



# Statistics

## Syllabus

MATH 2003 Statistics

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### Course Overview

#### Course Description

Descriptive and inferential statistics: measures of central tendency and variability, discrete and continuous probability functions, sampling, estimation, hypothesis testing, correlation, regression, chi-squared and ANOVA.

Credit Hours: 3 hrs

#### Learning Outcomes

By the end of this course, you will be able to:

- Apply statistical terminology and concepts to explain behavior, mental processes, and related disciplines.
- Evaluate statistical findings (including graphs, significance levels, and effect sizes) to support or challenge hypotheses.
- Communicate statistical results clearly in both common and professional language for diverse audiences.
- Present quantitative data accurately using APA style in written reports, tables, and graphs.
- Demonstrate ethical principles in the use, interpretation, and reporting of statistical data.
- Employ Excel and Jamovi software to organize, analyze, and interpret quantitative data.

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### Resources

- Navidi, W. & Monk, B. (2025). *ALEKS 360 Online Access for Elementary Statistics*. McGraw-Hill LLC. New York. 9781260373653
- Microsoft Excel (Office 365 - Free for Students)
- Jamovi Statistical Software (Free Download)

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### Course Outline

#### Module Zero: Getting Started

<b>Title</b>	<b>Type</b>	<b>Duration</b>	<b>Points</b>
Syllabus, Pacing Guide, Meet your Instructor	Page/Questionnaire	1.5 hrs	--
Course Materials	Page	.5 hrs	--
ALEKS Setup	Page	1 hr	--
Announcements/Student Questions	Discussion	Varies	--
<b>Totals</b>		<b>3 hrs</b>	<b>0</b>

## Module One: Making Sense of Data

<b>Title</b>	<b>Type</b>	<b>Duration</b>	<b>Points</b>
Preparation: Watch and Read	Page	3 hrs	--
Module One Devotional	Devotional	1 hr	10
Statistics and Variables	Discussion	3 hrs	25
Module 1 Prep and Exercises	ALEKS	5 hrs	50
Case Study: Hybrid Cars	Assignment	3 hrs	20
Skewed Data Sets Review	Assignment	2 hrs	20
Learner Survey	Feedback	.5 hrs	--
<b>Totals</b>		<b>17.5 hrs</b>	<b>125</b>

## Module Two: Telling Stories with Numbers

<b>Title</b>	<b>Type</b>	<b>Duration</b>	<b>Points</b>
Preparation: Watch and Read	Page	3 hrs	--
Module Two Devotional	Devotional	1 hr	10
Measures of Center	Discussion	3 hrs	25
Module 2 Exercises	ALEKS	4 hrs	50
Case Study: Recycled Materials in Electronics	Assignment	3 hrs	20
<b>Totals</b>		<b>14 hrs</b>	<b>105</b>

## Module Three: What are the Odds?

<b>Title</b>	<b>Type</b>	<b>Duration</b>	<b>Points</b>
Preparation: Watch and Read	Page	3 hrs	--
Module Three Devotional	Devotional	1 hr	10
Probability & Distributions	Discussion	3 hrs	25

<b>Title</b>	<b>Type</b>	<b>Duration</b>	<b>Points</b>
Module 3 Exercises	ALEKS	4 hrs	50
Case Study: Benford's Law	Assignment	3 hrs	20
<b>Totals</b>		<b>14 hrs</b>	<b>105</b>

## Module Four: The Bell Curve and Beyond

<b>Title</b>	<b>Type</b>	<b>Duration</b>	<b>Points</b>
Preparation: Watch and Read	Page	3 hrs	--
Module Four Devotional	Devotional	1 hr	10
Normal Distribution Applications	Discussion	3 hrs	25
Module 4 Exercises	ALEKS	5 hrs	85
Case Study: Testing the Strength of Cans	Assignment	3 hrs	20
Learner Survey	Feedback	.5 hrs	--
<b>Totals</b>		<b>15.5 hrs</b>	<b>135</b>

## Module Five: Putting Ideas to the Test

<b>Title</b>	<b>Type</b>	<b>Duration</b>	<b>Points</b>
Preparation: Watch and Read	Page	3 hrs	--
Module Five Devotional	Devotional	1 hr	10
Two-Sample Confidence Intervals	Discussion	3 hrs	25
Module 5 Exercises	ALEKS	4 hrs	50
Case Study: Global Warming Data	Assignment	3 hrs	20
<b>Totals</b>		<b>14 hrs</b>	<b>105</b>

## Module Six: Numbers vs. Stories

<b>Title</b>	<b>Type</b>	<b>Duration</b>	<b>Points</b>
Preparation: Watch and Read	Page	3 hrs	--
Module Six Devotional	Devotional	1 hr	10
Qualitative vs. Quantitative Data	Discussion	3 hrs	25
Module 6 Exercises	ALEKS	4 hrs	50
Case Study: Electric Fields & Cancer	Assignment	3 hrs	20
<b>Totals</b>		<b>14 hrs</b>	<b>105</b>

## Module Seven: Finding Differences that Matter

Title	Type	Duration	Points
Preparation: Watch and Read	Page	3 hrs	--
Module Seven Devotional	Devotional	1 hr	10
ANOVA Applications	Discussion	3 hrs	25
Module 7 Exercises	ALEKS	4 hrs	50
Case Study: Renewable Energy	Assignment	3 hrs	20
<b>Totals</b>		<b>14 hrs</b>	<b>105</b>

## Module Eight: When the Rules Don't Fit

Title	Type	Duration	Points
Preparation: Watch and Read	Page	3 hrs	--
Module Eight Devotional	Devotional	1 hr	10
Nonparametric Tests	Discussion	3 hrs	25
Module 8 Exercises	ALEKS	4 hrs	50
Case Study: Water Conservation	Assignment	3 hrs	20
Final Exam (Study & Complete)	Exam	3 hrs	100
Learner Survey	Feedback	.5 hrs	--
<b>Totals</b>		<b>17.5 hrs</b>	<b>205</b>

## Live Sessions

This course may have live meetups for Q & A, occasionally. Since these sessions may be audio-visually recorded, those who participate with their camera engaged are agreeing to have their video, image, or voice recorded.

## Grading

- ALEKS Exercises: 435 points
- Case Studies/Assignments: 185 points
- Discussions: 200 points
- Devotionals: 80 points
- Final Exam: 100 points

(1000 points total)

## Policy/Procedures

The following are the academic policies and procedures for Oklahoma Baptist University, the university providing academic credit for this course:

### ACADEMIC DISHONESTY STATEMENT

The University maintains a strict policy concerning academic dishonesty, which includes cheating, plagiarism, giving assistance on an examination or paper when expressly forbidden by the instructor, and any other practices which demonstrate a lack of academic integrity. Cheating occurs any time a student uses deception in order to avoid fulfilling the specific requirements of an assignment or

course and/or in order to receive a higher grade than he/she might otherwise receive. Using artificial intelligence software (such as ChatGPT) to generate writing and passing it off as one's own is also considered cheating. Plagiarism occurs when a student appropriates passages or ideas from someone else's writing into his/her own without providing proper documentation and/or without using quotation marks to indicate when he/she is directly quoting from a source. It is the responsibility of the student to know and to adhere to principles of academic honesty. A student found guilty of academic dishonesty will be subject to academic sanctions ranging from failure on the assignment to failure in the course to, in cases of repeated or flagrant violation, suspension or dismissal from the University. Records of academic dishonesty cases will be kept in a confidential file in the office of the chief academic officer. More information concerning this policy can be found in OBU's Student Handbook located at: <https://www.okbu.edu/student-life/documents/student-handbook.pdf>

## COURSE GRADING SCALE

- 90% and above A
- 80.00% - 89.99% B
- 70.00% - 79.99% C
- 60.00% - 69.99% D
- Below 60% - F

## INCOMPLETE GRADE

A temporary neutral mark "I" is given at the discretion of an instructor when, for a legitimate reason, a student is unable to complete course requirements in a given semester. Typical instances might be absence from a final examination due to illness or inability to complete a term project because of extenuating circumstances. A contract signed by the instructor and the student must accompany this grade to indicate the nature of the work to be completed. An Incomplete Grade (I) may not be used as an alternative to a grade of F. An Incomplete Grade must be made up before the seventh week of the next fall or spring semester whether or not the student is subsequently enrolled at OBU. If the grade is not made up by the deadline, it will be changed to a failing grade (F) on the transcript. More information concerning this policy can be found in OBU's Academic Catalog at: <http://catalog.okbu.edu/>

## DISABILITY STATEMENT

Oklahoma Baptist University complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Students with disabilities who need accommodations must self-identify and submit acceptable documentation to the Office of Disability Services.

Additional information is available at <https://www.okbu.edu/student-life/student-services/disability-services.html>

## CLASS ATTENDANCE

Students are expected to be faithful in class attendance for in-person, hybrid, and online classes. Persistent failure to attend class will be reported by instructors to the Registrar at [academic.center@okbu.edu](mailto:academic.center@okbu.edu) and the student may be requested to withdraw from the University. When a student fails to attend class for any reason (including University- sponsored activities or illness) for as much as 25 percent of the total number of class meetings, the student may be given a grade of FX in the course regardless of the quality of his/her work. The grade of FX is computed in the GPA as an "F." Other penalties for class absences may be assessed at the discretion of the instructor.

To stay enrolled in this course, you must participate during the first week. Participation means completing a course activity (like submitting an assignment, posting in a discussion, or taking a quiz). Just logging into the course does not count as participation.

If you do not participate in the first week, you will be marked as "not present" and administratively withdrawn from the course.

If a student offers illness or absence due to participation in an official University activity as an excuse for absence from class, the instructor may elect to require additional work to compensate for class absences. The illness or absence due to participation in an official University activity must be properly attested by a licensed medical professional (for illness) or a faculty sponsor or University officer (for an official University activity). The student is responsible for assuming the initiative to ensure that course work is not adversely affected by absence, for whatever cause.

Students experiencing medical circumstances that require prolonged absences beyond the 25 percent minimum attendance expectation, are encouraged to communicate with faculty and determine if successful continuation of the course is possible. Faculty may, but are not required to, accommodate delivery method of instruction and timeline of completion (see Incomplete Grade section of this attachment). In some cases, withdrawing from the course for medical reasons may be deemed most appropriate.

More information regarding class attendance can be found in OBU's Student Handbook located at: <https://www.okbu.edu/student-life/documents/student-handbook.pdf>

## LIBRARY RESOURCES

Library information is available at <https://okbu.libguides.com/main>

## CREDIT HOUR POLICY - EXPECTATION OF WORK

In compliance with federal regulations (34CFR 600.2), Oklahoma Baptist University requires all courses in all formats including, but not limited to, traditional classroom courses, online courses, internships, practica, and independent studies require a total workload of at least 2250 minutes per credit hour for the typical student. This workload may be comprised of time allocated to direct faculty-student interaction, assigned readings, independent or group assignments, expected study time, or other course related activities as appropriate to the specific course and determined by the faculty of record.

## **GRADE APPEALS**

In the case of a grade appeal, the student shall be considered to have an authentic grievance when he/she can demonstrate his/her grade for a course has been adversely affected due to certain actions by a faculty member. A grade appeal shall be initiated within ten (10) working days after receipt of the grade or after the beginning of the next academic semester. This period may be extended by the chief academic officer on petition from the student(s) involved.

More information concerning this policy and the steps for resolution can be found in OBU's Student Handbook located at:  
<https://www.okbu.edu/student-life/documents/student-handbook.pdf>

## **UNIVERSITY DIRECTORY**

<https://www.okbu.edu/directory/index.html>

## **ADD/DROP POLICY**

Students have one week to add or drop a course after the start date. After that time, no refund will be issued.

## **CAMPUS EDU PRIVACY POLICY**

<https://www.campusedu.com/privacy-policy>