

Course ID:	Course Title:	Winter 2022
BHS310	Quantitative Methods for Behavioural Science	Prerequisite: BHS 240
		Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	Online	Instructor:	Rodrigo Dal Ben, Ph.D.	First Day of Classes:	January 10, 2022
Days:	Tuesday & Thursday	Email:	rod.dalben@ambrose.edu	Last Day to Add/Drop:	January 23, 2022
Time:	1:30 PM – 2:45 PM	Phone:	6928	Last Day to Withdraw:	March 18, 2022
Room:	N/A	Office:	L2107 or Online	Last Day to Apply for Extension:	March 28, 2022
Lab/Tutorial:	Monday 2:30 PM – 4:30 PM	Office Hours:	Tue & Thu 15:15 PM – 16:15 PM*	Last Day of Classes:	April 14, 2022
Final Exam:	During exam week (Apr. 20 – 27)				

Important Dates and Information

- **Dates:** for a list of all important dates and information regarding participating in classes at Ambrose University, please refer to the Academic Calendar at <https://ambrose.edu/academic-calendar>
- ***Office hours:** Please schedule a time slot at https://calendly.com/rod_dalben/office-hours
- **Email:** I check my inbox 1-2 times per day. I do respond all email, but it can take up to 72 hours due to the volume of messages. Email messages are a professional form of communication, please be polite when emailing. Inappropriate messages will be ignored.
- **Communications:** Most communications will go through Moodle, under “announcements.” Remember to set up your Moodle account so it distributes announcements to your email address.
- **Syllabus:** keep a copy of this document throughout the course and use it as a reference guide. If you ask me for information that is already here, I will probably redirect you to this document.

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.

Textbooks (required)

Field, A., (2018). *Discovering statistics using IBM SPSS statistics* (5th Ed., North American Edition). Thousand Oaks, CA: Sage Publications Inc.

Navarro, D., & Foxcroft, D. (2019). *Learning statistics with jamovi: A tutorial for psychology students and other beginners* (Version 0.70). Available online: <http://learnstatswithjamovi.com>

Software

Students will be expected to use Jamovi (<https://www.jamovi.org/>) during labs and assignments. Jamovi is a free, open source, statistical software. It is an attractive alternative to proprietary software such as IBM SPSS.

Course Schedule

Week	Day	Topic	Readings (Andy Field)	Notes & Assignments
1	Mon Jan 10	Course presentation – Classes & Labs		
	Tue Jan 11	Why statistics?	Chapter 1	Academic integrity quiz
	Thu Jan 13	Why statistics?	Chapter 1	Weekly quiz 1
2	Mon Jan 17	Lab: Intro to Jamovi	Chapter 1	https://www.jamovi.org/
	Tue Jan 18	Descriptive statistics	Chapter 2	
	Thu Jan 20	Descriptive statistics	Chapter 2	Weekly quiz 2
3	Mon Jan 24	Lab: Descriptive statistics	Chapter 2	Lab assignment 1
	Tue Jan 25	Exploring data with graphs	Chapter 5 & 6 Chapter 5 (Navarro & Foxcroft)	
	Thu Jan 27	Exploring data with graphs	Chapter 5 & 6 Chapter 5 (Navarro & Foxcroft)	Weekly quiz 3
4	Mon Jan 31	Lab: Graphing statistical data	Chapter 5 & 6 Chapter 5 (Navarro & Foxcroft)	Lab assignment 2
	Tue Feb 1	Correlation	Chapter 8	
	Thu Feb 3	Correlation	Chapter 8	Weekly quiz 4
5	Mon Feb 7	Lab: Correlation	Chapter 8	Lab assignment 3
	Tue Feb 8	Linear regression	Chapter 9	
	Thu Feb 10	Linear regression	Chapter 9	Weekly quiz 5
6	Mon Feb 14	Lab: Linear regression	Chapter 9	Lab assignment 4
	Tue Feb 15	Open class (review)		
	Thu Feb 17	Mid-term 1 (available the whole day)		
7	Mon Feb 21	Reading week/winter modules - No class or lab		
	Tue Feb 22			
	Thu Feb 24			
8	Mon Feb 28	Lab: Open		
	Tue Mar 1	Comparing two groups	Chapter 10	
	Thu Mar 3	Comparing two groups	Chapter 10	Weekly quiz 6
9	Mon Mar 7	Lab: Comparing two groups	Chapter 10	Lab assignment 5
	Tue Mar 8	Comparing several groups	Chapter 12	
	Thu Mar 10	Comparing several groups	Chapter 12	Weekly quiz 7
10	Mon Mar 14	Lab: Comparing several groups	Chapter 12	Lab assignment 6

	Tue Mar 15	Analyzing change over time	Chapter 15	
	Thu Mar 17	Analyzing change over time	Chapter 15	Weekly quiz 8
11	Mon Mar 21	Lab: Analyzing change over time	Chapter 15	Lab assignment 7
	Tue Mar 22	Open class (review)		
	Thu Mar 24	Mid-term 2 (available the whole day)		
12	Mon Mar 28	Lab: Open		
	Tue Mar 29	Non-parametric tests	Chapter 7	
	Thu Mar 31	Non-parametric tests	Chapter 7	Weekly quiz 9
13	Mon Apr 4	Lab: Non-parametric tests	Chapter 7	Lab assignment 8
	Tue Apr 5	The phoenix of statistics: NHST, Bayes	Chapter 3	
	Thu Apr 7	The phoenix of statistics: NHST, Bayes	Chapter 3	Weekly quiz 10
14	Mon Apr 11	Lab: Introduction to Bayesian analyses	Chapter 3	Lab assignment 9
	Tue Apr 12	The phoenix of statistics: NHST, Bayes	Chapter 3	
	Thu Apr 14	Open class (review)		
Final exam: Apr. 20 – 27				

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

Requirements

Assignment	Percentage
Academic integrity quiz	5%
Weekly quizzes	20%
Lab assignments	25%
Average of Mid-term Exams	25%
Final Exam	25%

Notes:

1. **Academic integrity** is expected on ALL assignments.
2. Students **will not** be reminded about any assignment because:
 - a. It is the students' obligation to know the course schedule and refer to this syllabus as needed.
 - b. It is the students' obligation to be up to date with the course material.
 - c. It is the students' obligation to be in class so that they know what topics are being discussed.
 - d. It is the students' obligation to anticipate when the reading will be covered in class.
3. **Aside from a note from a qualified professional, there will be no makeup for any missed assignment.**

Academic integrity quiz: Online quiz covering the key aspects of academic integrity. This quiz will be available on Moodle.

Weekly Quizzes: Online weekly quizzes on the classes contents of each week. These quizzes will be composed 5 multiple-choice questions. These quizzes will be available on Moodle every Thursday, after the class (3:00 PM). **These are individual assessments, you can only consult the textbook and your notes.** These quizzes are due every Friday, by the end of the day (11:59 PM). Each question of each assignment will have the same weight towards the 20% of the final grade. That means that each question will count as 0.4% of your final grade (or 20% / 50 questions).

Lab Assignments: Lab assignments will be divided in two parts. First, during part of each lab meeting, students will work under the supervision of the instructor to solve statistical problems. Second, a similar set of problems will be assigned to students to work on independently. They can do so during the remaining time of the lab or another time. Both parts compose one lab assignment. Assignments (with all relevant files) should be sent to the instructor on Moodle, as instructed during labs/classes. Assignments are due on the end of the week following each lab (i.e., every Friday at 11:59 PM). All lab assignments will be accompanied by a grading rubric and will have the same weight towards 25% of the final grade, that means that each assignment will count as 2.7% of your final grade (or 25% / 9 assignments).

Exams: Online cumulative assessments. Exams will be administered online, on Moodle. **These are individual assessments, you can only consult the textbook and your notes.** There will be two mid-term and one final exam:

1. Mid-term 1:
 - a. Content: Chapters **1, 2, 5, 6, 8.**
 - b. Questions: 20 multiple choice questions.
 - c. Supporting document: In addition to answering the multiple-choice questions, students are required to submit a complete and well documented .jamovi file containing **all** relevant summaries, tests, and visualizations supporting answer on each question.
 - d. Grading: Correct answers to multiple-choice questions will sum up to $\frac{1}{2}$ of the grade and .jamovi files will sum up to $\frac{1}{2}$ of the grade.
 - e. Date and time: **Thursday, February 17**; available from 12:01 am to 11:59 pm. Timed assignment, once started you will have **2 hours** to submit your answers.
2. Mid-term 2:
 - a. Content: Chapters **9, 10, 12, 15.**
 - b. Questions: 20 multiple choice questions.
 - c. Supporting document: In addition to answering the multiple-choice questions, students are required to submit a complete and well documented .jamovi file containing **all** relevant summaries, tests, and visualizations supporting answer on each question.
 - d. Grading: Correct answers to multiple-choice questions will sum up to $\frac{1}{2}$ of the grade and .jamovi files will sum up to $\frac{1}{2}$ of the grade.
 - e. Date and time: **Thursday, March 24**; available from 12:01 am to 11:59 pm. Timed assignment, once started you will have **2 hours** to submit your answers.
3. Final:
 - a. Content: All Chapters.
 - b. Questions: 20 multiple choice questions.
 - c. Supporting document: In addition to answering the multiple-choice questions, students are required to submit a complete and well documented .jamovi file containing **all** relevant summaries, tests, and visualizations supporting answer on each question.
 - d. Grading: Correct answers to multiple-choice questions will sum up to $\frac{1}{2}$ of the grade and .jamovi files will sum up to $\frac{1}{2}$ of the grade.

- e. Date and time: Available during exam week, Apr. 20 – 27. Timed assignment, once started you will have **3 hours** to submit your answers.

Attendance

In the Social Science Department we believe that learning is an active and interactive process, a joint venture between student and teacher and between student and student (i.e., learning is not just “downloading” information from teacher to student). Therefore, it is expected that professors will come to each class well-read and prepared to engage students on the topic at hand, giving students the utmost attention and respect. In turn, it is expected that students will take an active role in the learning process. This includes: (a) regular class attendance, (b) reading course material in advance of class, (c) showing up to class on time, and (d) attentively and proactively being “present” at class (i.e., not on the internet, not texting, not conversing with the person beside you). Committing to this type of "active learning" significantly increases the learning experience for both teacher and student, and reflects the Christian ethos of excellence and respect that lies at the heart of the Ambrose educational experience.

Grade Summary

Percentage	Grade	Interpretation	Grade Points
96-100	A+	Excellent	4.00
91-95	A		4.00
86-90	A-		3.70
82-85	B+	Good	3.30
75-81	B		3.00
72-74	B-		2.70
68-71	C+	Satisfactory	2.30
63-67	C		2.00
60-62	C-		1.70
56-59	D+	Poor	1.30
50-55	D	Minimal Pass	1.0
0-49	F	Failure	0.00

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.

Ambrose University Important Information:

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.

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 Academic Calendar. 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.

Standards of Behaviour in the Classroom Setting

Learning is an active and interactive process, a joint venture between student and instructor and between student and student. Some topics covered within a class may lead to strong reactions and opinions. It is important that Students understand that they are entitled to hold contradictory beliefs and that they should be encouraged to engage with these topics in a critical manner. Committing to this type of "active learning" significantly increases the learning experience for both teacher and student, and reflects the Christian imperative to pursue truth, which lies at the heart of the Ambrose educational experience. However, active discussion of controversial topics will be undertaken with respect and empathy, which are the foundations of civil discourse in the Classroom Setting. Primary responsibility for managing the classroom rests with the instructor. The instructor may direct a student to leave the class if the student engages in any behaviour that disrupts the classroom setting. If necessary, Ambrose security will be contacted to escort the student from class. Please refer to your professor regarding their electronic etiquette expectations.

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. 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.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. The academic calendar can be found at <https://ambrose.edu/content/academic-calendar-2>.

Privacy

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.

Coursework Extensions

Should a request for a time extension on coursework exceed the end of the term, a *Coursework Extension Application* must be completed and submitted to the Office of the Registrar. The extension (if granted) will be recorded on the student record. Extensions are granted at the discretion of the instructor and are normally granted for 30 days beyond the last day of the term.

Normally, Course Extension Applications will be considered only when all of the following conditions are met:

- the quality of prior course work has been satisfactory;
- circumstances beyond your control, such as an extended illness or death of a family member, make it impossible for you to complete the course work on time; and
- you submit *Coursework Extension Application* to the Office of the Registrar on or before the deadline specified in the Academic Schedule.

If granted, time extensions do not excuse you from a final examination where one has been scheduled for the course.

A temporary grade of TX will be assigned until a final grade is submitted in accordance with the new deadline. A final grade of F will apply to:

- all course work submitted after the end of the semester unless a coursework extension has been granted; and all course work submitted after the revised due date provided by an approved extension to coursework.

Academic Success and Supports

Accessibility Services

Academic accommodation is provided to Ambrose students with disabilities in accordance with the Alberta Human Rights Act and the Canadian Charter of Rights and Freedoms. Provision of academic accommodation does not lower the academic standards of the university nor remove the need for evaluation and the need to meet essential learning outcomes. Reasonable accommodations are tailored to the individual student, are flexible, and are determined by considering the barriers within the unique environment of a

postsecondary institution. It can take time to organize academic accommodations and funding for disability-related services. Students with a disability who wish to have an academic accommodation are encouraged to contact Accessibility Services as early as possible to ensure appropriate planning for any needs that may include accommodations. Staff can then meet with students to determine areas to facilitate success, and if accommodations are required, ensure those accommodations are put in place by working with faculty.

Ambrose Writing Services

Ambrose Writing services provides academic support in the four foundational literacy skills—listening, speaking, reading, and writing. It also assists students with critical thinking and the research process. Throughout the academic year, students can meet with a writing tutor for personalized support, or they can attend a variety of workshops offered by Academic Success. These services are free to students enrolled at Ambrose University. Academic Success serves all students in all disciplines and at all levels, from history to biology and from theatre to theology. To learn more, please visit <https://ambrose.edu/writingcentre>

Ambrose Tutoring Services

Ambrose Tutoring Services provides support in specific disciplinary knowledge, especially in high-demand areas such as chemistry, philosophy, math and statistics, and religious studies. These tutors also coach students in general study skills, including listening and note-taking. During the academic year, Ambrose Tutoring Services offers drop-in tutoring for courses with high demand; for other courses, students can book a one-to-one appointment with a tutor in their discipline. These services are free to students enrolled at Ambrose University. To learn more, please visit <https://ambrose.edu/tutoring>.

Mental Health Support

All of us need a support system. We encourage students to build mental health supports and to reach out when help is needed.

On Campus:

- Counselling Services: ambrose.edu/counselling
- Peer Supportive Listening: One-to-one support in Student Life office. Hours posted at ambrose.edu/wellness.
- For immediate crisis support, there are staff on campus who are trained in Suicide Intervention and Mental Health First Aid. See ambrose.edu/crisissupport for a list of staff members.

Off Campus:

- Distress Centre - 403-266-4357
- Sheldon Chumir Health Care Centre - 403-955-6200
- Emergency - 911

Sexual Violence Support

All staff, faculty, and Residence student leaders have received *Sexual Violence Response to Disclosure* training. We will support you and help you find the resources you need. There is a website with on and off campus supports – ambrose.edu/sexual-violence-response-and-awareness.

Off Campus:

- Clinic: Sheldon Chumir Health Centre - 403-955-6200
- Calgary Communities Against Sexual Abuse - 403-237-5888

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