Statistical Concepts and Methods
Math 311
5 credits, Spring 2013

Instructor: Michael A. Lundin
Office: Bouillon Hall, Room 108 D
Phone: 963-1398
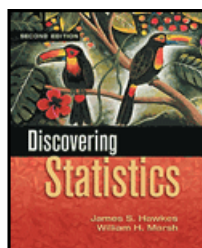email: lundin@cwu.edu

Meeting Time: 1:00 – 1:50 MTWThF
Web Site: http://www.cwu.edu/~lundin/courses.htm
Meeting Place: MTWF Hertz 104; Th Bouillon 103
Office Hours: 10:00-11:00 M-F or by appointment

Students With Disabilities

Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Disability Support Services Office as soon as possible, so we can discuss how the approved adjustments will be implemented in this class. Students who need this form should contact the Disability Support Services Office in Bouillon 205 at dssrecept@cwu.edu or call 963-2171.

Text

Discovering Statistics by Hawkes and
    Marsh, 2nd Ed.

(Order online or purchase from the bookstore.)

Supplies

(1) Inexpensive Paper Notebook (for notes)
(2) Access to the World Wide Web
(3) Graphing Calculator: TI-84 is best for learning statistics

Course Description and Learner Outcomes

Statistical Concepts and Methods is course in problem-solving, using elementary statistical methods within a research paradigm. Students will learn the following: (1) How to pose and refine research questions; (2) How to "mathematize research questions using correct statistical methods; (3) How to efficiently calculate model statistics manually and using technology; (4) How to interpret statistical results; and (5) How to communicate research and results succinctly and accurately.

Learner Outcomes and Assessments

Learner Outcome	Assessment
Pose and refine research questions	Research Reports
"Mathematize" research questions using correct statistical models	Quizzes, Research Reports, Final Exam
Efficiently calculate model statistics by hand and/or Microsoft Excel	Quizzes, Research Reports, Final Exam
Interpret statistical results	Quizzes, Research Reports, Final Exam

Communicate research and results succinctly and accurately	Quizzes, Research Reports, Final Exam

Work Required and Credit

- At least three well-written, research reports (30% of your grade)
- Four quizzes (40% of your grade)
- One final exam (30% of your grade)

Attendance, Class Work, etc.

During class we will frequently work on calculators or computers and do group work, all of which you will miss if you are not there. If you must miss class, look at our web site for an outline of what we covered, and contact your group members for updates of class content. Be aware that there is a many to one student/instructor ratio in this class, making lengthy one-on-one tutorials difficult. For this reason, I expect students to attend class, to work in groups to help one another, and to make every attempt to use the resources provided in this course. Expect to hear from me if you miss class, if you are not on task during class, or if you are not performing well. Also be aware of the 10% late work penalty, applied to all research reports, quizzes, and tests. Although you will work together often, you will be individually accountable for completed reports, quizzes, and tests. Academic dishonesty merits zero tolerance.

Research Report Rubric

Writing

Exemplary (5 pts)	Proficient (3 pts)	Partially Proficient (1 pts)	Missing (0 pts)
Grammar, sentence and paragraph structure, spelling, and punctuation perfect. Paper written elegantly and eloquently, with proper graphs or tables. Typed and Professional appearance.	Multiple (more than 1) errors in grammar, sentence or paragraph structure, spelling, or punctuation. Elegance compromised by verbosity, yet understandable. Typed!	Grossly inadequate in terms of grammar, sentence or paragraph structure, spelling, or punctuation. Verbose or unintelligible. Missing needed graphs, equations, or tables. NOT Typed!	Your dog ate it; your cat ate it; your boyfriend ate it; your girlfriend ate it; Obama ate it, Romney ate it…it's just not there.

Mathematics

Exemplary (5 pts)	Proficient (3 pts)	Partially Proficient (1 pts)	Missing (0 pts)
Correct, elegant, complete, explanatory, and professionally presented.	Minor errors, but essentially correct, elegant, complete, and explanatory.	Major omissions or fundamentally incorrect mathematical usage or exposition.	Lady Gaga ate it.

Final Grading Scale

93-100%	90-92%	87-89%	83-86%	80-82%	77-79%	73-76%	70-72%	67-69%	63-66%	60-62%	<60%
A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F