Course ID:	Course Title:		2025 Winter
BHS 410	Basic Multivariate Statistics		Prerequisite: BHS 310
			Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	In-class	Instructor:	Joseph Roso, Ph.D	First Day of Class:	January 13
Days:	Wednesday & Friday	Email:	joseph.roso@ambrose.edu	Last Day to Add/Drop:	January 26
Time:	8:15am – 9:30am	Phone:	N/A	Last Day to Withdraw:	March 26
Room:	A1085 (South side of Airhart)	Office:	L2107	Last Day to Apply for Coursework Extension:	April 17
Lab:	Mondays, 1:15 – 3:15 pm A2133	Office Hours:	Tuesdays and Thursdays, 1pm – 3pm (or by appointment)	Last Day of Class:	April 17
Final Exam:	April 25th, 12am, in A1085 (tentatively)				

Important Dates and Information

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.

Course Description

Multivariate analysis as applied to behavioural science. Correlation, simple and multiple regression, discriminant function analysis, canonical correlation, factor analysis, theories and applications of behavioural measurement, reliability, and validity will be presented. Lecture and laboratory components.

Expected Learning Outcomes

1. Understanding: Students will understand foundational concepts for statistical analysis, and where to appropriate employ various statistical techniques in data analysis (Lectures and Readings, Labs, Exams, Final Project).
2. Research: Students will be able to investigate social scientific research questions that require quantitative analysis, as well as evaluate and other researchers' quantitative data analysis (Labs, Exams, Final Project).
3. Analysis: Students will be able manage intermediate-sized datasets as well as conduct original analyses of quantitative data (Labs, Exams, Final Project).
4. Communication: Students will be able to clearly and concisely describe the procedures and findings from quantitative analysis in both written and verbal communication (Classroom Discussions, Labs, Final Project).
5. Character: Students will demonstrate ethical and social responsibility while engaging in social scientific research,

and learn skills that can help investigate important social problems (Classroom Discussions, Final Project)

6. <u>Professional Competence</u>: Students will develop and practice important professional skills including communication, discipline, critical thinking, in addition to accruing technical skills in quantitative analysis (Attendance and Participation, Labs, Exams, Final Project).

Required Textbooks and Readings

Required

Denis, Daniel J. 2020. *Univariate, Bivariate, and Multivariate Statistics Using R*. Hoboken, NJ: John Wiley & Sons.

Diez, David, Çetinkaya-Rundel, Mine and Christopher D. Barr. 2019. OpenIntro Statistics, 4th Edition. Available for free under a Creative Commons License at: https://www.openintro.org/book/os/

Recommended

Wickham, Hadley, Mine Çetinkaya-Rundel, and Garrett Grolemund. 2023. *R for Data Science: Import, Tidy, Transform, Visualize, and Model Data*, 2nd Edition. Sebastopol, CA: O'Reilly. Available for free online at: https://r4ds.hadley.nz/

Additional readings will be made available on Moodle.

Course Schedule

Week	Date	Topic	Readings	Assignments & deadlines
1	Jan 13 (LAB)	Setting up R (optional for those who took BHS 310 last semester)	Wickham et al., Introduction and Chapter 2 Denis, Chapter 2 (recommended)	
	Jan 15	Course introduction and welcome back!	Syllabus	
	Jan 17	Review: Data basics	Denis, 1.1 – 1.3; 1.12 Diez et al., Chapters 1 and 2	
2	Jan 20 (LAB)	<u>LAB</u>: Getting back up to speed with R	Wickham et al., Introduction and Chapter 2 Denis, Chapter 2	**Lab Assignment 1**
	Jan 22	Review: Foundations of inference	Diez et al., Chapter 5 Denis, 1.4 – 1.11; 1.13 – 1.16	
	Jan 24	Review: ANOVA	Diez et al., Chapter 7 (focus especially on section 7.5) Denis, 6.1 – 6.4	

3	Jan 27 (LAB)	<u>LAB</u>: Review of ANOVA and inference in R	Denis, 6.4	**Lab Assignment 2**
	Jan 29	Interaction Effects	Frost, "Understanding Interaction Effects in Statistics." Available online at: https://statisticsbyjim.com/regression/interaction-effects/ Klemmer, "Description of a Study for a Factorial ANOVA" YouTube video available at: https://www.youtube.com/watch?v=Rs9Swl0i5IU Klemmer, "Understanding Interaction Effects" YouTube video available at: https://www.youtube.com/watch?v=ivCv9vMTq-g	
	Jan 31	Factorial ANOVA	Denis, 6.6 – 6.9	
4	Feb 3 (LAB)	<u>LAB</u>: Factorial ANOVA in R	Denis, 6.7	**Lab Assignment 3**
	Feb 5	Review: OLS Regression	Diez et al., Chapter 8 Denis, 7.1 – 7.2	
	Feb 7	Multiple Regression I: Building a Multiple Regression Model	Denis, 7.4 – 7.7 Diez et al., 9.1 – 9.3	
5	Feb 10 (LAB)	<u>LAB</u>: Multiple Regression in R	Denis, 7.1 – 7.2; 7.4 – 7.7	**Lab Assignment 4**
	Feb 12	Review and Catching Up		
	Feb 14	**EXAM 1**		
6	**Feb 17**	**NO CLASS – Family Day**		
	Feb 19			
	Feb 21	**NO CLASS – Reading Week**		
7	Feb 24 (LAB)	Exam 1 review/open lab		**NO LAB ASSIGNMENT**
	Feb 26	Multiple Regression II:	Dennis, 7.8 – 7.11	

		Mediation		
	Feb 28	Multiple Regression III: Interaction and Quadratic Terms	Diez et al., "Interaction terms"; "Fitting models for nonlinear trends" (posted on Moodle)	
8	Mar 3 (LAB)	<u>LAB</u>: Advanced Multiple Regression in R		**Lab Assignment 5**
	Mar 5	Logistic Regression I: Justification and Basic Principles	Diez et al. 9.5 Dennis, 8.1 – 8.5	
	Mar 7	Logistic Regression II: Predicting Probabilities	Dennis, 8.6 – 8.11	
9	Mar 10 (LAB)	<u>LAB</u>: Logistic Regression in R		**Lab Assignment 6**
	Mar 12	MANOVA	Dennis, 9.1 – 9.7	
	Mar 14	MANOVA and linear discriminant function analysis	Dennis, 9.8 – 9.14	
10	Mar 17 (LAB)	<u>LAB</u>: MANOVA in R	Dennis, 9.3; 9.10	**Lab Assignment 7**
	Mar 19	Review and Catching Up		
	Mar 21	**EXAM 2**		
11	Mar 24 (LAB)	Exam 2 review/open lab		**NO LAB ASSIGNMENT**
	Mar 26	**NO CLASS – Ambrose Research Conference (attendance is encouraged!)**		
	Mar 28	Introduction to Thinking Multidimensionally	Watkins, *A Step-by-Step Guide to Exploratory Factor Analysis with R and RStudio*, Chapter 1 (on Moodle) DATAtab, "Exploratory Factor Analysis." Available at: https://datatab.net/tutorial/exploratory-factor-analysis (I also recommend watching the video)	

12	Mar 31 (LAB)	LAB: Final Project Proposal and Outline		**Lab Assignment 8**
	April 2	Principal Components Analysis I: Justification and Basic Principles	Denis 10.1 – 10.4	
	April 4	Principal Components Analysis II: Example and Key Issues	Denis 10.5 – 10.8	
13	April 7 (LAB)	LAB: PCA in R	Bell, "Principal Components Analysis (PCA) in R." Available at: https://www.benjaminbell.co.uk/2018/02/principal-components-analysis-pca-in-r.html	**Lab Assignment 9**
	April 9	Exploratory Factor Analysis I: Justification and Basic Principles	Denis, 11.1 – 11.3	
	April 11	Exploratory Factor Analysis II: Example and Key Issues	Denis, 11.3 – 11.8	
14	April 14 (LAB)	LAB: EFA in R	Denis, 11.8	**Lab Assignment 10**
	April 16	Review and Catching up		
APRIL 17th at 11:59pm – Final Project Due				
April 25th at 9am – FINAL EXAM in A1085-1 (Lecture room)				

NOTE: Adjustments to the course schedule and assignments may be made during the semester as the need arises.

Requirements:

Assignment	Grade (%)	Learning outcomes
Attendance and Participation	10%	1, 4, 5, 6
Lab Assignments	20%	1, 2, 3, 4, 6
Exams		1, 2, 3, 6
Midterm 1	15%	
Midterm 2	15%	
Final	15%	
Final Project	25%	1, 2, 3, 4, 5, 6

1) Attendance and Participation (10%)

You are expected to attend every class period and actively participate in the class. You have **TWO (2)** unexcused absences from class. Unexcused absences beyond the second will negatively impact the participation grade at the rate of 10% per

absence. Absences may be excused in the event of mandated university activities; family or medical emergencies; or similar extenuating circumstances. Arriving late to class or insufficient preparation/attention during a class period may result in failing to receive full credit for attendance during that class period.

2) Lab Assignments (20%)

Mondays are labs where you will have the opportunity to put the concepts we learn about in lectures into practice. Each lab will contain an assignment, instructions for which will be provided at the time of the lab. These labs are intended to be completed by you on your computer during lab time, and are to be turned in electronically by the end of the lab on Moodle. They should be submitted as .html documents produced from knitting RMarkdown files (we will go over what this means in the first lab). If you are struggling during the lab or have some technical problem that would prevent you from completing the lab in time, you may turn in the lab electronically by the end of the day (11:59pm), but I STRONGLY recommend you make every effort to finish the lab during the time allotted, as it will save you a lot of stress during the evening.

3) Exams (45% -- 15% each)

There will be three exams: two midterms and one final. These exams will cover both material presented during lecture and practical skills learned during the labs. These exams are intended to focus on material from each third of the course (midterm 1 on material from the beginning of the semester through **February 12**, midterm 2 on material from **February 24** through **March 19**, and the final on material from **March 24** to the end of the term). However, the material of the course is itself cumulative – you must understand the basics of data management in order to calculate an average, how to calculate an average in order to grasp what a sampling distribution is, grasp what a sampling distribution is in order to conduct inferential statistics, etc. Therefore, the exams will at least indirectly test your knowledge on all the concepts covered in both this and the prerequisite BHS 310 course up to that point.

Exams are conducted in-person and are closed book – no notes are allowed. They will take place in our normal room either during regularly scheduled class time (for the two midterms) or during the course's scheduled final time (for the final). Phones are not allowed during exam time. Calculators are allowed, though the exams are designed such that they are not strictly necessary.

4) Final Project (25%)

You will turn in a ~7-10 page (~5-7 pages of text) final research project at the end of the term. This project will involve you downloading a real secondary dataset and conducting original statistical analysis on it to answer your own research question. Recommended datasets will be uploaded to Moodle, though you may propose an alternative dataset of your choosing. You may select one of the following options for your final project:

1. Interaction – hypothesize and test for an interaction effect among three variables. Use either factorial ANOVA or an interaction term in a multiple OLS or logistic regression to test for the interaction. Describe why you chose the procedure you did, if you found a statistically significant interaction, and substantively interpret the final results. A final project of this variety should include:

2. Multiple Regression Models – fit at least three nested OLS or logistic regression models with increasing numbers of covariates. Describe each of the models, and your process for adding covariates to the model. Describe which model you think best describes the data, explain why you came to that decision, and substantively interpret the chosen model.

3. MANOVA and DFA – identify a linear combination of two or more dependent variables and fit a MANOVA model predicting variation on those variables across the categories of one or more categorical independent variables.

Conduct a follow-up discriminant function analysis and substantively interpret the results.

4. <u>PCA or EFA</u> – identify a collection of six or more variables on a similar scale that you think can be explained better through a latent factor structure. Conduct either a Principal Components Analysis (PCA) or Exploratory Factor Analysis on these variables. Report the model fit statistics for all the possible factor structures and select one model. Report the factor loadings for your chosen model and substantively interpret the results.

Regardless of the option selected, the final paper should include the following:

1. An introduction describing, in substantive terms, what you are studying, the sorts of results you expect to find, and why. (e.g. what interaction you suspect might be present, what factors might explain variation in the data, etc.) (~1 page)
2. A detailed description of the dataset you chose, the population that dataset is generalizing to, the sample and how the sample was collected, and details of all the the relevant variables used in your analysis (~1-3 pages)
3. A description of the methods you are using, including all of the models you are fitting and the equations of those models (if appropriate) (~1/2 – 1 page)
4. Two or more tables and/or figures showing the results of your analysis, and all of the important statistics needed to evaluate the statistical significance of the findings (e.g. a regression table and a line graph of the interaction; a scree plot and the table of factor loadings; etc.) (1 page per table/figure)
5. A written description of the results and their substantive implications (2-3 pages)

This paper should be submitted online in a .doc, .docx, or equivalent word processing document form with 1-inch margins all around. The text portions should be double spaced in a 12-point sensible font (such as Calibri or Times New Roman). Each table or figure should take up an entire page. If a table or figure is too big for a single page, it may use multiple pages. This paper will be graded using the Grading Rubric for Written Assignments below. The project is due at **11:59PM on April 17th**.

Attendance:
As described above, attendance is expected and will be a graded component of this course. Make sure you come to class having done the readings and prepared to engage. It is your responsibility to communicate to me any circumstances that emerge which may prevent you from attending class.

Statement on the Use of Generative Artificial Intelligence (AI):
The use of generative artificial intelligence (AI) tools in education is both controversial and rapidly evolving. In some cases, AI tools can contribute to student learning. In other cases, AI usage undermines the development of basic knowledge and skills. At Ambrose, the student use of generative AI tools is up to the discretion of each instructor. Whether these tools are prohibited entirely or allowed in part, any unauthorized use of them is considered Academic Misconduct (specifically, plagiarism), as per the Academic Calendar: https://ambrose.edu/undergrad-academic-calendar/academic-information/academic-misconduct-learning-environment. Please be aware that along with commonly used AI tools like ChatGPT, QuillBot, or Grammarly Pro, other generative AI tools are being built into commonly used software (e.g. Google Gemini, Microsoft Office Copilot, Apple Intelligence). When in doubt, please ask your instructor for clarification about which tools you can or cannot use.

In this course, every element of each course assessment must be fully prepared by students themselves. The use of generative AI in the preparation, completion, or editing of homework, assignments, exams, or any other form of assessment is prohibited. Use of generative AI tools will be treated as Academic Misconduct.

My rationale for this decision is as follows: The purpose of this (and every) course is to develop your intellectual skills. As with any skill, the only way to effectively improve is to practice. If you want to become stronger, you lift weights; if you want to play the piano better, you practice playing the piano; if you want to become a better chef, you cook regularly. Practice of this sort my seem rote and mundane, but it is essential for improvement. Intellectual skills are no different, and the way to improve intellectual skills is through academic practice such as the assignments in this course. Offloading any cognitively meaningful element of this intellectual practice (no matter how apparently mundane) undercuts the purpose of the assignment, and in fact the purpose of this entire institution. You would not expect to get stronger by sending a robot to the gym in your stead. Likewise for intellectual exercise.

In cases where there is strong evidence of the unauthorized use of AI tools, I will give the student the opportunity to meet with me and demonstrate evidence that they did not use any such tools. If the student cannot demonstrate that they did not use these tools, then they will receive a zero on the assignment, and an Academic Dishonesty Report will be filed and submitted to the Registrar's Office.

Grade Summary:
The available letters for course grades are as follows:

Percentage	Grade	Interpretation	Grade Points
95.50+	A+	Excellent	4.00
90.50 – 94.49	A		4.00
85.50 – 89.49	A-		3.70
81.50 – 85.49	B+	Good	3.30
73.50 – 80.49	B		3.00
71.50 – 73.49	B-		2.70
67.50 – 71.49	C+	Satisfactory	2.30
62.50 – 67.49	C		2.00
59.50 – 62.49	C-		1.70
55.50 – 59.49	D+	Poor	1.30
49.50 – 55.49	D	Minimal Pass	1.0
0 – 49.49	F	Failure	0.00
-	P	Pass	No grade points

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 official final grades are only posted on the student registration system.

Required Software
For this course, we will use R as the primary statistical package accessed through the integrated development environment (IDE) of RStudio. Both of these software packages are free and open source, and are great alternatives to proprietary statistical packages (e.g. SPSS or STATA). Because they are free and require no license, you can continue to use them for your own data analysis projects long after this course ends. You can download R at https://muug.ca/mirror/cran/ and RStudio at https://posit.co/download/rstudio-desktop/.

Class Policies:
Communication
My goal in this class is to build an environment to maximize your learning and success. To this end, communication with me is critical. If you have any questions or concerns about an assignment, fear you are falling behind, or have thoughts

about the key MLB offseason transactions, please reach out. I can only help you if I know you need help, and the only way for me to know if you need help is for you to reach out.

Technology

In most classes, I encourage students to refrain from using laptops entirely. However, due to the nature of this material, laptops will be essential. Laptops are **REQUIRED** for the lab sessions as we will be using statistical software during the lab. During the lecture sections, a laptop may be helpful in reference important concepts or conducting quick calculations on the fly. I nevertheless recommend taking handwritten notes (either on a tablet or paper), as empirical evidence (https://www.scientificamerican.com/article/why-writing-by-hand-is-better-for-memory-and-learning/) has shown that the process of writing notes by hand improves recall and brain connectivity because it forces you to cognitively process the information rather than simply quickly typing everything the lecture says. In both lectures and labs, your laptop is to be used ONLY for classroom purposes. Shopping, social media browsing, watching squash highlights (this is a real example), or other such activity is distracting both to you and your classmates.

Late Work

Students should make every effort to submit all assignments on time. Late work will be penalized at a rate of 5% per day. Extensions will only be granted under extenuating circumstances.

Grading Rubric for Written Assignments:

	Technical Content: Does the paper describe the methods and techniques employed precisely and accurately? Are the methods appropriate?	**Argument and Analysis**: Does the paper make coherent arguments which logically flow from premise to conclusion?	**Writing, Grammar, Tables, and Figures:** Is the writing clear, easy to understand, and free of grammatical errors? Are the tables and figures well designed?	**Formatting:** Does the paper use appropriate ASA formatting and follow the instructions of the assignment?
A: (86% - 100%)	The paper uses appropriate methods and techniques for the research question. The methods are employed correctly, and all of the information necessary to assess the methods is presented. The methods are described clearly, accurately, and precisely, with appropriate use of technical terms throughout.	The argument of the paper is clearly and directly stated. Sufficient evidence is presented supporting the key arguments of the paper. The argument follows logically and naturally from the evidence presented.	The writing is very concise with no fluff or extraneous words. The writing is clear and easy to read with minimal spelling/grammar mistakes. The writing has a clear structure to it, with paragraphs flowing into each other naturally and building on ideas previously established. The tables and figures are formatted following best practices in the discipline, are clear and	The paper follows ASA format consistently. The paper is formatted exactly as specified in the syllabus. The paper follows the instructions for the assignment perfectly and includes all of the elements specified in the syllabus.

			easy to read, and meaningfully contribute to the paper's argument.	
B: (72% - 85%)	The paper uses methods and techniques that are mostly appropriate, but there may be some minor errors in application or interpretation. Some minor information necessary to assess the methods may be absent. The methods are described clearly, but some of the language used could be more precise. A few important technical descriptions may be missing.	The argument is present, but might be muddled. The paper presents evidence for the argument, but some important evidence may be missing, or the argument's claims go slightly beyond what is included in the paper. The logic of the argument is mostly sound, though it may occasionally be unclear.	The writing is fairly concise, but there is the occasional unnecessary word or sentence. There are a few spelling or grammar errors. The paper has a clear structure, but some revision to paragraph order or sentence structure may be in order. The tables and figures are relatively clear and easy to read, but in some places they do not follow best practices within the discipline. The tables and figures are relevant to the topic, but what they show is not seamlessly integrated into the paper's argument.	The paper follows ASA format and assignment guidelines well, with at most a few minor errors. The paper includes nearly all of the elements specified in the instructions, but there may be one element that is missing or insufficient.
C: (60% - 71%)	The methods used are generally relevant, but may not be the most appropriate for the question or data structure. Important information is absent from the results. Descriptions of the methods are unclear, and important technical terms are either absent or used	There is an argument, but it is very unclearly stated. Some evidence is presented supporting the argument's claims, but much of the evidence presented is either irrelevant or insufficient. The logic of the argument is unclear and disconnected from the evidence that is presented.	A significant portion of the writing is redundant fluff. There are many spelling or grammar errors. The paper has significant structural issues and has haphazard organization. The tables and figures display relevant data, but in an unclear or muddled way.	The paper has many errors in ASA formatting and/or assignment guidelines. The paper fails to sufficiently include multiple required elements spelled out in the assignment.

	incorrectly.			
D: (50% - 59%)	The methods used are inappropriate to the question or data structure and/or are misapplied. Multiple essential pieces of information are absent. Description of the methods is confusing and lacking. Nearly all of the relevant technical terminology is absent or misused.	The paper does not articulate an argument in any decipherable way. Little evidence is presented supporting the argument. What evidence is presented is insufficient or irrelevant. There are significant errors in logic and reasoning.	Much of what is written communicates little substantively important important information. There are substantial errors in grammar and spelling, making the paper difficult to read. The paper is very disorganized, making it difficult to follow what is trying to be communicated. The tables and figures present data that is barely relevant to the paper's argument. The tables and figures are confusingly formatted and difficult to read.	There are multiple significant errors in ASA formatting. Many important required elements are entirely absent.
F: (<50%)	It is not clear what methods or techniques the paper used at all. The central findings are uninterpretable or not presented. There are virtually no appropriate uses of technical vocabulary.	The paper makes no attempt to articulate an argument. No evidence is presented. To the extent that logical argument is present in the paper, it is entirely non sequitur.	The paper is not comprehensible. The paper has no organization whatsoever. The tables and figures are incomprehensible and/or entirely irrelevant.	The paper makes no attempt to follow ASA formatting. The paper includes very few of the required elements.

Ambrose University Important Policies & Procedures:

It is the responsibility of all students to become familiar with and adhere to academic policies and student appeal process as stated in the Academic Calendar. The academic calendar can be found at ambrose.edu/academics/academic-calendar.

Withdrawal From A Course

A formal application through the Office of the Registrar to be removed from a course prior to the Withdrawal deadline (see Academic Schedule) with the exception of students in the School of Education who must obtain approval from their faculty to withdraw from a course.

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

Final Examinations

The dates for Final Examinations are noted in the Academic Schedule. Students and instructors must be available for examinations up to the last day of the examination period. Final examinations must be taken at the time specified in the official Examinations Timetable.

Final Examinations may be rescheduled through the Office of the Registrar only if the following circumstances are met:

- The scheduled final examination slot conflicts with another examination; or
- The scheduled final examination slot results in three consecutive examination periods.

Travel plans will not be considered an appropriate reason to request a revised final examination.

If you miss a final examination due to unforeseen circumstances, you must apply for a deferred final examination within 48 hours of the missed examination. If you are prevented from writing a final examination by illness or other extreme circumstances, you must apply to the Registrar for an alternate examination timeslot. Individual examinations are scheduled by the Office of the Registrar. All requests for deferral of a final examination due to health reasons must be accompanied by a letter from a physician.

Communication

Your Ambrose email account is the University's primary and official mode of communication with you. Official notifications and communications from Ambrose will only be sent to your MyAmbrose address. Students are responsible for ensuring their MyAmbrose email address is set up prior to the start of their first term at Ambrose and are accountable for reading messages sent to their MyAmbrose email account, or delivered through their student portal, on a regular basis to ensure important information is not missed. Ambrose University is not responsible for your failure to receive important information delivered to your Ambrose email.

Recording of Lectures

The recording of lectures or any other classroom academic activity, other than an audio recording as an accommodation, is prohibited except at the discretion of the instructor. Any use other than that agreed upon with the instructor constitutes academic misconduct and may result in suspension or expulsion. Permission to allow a lecture recording is not a transfer of any copyrights, so such recordings may be used only for individual or group study with other students enrolled in the same class and may not be reproduced, transferred, distributed or displayed in any public or commercial manner. Student must destroy recordings in any, and all formats at the end of the semester in which they are enrolled in the class. All students recording lectures, must sign the Permission Form to audio record lectures which is available through the Office of the Registrar.

Academic Misconduct and Misconduct in the Learning Environment

Academic misconduct is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community.

1. The University expects Students to conduct Academic Activities with integrity and intellectual honesty and to recognize the importance of pursuing and transmitting knowledge ethically.
2. Students who participate in, or encourage the commission of, Academic Misconduct will be subject to disciplinary action in accordance with this policy.
3. Students are expected to cooperate in investigations of allegations of Academic Misconduct. Obstructing an investigation may result in penalties under the Student Non-Academic Misconduct Policy.
4. The Registrar maintains exam regulations for all examinations administered by the Registrar's Office. Exam invigilators or proctors are proxies for the course instructor. A Student's failure to comply with these regulations will be investigated as an appeal of a Final Grade.
5. Instructors will clearly communicate their expectations regarding conduct required of Students completing academic assessments in their courses. A Student's failure to comply with those expectations will be investigated as potential Academic Misconduct.
6. In the Learning Environment (e.g., classroom setting), Students are responsible to conduct themselves in a manner that enhances, respects, and does not disrupt or bring harm or disrepute to Ambrose or Members of the University Community.
7. Standards of behaviour in the learning environment are understood to apply to all environments where learning activities occur (e.g., laboratories, classrooms, field trips, practicum settings). 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 learning environment.

Students who have been found responsible for committing Academic Misconduct or Misconduct in the Learning Environment may appeal the decision, and in some cases the sanctions, in accordance with the Academic Appeals Policy. However, sanctions requiring attendance at educational seminars and sanctions that are simply written warnings may only be appealed if the Student is also appealing the decision that they committed Academic Misconduct or Misconduct in the Learning Environment.

If an appeal is unsuccessful the original date of Suspension or Expulsion may take effect. If the Academic Appeals Committee decides that the original date is the appropriate one for a Suspension or Expulsion to take effect, the Student will not receive credit for Academic Activities completed pending the appeal decision.

Academic Appeals

A Student may appeal a decision made in response to final grades, academic misconduct, misconduct in the learning environment, academic probation or suspension on one or more of the following grounds:

a. there is evidence available that was not considered in the decision and that may have otherwise affected the decision being appealed; or

b. the decision being appealed was made in a procedurally unfair way; or

c. the appropriate process, as outlined in the Academic Calendars, was not followed; or

d. the decision contained an error in the application of the relevant Academic Regulations.

In general, Final Grade decisions and decisions regarding Academic Misconduct, or Misconduct in the Learning Environment, or Academic Progression Matters should be made as close as possible to the level at which the academic competence resides.

Dissatisfaction with a decision or with a University, Faculty or School policy, procedure, regulation, or standard is not a Ground of Appeal.

In general, events or academic performance that occur after the date of the decision being appealed are not considered to be relevant new information.

A Student must exhaust all decision making and appeal processes at each level before submitting an appeal to the Academic Appeals Committee. Contact the Office of the Registrar for more information.

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.

Academic Success and Supports

Academic Accommodations

Ambrose recognizes its legal duty to provide reasonable academic accommodation to the point of undue hardship. This duty arises from human rights legislation, and failure to provide reasonable academic accommodation to a student with a documented disability may amount to discrimination under the Alberta Human Rights Act, RSA 2000, C A-25.5. Students with a disability who need an academic accommodation should contact Accessibility Services in the Student Academic Success office without delay.
See Accommodations and Accessibility Policy.

Learning Services

Learning Services provides support with

- **research and communication skills** (e.g., writing a paper, researching, giving a presentation), and
- **subject-specific skills** (e.g., solving a chemistry problem, reconciling a general ledger, understanding a philosophical argument).

We offer workshops, one-to-one tutoring, and more, and all of our services are **free** to students currently enroled at Ambrose University. To learn more, please visit https://ambrose.edu/sas/learning-services.

Mental Health Support

We encourage students to build mental health supports and to reach out when help is needed.
On Campus:
- Counselling Services: ambrose.edu/counselling
- For immediate crisis support, there are staff on campus who are trained in Suicide Intervention Skills and can help you access mental health support. See https://ambrose.edu/student-life/crisissupport for a list of staff members.
- For additional wellness resources go to the Ambrose wellness page: https://ambrose.edu/wellness

Off Campus:
- Distress Centre - 403-266-4357
- Alberta Mental Health Helpline - 1-877-303-2642 (Toll free)
- Sheldon Chumir Health Care Centre - 403-955-6200
- Emergency - 911

Sexual Violence Support

We are committed to supporting students who have experienced gender based sexual violence in the past or while at Ambrose. Many of the staff, faculty, and student leaders have received Sexual Violence Response to Disclosure training. We will support you and help you find the resources you need and you can access information about reporting. Information about the Sexual Violence policy and on and off campus supports can be found on our website– ambrose.edu/sexual-violence-response-and-awareness.

Off Campus:
- Alberta's Oneline for Sexual Violence - 1-866-403-8000 call or text
- Clinic: Sheldon Chumir Health Centre - 403-955-6200
- Calgary Communities Against Sexual Abuse - 403-237-5888
- Chat: www.calgarycasa.com

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