

Course ID:	Course Title:		Winter 2017
BHS 310	Ouantitative Methods for Behavioural Science	Prerequisite:	BHS 240
		Credits:	3

Class Information		Instructor Information		Important Dates	
Days:	Wed/Fri	Instructor:	Brianne M. Collins, M.Sc., PhD Candidate	First day of classes:	Wed., Jan 4, 2017
Time:	2:30-3:45pm	Email:	bcollins@ambrose.edu	Last day to add/drop, or change to audit:	Sun, Jan. 15, 2017
Room:	A2141	Phone:	403-410-2000 ext. 6904	Last day to request revised exam:	Mon, Mar. 6, 2017
Lab:	Thursdays, 9:45- 11:00am, A1085-2	Office:	L2174	Last day to withdraw from course:	Fri, Mar. 17, 2017
Final Exam:	Tuesday, April 18, 1:00pm, A2133	Office Hours:	Wed, 11:30-12:30pm, or by appointment	Last day to apply for coursework extension:	Mon, Mar. 29, 2017
				Last day of classes:	Tue, April 11, 2017

# **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 (SPSS) to analyze data. Lecture and laboratory components. Class limit of 30 students.

# **Expected Learning Outcomes**

By the end of this course, students will have the necessary knowledge and skills to be able to:

- Distinguish between a variety of descriptive measures and inferential statistical tests available in order to determine the most appropriate analysis for a given research question, study design, and data collected
- Analyze quantitative data (with one dependent variable and one or more independent variables) manually using mathematical equations and using a statistical software package (i.e., SPSS)
- Interpret results obtained via statistical analysis and compose accurate and informative results sections that meet disciplinary guidelines

# **Required Textbook and Supplies**

Salkind, N. J. (2016). Statistics for people who (think they) hate statistics. London, UK: Sage. (\$110.95 at the Bookstore)

Scientific calculator with statistical functions (between \$15-20). Graphing calculators are not permitted in tests.

# **Course Schedule**

Lecture handouts and worksheets will be provided in class and posted on Moodle.

Week	Date	Lecture Topic	Readings	Deadlines
1	Wed, Jan 4	Course Introduction	Syllabus	
	Thurs, Jan 5 LAB	No Lab		
	Fri, Jan 6	Intro to Statistics and Group Project	Chapter 1	
	Wed, Jan 11	Measures of Central Tendency	Chapter 2	
2	Thurs, Jan 12 LAB	Introduction to SPSS (Part 1)		Groups meet with Brianne today at scheduled time
	Fri, Jan 13	Measures of Variability	Chapter 3	
	Wed, Jan 18	Visual Representations of Data	Chapter 4	Submission of required revisions to study surveys/consent forms by Monday, January 16
3	Thurs, Jan 19 LAB	Introduction to SPSS (Part 2)		
	Fri, Jan 20	Reliability and Validity	Chapter 6	
4	Wed, Jan 25	Test #1	Chapter 2-6	
	Thurs, Jan 26 LAB	Descriptive Statistics and Graphs (Lab Assignment #1 Assigned)		
	Fri, Jan 27	Hypothesis Testing	Chapter 7	ARC Abstract Draft Due on Moodle by 11:55pm

Week	Date	Lecture Topic	Readings	Deadlines	
	Wed, Feb 1	The Normal Distribution and Z-Scores	Chapter 8		
5	Thurs, Feb 2 LAB	Planning for Project Data Collection		Lab Assignment #1 Due on Moodle by 11:55pm	
	Fri, Feb 3				
	Wed, Feb 8	The Normal Distribution and Z-Scores	Chapter 8		
6	Thurs, Feb 9 LAB	Z-Scores (Lab Assignment #2 Assigned)			
	Fri, Feb 10	Inferential Statistics and Significance Testing	Chapter 9	Final ARC Abstract due by email to Alex by February 10	
	Wed, Feb 15	micronian statistics and significance resumg	emapter 3		
7	Thurs, Feb 16 LAB	No Lab		Lab Assignment #2 Due on Moodle by 11:55pm	
	Fri, Feb 17	Test #2	Chapters 7-9		
	Wed, Feb 22				
8	Thurs, Feb 23 LAB	Mid-Semester Break (No Classes or Lab)			
	Fri, Feb 24				
	Wed, Mar 1	t-tests	Chapter 10-12		
9	Thurs, Mar 2 LAB	How to Create Research Posters (Lab Assignment #3 Assigned)			
	Fri, Mar 3	t-tests	Chapters 10-12		
	Wed, Mar 8		5.14ptc13 10 12		
10	Thurs, Mar 9 LAB	t-tests (Lab Assignment #4 Assigned)		Lab Assignment #3 due on Moodle by 11:55pm	
	Fri, Mar 10	t-tests	Chapter 10-12		

Week	Date	Lecture Topic	Readings	Deadlines
	Wed, Mar 15	Test #3	Chapters 10-12	
11	Thurs, Mar 16 LAB	Data Analysis for Group Project (Part 1)		Lab Assignment #4 due on Moodle by 11:55pm
	Fri, Mar 17	Analysis of Variance (ANOVA)	Chapter 13	
	Wed, Mar 22	Analysis of Variance (ANOVA)		
12	Thurs, Mar 23 LAB	Data Analysis for Group Project (Part 2)		
	Fri, Mar 24	Analysis of Variance (ANOVA)	Chapter 13	
	Wed, Mar 29	Ambrose Research Conference (No class)		Presenting Posters at ARC today
13	Thurs, Mar 30 LAB	Analysis of Variance (Lab Assignment #5 Assigned)		
	Fri, Mar 31	Analysis of Variance	Chapter 13	Peer Evaluations due on CATME by 11:55pm on March 31
	Wed, Apr 5	/ maryon or variance	Shapter 15	
14	Thurs, Apr 6 LAB	No Lab		Lab Assignment #5 due on Moodle by 11:55pm
	Fri, Apr 7	Correlation	Chapters 5 & 15	Engagement and Civility Self-Assessment Due on Moodle by 11:55pm
15	Tues, Apr 18	Test #4 during Final Exam Period 1:00pm in Room A2122	Chapters 5, 13, & 15	Optional Formula Notebook due at Test #3

**Note:** The above course schedule is *always* subject to change and at the discretion of the instructor. It is important therefore to attend all classes and to check your Ambrose email account and Moodle for updates and/or changes.

# **Course Requirements**

Component	Date/Deadline	% of Final Grade
ARC Abstract Draft for Group Project	Friday, January 27	4%
ARC Final Abstract for Group Project	Friday, February 10	1%
ARC Research Poster for Group Project	Wednesday, March 29	25%
Group Project Peer Evaluations	Friday, March 31	2%
Test #1	Wednesday, January 25	10%
Test #2	Friday, February 17	10%
Test #3	Wednesday, March 15	10%
Test #4	Tuesday, April 18	10%
Lab Assignments (5 x 4%)	See Schedule Above	20%
Engagement and Civility	Ongoing	8%
Optional: Formula Notebook	Tuesday, April 18	Up to 3% Extra
TOTAL		100%

### ARC Abstract Draft (4%) - Due: Friday, January 27, 2017 by 11:55pm on Moodle

The Ambrose Research Conference will be held this year on Wednesday, March 29, 2017. With your research project group, you will write an abstract for your poster presentation to take place at ARC. This is a draft of the abstract, so you can receive feedback from me prior to submitting for review by the Ambrose Research Committee. Resources and additional guidelines will be provided in class.

Abstracts drafts are due on Moodle by Friday, January 27, 2017 at 11:55pm. Late abstract drafts will receive 10% per day (see 'Late Assignment Policy').

# ARC Final Abstract (1%) - Due: Emailed to Dr. Alex Sanderson Friday, February 10, 2017

After receiving feedback on your draft abstract, you will make any required changes to finalize your abstract for submission.

One member of your research group will submit your finalized abstract to Dr. Alex Sanderson (cc: Brianne Collins) no later than Friday, February 10, 2017. As per the instructions provided by the Ambrose Research Committee, abstracts submitted after this date will <u>not</u> be considered for presentation at ARC 2017. Thus, if you do not meet the deadline, your group will be unable to present your poster at ARC and will be unable to meet the poster requirement worth 25% of your grade

### ARC Research Poster (25%) - Presented on March 29, 2017 (during schedule time assigned)

Continuing with group research proposals completed in BHS 240 last semester, you will work together with your group to collect and analyze data for your study. In lieu of a written paper at the end, your group will create a

professional, academic poster that details your study, results, and conclusions. Please keep in mind that you will need to leave enough time to have your poster professionally printed. Resources and detailed instructions will be provided in early March to help you prepare and "present" your poster.

Presenting your poster. After your abstract has been accepted by the Ambrose Research Committee, you will be notified as to when your group will display your poster during the conference. All group members must be present at ARC and stand with your poster for the duration that your poster is displayed. You will be responsible for articulating your project design, results, and conclusions clearly to attendees who come up and ask you questions throughout the time your poster is displayed. At the end of the day, one group member will be responsible for dropping off the poster to Brianne's office for marking.

Grading. Both the hardcopy poster will be marked as well as your presentation of your poster at ARC. Remember that groups are expected to work collaboratively (thus you will not be graded individually on any components you contribute to the whole). Withstanding extreme circumstances as determined in consultation with the instructor, all members of the group will receive the <u>same</u> grade on the project. In the case of any disputes, groups will be dealt with on a case-by-case basis using the information gathered by peer evaluation and groups may be required to meet with the instructor in person.

Group Membership. With the exception of extenuating circumstances, groups will largely be composed of the same individuals as last semester. However, there may be some changes to group membership within the first week of the semester (at the discretion of the instructor). Any students who were not in BHS 240 in Fall of 2016 will be assigned to join an existing group and will need to catch up on the topic, research proposal, etc.

Please note that the presentation will take place at ARC, so you must be in attendance to present. If you cannot attend due to illness, advanced notice must be provided via email to the instructor (and your group) and appropriate documentation (e.g., a doctor's note) must be provided within one week in order to make alternative arrangements (at the discretion of the instructor).

### Group Project Peer Evaluations (2%) – Due: Friday, March 31, 2017 by 11:55pm on CATME System

Each group member will be required to complete peer evaluations via the CATME system (using a link emailed to you). In the event that you do not complete the peer evaluations by the deadline, you will receive 0 on this component of the project and will have no recourse in the event of group conflict.

# Tests (4 x 10% = 40%) - Dates: In class on January 25, February 17, March 15, and April 18, 2017

In order to evaluate comprehension and the ability to correctly calculate and interpret statistical analyses, there will be four 'unit' tests throughout the semester. Tests will be 75 minutes in length and will be composed of computational, multiple-choice, and fill-in-the-blank questions. You will be permitted to use a non-graphing calculator and to bring in a one-sided, 8.5 x 11 cheat sheet that is handwritten and created by you. You will submit your cheat sheet at the end of each test. Tests will cover all assigned chapters and lecture material for the course content that precedes each test. While tests are not intentionally cumulative, much of the material in this class is naturally cumulative. In order to be successful on these tests, you should be sure to complete all practice worksheets provided as well as make use of the resources provided in the textbook.

Tests must be written on the dates they are scheduled. In the event of illness or extenuating circumstances, advanced notice must be provided via email to the instructor *and* appropriate documentation (e.g., a doctor's note) must be provided within one week in order to write a modified test at a later date.

# Lab Assignments (5 x 4% = 20%) - Due: See Schedule Above

The laboratory component of the course is <u>mandatory</u> and is designed to facilitate experiential learning and practical application of the material. There are five lab assignments required in this course, which together comprise 20% of your final grade. Handouts with specific instructions (e.g., requirements, formatting, etc) for each lab assignment will be provided and reviewed in the lab in which they are assigned as well as posted on Moodle.

Lab assignments submitted after the deadline will lose 10% per day (see 'Late Assignment Policy').

# Engagement and Civility (8%) - Due: Self-Assessment due Friday, April 7, 2017 on Moodle by 11:55pm

As a member of the BHS 310 learning environment, you will be assessed on both your engagement and civility in the classroom. Engagement includes participation in class and small group discussions and classroom activities. Engagement can also be seen when students demonstrate initiative, ask questions, question their own assumptions, and meet with the instructor to discuss course content and requirements. The civility component concerns your attitude and behaviour in the classroom context. Students demonstrate civility when they respect the opinions of others, arrive on time, attend classes regularly, avoid using social media during class time, refrain from side conversations with peers during lecture times, and take ownership for their learning. Please note that bullying in any form (e.g., intimidation, harassment, demoralizing) will not be tolerated and will result in an automatic zero on this component of the course.

In order to assess engagement and civility, half of the grade will be contributed by you via self-assessment (4%). Your self-assessment will consist of evaluating yourself on the rubric provided on Moodle and must include specific anecdotal evidence that supports your evaluation. The second half of the grade (4%) will be contributed by the instructor using a similar rubric. Please note that failing to include adequate (or any) anecdotal evidence will mean that you receive an automatic zero on the self-assessment portion of the grade.

Self-assessments are to be submitted electronically on Moodle by 11:55pm on Friday, April 7, 2017 using the form provided on Moodle. Please note that self-Assessments cannot be submitted before the last day of class. Late self-assessments will <u>not</u> be accepted (see 'Late Assignment Policy').

### Optional Formula Notebook (up to 3% extra) - Due: In hardcopy on Tuesday, April 18, 2017 at Test #4

In order to encourage a firm grasp of the theory and steps involved in statistical calculations, students are advised to create a detailed statistics formula notebook. Information (e.g., format, requirements, grading, etc) will be posted on Moodle and discussed in class during the first week of the semester.

There will be no extensions granted for this optional component of the course <u>and</u> late submissions will not be accepted.

### **Instructor Policies**

### **Attendance Policy**

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. Failure to attend classes regularly will also significantly impact your Engagement and Civility grade.

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 accommodation or leniency should the situation normally support such a solution.

### **Laptop Policy**

Student use of electronic information and communication technologies, including laptop computers, cell phones, and tablets are not permitted in class. Anyone found using one will be asked to either put it away or leave the classroom (if you have a special learning need, please consult with me).

# **Late Assignment Policy**

Assignments/exams are considered late when they are submitted six or more minutes late on Moodle (i.e., 12:01am and beyond). Be sure to plan ahead for timely completion *and* give yourself ample time to upload your assignments to ensure there are no technical difficulties encountered at the last minute. In the case of extenuating circumstances, appropriate documentation (e.g., a doctor's note) must be provided in order to submit an assignment/exam past the deadline.

It is your responsibility to ensure all assignments can be opened for marking, so be sure to check your file(s) on an additional computer prior to submitting (you can also double-check once you have uploaded your assignment to Moodle). Consequently, any assignment that cannot be opened for marking (e.g., file error, corrupted file, format not as requested) will be marked as received. Thus, if the assignment cannot be opened, it will be considered as having no content and will be given a grade of 0. Alternatively, if the instructor is able to open the document, whatever is visible in the file will be marked as it is presented.

### **Regrading Policy**

Once your graded work has been returned to you, you have one week (i.e., 7 days) to submit a request for regrading. Regrading is <u>not</u> for negotiating a higher grade, but is intended to correct grading errors (e.g., miscalculation).

For work graded electronically, your request should be submitted by email to the instructor with a written request (in the body of the email) indicating why you are seeking regrading. For work graded by hand, you must resubmit the graded assignment and provide your rationale for your request on a separate sheet attached. In both instances, requests for regrading must indicate where and why you believe there was an error. Generic statements such as, but not limited to, "my explanation was close," "I worked hard on this," or "I deserve partial credit" are not considered adequate rationale for regrading. Failure to be respectful in your request will result in the immediate refusal of your request.

Please note, when work is submitted for regrading, the entire work will be subject to review, regardless of the rationale provided in the request. It is important to note that regrading may result in a <u>lower</u> grade, which will not be eligible for a second request for regrading.

# **Electronic Communication Policy**

Whenever possible, the instructor will respond to all emails within 48 hours during the week (Monday to Friday). In most cases, emails received on weekends will be responded to on Monday. Although the instructor may respond to occasional emails on a weekend, please remember that responses on the weekend cannot be guaranteed.

In addition, as email is not always a practical means to address questions or concerns regarding course content or requirements, the instructor may email students back with a request to meet to discuss the email in person.

When sending an email, please address the instructor by name (not 'hey' or with no salutation), keep your tone professional and respectful, and please end the email with your name. Failure to follow these guidelines may result in an email not being returned.

### **Grade Summary**

The available letters and percentages for course grades are as follows:

Letter Grade	Percentage	GPA	Description
A	96% and above	4.0	
Α	91 – 95%	4.0	Excellent
A-	86 – 90%	3.7	
B+	82 – 85%	3.3	
В	75 – 81%	3.0	Good
B-	72 – 74%	2.7	
C+	68 – 71%	2.3	
С	63 – 67%	2.0	Satisfactory
C-	60 – 62%	1.7	
D+	56 – 59%	1.3	
D	50 – 55%	1.0	Minimal Pass
F	Below 50%		Failure

The BHS grading chart will be posted on Moodle to provide detailed information as to the quality of work needed to attain a given letter grade. Please note that it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examination is between two letter grades.

Because of the nature of the Alpha 4.00 system, there can be no uniform College-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.

#### **Student Resources**

# **Accessibility and Support Services (formerly Learning Services)**

The primary mission of Ambrose University's Accessibility and Support Services Centre in to assist students in achieving academic success. It accomplishes this through a wide variety of services and programs. Accessibility and Support Services are available to all students who wish to improve their academic skills and ability to learn, thereby maximizing their academic experience and allowing them to achieve greater academic performance and personal fulfillment. The centre also has as its mandate, the specific and complementary responsibility of providing support for students with learning and/or physical disabilities, and ensure for them equal academic opportunities.

# What if I have a Learning Disability or think that I might have one?

If you are already diagnosed with a learning disability then we will work one-on-one with you. This could include any number of accommodations and is specific to each individual. If you are wondering if you do have a learning disability we can work with you to pursue testing and to try different strategies to see if it helps with the challenges you are encountering. It is important to remember that we cannot help you if you do not tell us you are experiencing difficulties. All information is kept confidential and any accommodations are handled discreetly.

# What if I have a Physical Disability?

If you have a physical disability we will work with you to determine what we can do to help.

#### **Contact Information**

Feel free to drop in to room A2018, Monday through Friday from 8:30am to 4:30pm.

Contact by phone (403-410-2937) or email (accessibility@ambrose.edu).

For more information, please visit: https://ambrose.edu/student\_life/learning-services

### **Counselling Services**

Confidential, personal, pastoral, and vocational counseling is available to all students through the Student Development Department. Ambrose substantially subsidizes counseling services; however, there is still a nominal fee of \$30 per appointment that will be charged to your student account at the end of each month, for each scheduled appointment. There is a \$75 fee that will be charged to your student account if you cancel or miss your appointment withint 24 hours of your scheduled time. Under extenuating circumstances, if you need to change or cancel your appointment within the 24 hour period, contact Liz Jantzen (ejantzen@ambrose.edu).

### How do I book an appointment?

Appointments can be booked online here: https://my.ambrose.edu/content/counselling-services.

To book in person visit Liz Jantzen in Student Development (room A2018, Monday through Friday from 8:30am to 4:30pm).

# **Contact Information**

For additional information, please visit: https://ambrose.edu/student\_life/counselling-services.

Drop by Student Development in room A2018 (Monday through Friday, 8:30am-4:30pm) and speak to Liz Jantzen if you have any additional questions or concerns.

# **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 devises 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.

#### **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.