

ACKNOWLEDGEMENT

UBC’s Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəyəm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on in their culture, history, and traditions from one generation to the next on this site. I would also like to acknowledge that you are joining us during this course from many places, near and far, and acknowledge the traditional owners and caretakers of those lands.

COURSE INFORMATION

Course Title	Course Code	Credit Value	Location	Synchronous Class Meeting Times
Introduction to Statistics in Kinesiology	KIN 206 (002) This course was formally listed as KIN 371	3 credits	Web-oriented course	Monday, Wednesday, and Friday 8-9am

INSTRUCTOR CONTACT INFORMATION

Students are always welcome to contact the instructor and teaching assistants via email. When contacting the instructor and teaching assistants, students should use professional [email etiquette](#) and should have the course code (KIN 206) in the subject line. Please keep in mind that it may take us (myself and the teaching assistants) up to 48 hours to respond to your email during the week and we do not check our email on weekends. Please keep this in mind around assignment due dates and just before the midterms and final exam.

Some questions can be answered through email while others need to be discussed in a meeting. As such, students are *strongly encouraged to stop by during virtual office hours*.

Course Instructor	Contact Details	Office Hours
Carolyn McEwen, PhD	Email: carolyn.mcewen@ubc.ca Typically, I am able to respond to email inquiries within 48 hours during business hours (Monday-Friday, 9-5 PT).	Mondays (11-12:00pm) Wednesdays (9-10:00am) Office hours will be hosted on the Zoom main classroom. I am available to meet one on one with students online through Zoom if a student wishes to discuss a question or concern that is private in nature. Please send me an email (carolyn.mcewen@ubc.ca) with your availability to schedule a time that is convenient for both of us. Once a time has been set for our meeting I will send a link for the Zoom meeting via email.

Teaching Assistant Information and Office Hours

Teaching assistants (TAs) are available to meet with students online through [Zoom](#). Please send an email to the TA assigned (by your last name) to you with your availability to schedule a time that is

convenient for both you and the TA. Once a time has been set the TA will send you a link for the Zoom meeting.

Students will be assigned alphabetically by their last name to a teaching assistant. This teaching assistant will be a point of contact for students throughout the term if students have questions or concerns.

Teaching Assistant	Contact Details	TA working with students with last names starting with
		A-L
		M-Z
Marker	Contact Details	

COURSE DESCRIPTION

During the course, we will cover the following themes: stages of the research process, examining data, descriptive statistics, variability, normal curve, standard normal curve, Z-scores, standard error, basic probability and hypothesis testing, statistical inference, t-tests, correlations, regression, one-way analysis of variance (ANOVA), and select nonparametric analysis.

COURSE RATIONALE

The focus of this course is to develop students' **research literacy** skills. The ability to critically evaluate research and information is essential for students to foster evidence-based practice in their chosen careers (e.g., physiotherapist, personal trainer, physical educator etc.). Statistical analyses are used to summarize and make sense of quantitative data. Research within Kinesiology is often quantitative in nature and employs the scientific method. An understanding of statistical analyses and how to interpret them are thus essential to be able to read and critically evaluate research in Kinesiology. Knowledge of statistical analyses and quantitative research design will allow students to understand and critically evaluate course content in Kinesiology courses.

COURSE LEARNING AIMS AND OUTCOMES

The overarching aim of this course is for students to develop research literacy skills to foster evidence-based practice in their chosen careers and the ability to critically evaluate Kinesiology course content. Accordingly, students can expect to develop the following skills throughout KIN 206.

The ability to:

- Read and interpret a results section of a peer-reviewed journal article.
- Ask critical questions when reading academic journal articles.

Specific Learning Objectives:

By the end of this course, students will be able to:

- Perform and interpret basic statistical procedures.
- Interpret results based on research hypotheses and statistical output.
- Identify statistical assumptions.

- Match statistical methods with specific research questions and designs.
- Use JASP (statistical software) to organize data and analyze and interpret basic statistics

CLASS FORMAT

KIN 206 is a 3 credit course that will be delivered over one semester (January-April 2021).

The course content is delivered in two formats:

1. **Synchronous ('live') online meetings via Zoom** (the [link to the 'live' Zoom class meetings](#) can be found on the course 'home' page on Canvas). Please click [here](#) for a student guide to Zoom and Zoom can be downloaded [here](#). Synchronous online meetings will be held during scheduled class time (Monday, Wednesday, and Friday 8-9am PT). Synchronous online meetings will include course content delivery (e.g., live lectures), review exercises, and interactive activities. Synchronous class time will be recorded and posted to Canvas (under the corresponding module) with the exception of any breakout room activities. Students are strongly encouraged to attend synchronous online meetings to benefit from interacting with the instructor (e.g., ask questions) and other students. The intent of recording the synchronous classes is to provide access for students who may be learning in substantially different time zones and for students to go back and revisit course content.
2. The **online asynchronous** self-paced activities include course content, recorded videos, self-assessment questions, reflection exercises, working on textbook practice problems, textbook readings, JASP tutorials, and completion of assignments.

Synchronous and asynchronous learning activities will be communicated to students each week through the Canvas course announcements. Each module in the course builds off the previous module. Thus, it is incredibly important that students complete all synchronous and asynchronous learning activities for the week by the following Monday to stay on pace with the course and to be able to understand the present course concepts being delivered.

Questions during class meeting times are always welcome and student participation in all class formats is essential for success in the course.

The course will emphasize individual responsibility and require significant asynchronous class involvement in learning course content, reading, working on practice problems, and assignments.

Instructor's Technology Failing During Synchronous Meetings

If the instructor's (Carolyn) technology or internet connection fails during a synchronous meeting please carry on with the activity you are working on or if course content is being delivered please wait up to fifteen minutes or to the end of the scheduled class time (whichever comes first) to allow Carolyn to resolve the issue. If the issue is not resolved within the outlined time period than students are free to 'leave' the Zoom classroom and Carolyn will follow up in a Canvas course announcement with next steps.

Course Communication

The instructor (Carolyn) will use Canvas course announcements as a primary means to communicate the 'plan for the week' (including synchronous and asynchronous learning activities), any changes to the

course, and friendly reminders. Students are responsible for all information contained within course announcements. Please make sure your email address that is listed for notifications in Canvas is one you frequently check. This [link](#) is useful in helping you set up your Canvas notifications.

LEARNING MATERIALS

Course Readings

Students are responsible for all readings assigned in the course syllabus and during class time. The required text will be an essential resource for students as it provides foundational knowledge of basic statistics and contains many practice questions.

Required Materials

1. Required Text

Tokunaga, H. T. (2019). *Fundamental statistics for the social and behavioral sciences (2nd edition)*. Thousand Oaks, California: Sage.

Approximate book store prices: New \$140

Approximate online prices: New \$135; EBook \$100, [E-rental](#) as low as \$70 (for one term)

- a. Students may use the first edition of the text. There are a few differences between the first and second editions but the core content remains the same.
 - b. Students may gain free access to the textbook's companion website here: <https://edge.sagepub.com/tokunaga2e>. This excellent resource includes eFlashcards and practice quizzes to help you with the course material. Students are strongly encouraged to use these online resources to reinforce course concepts and prepare for exams.
2. *JASP (statistical analysis software)*. Students will be required to download (free to download and use) and have access to JASP. Download the latest version of JASP here: <https://jasp-stats.org/download/>
 3. *Microsoft Excel*. Students will be required to open a data file that was created in Microsoft Excel. Students must have basic skills in using EXCEL and WORD (see www.free-training-tutorial.com)
 4. *Calculator*.
 5. *Course Website*. Synchronous and asynchronous course content including the link for the [Zoom classroom](#), videos, lecture/video notes, information about the course, self-assessment questions, exams, handouts, JASP tutorials, and important reminders can be accessed through the Canvas course website at <http://canvas.ubc.ca>.
 6. *Respondus LockDown Browser*. Respondus LockDown Browser is required to complete all exams. Click [here](#) to download Respondus LockDown Browser and [here](#) for information about how to access exams through the Respondus LockDown Browser.

Summary of Technology in the Course

In this course students will use Canvas (+ extensions and integrated apps), Mentimeter, H5P, Zoom, JASP, and Respondus LockDown Browser. All technologies will be integrated into the course webpage in Canvas with the exception of [JASP](#) and [Respondus LockDown Browser](#) which students will be required to download onto their computers.

Class Notes

Class notes to synchronous online meetings and asynchronous videos will be made available in PDF format through the course website. Please keep in mind that these notes provide an overview of what will be covered and do not contain information related to discussions, in-class activities, or detailed explanations and examples. Please ensure that you are taking additional notes. This information can be accessed through the Canvas course website at <http://canvas.ubc.ca>

ASSESSMENTS OF LEARNING

Assessment 1	Midterm 1 (Chapters 1-5)
<i>Format</i>	Multiple choice, fill in the blank, and short answer
<i>Details</i>	Students will be required to answer questions based on prescribed textbook readings and lectures
<i>Due Date</i>	Wednesday February 10, 2021 8:00-8:50am PT. Students are required to complete the midterm in 'real time' on Canvas.
<i>Weighting</i>	20%
<i>Learning Outcomes</i>	To perform and interpret basic statistical procedures; To identify statistical assumptions
Assessment 2	Midterm 2 (Chapters 6-10)
<i>Format</i>	Multiple choice, fill in the blank, and short answer
<i>Details</i>	Students will be required to answer questions based on prescribed textbook readings and lectures
<i>Due Date</i>	Wednesday March 24, 2021 8:00-8:50am PT. Students are required to complete the midterm in 'real time' on Canvas.
<i>Weighting</i>	25%
<i>Learning Outcomes</i>	To perform and interpret basic statistical procedures; To interpret results based on research hypotheses and statistical output; To identify statistical assumptions; To match statistical methods with specific research questions and designs
Assessment 3	Final Exam (Chapters 1-10, 11, 13, 14)
<i>Format</i>	Multiple choice, fill in the blank, and short answer
<i>Details</i>	Students will be required to answer questions based on prescribed textbook readings and lectures
<i>Due Date</i>	TBA

<i>Weighting</i>	35%
<i>Learning Outcomes</i>	To perform and interpret basic statistical procedures; To interpret results based on research hypotheses and statistical output; To identify statistical assumptions; To match statistical methods with specific research questions and designs
Assessment 4	Assignment 1
<i>Format</i>	Short answer
<i>Details</i>	Students will work with real data to calculate and interpret statistical output using JASP
<i>Due Date</i>	Monday February 8, 2021 11:59pm PT
<i>Weighting</i>	5%
<i>Learning Outcomes</i>	To perform and interpret basic statistical procedures; To identify statistical assumptions; To interpret statistical output; To use JASP (statistical software) to organize data and analyze and interpret basic statistics
Assessment 5	Assignment 2
<i>Format</i>	Short answer
<i>Details</i>	Students will work with real data to calculate and interpret statistical output using JASP
<i>Due Date</i>	Friday March 19, 2021 11:59pm PT
<i>Weighting</i>	7%
<i>Learning Outcomes</i>	To perform and interpret basic statistical procedures; To interpret results based on research hypotheses and statistical output; To identify statistical assumptions; To match statistical methods with specific research questions and designs; To use JASP (statistical software) to organize data and analyze and interpret basic statistics
Assessment 6	Assignment 3
<i>Format</i>	Short answer
<i>Details</i>	Students will work with real data to calculate and interpret statistical output using JASP
<i>Due Date</i>	Wednesday April 14, 2021 11:59pm PT
<i>Weighting</i>	8%
<i>Learning Outcomes</i>	To perform and interpret basic statistical procedures; To interpret results based on research hypotheses and statistical output; To identify statistical assumptions; To match statistical methods with specific research questions and designs; To use JASP (statistical software) to organize data and analyze and interpret basic statistics

Grading

Assessment	%	Due Date
Midterm 1 (Chapters 1-5)	20%	Wednesday February 10, 2021
Midterm 2 (Chapters 6-10)	25%	Wednesday March 24, 2021
Final Exam (Chapters 1-10, 11, 13, 14)	35%	TBA
Assignment 1	5%	Monday February 8, 2021
Assignment 2	7%	Friday March 19, 2021
Assignment 3	8%	Wednesday April 14, 2021

Students unable to write a midterm with an approved reason will have the percentage of the missed assessment transferred to the final exam.

Due dates/exams will not be rescheduled for any reason other than a medical issue or family emergency. If you miss a due date or exam for an emergency, you must contact your instructor as soon as possible following the class/exam. If you do not contact your instructor, your assignment will be considered late (see below) or in the case of missing an exam, it will be given a score of zero. All extensions, rescheduling, or other concessions are at the discretion of the instructor.

Assignments are due at 11:59pm PT on the corresponding due date. Assignments are considered late ten minutes after the due date time. Late assignments will be deducted at a rate of 10% per day. Deductions will commence from the date and time the assignment is due, and will accumulate for each subsequent 24-hour period, including weekends. Assignments are not accepted after 6 days (e.g., if an assignment is due on a Wednesday at 11:59pm PT, it can be handed in up until the following Tuesday at 11:59pm PT with a 60% deduction). All assignments should be submitted through Canvas (see Canvas for further instructions). Assignments will not be accepted through email. Assignments must have the student's name and student number on the front page.

UNIVERSITY POLICIES

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on [the UBC Senate website](#).

Inclusivity

Education is a multidisciplinary field that brings together faculty, students and others from diverse academic and personal backgrounds. UBC's Faculty of Education is committed to creating a respectful

workplace and learning environment that supports inclusion based on the principles of equity, diversity and social justice in order to create an environment that supports its community members' full participation. The Faculty of Education is committed to providing accessible, usable, and welcoming spaces for faculty, staff, students, and visitors who have disabilities, are members of racialized communities, Indigenous, transgender, two-spirit and gender-diverse people, regardless of their age, sexual orientation, social status, religion, ethno-linguistic, nationality and/or citizenship status.

School of Kinesiology courses take place in learning environments that are inclusive of gender identity, gender expression, sex, race, ethnicity, class, sexual orientation, ability, age, etc. Learners and educators expect to be treated respectfully at all times and in all interactions. Non-sexist, non-racist, non-homophobic, non-transphobic and non-heterosexist language is expected in School of Kinesiology classes, course content, discussions and assignments.

Please feel welcome to e-mail your instructor (carolyn.mcewen@ubc.ca) your name and pronouns and how you would like these to be used.

Academic Integrity

All UBC students are expected to behave as honest and responsible members of an academic community. Breach of those expectations or failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action. It is your responsibility to become familiar with the University of British Columbia's Academic Honesty and Plagiarism Policies, as well as the Student Declaration and the consequences of violating these policies.

Students are responsible for submitting original work and accurately citing (referencing) the work of others within assignments. All submitted assignments become the property of the University of British Columbia and electronic copies of submitted assignments will be stored and used to check against future, present, or past cases of academic misconduct.

Students may work in groups consisting of up to 3 people for assignments 1, 2, and 3. When working in groups, students will submit only one final copy of the assignment for grading and each group member will receive the same grade for the submitted assignment. It is expected that each student will have contributed to the submitted assignment. Groups and individuals must submit unique and distinct assignments from other groups and/or individuals.

Students Learning Outside of Canada

During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and historical or current geopolitical controversies. If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,33,86,0> for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find

substitute courses. For further information and support, please visit: <https://academic.ubc.ca/support-resources/freedom-expression>

OTHER COURSE POLICIES

STUDENT RESPONSIBILITIES

You are responsible for all material covered in the course (including course announcements and missed synchronous meetings). You are also responsible for getting your own notes from classes and videos as well as information pertaining to changes in the course outline, readings, assignments, and information pertaining to any exams.

Please note the following dates:

Term Dates: **Monday January 11, 2021 – Wednesday April 14, 2021**

Last date for withdrawal without a W on your transcript: **January 22, 2021**

Last date for withdrawal with a W standing on your transcript (course cannot be dropped after this date): **March 12, 2021**

Midterm break: **February 15-19, 2021**

Exam dates: **April 18-29, 2021**

ACADEMIC ACCOMODATION FOR STUDENTS WITH DISABILITIES

Academic Accommodation for Students with Disabilities

The University's goal is to ensure fair and consistent treatment of all students, including students with a disability, in accordance with their distinct needs and in a manner consistent with academic principles. Students with a disability who wish to have an academic accommodation should contact and register with the [Centre for accessibility](#) without delay. Please contact the instructor (Carolyn) early to discuss any accommodations that you require. I (Carolyn) also welcome feedback and suggestions on how to make this course more widely accessible to students with a disability.

LEARNING ANALYTICS

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. This course will be using the following learning technologies: Canvas (+ extensions and integrated apps), Mentimeter, H5P, and Zoom. Many of these tools capture data about your activity and provide information that can be used to improve the quality of teaching and learning. In this course, I plan to use analytics data to:

- View overall class progress
- Review statistics on course content being accessed to support improvements in the course
- Track your progress in order to provide personalized feedback
- Understand your engagement with the course

COPYRIGHT

All materials of this course (course handouts, lecture slides, assessments, course readings, instructor recorded videos etc.) are the intellectual property of the Course Instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline.

Students are not permitted to record or take photographs/screenshots of any course content unless they are granted prior permission from the instructor.

COURSE READING SCHEDULE

The topics and assigned readings for each week are listed below, although they may be subject to change. Any changes to the schedule of topics and corresponding readings will be communicated to students through an announcement on Canvas.

Week	Dates	Textbook Readings
1	Jan. 11-15	Chapter 1: Introduction to Statistics
2	Jan. 18-22	Chapter 2: Examining Data: Tables and Figures Chapter 3: Measures of Central Tendency
3	Jan. 25-29	Chapter 3: Measures of Central Tendency Chapter 4: Variability
4	Feb. 1-5	Chapter 5: Normal Distributions
5	Feb. 8-12	Chapter 6: Probability and Introduction to Hypothesis Testing
Reading Break	Feb. 15-19	Enjoy your break 😊
6	Feb. 22-26	Chapter 6: Probability and Introduction to Hypothesis Testing Chapter 7: Testing One Sample Mean
7	March 1-5	Chapter 7: Testing One Sample Mean Chapter 8: Estimating the Mean of a Population
8	March 8-12	Chapter 8: Estimating the Mean of a Population Chapter 9: Testing the Difference Between Two Means
9	March 15-19	Chapter 9: Testing the Difference Between Two Means Chapter 10: Errors in Hypothesis Testing, Statistical Power, and Effect Size
10	March 22-26	Chapter 11: One-Way Analysis of Variance (ANOVA)
11	March 29-31	Chapter 11: One-Way Analysis of Variance (ANOVA)
12	April 7-9	Chapter 13: Correlation
13	April 12-14	Chapter 14: Linear Regression and Multiple Correlation

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