committed to providing reasonable accommodations for qualified individuals with disabilities. If a student has a disability and desires a reasonable accommodation for such disability, the student should contact Ms. Debra Ochsner (532-8283) or Mr. Tom McDowell (532-8330) as soon as possible so that arrangements may be made.

DISCLAIMER STATEMENT

The instructor reserves the right, acting within the policies and procedures of EWC, to make changes in the course schedule or activities. All changes will be announced and e-mailed to students.