

Syllabus

MAT-112: General Statistics

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Course Updated November 2017



Course Description

An introduction to elementary concepts in descriptive statistics and inferential statistics using applications from various disciplines and supplementing with statistical software. Topics include data collection and summarization, random variables and probability distributions, linear correlation and regression, confidence intervals, and hypothesis testing.

Credit Hours: 3

Prerequisite Courses: None

Prerequisite Skills and Knowledge: The student should be able to use a calculator to perform simple algebraic calculations.

Course Outcomes

Upon completion of this course you should be able to:

1. To perform statistical analyses associated with a quantitative and qualitative model and make conclusions based on the results.
2. To describe statistics as a field of study and a descriptive language of definable quantities.
3. To understand quantitative and qualitative models that describe real world phenomena and recognize limitations of those models.
4. Articulate in writing the importance of statistics and practical applications of statistics.
5. Construct patterns that represent real world situations and relationships.
6. Define basic concepts in descriptive and inferential statistics.
7. Collect, process, organize, and present data in a number of graphs for descriptive statistics.
8. Interpret data representing statistical models and the probability of those events.
9. Conduct a sampling, calculate a point estimate, define a level of confidence and conduct a hypothesis test.
10. Make inferences about a correlation or relationship between two variables.

Course eTextbook

Larson, R., & Farber, E. (2014). *Elementary statistics: Picturing the world with MyStatLab* (6th ed.) Boston, MA: Pearson Education, Inc.

[How to access the textbook.](#)

If you have a problem accessing the eText, it can usually be resolved by clearing the browser history, closing all the way out, and then coming back in to a fresh browser window.

Course Technology

- StatCrunch

IWU Diversity Statement

IWU, in covenant with God's reconciling work and in accordance with the Biblical principles of our historic Wesleyan tradition, commits to build a community that reflects Kingdom diversity. We will foster an intentional environment for living, teaching and learning, which exhibits honor, respect, and dignity. Acknowledging visible or invisible differences, our community authentically values each member's earthly and eternal worth. We refute ignorance and isolation and embrace deliberate and courageous engagement that exhibits Christ's commandment to love all humankind.

Onsite Classes

1. Onsite classes will use the discussion forums to award course points. Onsite classes can use the discussion forum prompts for in-class discussions.
 - a. By policy, instructors are not permitted to assign discussion forums as assignments to be completed outside of class time.
 - b. There are to be NO peer posting expectations for onsite classes. No exceptions.
 - c. Your students may voluntarily prepare for discussions, but you may not require them to make a primary post for grading outside of class time.
2. If class is cancelled due to weather, then discussion forum primary posts and peer posts may be assigned and required as part of the online weather emergency strategy.
3. If students are absent from class, then instructors may allow those students to post in the discussion forums to earn some of those points.
4. Other than the discussion forums, students in onsite classes are required to complete all other assignments (homework, quizzes, tests, assignments).

Grading Scale

Grade	Quality Points Per Credit	Percentage	Score
A	4.0	95% - 100%	950 – 1000
A-	3.7	92% - 94.9%	920 – 949
B+	3.3	89% - 91.9%	890 – 919
B	3.0	85% - 88.9%	850 – 889
B-	2.7	82% - 84.9%	820 – 849
C+	2.3	79% - 81.9%	790 – 819
C	2.0	75% - 78.9%	750 – 789
C-	1.7	72% - 74.9%	720 – 749
D+	1.3	69% - 71.9%	690 – 719
D	1.0	65% - 68.9%	650 – 689
F	.0	0% - 64.9%	0 – 649

Grading Policies

Your grading policy for your course is dependent on your school and program. Your grading policies can be found in the IWU Catalog.
<http://www.indwes.edu/catalog/2307.htm>

Letter Grade Equivalencies

Grade	Description Of Work

A	Clearly stands out as excellent performance. Has unusually sharp insights into material and initiates thoughtful questions. Sees many sides of an issue. Articulates well and writes logically and clearly. Integrates ideas previously learned from this and other disciplines. Anticipates next steps in progression of ideas. Example "A" work should be of such nature that it could be put on reserve for all cohort members to review and emulate. The "A" cohort member is, in fact, an example for others to follow.
B	Demonstrates a solid comprehension of the subject matter and always accomplishes all course requirements. Serves as an active participant and listener. Communicates orally and in writing at an acceptable level for the degree program. Work shows intuition and creativity. Example "B" work indicates good quality of performance and is given in recognition for solid work; a "B" should be considered a good grade and awarded to those who submit assignments of quality less than the exemplary work described above.
C	Quality and quantity of work in and out of class is average. Has marginal comprehension, communication skills, or initiative. Requirements of the assignments are addressed at least minimally.
D	Quality and quantity of work is below average. Has minimal comprehension, communication skills, or initiative. Requirements of the assignments are addressed at below acceptable levels.
F	Quality and quantity of work is unacceptable and does not qualify the student to progress to a more advanced level of work.

Workshop One Overview

Title	Due Dates	Time	Points
1.0 Exercise: Introduction of Statistics and StatCrunch	Due by the end of day four of the workshop	2 hours	0
1.1 Discussion: Devotional	Post your initial response by day four and post two follow-up responses by the end of the workshop	1 hour	10
1.2 Discussion: Descriptive Statistics	Post your initial response by day four and post two follow-up responses by the end of the workshop	2 hours	30
1.3 Exercise & Discussion: Graphs	Post your initial response by day four and post two follow-up responses by the end of the workshop	2 hours	30
1.4 MyStatLab: Homework - Chapter 1	Due by the end of the workshop	4 hours	70
1.5 MyStatLab: Homework - Chapter 2	Due by the end of the workshop	4 hours	70
Totals		15 hours*	210

Workshop Two Overview

Title	Due Dates	Time	Points
2.1 Discussion: Devotional	Post your initial response by day four and post two follow-up responses by the end of the workshop	1 hour	10
2.2 Exercise & Discussion: Normal Probability	Post your initial response by day four and post two follow-up responses by the end of the workshop	3 hours	30
Totals		15 hours*	210

Title	Due Dates	Time	Points
2.3 Exercise & Discussion: Confidence Intervals	Post your initial response by day four and post two follow-up responses by the end of the workshop	3 hours	30
2.4 MyStatLab: Homework - Chapter 5	Due by the end of the workshop	4 hours	70
2.5 MyStatLab: Homework - Chapter 7	Due by the end of the workshop	4 hours	70
Totals		15 hours*	210

Workshop Three Overview

Title	Due Dates	Time	Points
3.1 Discussion: Devotional	Post your initial response by day four and post two follow-up responses by the end of the workshop	1 hour	10
3.2 Discussion: Hypothesis Tests	Post your initial response by day four and post two follow-up responses by the end of the workshop	3 hours	30
3.3 Exercise & Discussion: One-Sample Hypothesis Tests	Post your initial response by day four and post two follow-up responses by the end of the workshop	3 hours	30
3.4 MyStatLab: Homework - Chapter 8	Due by the end of the workshop	4 hours	70
3.5 MyStatLab: Midterm Exam	Due by the end of the workshop	4 hours	60
Totals		15 hours*	200

Workshop Four Overview

Title	Due Dates	Time	Points
4.1 Discussion: Devotional	Post your initial response by day four and post two follow-up responses by the end of the workshop	1 hour	10
4.2 Discussion: Independent and Dependent Samples	Post your initial response by day four and post two follow-up responses by the end of the workshop	3 hours	30
4.3 Exercise & Discussion: Two-Sample Hypothesis Tests	Post your initial response by day four and post two follow-up responses by the end of the workshop	3 hours	30
4.4 MyStatLab: Homework - Chapter 9	Due by the end of the workshop	4 hours	70
Totals		11 hours*	140

Workshop Five Overview

Course Outline

Workshop	Discussion	Assignment	Exam	Total Points
Workshop One	3/70	2/140		210
Workshop Two	3/70	2/140		210
Workshop Three	3/70	1/70	1/60	200

Workshop Four	3/70	1/70		140
Workshop Five	3/70	1/70	1/100	240
Course Totals	15/350	7/490	2/160	1000

