Syllabus

STAT-535: Statistics for Business Decision Making

Course Description

Students in this course will demonstrate how data analyses inform business decision making by analyzing business problems using descriptive statistics, graphical methods, normal distribution and sampling theory, regression, and various forecasting methods, and assessing statistical significance using the t-test. Students will synthesize an appropriate course of action for business decision making and integrate biblical principles into data-driven business decision making.

Credit Hours: 3

Course Outcomes

Upon successful completion of this course, students should be able to:

1. Analyze business problems using descriptive statistics and graphical methods.
2. Apply the concepts of the normal probability distribution and sampling theory.
3. Assess statistical significance using the t-test.
4. Evaluate data using regression.
5. Demonstrate the ability to analyze a dataset using statistical tools and communicate the results.
6. Integrate biblical principles into data-driven business decision making.

Course Topics

- Data analyses for business decision making
- Descriptive statistics
- Graphical methods
- Normal distribution and sampling theory
- Regression forecasting methods

- Statistical significance using the t-test, biblical principles, and business decision making

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Course Resources

Note: This course utilizes Online Educational Resources that are displayed in Student Resources within each workshop (or module).

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. (2016)

Grading Scale

Grade	Quality Points Per Credit	Percentage	Score
A	4.0	95%–100%	950–1,000
A-	3.7	92%–94.9%	920–949
B+	3.3	89%–91.9%	890–919
B	3.0	85%–88.9%	850–889

Grade	Quality Points Per Credit	Percentage	Score
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	0%–64.9%	0–649

Note: In graduate level courses, a grade of C- or below will require the course to be repeated.

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.

Letter Grade Equivalencies

Grade	Quality Points Per Credit
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.

Note: In graduate level courses, a grade of C- or below will require the course to be repeated.

Workshop Outlines

Workshop One Outcomes

Upon successful completion of this workshop, students will be able to:

- Evaluate the data sets and choose two of them for research purposes.

- Critically think about the misrepresentation of data in graphical form.

Workshop One Outline

Title	Due Dates	Time	Points
1.1 Exercise: Reading and Remediation	Due by the end of the workshop.	1 hour	0
1.2 Exercise: Misinformation Using Graphs	Due by the end of the workshop.	2 hours	0
1.3 Assignment: Two Examples of Misinformation Using Graphs	Due by the end of the workshop.	4 hours	100
1.4 Exercise: Research Report Template Sections	Due by the end of the workshop.	1 hour	0
1.5 Assignment: Choose Two Research Reports Data Sets	Due by the end of the workshop.	8 hours	100
1.6 Assignment: Ethical Considerations	Due by the end of the workshop.	2 hours	20
1.7 Discussion: Questions for Professor and Peers	Due by the end of the workshop.	1 hour	0
Totals		**19 hours***	**220**

*These times are only estimates. Actual completion times will vary.

Workshop Two Outcomes

Upon successful completion of this workshop, students will be able to:

- Analyze business problems using descriptive statistics and graphical methods.
- Integrate biblical principles into data-driven business decision making.
- Apply the concepts of the normal probability distribution and sampling theory.

Workshop Two Outline

Title	Due Dates	Time	Points
2.1 Exercise: Reading and Remediation	Due by the end of the workshop.	1 hour	0
2.2 Exercise: Research Report Template Sections	Due by the end of the workshop.	1 hour	0
2.3 Quiz	Due by the end of the workshop.	2 hours	20
2.4 Assignment: Creating the Beginning Background Section	Due by the end of the workshop.	10 hours	100
2.5 Assignment: Ethical Considerations	Due by the end of the workshop.	2 hours	20
2.6 Discussion: Questions for Professor and Peers	Due by the end of the workshop.	1 hour	0
Totals		**17 hours***	**140**

*These times are only estimates. Actual completion times will vary.

Workshop Three Outcomes

Upon successful completion of this workshop, students will be able to:

- Evaluate data using regression.
- Demonstrate the ability to analyze a dataset using statistical tools and communicate the results.
- Integrate biblical principles into data-driven business decision making.

Workshop Three Outline

Title	Due Dates	Time	Points
3.1 Exercise: Reading and Remediation	Due by the end of the workshop.	1 hour	0

Title	Due Dates	Time	Points
3.2 Exercise: Research Report Template Sections	Due by the end of the workshop.	1 hour	0
3.3 Quiz	Due by the end of the workshop.	2 hours	20
3.4 Assignment: Simple Linear Regression and Graphs	Due by the end of the workshop.	10 hours	100
3.5 Assignment: Ethical Considerations	Due by the end of the workshop.	2 hours	20
3.6 Discussion: Questions for Professor and Peers	Due by the end of the workshop.	1 hour	0
Totals		**17 hours***	**140**

*These times are only estimates. Actual completion times will vary.

Workshop Four Outcomes

Upon successful completion of this workshop, students will be able to:

- Assess statistical significance using the t-test.
- Demonstrate the ability to analyze a dataset using statistical tools and communicate the results.
- Integrate biblical principles into data-driven business decision making.

Workshop Four Outline

Title	Due Dates	Time	Points
4.1 Exercise: Reading and Remediation	Due by the end of the workshop.	1 hour	0
4.2 Exercise: Hypothesis Testing	Due by the end of the workshop.	1 hour	0

Title	Due Dates	Time	Points
4.3 Quiz	Due by the end of the workshop.	2 hours	20
4.4 Assignment: Create Hypothesis	Due by the end of the workshop.	10 hours	100
4.5 Assignment: Ethical Considerations	Due by the end of the workshop.	2 hours	20
4.6 Discussion: Questions for Professor and Peers	Due by the end of the workshop.	1 hour	0
Totals		**17 hours***	**140**

*These times are only estimates. Actual completion times will vary.

Workshop Five Outcomes

Upon successful completion of this workshop, students will be able to:

- Demonstrate the ability to analyze a dataset using statistical tools and communicate the results.
- Integrate biblical principles into data-driven business decision making.

Workshop Five Outline

Title	Due Dates	Time	Points
5.1 Exercise: Reading and Remediation	Due by the end of the workshop.	1 hour	0
5.2 Assignment: Summarizing Raw Data	Due by the end of the workshop.	6 hours	60
5.3 Quiz	Due by the end of the workshop.	2 hours	20
5.4 Assignment: Create Categorical Hypothesis	Due by the end of the workshop.	8 hours	100

Title	Due Dates	Time	Points
5.5 Assignment: Ethical Considerations	Due by the end of the workshop.	2 hours	20
5.6 Discussion: Questions for Professor and Peers	Due by the end of the workshop.	1 hour	0
Totals		**20 hours***	**200**

*These times are only estimates. Actual completion times will vary.

Workshop Six Outcomes

Upon successful completion of this workshop, students will be able to:

- Integrate biblical principles into data-driven business decision making.
- Summarize the research into the research paper.

Workshop Six Outline

Title	Due Dates	Time	Points
6.1 Exercise: Reading and Remediation	Due by the end of the workshop.	1 hour	0
6.2 Assignment: Pick Additional Data Set	Due by the end of the workshop.	6 hours	40
6.3 Quiz	Due by the end of the workshop.	2 hours	40
6.4 Assignment: Create Summary Sections	Due by the end of the workshop.	6 hours	60
6.5 Assignment: Ethical Considerations	Due by the end of the workshop.	2 hours	20
6.6 Discussion: Questions for Professor and Peers	Due by the end of the workshop.	1 hour	0

Title	Due Dates	Time	Points
Totals		18 hours*	160

*These times are only estimates. Actual completion times will vary.

Outline Totals

Total Time	Total Points
108 hours*	1,000

* These timings are based on estimations of average times to complete each activity. Actual activity completion times will vary.

Alternative Assignment Policy

Students with a documented disability may request accommodations for an alternative assignment(s) for course activities (Examples: video assignments, etc.). It is the student's responsibility to submit the form received from the Disability Services Office indicating his or her specific accommodation to the instructor prior to the start of each course.

Expectations, Policies, and Important Student Information

School/Division	
DeVoe School of Business	
Division of Liberal Arts	View School/Division Expectatic
School of Services and Leadership	

School/Division	
School of Educational Leadership	[View School/Division Expectatio](#)
Wesley Seminary @ IWU	[View School/Division Expectatio](#)
Nursing - Undergraduate	[View School/Division Expectatio](#)
Nursing - Graduate	[View School/Division Expectatio](#)

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