

Course ID:	Course Title:	Winter 2020
BHS 310	Quantitative Methods for Behavioural Science	Prerequisites: BHS 240
		Credits: 3-2

Class Information		Instructor Information		Important Dates	
Days:	Monday	Instructor:	Mitchell Colp, PhD	First day of classes:	January 7
Time:	8:15pm-11:00am	Email:	Mitchell.Colp@ambrose.edu	Last day to add/drop, or change to audit:	January 19
Room:	A2141	Office:	Sessional Office	Last day to request revised exam:	March 9
Laboratory	Monday 11:15am-1:00pm	Office Hours:	By Appointment	Last day to withdraw from course:	March 20
Final Exam:	Saturday, April 14 1:00pm in A2133			Last day to apply for coursework extension:	November 30
				Last day of classes:	April 9

### Course Description

This course is designed to give students a basic understanding of descriptive and inferential statistics. Emphasis is placed on practical application and students will learn to analyze and interpret basic statistical research. They will also learn to use computer software. Lecture and laboratory components will be involved.

### Expected Learning Outcomes

Through classes and directed readings, students will:

1. Gain a general understanding of descriptive statistics and univariate analytical approaches.
2. Identify factors that bolster and undermine the validity and reliability of employing univariate analyses.
3. Develop a rationale for when and how to incorporate univariate techniques into research methods.
4. Examine statistical theory and thought that underpins the field of applied statistics.
5. Perform descriptive and univariate analyses within the IBM SPSS statistical package.

### Required Textbooks

Field, A., (2017). *Discovering statistics using IBM SPSS statistics* (5<sup>th</sup> Ed.). Thousand Oaks, CA: Sage Publications Inc.

### Required Software

Student will be expected to purchase IBM® SPSS® Statistics Standard GradPack 26 and install it on their personal device. Notable discounts can be found at e-stores like OnTheHub and students are encouraged to purchase either the 6-month or 12-month licence.

## Course Schedule

Week	Date	Topic	Readings	Administered Task
1	January 13	Course Introduction	Chapter 1	
	January 13	Open Lab		
2	January 20	Descriptive Statistics	Chapter 2	
	January 20	Descriptive Statistics	Chapter 2	
3	January 27	Exploring Data with Graphs	Chapters 5 and 6	
	January 27	Exploring Data with Graphs	Chapters 5 and 6	Lab Assignment #1
4	February 3	Correlation	Chapter 8	
	February 3	Correlation	Chapter 8	Lab Assignment #2
5	February 10	Linear Regression	Chapter 9	
	February 10	Linear Regression	Chapter 9	Lab Assignment #3
6	February 17	<b>No Class or Laboratory</b>		
	February 17	<b>No Class or Laboratory</b>		
7	February 24	Examination #1		
	February 24	<b>No Laboratory</b>		
8	March 2	Comparing Two Groups	Chapter 10	
	March 2	Comparing Two Groups	Chapter 10	Lab Assignment #4
9	March 9	Comparing Several Groups	Chapter 12	
	March 9	Comparing Several Groups	Chapter 12	Lab Assignment #5
10	March 16	Examining Change Over Time	Chapter 15	
	March 16	Examining Change Over Time	Chapter 15	Lab Assignment #6
11	March 23	Non-Parametric Tests	Chapter 7	
	March 23	Non-Parametric Tests	Chapter 7	Lab Assignment #7
12	March 30	Examination #2		
	March 30	<b>No Laboratory</b>		
13	April 6	Introduction to Multivariate Analyses	Chapter 13	
	April 6	Open Lab		Lab Assignment #8

*Please note that changes to the course schedule may occur in response to student questions and conversations.*

### Learning Tasks and Assessment:

There are three required Learning Tasks for this course.

Learning Task	Description of Task	Percentage of Grade
Learning Task #1	Laboratory Assignments	50%
Learning Task #2	Examinations	50%

**Important Note.** Percentage scores will be given for each course assignment. The weighting of each will be calculated and summed to provide the final letter grade. The completion of all assigned tasks is required for a passing grade in this course. With the exception to examinations, all assignments are due by 11:59pm MST of the assigned date.

**Late Bank.** A 3-day late bank will be provided to all students, and they can use these days at their own discretion and without explanation during the term. For instance, a student could submit their lab #1 assignment 2 days late and their

lab #2 1 day late, or just their lab #4 assignment 3 days late. **The late bank cannot be used for the in-class examinations.** This is designed to provide students with some flexibility regarding personal situations, illness, workload management, or other concerns that may arise during the course timeline. Once you have used up your 3 late bank days, a penalty of 10% per day will apply for unexcused late submissions of assignments.

**Learning Task #1: Laboratory Assignments (50%) – Various Due Dates**

Throughout the semester, students will work independently to complete applied problems associated with assigned readings, lectures, and laboratory learnings. Students will submit completed responses to the instructor by email before 11:59pm MST on the assigned due date. Submitted responses should follow APA 6<sup>th</sup> Edition guidelines for general style and reporting. No cover page is required for these submissions. These brief assignments will be combined to make up the 50% mark once all have been submitted.

	Assignment Topic	Date Due
Laboratory #1 Assignment	Descriptive Statistics	January 27
Laboratory #2 Assignment	Graphing Statistical Data	February 3
Laboratory #3 Assignment	Correlation	February 10
Laboratory #4 Assignment	Linear Regression	March 2
Laboratory #5 Assignment	Comparing Two Means	March 9
Laboratory #6 Assignment	Comparing Several Means	March 16
Laboratory #7 Assignment	Examining Change Over Time	March 23
Laboratory #8 Assignment	Non-Parametric Tests	April 6

Each question will be marked using the rubric included on page 5 of the course syllabus.

**Learning Task #2: Theoretical and Applied Examinations (50%) – February 24, 2020 and March 30, 2020**

Students will be given three time-limited examinations that assess knowledge, understanding, and synthesis of course materials and core concepts. The examinations are closed book and will also assess the ability of students to perform hand-calculations and statistical analyses in IBM SPSS® in response to a series of applied problems.

*Examination #1 – February 24, 2020:* The examination will cover the first five weeks of lectures and laboratories and constitute 15% of the final grade. The examination will be made-up of **20 multiple-choice questions with 4 possible response options**. There will also be **five applied questions** that will require students to operate IBM SPSS™ and/or perform hand-calculations to find the answer to various research scenarios. Students will be given **two hours** to complete the examination. Students will be required to supply their own physical calculators. Phones, tablets, or computers cannot be used to perform the hand-calculation portions of the examination.

*Examination #2 – March 30, 2020:* The examination will cover lecture and laboratory topics covered through Weeks 8 to 11 and constitutes 15% of the final grade. The examination will be made-up of **20 multiple-choice questions with 4 possible response options**. There will also be **five applied questions** that will require students to operate IBM SPSS™ and/or perform hand-calculations to find the answer to various research scenarios. Students will be given **two hours** to complete the examination. Students will be required to supply their own physical calculators. Phones, tablets, or computers cannot be used to perform the hand-calculation portions of the examination.

*Examination #3 – To be determined by Registrar:* The examination will cover all lecture and laboratory topics covered throughout the course and constitute 20% of the final grade. The examination will be made-up of **20 multiple-choice questions with 4 possible response options**. There will also be **five applied questions** that will require students to operate IBM SPSS™ and/or perform hand-calculations to find the answer to various research scenarios. Students will be required to supply their own physical calculators. Phones, tablets, or computers cannot be used to perform the hand-calculation portions of the examination.

**Attendance:**

Students are expected to regularly attend lectures. Missing class regularly without adequate rationale will not only impact your ability to successfully complete the course, in extreme cases the instructor reserves the right to ask the student to withdraw from the course. You are not required to inform the instructor if you miss a class, but you should coordinate with a friend in the class to obtain any notes and instructions missed. Failure to communicate with the instructor regarding multiple absences or extenuating circumstances severely limits your ability to receive any accommodations.

**Grade Summary:**

The available letters for course grades are as follows:

Letter Grade	GPA	Percentage	Descriptor
A+	4.00	96-100	
A	4.00	90-95	Excellent
A-	3.70	85-89	
B+	3.30	80-84	
B	3.00	75-79	Good
B-	2.70	70-74	
C+	2.30	65-69	
C	2.00	60-64	Satisfactory
C-	1.70	55-59	
D+	1.30	50-54	
D	1.00	45-49	Minimal Pass
F	0.00	< 45	Failure

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor’s assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

## Marking Rubrics

### *Criteria for Assessment of Learning Task #1 - Laboratory Assignments*

<b>Area of Evaluation</b>	<b>Needs work</b>	<b>Limited</b>	<b>Proficient</b>	<b>Highly Proficient</b>	<b>Score</b>
Thoroughness of Answer	Answer not provided or unclear <b>(0-1 marks)</b>	Answer missing relevant elements <b>(2 marks)</b>	Sufficient answer but may miss relevant links between question and background information <b>(3 marks)</b>	Well-developed answer. Clear links between question and relevant background information provided <b>(4-5 marks)</b>	/5

## Ambrose University Academic Policies:

### Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions. If students do not wish to use their Ambrose accounts, they will need to forward all messages from the Ambrose account to another personal account.

### Registration

During the **Registration Revision Period** students may enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty or record. Courses should be added or dropped on the student portal by the deadline date; please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a "Request to Withdraw from a Course" form or by sending an email to the Registrar's Office by the **Withdrawal Deadline**; please consult the List of Important Dates on the my.ambrose.edu website. Students will not receive a tuition refund for courses from which they withdraw after the Registration Revision period. A grade of "W" will appear on their transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

### Exam Scheduling

Students, who find a conflict in their exam schedule must submit a Revised Examination Request form to the Registrar's Office by the deadline date; please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) the student has three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

### Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to use electronics for purposes unrelated to the course during a class session. Turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. Some professors will not allow the use of any electronic devices in class. The professor has the right to disallow the student to use a laptop in future lectures and/or to ask a student to withdraw from the

session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

### Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at [privacy@ambrose.edu](mailto:privacy@ambrose.edu).

### Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a course Extension from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the deadline date; please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

### Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Registrar's Office in writing and providing the basis for appeal within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal. If the appeal is sustained, the fee will be refunded.

### Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

**Note:** Students are strongly advised to retain this syllabus for their records.