Athabasca
University

Mathematics (MATH) 215

Introduction to Statistics (Revision 10)

Status:	Replaced with new revision, see the **course listing** ☒ for the current revision ⊗
Delivery mode:	**Individualized study online** ☒ or **Grouped study** ☒
Credits:	3
Area of study:	Science
Prerequisites:	None. However, fundamental mathematical skills are required, particularly the ability to do algebra. Textbooks on basic mathematics are available at the Athabasca University Library. **AU Math Centre** ☒ (an upgrading tutorial site) is suitable preparation for taking MATH 215, for those students concerned about their mathematical background.
Precluded:	**MGSC 301** ☒ and **MATH 216** ☒ (MATH 215 may not be taken for credit if credit has already been obtained for MGSC 301 or MATH 216.)
Challenge:	MATH 215 is not available for challenge.

Faculty:	**Faculty of Science and Technology** $\boxtimes$
Notes:	**Mathematics Diagnostic Assessment** $\boxtimes$. This online test contains 70 questions that will help you assess your mathematical skills. Based on your score we will recommend which Athabasca University mathematics course you are likely ready to take successfully.

Overview

Mathematics 215: Introduction to Statistics gives students a working knowledge and understanding of descriptive and inferential statistics and how statistics is applied in the sciences, social sciences, and business.

Outline

- Unit 1: Descriptive Statistics

- Unit 2: Probability

- Unit 3: Probability Distributions

- Unit 4: Estimation and Tests of Hypotheses for One Population

- Unit 5: Tests of Hypotheses for Two or More Populations

- Unit 6: Bivariate Analysis

Objectives

Upon successful completion of this course, you should be able to

- organize, summarize, and display data in a meaningful way.

- compute various measures of centre, variability, and position of data sets.

- apply basic rules of probability to calculate likelihoods of random events.

- use appropriate probability distributions to estimate and test hypotheses about parameters of single and multiple populations.

- perform goodness-of-fit tests and analyze cross-tabulated data.

- use linear correlation and regression methods to analyze relationships in bivariate data.

Evaluation

To **receive credit** ☐ for MATH 215, you must achieve a mark of at least 50 percent on each of the following: the midterm examination, the final examination and achieve a composite course grade of at least **D (50 percent)** ☐ . The weighting of the composite grade is as follows:

Activity	Weight
6 Assignments (3.33% each)	20%
Midterm Exam	40%
Final Exam	40%
Total	**100%**

To learn more about assignments and examinations, please refer to Athabasca University's **online Calendar** ☐ .

Both the midterm and final exams are administered in the Möbius online platform and are invigilated through **ProctorU** ☐ . Your exams must be requested in advance, and you must pay the ProctorU invigilation fees.

Information on exam request deadlines, invigilators, and other exam-related questions can be found in the **Exams and grades** ☐ section of the Calendar.

Materials

Digital course materials

Links to the following course materials will be made available in the course:

Mann, P. S. (2016). *Introductory statistics* (9th ed.). Wiley.

Special Course Features

Please note that the Texas Instruments **TI-30Xa Scientific Calculator** 🗗 **is the only calculator that you are permitted to use on a MATH 215 exam**.

Important links

> **Academic advising** 🗗

> **Program planning** 🗗

> **Request assistance** 🗗

> **Support services** 🗗

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

Opened in Revision 10, February 11, 2020

Updated March 21, 2025

View **previous revision** 🗗