



**Virtual Campus – Spring 2009**  
**Feb 23, 2009 – May 16, 2009**

*Mission: Wayland Baptist University exists to educate students in an academically challenging, learning focused and distinctively Christian environment for professional success, lifelong learning and service to God and humankind.*

## **Elementary Statistics**

### **MATH 1306-VC01**

#### **Instructor:**

Dr. William Hahn  
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Office Phone: 806-291-1127

#### **Course Description:**

**Description:** This course develops skills in statistical measures, binomial and normal distributions, t-distribution, regression, correlation, hypothesis testing, and statistical software use.  
**Prerequisites:** MATH 1304 (College Algebra)

#### **Required Resources:**

**Lecture Notes:** Lecture Notes for Elementary Statistics by Dr. William Hahn  
(Downloadable from Blackboard)  
**Lecture Videos:** Downloadable from Blackboard  
**Student Access Pack:** MyStatLab Student Access Kit (ISBN: 0321570685)  
(Available through the Wayland Bookstore or [www.coursecompass.com](http://www.coursecompass.com))  
**Supplies:** All students need to have a calculator

#### **Optional Resource:**

**Textbook (hard copy):** Elementary Statistics, 11<sup>th</sup> edition by Triola (ISBN: 0321500245)

**NOTE: The hard copy of the textbook is optional because the access code above will grant you access to an online copy of the textbook.**

#### **Assessment of Student Achievement:**

There are 4 components to the final grade in this course.

1. **Homework Exercises:** You have homework exercises that must be completed for each section that we cover in the course. You will complete those online through the MyStatLab Course Interface. Instructions for using MyStatLab are included in your textbook. When you login to CourseCompass/MyStatLab you will be able to click on Homework and view your homework exercises. (see attachment)
2. **Weekly Quizzes:** By the end of each week of the course you will be required to complete an online quiz covering the sections from that week. The deadline for completing this quiz will be midnight on Sunday,

each week. You can take the quiz up to **three times** and your highest score will be counted. Each time you take the test, the questions will be randomly generated, but of the same type.

3. **Exams:** During the course, there will be two major exams: a Midterm and a Final. Both of these tests are to be taken in person at one of the external campuses or a testing center. They will be paper and pencil tests which will be mailed to your instructor for grading. They must be proctored by an approved representative of the University.
4. **Lecture Video and Notes:** You will be required to watch the videos for this course and completely fill in the lecture notes for each section. This will be verified at each of the proctored exams. You will be required to bring it with you to these tests, although you cannot use it while taking the exam.

### Assessment of Student Achievement: (cont.)

Homework .....	20%
Weekly Quizzes .....	10%
Midterm (Chapters 2, 3, 4, 5, & 6) .....	30%
Final Exam (Chapters 7, 8, 10, & 1) .....	30%
Lecture Video and Notes: .....	10%

A: 90 – 100      B: 80 – 89      C: 70 – 79      D: 60 – 69      F: Below 60

### Outline and Outcome Competencies:

Be able to discuss and solve problems in the following areas:

#### Organization of Data

Population, Sample, Variables  
Histogram, Dotplot, Bar Chart, Pareto Chart, Pie Chart

#### Measures of Central Tendency and Dispersion

Mean, Median, Mode, Midrange  
Standard Deviation, IQR, Range  
Minimum and Maximum Usual Values  
Z scores, Boxplot, Outliers

#### Probability and Probability Distributions

Probability, Complement, Conditional Probability  
Random Variable, Probability Distribution, Expected Value  
Rare Event Rule  
Binomial Distribution  
Normal Distribution

#### Sampling Distributions

Sampling Distribution of the Sample Mean  
Central Limit Theorem

#### Estimation

Point Estimates  
Confidence Interval for the Population Proportion  
Confidence Intervals for the Population Mean  
Sample Size Calculations

#### Hypothesis Testing

Null and Alternative Hypotheses, Types of Error, Language of Testing  
Testing a Population Proportion  
Testing a Population Mean  
Statistical and Practical Significance

#### Simple Linear Regression and Correlation

Scatterplot

Correlation, Cause and Effect  
Least Squares, Regression Line, Prediction  
Coefficient of Determination  
Confidence Interval for Mean Response  
Prediction Interval for Individual Response

### Sampling

Random Sampling  
Sampling for Surveys  
Critical Thinking  
Studies and Experiments

## Course Schedule (All times are for the Central Time Zone, so plan accordingly)

### Week 1: February 23 – March 1

Videos and Notes for Ch. 2 and Sections 3-2 & 3-3  
Homework Exercises Ch. 2 and Sections 3-2 & 3-3  
Weekly Quiz covering Ch. 2 and Sections 3-2 & 3-3  
**Due by Sunday at 11:59 p.m., March 1**

### Week 2: March 2 – March 8

Videos and Notes for Section 3-4 and Ch. 4  
Homework Exercises Section 3-4 and Ch. 4  
Weekly Quiz covering Section 3-4 and Ch. 4  
**Due by Sunday at 11:59 p.m., March 8**

### Week 3: March 9 – March 15

Videos and Notes for Chapter 5  
Homework Exercises Chapter 5  
Weekly Quiz covering Chapter 5  
**Due by Sunday at 11:59 p.m., March 15**

### Spring Break (March 16 – March 22)

### Week 4: March 23 – March 29

Videos and Notes for Chapter 6  
Homework Exercises Chapter 6  
Weekly Quiz covering Chapter 6  
**Due by Sunday at 11:59 p.m., March 29**

### Midterm Exam: Paper and Pencil exam (Proctored) (Covers Chapters 2, 3, 4, 5, & 6)

**This needs to be completed by April 5**

### Week 5: March 30 – April 5

Videos and Notes for Section 7-2  
Homework Exercises Section 7-2  
Weekly Quiz covering Section 7-2  
**Due by Sunday at 11:59 p.m., April 5**

### Week 6: April 6 – April 12

Videos and Notes for Sections 7-3 & 7-4  
Homework Exercises Sections 7-3 & 7-4  
Weekly Quiz covering Sections 7-3 & 7-4  
**Due by Sunday at 11:59 p.m., April 12**

### Week 7: April 13 – April 19

Videos and Notes for Section 8-2  
Homework Exercises Section 8-2  
Weekly Quiz covering Section 8-2  
**Due by Sunday at 11:59 p.m., April 19**

### Week 8: April 20 – April 26

Videos and Notes for Sections 8-3 & 8-5  
Homework Exercises Sections 8-3 & 8-5  
Weekly Quiz covering Sections 8-3 & 8-5  
**Due by Sunday at 11:59 p.m., April 26**

### Week 9: April 27 – May 3

Videos and Notes for Chapter 10  
Homework Exercises Chapter 10  
Weekly Quiz covering Chapter 10  
**Due by Sunday at 11:59 p.m., May 3**

### Week 10: May 4 – May 10

Videos and Notes for Chapter 1  
Homework Exercises Chapter 1  
Weekly Quiz covering Chapter 1  
**Due by Sunday at 11:59 p.m., May 10**

### Week 11

Review for Final  
No assignments

### Final Exam: Paper and Pencil exam (Proctored) (Covers Chapters 7, 8, 10, & 1)

**This needs to be completed by May 16**

**It is university policy that no otherwise qualified disabled person be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity in the University. Students should inform the instructor of existing disabilities at the first class meeting**

### Important Details

Here are a few VERY important details that you should make note of as you prepare to get the course underway:

1. The majority of the coursework will not be in Blackboard but instead at CourseCompass (<http://www.coursecompass.com>). This is where the MyStatLab tools for homework and quizzes will be located.

You need to set up your student account at CourseCompass before you begin any work in the course. You should have a Student Access Code and a Getting Started pack included with your textbook. When setting up your account you will also need the course ID.

**COURSE ID FOR WINTER TERM: hahn26426**

The first thing you'll need to do after setting up the account is to run the "Installation Wizard" and view "How to Enter Answers" tours and tip sheets for information about entering math notation.

2. As part of this course, you will watch the series of lecture videos and fill in the lecture notes. The proctor that you use for your midterm and final will verify that you have filled in the lecture note book. The videos and book are downloadable for the Blackboard site. However, you will definitely need a broadband internet connection if you expect to watch the videos online. And if you download the lecture notes, you will need to print them to fill them in. As I mentioned, your proctor for your midterm and final will confirm that you have filled them out so be sure to take them with you to the proctored exams.

3. As I mentioned earlier in this announcement, you will need a proctor for the midterm and the final, which will both be pencil and paper exams, taken in person. For more information on who qualifies as a proctor and how to get them accepted as a proctor by the Virtual Campus, visit the website:

[http://www.wbu.edu/academics/online\\_programs/works/Proctorform/ProctorRequest.htm](http://www.wbu.edu/academics/online_programs/works/Proctorform/ProctorRequest.htm)

The deadline for securing a proctor for your midterm is **March 8**. Please make sure your paperwork is submitted to the Virtual Campus (not your instructor) by this date.

Please email me with any questions you may have: Dr. Hahn's email: [hahnw@wbu.edu](mailto:hahnw@wbu.edu).

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