# **Teaching Dossier**

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## **Teaching Philosophy**

An educator best guides a student to knowledge by recognizing student diversity and allowing them to learn in the ways that accentuates their personal strengths. Describing learning and teaching becomes difficult because we should be defining how *individuals* learn rather than how a *classroom* learns. The former fosters each student, while the latter leaves many either lost and confused or unchallenged and bored. There exist many different paths to learning and the educator is the guide. Here, the paths to knowledge represent the different educational strategies that I provide within my classrooms, and it is in the hands of each student to choose which path works best for them. Specifically, I allow my students the opportunity to select how they engage and how they will be assessed within my classroom.

My teaching is focused on neuroscience, statistics, and research methods and my philosophy provides educational environments that the students control. I offer a 'build-your-own-class' mentality where students are able to select both how they engage with class materials and how they are assessed. My students can i) select their methods of engagement that may range from lectures to live discussions, and ii) select their methods of assessment that may take forms ranging from exams to teaching mini lectures. That way, each student gets to choose how they would best learn the material in my courses.

This teaching approach also provides my students with a toolset of skills on how to learn and work effectively and independently. Here, they do not rely on me to tell them how to learn nor how to complete a course, but rather rely on themselves, with my support, to learn and reach their goals. By allowing them choice in my classroom, I teach them to be autonomous — a necessary skill in the workforce that is rarely taught within educational institutions. Moreover, it provides them with real responsibility over their own education, allowing them to develop a myriad of skills, such as time management, that will not only help them throughout higher education but also throughout their careers.

To date, I have had the opportunity to teach three undergraduate level courses in neuroscience and statistics, to construct a freely available online series, <u>Practical Statistics in R</u>, that currently has 70,000 views, and to develop a series of seminars and workshops on academic writing and practices. I first introduced my philosophy into my classrooms by prioritizing student mental health through respect and flexible expectations. I offered my students the opportunity to alter deadlines and provide anonymous feedback so that I could actively adapt the class to meet their needs. This has had a positive impact on their mental health and on their experiences in my classrooms, as evidenced by course evaluations where 100% of my students described that they felt supported and respected. My next phase of integrating my philosophy into the classroom is to incrementally provide a variety of methods of engagement and assessment that my students choose from — an initiative that will further facilitate student autonomy and ensure equal opportunity for all.

In summary, I strive to create educational environments where the students have control. That means that I am always flexible and responsive to student feedback. No matter what I am teaching, the goal is to provide students with the conceptual knowledge of course material, but also with the skills to succeed in higher education and the job market. As the world changes, so do my students and so I revere student feedback as my own method of ensuring my teaching philosophy aligns with everyone's needs.

## Overall Teaching Summary Evaluation Summary

Question	Median*
Psyc 300A (UVic) – Statistical Methods in Psychology	
The instructor was prepared for course sessions	5/5
The instructor's explanations of concepts were clear	5/5
The instructor motivated you to learn in this course	5/5
The instructor was available to answer your questions or provide extra assistance as required	5/5
The instructor ensured that your assignments and tests were returned within a reasonable time	5/5
The instructor was helpful in providing feedback to you to improve your learning in this course	5/5
The instructor demonstrated respect for students and their ideas	5/5
Overall, the instructor was effective in this course	5/5
Psyc 351C (UVic) – Cognitive Neuroscience	
The instructor was prepared for course sessions	5/5
The instructor's explanations of concepts were clear	5/5
The instructor motivated you to learn in this course	5/5
The instructor was available to answer your questions or provide extra assistance as required	5/5
The instructor ensured that your assignments and tests were returned within a reasonable time	5/5
The instructor was helpful in providing feedback to you to improve your learning in this course	5/5
The instructor demonstrated respect for students and their ideas	5/5
Overall, the instructor was effective in this course	5/5

<sup>\*</sup> These course evaluations are on an ordinal scale (ranging from 1 = Very Poor to 5 = Excellent). As such, I present median ratings; however, I understand that these are often reported as mean values. If preferred, mean values can be provided upon request.

<sup>\*\*</sup> Please note that there are no available course evaluations for Meds 487 as it was a coinstructed course and surveys were not generated for my evaluation.

## Selected Student Comments Psyc 300A

Chad was very good at breaking down complex concepts, making them easier to understand and learn. I really appreciated his step—by—step examples for calculations. He was also very available throughout the semester for questions, and his explanations were very helpful. He has a great ability to explain concepts in a clear way and make the material engaging. I also really appreciated his frequent check—ins to see if students were understanding the material, as well as his check—ins to make sure students were doing okay generally (aside from just with course—related content). He was also provided students with so many resources for learning the material, we were provided with a stats practice question generator, youtube videos by Chad himself and computational quizzes prior to exams that helped be prepared for the types of questions asked on the exam.

Chad made learning statistics a lot less scary than it would be. He was open to feedback and was actually concerned whether we were actually grasping the material or not. His statistics problems generator was a god–send for exam practice. He's flexible with deadlines and is very understanding when it comes to our health or personal needs. Overall, I very glad that I switched from Nathan's class into his, and I'm throughly annoyed that he won't be teaching 300B due to low enrolment.

Chad is a strong professor and is a valuable asset to the UVic psych faculty. He provided clear explanations for topics, helpful examples, and extra support as needed. He ensured that students felt supported and ensured that everyone understood the concepts before moving on. He was always available for extra help or guidance after class. The assignments (quizzes) were extremely helpful in ensuring that we were prepared. The stats problem generator was phenomenal and very helpful for studying. To have a teacher go out of their way to create something such as that for students is commendable. Moreover, the Youtube videos were very helpful as well. Importantly, Chad knows his stuff thoroughly. Therefore, Chad is a strong professor analytically and personably. Overall, I felt as if Chad truly cared about his students and their success, and did everything he could to ensure we were grasping the material.

- Chad was an extremely knowledgable and passionate professor which really increased my interest and understanding of the course material
- He was very considerate of our strengths in covering topics and was always eager to re–explain topics and go over them with us until we were clear.
- I really appreciate how Chad put in time and effort to create the Stats Problem Generator to provide us with extra practice questions this thoroughly increased my confidence in material learned.
- Chad is one of the best and most dedicated professors I have ever had at UVic and has really increased my interest in statistics!

## Psyc 351C

Ability to make information that would otherwise be bland interesting. His passion for the subject and enthusiasm made it a much more enjoyable course than it would have with any other professor. He is a personable person and spoke to the class with respect and care. Chad's compassion, care and respect for his students is unmatched by any other professor I have had at UVic so far in my degree. Some people didn't enjoy his tangents but I personally did, it made sometimes bland facts memorable with his small stories etc. Chad truly treats all his students as valuable members of the class and promotes the desire to learn.

Chad has a clear passion for neuroscience, and he motivates me to want to become a better scientist. He devotes his extra time to creating and providing materials in a variety of ways to help us learn – including small web apps that show how to interpret EEG readings. He is a kind and caring professor who genuinely seems to want us to succeed. I couldn't ask for a nicer or a hardworking professor. He is also excellent at breaking down tough topics and making them digestible, which I really appreciate as a student.

I can't state this clearly enough: CHAD IS AWESOME!

Chad was great! He tried to replicate the in–person environment with his lecture style, and he really listened to and seemed to care about his students. In addition, Chad was incredibly passionate about the subject and this helped motivate me to learn. Chad also always checked in with us to ensure we were following the lecture and was willing to answer questions and clarify whenever it was needed. All in all, Chad was an incredibly adaptive and great prof!

I thought that Chad's approach to everything he did on zoom was amazing, it was the only class this semester where it actually felt like a lecture. I also really enjoyed how passionate Chad is about the students in the class, along with the material. At first, I was somewhat unsure of how this class would go because of my previous interaction with a PhD student teaching a course but Chad went above and beyond some of the more seasoned professors in this class. Going to class was interesting, and fun, and I really liked how this was structured in that we were looking at actual studies and why they worked rather than theoretical. The sample questions that Chad provided were really helpful in learning the material because it was a great guide for what to expect. If I could take another class with Chad I would no doubt.

## **Course Descriptions**

## Psyc 300A: Statistical Methods in Psychology (Summer 2021)

University of Victoria, Victoria

**Course Description**: Brief review of research methodology; univariate description, bivariate description and an introduction to probability and inferential statistics as applied in Psychology. Introduction to microcomputer software and computer based analyses of the statistical procedures covered in the course.

## **Psyc 351C: Cognitive Neuroscience (Spring 2021)**

University of Victoria, Victoria

**Course Description**: Emphasizes the study of mind-brain relationships using brain imaging techniques including functional MRI and electroencephalography as well as brain-based models of mental processes. Topic areas will include perception and attention, object recognition, memory, cognitive control, decision-making and language.

## Meds 487: Advanced Topics in Cognitive Neuroscience\* (Spring 2020)

University of Victoria, Victoria

**Course Description**: Provides a foundational basis in neuroscience. Comprehensive instruction in behavioral and cognitive neuroscience.

\*Note that this course was co-instructed and surveys were not generated for my evaluation.

## **Efforts to Improve Teaching**

## **Certificate in Learning and Teaching in Higher Education (2020 – 2022)**

University of Victoria, Victoria

This two-year certificate program at the University of Victoria is a rare find in Canada and prepares its students to teach effectively in higher education. This program thoroughly investigates and applies theories, models, and practices of teaching in higher education with special focus on equity, diversity, and inclusion. As such, one main focus of this program is to facilitate the transition of traditional classrooms towards adaptive and flexible classrooms that facilitates equal opportunities for all students. This program also prepares its students to enter university faculty positions by exploring the various university structures and highlighting obstacles and how to overcome them.

## Certificate in Diversity and Inclusion in the Workplace (2021)

#### Coursera

This certificate focuses on equity, diversity, and inclusion in the workplace with additional focus on higher education. It teaches the values of considering differences as a benefit to the workplace, education, and society. It begins by outlining the many issues that exist for minority groups, continues by exploring current practices looking to overcome these inequalities, and resolves by proposing potential future directions that will one day ensure equity, diversity, and inclusion in all walks of life. The values learned in this program extend from shifting perspectives to motivating action – for example, re-designing protocols to ensure equal and positive experiences for everyone. The content explored is diverse, leading to an understanding of issues in many aspects of the workplace and in higher education and how we may together overcome them.

## Certificate in Leading for Equity, Diversity, and Inclusion in Higher Education (2022) Coursera

This certificate provides a more specific look at the values of equity, diversity, and inclusion in higher education with a goal of teaching its students how to become leaders of these values. As such, this certificate teaches how to construct an inclusive environment both within and outside of the classroom. Moreover, it communicates how its students may then pass on the values of equity, diversity, and inclusion to their students, to other faculty members, and to society. This is accomplished by exploring the historical narrative of inclusiveness in higher education and by discussing current limitations and prospective solutions to ineffective inclusivity initiatives.

# Course Evaluations Psyc 300A



UVic CES Instructor Report 202105 - Chad Williams - STATISTICAL METHODS - PSYC 300A - A02 (CRN 33299)

Project Title: UVic Course Experience Survey - Summer 2021

Courses Audience: 22 Responses Received: 15 Response Ratio: 68%

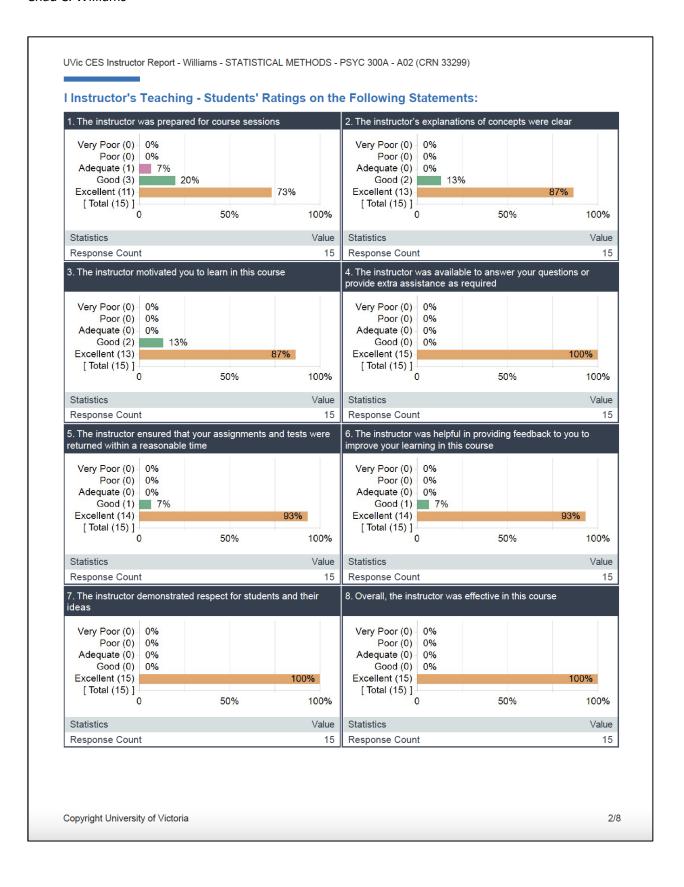
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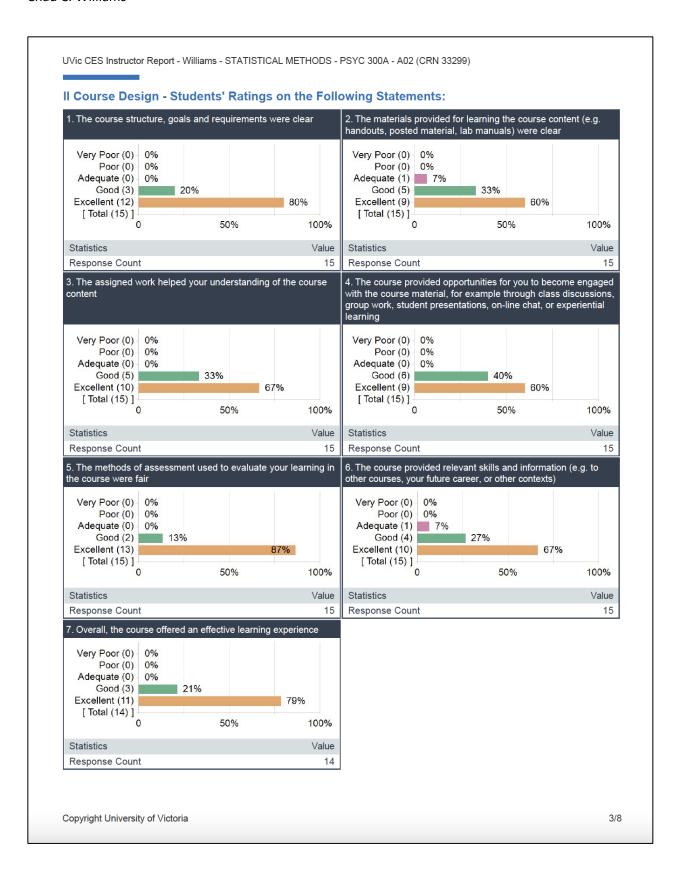
 CRN
 33299

 VNUMBER
 V00814095

Creation Date: Wednesday, June 30, 2021

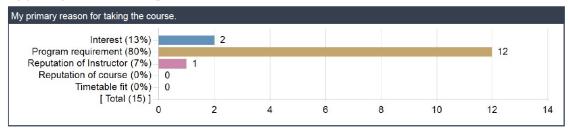
blue\*



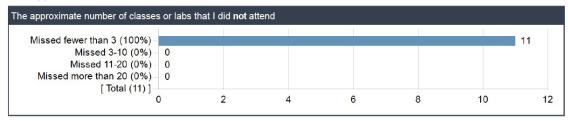


#### **III Statements About The Students:**

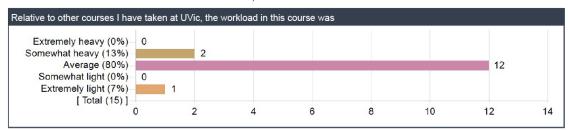
My primary reason for taking the course.



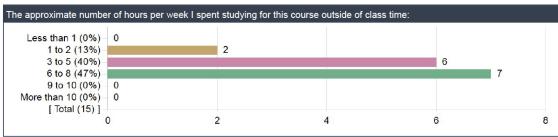
The approximate number of classes or labs that I did not attend



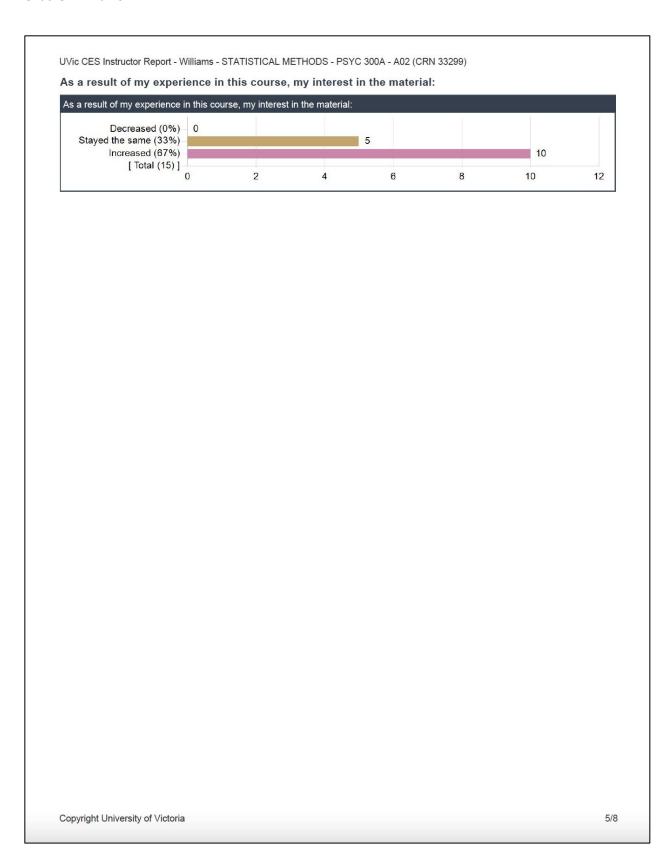
Relative to other courses I have taken at UVic, the workload in this course was



The approximate number of hours per week I spent studying for this course outside of class time:



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#### **IIV Student Comments:**

What strengths did your instructor (Chad Williams) demonstrate that helped you learn in this course?

#### Comments

Chad made learning statistics a lot less scary than it would be. He was open to feedback and was actually concerned whether we were actually grasping the material or not. His statistics problems generator was a god–send for exam practice. He's flexible with deadlines and is very understanding when it comes to our health or personal needs. Overall, I very glad that I switched from Nathan's class into his, and I'm throughly annoyed that he won't be teaching 300B due to low enrolment.

Chad gave us a lot of resources for us to improve on the course material. He was also very engaging in lectures and genuinely seemed like he enjoyed teaching and wanted to see us improve as much as possible

He was really adaptive in the course material, and allowed for people to chime in and ask questions frequently.

Chad was ready all the time, even outside of class when we had question about concepts and lecture materials. He was also very accommodating with the needs of the students, if we need deadline extension, he doesnt hesitate to give it to us. I also liked how Chad explained every concept in stats very clearly, and made me think that this course is not as bad as it sounds.

- -Clearly explaining material, knew how to bring it to our level.
- -He did great with explaining material in different ways.
- -He was also very accommodating and supportive

He is a very good instructor, I hope to get him again in the future for 300B.

Able to pick up a course so quickly and taught us effectively. I also found his background motivated him to teach us and illustrated how it was applicable beyond the class.

Very attentive and supportive of the needs of students, came across as knowledgeable and passionate about the course content.

Flexibility and willingness to go out of his way to help students or provide alternate explanations. Enthusiasm for the course content. Graded tests and assignments VERY quickly. Lots of computational practice with his generator.

The prof did a great job at explaining the concepts. As part of my bachelor's course I did earlier we had a crash course in stats (different uni) and I understood nothing haha But with Mr Chad, the results of research papers is no longer intimidating and I can actually understand what they mean!

Chad was an amazing professor. He made sure every single person in the class fully understood the material. He would reword what he was saying into simpler terms if they were confusing. He showed great respect for his students and made the course a lot more fun and easy than I expected. He has been one of my favourite professors at UVic.

- Chad was an extremely knowledgable and passionate professor which really increased my interest and understanding of the course material.
- He was very considerate of our strengths in covering topics and was always eager to re-explain topics and go over them with us until we were clear.
- I really appreciate how Chad put in time and effort to create the Stats Problem Generator to provide us with extra practice questions – this thoroughly increased my confidence in material learned.
- Chad is one of the best and most dedicated professors I have ever had at UVic and has really increased my interest in statistics!

Chad was very good at breaking down complex concepts, making them easier to understand and learn. I really appreciated his step—by—step examples for calculations. He was also very available throughout the semester for questions, and his explanations were very helpful. He has a great ability to explain concepts in a clear way and make the material engaging. I also really appreciated his frequent check—ins to see if students were understanding the material, as well as his check—ins to make sure students were doing okay generally (aside from just with course—related content). He was also provided students with so many resources for learning the material, we were provided with a stats practice question generator, youtube videos by Chad himself and computational quizzes prior to exams that helped be prepared for the types of questions asked on the exam.

The instructor had clearly thought about what elements of the course material were essential and spent significant time making sure that the class really understood those points. He also developed a "problem generator" which was incredibly useful for giving us opportunities to practice and improve our fluency with the computational procedures we need to be familiar with.

Chad is a strong professor and is a valuable asset to the UVic psych faculty. He provided clear explanations for topics, helpful examples, and extra support as needed. He ensured that students felt supported and ensured that everyone understood the concepts before moving on. He was always available for extra help or guidance after class. The assignments (quizzes) were extremely helpful in ensuring that we were prepared. The stats problem generator was phenomenal and very helpful for studying. To have a teacher go out of their way to create something such as that for students is commendable. Moreover, the Youtube videos were very helpful as well. Importantly, Chad knows his stuff thoroughly. Therefore, Chad is a strong professor analytically and personably. Overall, I felt as if Chad truly cared about his students and their success, and did everything he could to ensure we were grasping the material.

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Please provide specific suggestions as to how the instructor (Chad Williams) could have helped you learn more effectively.

#### Comments

It's probably due to the Summer format, but having more structured group work in the labs would be nice. They are some people in the labs that just wouldn't respond when we're put into break—out rooms and people usually just end up working alone.

On the whole Chad helped me learn very well and performed much better than most profs in this area. The main thing would maybe be preparing more conceptual questions for us to test our aptitude in this area.

I think some extra materials to help study would have been beneficial – perhaps not for marks but to help give some idea of what to expect on the midterms as far as how questions will be framed. I also struggled with understanding some of the labs, and felt that the R studio distracted a bit from what we were supposed to be learning in the labs. I was so busy trying to figure out how to use R that I couldn't focus on the point of the lab.

I want to suggest if Chad can continue provide example on some concepts that are quite hard to grasp. For example, how he explained some confusing concept in stats that made us think about it in different perspective instead of just memorizing numbers or symbols.

Better poll organization, more opportunities to practice conceptual questions. Sometimes I felt like we moved a little slow through the material, but that could just be me.

You're doing great! Do more polls!

I really think Chad is a great prof. maybe a little more proofreading of the slides but that's pretty much it.

- The only minor issue was that there were often slight errors in powerpoint notes/slides/polls, etc. These did not hinder my learning and we fixed rather quickly.

Chad was very effective in helping me to learn, I do not have any suggestions, except I loved the problem generator and think that you should continue offering it to your students.

I think statistics is made much more clear through working out specific concrete examples. That might have been more difficult to arrange over Zoom, but one thing I can suggest is to bring in a bunch of different articles whose conclusions or methods sections demonstrate the statistical methods we are learning and go over those so we gain fluency in reading and interpreting actual psychological studies.

Practice quizzes for the conceptual questions would be helpful as for me, the math is a bit more easier to understand than the concepts. It would be helpful to have a quiz to see which areas of the conceptual material I need to focus on for studying.

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Please provide specific suggestions as to how this course could be improved.

#### Comments

Hire Chad as a regular instructor for stats (if he wants to). He's a great teacher who's clearly passionate in this subject

The main way I could see him improve for next time he teaches the course would be integrating more conceptual questions/quizzes and being a bit more prepared. But hopefully next time he will have more time to prepare and will have worked out the little bugs. Overall, Chad is probably the best prof I have had while learning online in this past year and would certainly be interested in taking another class with him.

I think that overall, some more material work, as well as clearer lab instructions would improve the course. But overall, I felt like I understood/was confident in most of the material.

It would be nice to have some discussion within the class, I know there was a lab component but interaction between students were quite low in terms of online environment of the class. Hopefully, by the face to face class, it will get better.

Always keep more sections open, smaller class sizes are better! Our class was great!

I think the lab was the part of this course I did not enjoy, the explanations were not in depth enough for me to be able to confidently do on my own.

I felt the labs could have more guidance and examples during the lab time. The lab instructor could be unclear at times when explaining computations with statistical software.

Weekly quizzes that force you to keep up

More polls!

The Labs in the course were a little difficult to understand at times but with a little extra assistance I think it wouldn't be hard to improve.

- N/A

- This is a great and very useful course for all majors!

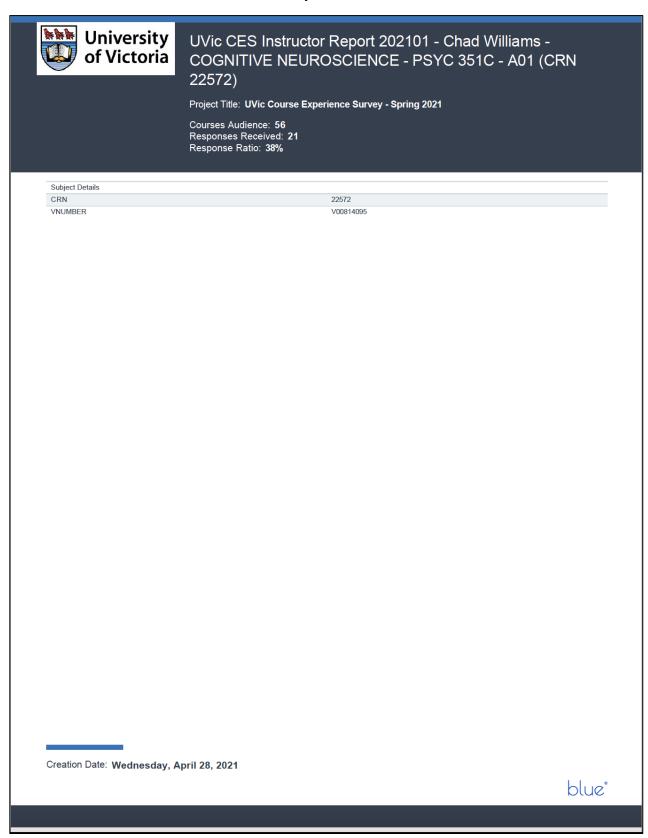
No suggestions – I was nervous to take my first stats class but Chad was a really supportive teacher who made the content easy to learn (might I even say enjoyable to learn) and engaging!

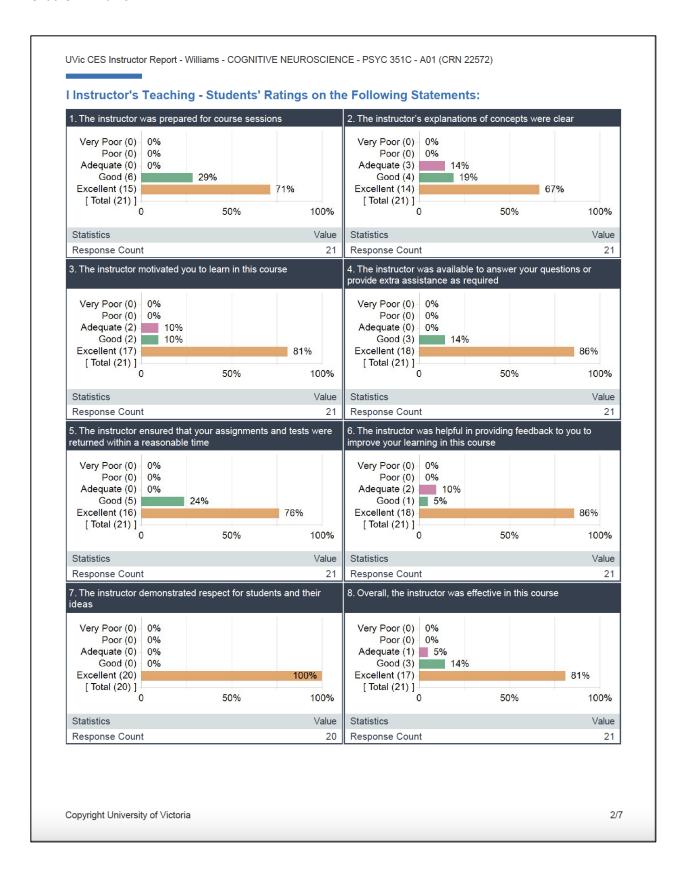
The lab section needs a textbook of some kind. It can be something put together from the assignments, or it could be a set of R markdown documents, or anything else, but it really needs a course pack with a walkthrough of what's being covered and some handy reference sheets.

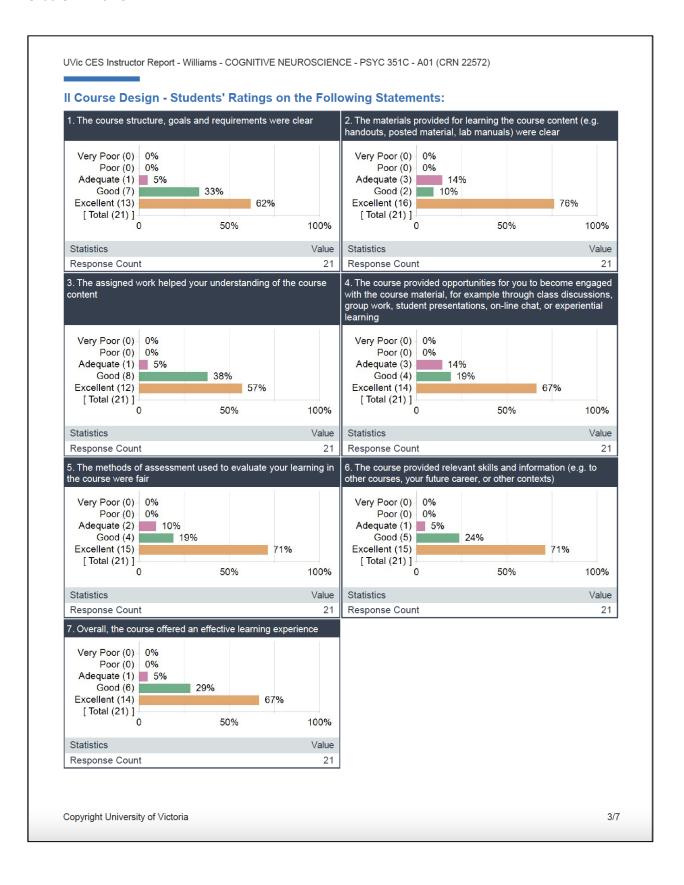
Conceptual quizzes and perhaps additional assignments where we can apply what we have learned. But, this may be due to the shorter term.

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## Psyc 351C

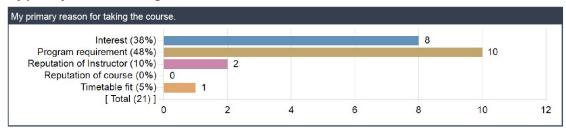




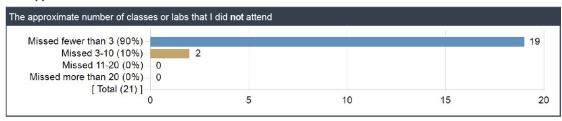


#### **III Statements About The Students:**

My primary reason for taking the course.



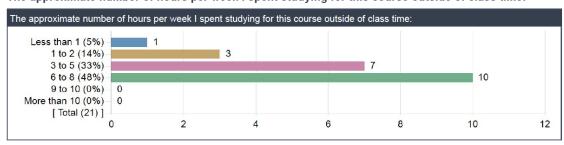
The approximate number of classes or labs that I did not attend



Relative to other courses I have taken at UVic, the workload in this course was

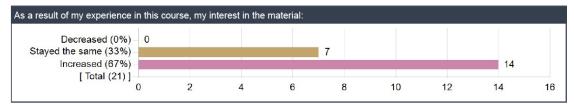


The approximate number of hours per week I spent studying for this course outside of class time:



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As a result of my experience in this course, my interest in the material:



#### **IIV Student Comments:**

What strengths did your instructor (Chad Williams) demonstrate that helped you learn in this course?

#### Comments

Very good at reexplaining and responding to email about concerns with the course material

Chad is a very understanding teacher – who made sure the concerns of students were met! He made this course less stressful and quite fun. You can tell he enjoys the subject he's teaching and cares for his students a lot. I really appreciated the time he took to get feedback to see how the course was going, and feedback on exams and assignments.

Chad has a clear passion for neuroscience, and he motivates me to want to become a better scientist. He devotes his extra time to creating and providing materials in a variety of ways to help us learn – including small web apps that show how to interpret EEG readings. He is a kind and caring professor who genuinely seems to want us to succeed. I couldn't ask for a nicer or a hardworking professor. He is also excellent at breaking down tough topics and making them digestible, which I really appreciate as a student.

I can't state this clearly enough: CHAD IS AWESOME!

Chad really is top notch!! – His interest in the field and ability to be able to add to the course with his own ongoing research or relevant interest was truly very enlightening.

As a retuning student (not been at UVIC) for well over a decade. It was great to see Chad, the next gen of instructors, who is able to seemlessly use the current technologies available to actually enhance the classroom experience making the virtual seem more engaging than an in person experience.

Chad provided an avenue for each type of learner (chat, zoom, class time,) to feel comfortable in being able to ask questions and access the material.

Chad took time to ask feedback, and incorporated it back into his lesson plans.

Anyone spent their tuitition money on this course (even during the pandemic) got a serious ROI. Again, I took other courses last summer in other faculties, while all the profs have been too both top notch, Chad's demonstrated interest in the material and his preparedness, effective course design, tech savvy really stands out!

He was very interested in the material being taught in the course and this translated into his teaching style. He was very open to suggestions and feedback from students and respected their opinions. He was willing to go over any material students were confused with and tried to keep the class as engaged as possible. Providing practice questions was very helpful for preparing for midterms and he was very clear about his midterm expectations.

Chad Williams was super accommodating during this term. This was really helpful especially when I needed help he was super understanding of what I was going through.

It was very clear that Chad really cared about his students and wanted everyone to succeed. He went out of his way to make sure we fully understood concepts. Overall, Chad is a great prof.

He's patient, understanding, his slides were clear, he's encouraging and gave us a great outline for our writing assignment, and good practice questions for the exams, etc.

I thought that Chad's approach to everything he did on zoom was amazing, it was the only class this semester where it actually felt like a lecture. I also really enjoyed how passionate Chad is about the students in the class, along with the material. At first, I was somewhat unsure of how this class would go because of my previous interaction with a PhD student teaching a course but Chad went above and beyond some of the more seasoned professors in this class. Going to class was interesting, and fun, and I really liked how this was structured in that we were looking at actual studies and why they worked rather than theoretical. The sample questions that Chad provided were really helpful in learning the material because it was a great guide for what to expect. If I could take another class with Chad I would no doubt.

Powerpoints were very in-depth and covered the material well along with a lot of visuals/pictures to help demonstrate concepts. The weekly practice problems really helped me prepare for exams and getting to see what the questions would be like on the exam. The exams were fair and the course was interesting.

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#### Comments

Really nice guy, super open to questions and helping students out. Made the whole class feel really welcoming and friendly

Ability to make information that would otherwise be bland interesting. His passion for the subject and enthusiasm made it a much more enjoyable course than it would have with any other professor. He is a personable person and spoke to the class with respect and care. Chad's compassion, care and respect for his students is unmatched by any other professor I have had at UVic so far in my degree. Some people didn't enjoy his tangents but I personally did, it made sometimes bland facts memorable with his small stories etc. Chad truly treats all his students as valuable members of the class and promotes the desire to learn.

Chad really understood the struggles of online class students and helped us each test and each lessons to acquire understanding of every content discussed. Sometimes, we come up with questions about our interest with the course and even though he sometimes doesnt have answers for it right away, he will take the time and do a research and provide answer on the next class. Also, he emphasize helpful tips on how to study for the exams and ask for our opinion regarding what we think are going to be helpful for us to succeed in this course.

Personable and approachable, cared about the students and made extra resources available on difficult content.

Chad was amazing at responding to emails quickly and always trying to help everyone achieve the outcome they desired. He always released slides and extra videos early so that we could read over the slides (he definitely planned ahead!) I really enjoyed the format of his notes. They were very clear. Chad included lots of corresponding research to help us to understand.

Chad was great! He tried to replicate the in–person environment with his lecture style, and he really listened to and seemed to care about his students. In addition, Chad was incredibly passionate about the subject and this helped motivate me to learn. Chad also always checked in with us to ensure we were following the lecture and was willing to answer questions and clarify whenever it was needed. All in all, Chad was an incredibly adaptive and great prof!

Chad organized and presented his content very clearly. He was very quick and willing to respond to any questions or concerns and you could tell he truly had his student's best interest in mind. I also thought the tests and assignments were very fair.

Please provide specific suggestions as to how the instructor (Chad Williams) could have helped you learn more effectively.

#### Comments

more infographics explaining, im a visual learner

N/A Chad's teaching style worked really well with me.

Psyc 351A, 351B, and 351C all had midterms on the same day, it made it difficult to study and manage time, if possible in the future addressing this would be very helpful as I know I am not the only student with this issue.

Chad did great! The course material can be challenging; especially the 1st third of the course. He adjusted his scheduled classes to give more time to information that required explanation

Sometimes the material was introduced in a disorganized way that was confusing but overall his methods were effective.

N/a

N/A

Maybe having a bit more time on exams, and some of the exam questions were pretty tricky, other than that I have no complaints off the top of my head:)

I think that there could have been a few more polls in the class that way if we missed some concepts he would know right away and be able to help explain in the moment.

He did stumble over his words and get mixed up when teaching things occasionally, I think maybe he just gets a bit anxious when teaching as he clearly really knows his stuff.

Nothing, that is not to say there were no hiccups but even the most experienced instructors had difficulty during this online format of teaching. Chad adapted and was able to troubleshoot effectively, he did an amazing job. Thank you, Chad!

Sometimes, he would discuss the topics very fast and during those times, I really can't understand the concept. But a lot of times he is conscious of it and will repeat discussing the concept and ask everyone if we understand it or not, or if he needs to repeat it for us.

Sometimes would over simplify content but this made it hard to understand the material, or if students were really not understanding the topic, would say it was not really relevant, so it was fine to skip. Had patterns of getting interrupted/distracted by things said in the chat box and would consequently lose train of thought mid–lecture. This was disrupting and hard to follow along.

I think maybe a couple more quizzes would be great! Maybe to help us keep engaged given the online format I feel this may have motivated me to pay extra close attention

Sometimes Chad seemed really anxious or nervous during class, and it ended up making me feel anxious, which made it difficult to learn sometimes. There were also times where explanations of concepts seemed to really jump around and lack flow; I think this is because he was easily—distracted by the Zoom chat. However, these are all issues that come with being human.

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Please provide specific suggestions as to how this course could be improved.

#### Comments

n/a

The exams were a bit of a time crunch, so I'd say more time on the exams. However the practice questions were extremely helpful for the exams, preparation wise and also for the time. Without those, the exams were to be impossible to finish in time!

I disliked the 3 class a week schedule, I felt that each class was too short, and the time between classes was too close together – especially for upcoming exams. I really think that twice a week is a good format, or at very least longer classes.

Psyc 351A, 351B, and 351C all had midterms on the same day, it made it difficult to study and manage time, if possible in the future addressing this would be very helpful as I know I am not the only student with this issue.

Loved the textbook- but during the early part of the course - the book did not dove into enough details on neuroscience methods.

Providing more polls in class could increase engagement between students and the professor. Assigning more homework related to content throughout the semester would give students the opportunity to apply concepts from class intro research and allow for a deeper grasp of the material.

N/a

N/A

It was great, just basically what I mentioned in the other box.

My only issue was in his exams, while I thought they were very fair I think that they could have been more refined, this is something that will likely come over time. It also would have been cool to have a lab for this class where we could learn hands—on about the materials and some of the processes that were being used, like TMS, and EEG. To see those in person and actually try and figure out how they work and analyze them would have made the course experience much cooler.

Continue to have Chad Williams as the instructor for Psychology 351C

I really think that the content of the course is challenging for me but with Chad, he was able to clarify and explain concepts in simple ways which helps me understand it better. Although, I really think that there is a lack of engagement with people in the class especially during online class and I wish that Chad comes up with ideas on how to increase discussion between people about the topics we are learning

This was one of the better online courses I have taken due to the organization and clear structure.

I feel as though the course overall was great! I do feel as though the grading for the assignments done by the TA was a little unfair but Chad was quick to offer re–grading done by himself and took time out of his busy schedule to re–grade anybody's assignment who asked. Probably one of the most caring professors I've ever had and I really hope he's teaching a 4th year class in the fall!!!

I would have liked to have more activities that furthered my understanding of the topic, rather than just midterms to test my knowledge. I found the article outline assignments to be very valuable and help me learn, but would have liked to answer some of the short answer practice questions at the end of each class.

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## Course Syllabi Psvc 300A

PSYC 300A Course Outline, version 1



#### University of Victoria, Faculty of Social Sciences, Department of Psychology PSYCHOLOGY 300A Statistical Methods in Psychology I

Term: Summer (May – June) 2021

CRN: 33299 Lecture Time:

**MW**: 12:30 pm – 2:20 pm **F**: 12:30pm – 1:20 pm

Room Link: https://uvic.zoom.us/j/83396697854

Lab Time: See section 'LABS' below

Room: Virtual via Zoom Room Link: See BrightSpaces Instructor: Chad Williams (He/Him; Call me Chad) Email: ccwillia@uvic.ca, Twitter: @WilliamsNeuro

Website: www.chadcwilliams.com
Office Hours: By appointment

Office Link: https://uvic.zoom.us/j/83783710905

#### **Teaching Assistants:**

Alejandra Contreras (She/Her): acont@uvic.ca Tom Spence (He/Him): tomspence@uvic.ca

Office Hours: By appointment

#### ACKNOWLEDGEMENT AND INCLUSION STATEMENTS

#### TERRITORY ACKNOWLEDGEMENT

We acknowledge with respect the Lekwungen peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

#### GENERAL STATEMENT OF LEARNING ENVIRONMENT

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#### WELLNESS STATEMENT

Please always put your health first. I understand that there is a lot of pressure on university students, and I want you to always remember that you need to consider your physical and mental well-being with the highest regard. I am here to support you in this class and offer that you may reach out to me if you are struggling with mental health to potentially adapt the course to your needs (e.g., flexible deadlines). If you are in need of support, the University of Victoria has resources that you may want to take advantage of, which are outlined here: <a href="https://www.uvic.ca/services/counselling/">www.uvic.ca/services/counselling/</a>. Please, take care.

#### **DIVERSITY AND INCLUSION STATEMENT**

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#### **COURSE INFORMATION**

#### INSTRUCTOR: CHAD WILLIAMS

Hello and welcome to statistics! My name is Chad Williams and I will be your professor for this course. My educational background includes a Bachelor's of Science in Psychology and a Master's of Neuroscience, both acquired here at the University of Victoria. I am currently a third year PhD Candidate in the Neuroscience Program. My teaching experience spans across a variety of content in psychology, neuroscience, and statistics. My research investigates the neural underpinnings (via electroencephalography or EEG) of decision making in complex environments, such as within the emergency room of hospitals or within simulated habitats for space exploration.



#### INSTRUCTOR EXPECTATIONS

Below, I outline the expectations I have of you; however, I feel it is necessary to also outline what you may expect of me. In the acknowledgement and inclusion statements above, I briefly describe that I strive to provide a safe and positive environment for all students. Thus, you may expect me to treat everyone with respect. In addition, I will ensure that I am always timely with class as well as with scheduled office hours and meetings. You may also expect me to provide you with examples and rubrics for your exams and assignments with ample time so that you may not only prepare yourself adequately, but also keep these in mind as we progress through class. Finally, I will do my best to promptly provide you with feedback on your exams and assignments to ensure that we have enough time to discuss my comments if needed.

#### CALENDAR DESCRIPTION & OBJECTIVES

To provide a conceptual and practical understanding of descriptive and inferential statistical analysis as applied to experimental research in Psychology. Because I believe that learning and teaching is a bi-directional process between student and instructor, I anticipate that we will both prepare for each class.

#### TOPICS COVERED

Visual & numerical description of univariate & bivariate data, including correlation and regression; probability theory as it relates to inferential analysis; hypothesis testing; application of z-test and t-tests to single sample designs; communication of statistical findings.

#### PREREQUISITES AND REGISTRATION

PSYC 201 and the Academic Writing Requirement (AWR) fulfilled. Students who remain in courses for which they do not have the prerequisites do so at their own risk. Those who complete courses without prerequisites are not exempt from having to complete the prerequisite course(s) at some later date if such courses are required for the degree program. Students are responsible for checking their registration status by the add/drop deadline.

#### REQUIRED TEXTBOOK

There is no required textbook for this class – the lecture slides will serve as a supplement to a textbook.

#### **BRIGHTSPACES**

All material for this course, and student evaluations, will be through BrightSpaces (bright.uvic.ca). This will include materials such as lecture resources, assignment and exam rubrics, and more.

#### ASSIGNMENTS AND EVALUATION

For tips and tricks on how to pass a stats course, check out my video "How to Pass A Stats Class: Adopt These Habits!".

#### **COURSE EVALUATION**

Midterm 1 – 15% Midterm 2 – 20% Final Exam – 25% Lab Assignments – 25% Computational Quizzes – 15%

Attendance - Bonus of up to 2%

\*You must complete at least 1 midterm exam, the final exam, 3 of the lab assignments, and attend at least 50% of the labs or else you will receive an "N" in the course.

#### EXAMS

There are a total of two midterm exams and one final exam all together worth 60% of your final mark. All exams will be written online and will be timed. They will take place within class time (and are thus 50 minutes long) and you must sign into the regular Zoom channel *with your camera on during the exam*. All grades will be posted on BrightSpaces following each exam. It is your responsibility to check this posting to ensure the grade is correct. You must complete at least one midterm and the final exam or else you will receive an "N" in the course.

#### **ACADEMIC CONCESSION**

It is the student's responsibility to attend exams as scheduled. If you miss an exam, let me know at your earliest convenience. Students who miss an in-class exam will receive a mark of zero unless they have a case of illness or family emergency (documentation is not required but appreciated). Students who miss the final exam due to illness, accident or family affliction must apply at Records Services for a "Request for Academic Concession", normally with 10 working days of the exam. For other missed exams with documented illness, other exams will be weighted more heavily.

#### LABS

The weekly labs will be an opportunity for you to become familiar with the mechanics of using R software with the assistance of the TA. The guided activities will overlap considerably with material on the assignments, so attendance of each lab is imperative. Please note, *labs are mandatory, and you must attend them in real time*. You must attend at least 50% of the labs or you will receive an "N" in the course. You must attend the lab section you are registered in. Section B01: Thursdays at 10:30am, B02: Thursdays at 11:30am, B03: Thursdays at 12:30pm, B04: Thursdays at 1:30pm. Note that although there are two professors teaching this course (myself and Nathan Lewis) our lab and lab assignments are consistent, thus you can register in any of these sections. Links to the labs will be posted on BrightSpaces.

Although in no way required for this course, you might want to check out my "Get R Done | R Tutorial" YouTube Series, which will set you up for success for dealing with R and these assignments.

#### LAB ASSIGNMENTS

There will be a total of five assignments throughout the course, each worth 5% of your total grade. The assignments are designed to give you experience working with real data and become familiar using and interpreting results from R statistical software. The labs are designed to prepare you to complete these assignments. Assignments will be posted on BrightSpaces roughly one week before the due date. You must complete at least 3 of the lab assignments or you will receive an "N" in the course.

## COMPUTATIONAL QUIZZES

There will be a total of 3 computational assignments, which will contribute to 15% of your total grade. You will be able to attempt these quizzes up to 5 times and the average of your attempts will be your score for that quiz. These quizzes are meant to prepare you for doing statistical computations in the exams and are as such timed. Although they are due at the beginning of each exam, I suggest you do these ahead of time and use them as a resource for studying. These are to be completed individually.

#### ATTENDANCE BONUS

It's important for you to attend and engage with live lectures. As such, I will be taking attendance of live lectures for bonus marks in that you can receive a bonus of up to 2% of your final grade for attending 15 or more lectures (split equally across the 15 lectures, not including exam days). You must attend a significant portion of the lecture for credit. You must sign into Zoom using your UVic login to get these credits.

#### GRADING

The University Undergraduate Grading Scale is attached on the last pages of this outline.

**NOTE:** Due to the online nature of this course, the schedule is tentative and subject to change.

## **SCHEDULE**

			SCHEDCEE		
<u>WK.</u>	<u>Day</u>	<u>Date</u>	<u>Topic</u>	QUIZZES	ASSIGNS
1	Mon	May 10	Course Overview; Basics of Measurement		
1	WED	May 12	Frequency Distributions		
1	THU	May 13	Lab Introduction		
1	Fri	May 14	CENTRAL TENDENCY		
2	Mon	May 17	CENTRAL TENDENCY; VARIABILITY		
2	WED	May 19	Variability		
2	THU	May 20	LAB 1		
2	FRI	May 21	MIDTERM EXAM 1	Quiz 1	
3	Mon	May 24	No Class (Victoria Day)		
3	WED	May 26	Z-SCORES AND THE NORMAL DISTRIBUTION		Assign 1
3	THU	May 25	LAB 2		
3	FRI	May 28	z-scores; Probability		
4	Mon	May 31	Probability		Assign 2
4	WED	June 2	CORRELATION		
4	THU	June 3	LAB 3		
4	FRI	June 4	Correlation		
5	Mon	June 7	Regression		Assign 3
5	WED	June 9	Regression		
5	THU	JUNE 10	LAB 4		
5	FRI	JUNE 11	MIDTERM EXAM 2	Quiz 2	
6	Mon	June 14	Hypothesis Testing		Assign 4
6	WED	June 16	Hypothesis Testing		
6	THU	June 17	LAB 5		
6	FRI	JUNE 18	SINGLE SAMPLE T-TEST		
7	Mon	JUNE 21	SINGLE SAMPLE T-TEST		Assign 5
7	WED	JUNE 23	REVIEW/CATCH-UP		
7	THU	JUNE 26	Lab Wrap-Up		
7	FRI	JUNE 25	FINAL EXAM	Quiz 3	



## **BE WELL**

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

#### Social Life, Friends, & Community at UVic:

Having a social network is an extremely important foundation for positive mental health. There are lots of benefits to joining clubs, course unions, intramurals and teams on campus.

https://www.uvic.ca/mentalhealth/undergraduate/connecting/index.php

#### **Counselling Services:**

Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students. <a href="https://www.uvic.ca/services/counselling/">www.uvic.ca/services/counselling/</a>

#### **Health Services:**

University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives. <a href="https://www.uvic.ca/services/health/">www.uvic.ca/services/health/</a>

#### Centre for Accessible Learning:

The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations <a href="www.uvic.ca/services/cal/">www.uvic.ca/services/cal/</a>. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

## Elders' Voices:

The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.

www.uvic.ca/services/indigenous/students/programming/elders/

#### Mental Health Supports and Services:

Mental health supports and services are available to students from all areas of the UVic community: <a href="www.uvic.ca/mentalhealth/undergraduate/">www.uvic.ca/mentalhealth/undergraduate/</a>

#### UNIVERSITY OF VICTORIA Department of Psychology

#### Important Course Policy Information Spring 2021

## **Prerequisites**

Students who remain in courses for which they do not have the prerequisites do so at their own risk. Students who complete courses without prerequisites ARE NOT exempt from having to complete the prerequisite course(s) if such courses are required for the degree program.

#### **Program Requirements**

For more information see the UVic Calendar January 2021.

#### **Registration Status**

Students are responsible for verifying their registration status. Registration status may be verified using My Page, View Schedule. Course adds and drops will not be processed after the deadlines set out in the current <a href="UVic Calendar">UVic Calendar</a>.

#### **Commitment to Inclusivity and Diversity**

The University of Victoria is committed to promoting, providing and protecting a positive and supportive and safe learning and working environment for all its members.

## In the Event of Illness, Accident or Family Affliction

#### What to do if you miss the final exam scheduled during the formal exam period

Apply at Records Services for a "Request for Academic Concession", normally within 10 working days of the date of the exam. Records Services will forward the form to the instructor. If the concession is granted, the instructor will determine how to deal with the situation (for example, a deferred exam). Where a concession is not applied for or where such application is denied, an N grade will be entered on the student's academic record.

OR, you can download the Request for Academic Concession form here: <a href="http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf">http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf</a>

#### What to do if you miss an exam other than one scheduled during the formal exam period

Do <u>not</u> apply at Records Services for a "Request for Academic Concession". Instead submit documentation of the illness, accident or family affliction directly to your course instructor (or designated teaching assistant).

#### What to do if you require additional time to complete course requirements

Apply at Records Services for a "Request for Academic Concession", normally within 10 working days of the end of the course. Records Services will forward the form to the instructor. If the concession is granted, the instructor will determine how to deal with the situation (for example, a deferred exam). Where a concession is not applied for or where such application is denied, an N grade will be entered on the student's academic record.

OR, you can download the Request for Academic Concession form here: <a href="http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf">http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf</a>

#### Policy on Academic Integrity including Plagiarism and Cheating

The Department of Psychology fully endorses and intends to enforce rigorously the Senate Policy on Academic integrity <a href="https://www.uvic.ca/calendar/future/undergrad/#/policy/Sk\_0xsM\_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies.">https://www.uvic.ca/calendar/future/undergrad/#/policy/Sk\_0xsM\_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies.</a> It is of utmost importance that students who do their work honestly be protected from those who do not. Because this policy is in place to ensure that students carry out and benefit from the learning activities assigned in each course, it is expected that students will cooperate in its implementation.

The offences defined by the policy can be summarized briefly as follows:

- Plagiarism. You must make sure that the work you submit is your work and not someone else's. There are
  proper procedures for citing the works of others. The student is responsible for being aware of and using
  these procedures.
- Unauthorized Use of an Editor. The use of an editor is prohibited unless the instructor grants explicit written authorization.
- Multiple Submission. Only under exceptional circumstances may a work submitted to fulfill an
  academic requirement be used to satisfy another similar requirement. The student is responsible for
  clarifying this with the instructor(s) involved.
- Falsifying Materials Subject to Academic Evaluation. This includes falsification of data, use of
  commercially prepared essays, using information from the Internet without proper citation, citing sources
  from which material is not actually obtained, etc.
- 5. Cheating on Assignments, Tests, and Examinations. You may not copy the work of others in or out of class; you may not give your work to others for the purpose of copying; you may not use unauthorized material or equipment during examinations or tests; and you may not impersonate or allow yourself to be impersonated by another at an examination. The Department of Psychology has a policy of not making old examinations available for study purposes. Therefore, use of old exams without the express written permission of the instructor constitutes cheating by the user, and abetting of cheating by the person who provided the exam.
- Aiding Others to Cheat. It is a violation to help others or attempt to help others to engage in any of the conduct described above.

Instructors are expected to make every effort to prevent cheating and plagiarism. This may include the assignment of seating for examinations, asking students to move during examinations, requests to see student identification cards, and other measures as appropriate. Instructors also have available to them a variety of tools and procedures to check for Internet and electronic media-based cheating. In instances of suspected or actual plagiarism or cheating, instructors, following prescribed procedures, are authorized to take steps consistent with the degree of the offence. These measures will range from a zero on the test or assignment or a failing grade for the course, probation within a program to temporary or even permanent suspension from the University.

Rights of Appeal are described in the Policy on Academic Integrity in the University calendar January 2021.

The definitive source for information on Academic Integrity is the University Calendar Other useful resources on Plagiarism and Cheating include:

- The Ombudsperson's office: <a href="https://uvicombudsperson.ca/tips/plagiarism/">https://uvicombudsperson.ca/tips/plagiarism/</a>
   The Office of the Ombudsperson is an independent and impartial resource to assist with the fair resolution of student issues. A confidential consultation can help you understand your rights and responsibilities. The Ombudsperson can also clarify information, help navigate procedures, assist with problem-solving, facilitate communication, provide feedback on an appeal, investigate and make recommendations. Phone: 250-721-8357; Email: <a href="mailto:ombuddy@uvic.ca;Web">ombuddy@uvic.ca;Web</a>: uvicombudsperson.ca.
- 2. UVic Library Resources: http://www.uvic.ca/library/research/citation/plagiarism/
- https://www.uvic.ca/library/research/citation/documents/ avoiding%20plagiarism%20guideUpdate\_Sept\_2013.pdf

#### FAIR DEALING / ACCESS COPYRIGHT STATEMENT

Please refer to: https://www.uvic.ca/library/featured/copyright/fairdealing/statement/index.php

#### SEXUALIZED VIOLENCE PREVENTION AND RESPONSE AT UVIC

UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting www.uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Sexualized violence resource office in EQHR, Sedgewick C119

Phone: 250.721.8021 Email: <a href="mailto:svpcoordinator@uvic.ca">svpcoordinator@uvic.ca</a> Web: www.uvic.ca/svp

#### STATEMENT OF COPYRIGHT NOTICE

Please note that all content including, but not limited to, course lecture materials, assignments, and exams are my intellectual property, and are only for instructional purposes. Please do not distribute any content from this course that is not already freely available.

#### OMBUDSPERSON

#### If You Have an Academic Problem or Concern

Depending on the nature of the academic matter or concern, the order in which you would normally seek assistance or redress is:

- 1. Instructor
- 2. Chair, Department of Educational Psychology & Leadership Studies
- 3. Associate Dean, Undergraduate Programs of Faculty of Education
- 4. The Senate

If the problem is related to a specific course, the first person you should contact is the course instructor. In addition, you may wish to consult the Office of the Ombudsperson, located at: SUB B205, phone: 250-721-8357, <a href="mailto:ombuddy@uvic.ca">ombuddy@uvic.ca</a> or <a href="mailto:uvicombudsperson.ca">uvicombudsperson.ca</a>, Monday to Friday.

#### COURSE EXPERIENCE SURVEY (CES)

I value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to <a href="http://ces.uvic.ca">http://ces.uvic.ca</a>. You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. I will remind you nearer the time, but please be thinking about this important activity, especially the following three questions, during the course.

- 1. What strengths did your **instructor** demonstrate that helped you learn in this course?
- Please provide specific suggestions as to how the instructor could have helped you learn more effectively.
- 3. Please provide specific suggestions as to how this **course** could be improved.

## Psyc 351C

Psyc 351C Course Outline, version 1



#### University of Victoria, Faculty of Social Sciences, Department of Psychology PSYCHOLOGY 351C Cognitive Neuroscience

**Term:** Spring (Jan – May) 2021

CRN: 22572

**Time:** MWTh 3:30 pm – 4:20 pm

Room: Virtual via Zoom

Room Link:

https://uvic.zoom.us/j/82921885503

Instructor: Chad Williams (He/Him; Please call me Chad) Email: ccwillia@uvic.ca, Twitter: @WilliamsNeuro

Website: www.chadcwilliams.com

Office: McKinnon 186

Office Hours: MTh 4:30pm – 5:30pm or by appointment

Teaching Assistant: Josh Palmer Email: jmpalmer@uvic.ca
Office Hours: By appointment

### ACKNOWLEDGEMENT AND INCLUSION STATEMENTS

#### TERRITORY ACKNOWLEDGEMENT

We acknowledge with respect the Lekwungen peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

#### GENERAL STATEMENT OF LEARNING ENVIRONMENT

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#### WELLNESS STATEMENT

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#### **COURSE INFORMATION**

#### INSTRUCTOR: CHAD WILLIAMS

Hello and welcome to Cognitive Neuroscience! My name is Chad Williams and I will be your professor for this course. My educational background includes a Bachelor's of Science in Psychology and a Master's of Neuroscience, both acquired here at the University of Victoria. I am currently a third year PhD Candidate in the Neuroscience Program. My teaching experience spans across a variety of content in psychology, neuroscience, and statistics. My research investigates the neural underpinnings (via electroencephalography or EEG) of decision making in complex environments, such as within the emergency room of hospitals or within simulated habitats for space exploration.



#### INSTRUCTOR EXPECTATIONS

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#### CALENDAR DESCRIPTION

Emphasizes the study of mind-brain relationships using brain imaging techniques including functional MRI and electroencephalography as well as brain-based models of mental processes. Topic areas will include perception and attention, object recognition, memory, cognitive control, decision-making and language.

#### **COURSE OBJECTIVES**

- [1] Strengthen your understanding of brain imaging techniques and neuroscience measures.
- [2] Improve your knowledge of different cognitive mechanisms in terms of the brain and neuroscience.
- [3] Develop your ability to critically read and evaluate neuroscience research.

#### PREREQUISITES AND REGISTRATION

PSYC 201 and PSYC 251. Students who remain in courses for which they do not have the prerequisites do so at their own risk. Those who complete courses without prerequisites are not exempt from having to complete the prerequisite course(s) at some later date if such courses are required for the degree program. Students are responsible for checking their registration status by the add/drop deadline.

#### REQUIRED TEXTBOOK

Gazzaniga, M. S., et al. (2018). Cognitive Neuroscience: The Biology of the Mind (5th edition). New York: W. W. Norton & Company, Inc. Available in the <u>UVic bookstore</u> which includes digital access.

## ${\bf OPTIONAL\ TEXTBOOK\ (RELEVANT\ READINGS\ WILL\ BE\ PROVIDED\ ON\ BRIGHTSPACES)}$

Newman, A. (2019). Research Methods for Cognitive Neuroscience. Sage Publications.

#### BRIGHTSPACES

All material for this course, and student evaluations, will be through Brightspaces (bright.uvic.ca). This will include materials such as lecture resources, assignment and exam rubrics, and more.

#### ASSIGNMENTS AND EVALUATION

#### **COURSE EVALUATION**

Midterm Exam 1: 20% Midterm Exam 2: 20% Final Exam: 25%

Article Summary (x2): 15% & 20%

Attendance Bonus: 2%

To pass this course you must complete at least one midterm exam, the final exam, and one article summary. Not meeting these requirements will result in a grade of N. For important and due dates, see the schedule below.

#### **EXAMS**

All exams will be composed of multiple choice questions, fill in the blanks and/or matching questions, and short answer questions. You will have 50 minutes to complete each midterm exam within scheduled class time. Midterm exams are non-cumulative. The final exam will take place within the final exam schedule and thus the date is to be determined. This will be a 60 minute exam. The final is non-cumulative, except that it will additionally contain one short answer question from each midterm (the exact question that was on the midterm). Exams will be open book – you may use your textbook and notes but you may not work with others – these are individual assessments. Exams will contain questions from both the lectures and the readings.

#### ACADEMIC CONCESSION

It is the student's responsibility to attend exams as scheduled. If you miss an exam, let me know at your earliest convenience. Students who miss an in-class test will receive a mark of zero unless they have a case of illness or family emergency (documentation is not required but appreciated). Students who miss the final exam due to illness, accident or family affliction must apply at Records Services for a "Request for Academic Concession", normally with 10 working days of the exam. Make- up exams will only be given for the final exam. For other missed exams with documented illness, other exams will be weighted more heavily.

#### ASSIGNMENTS

You will select two articles and summarize them. For each summary, I will provide you a list of three articles on BrightSpaces from which you will select. The first summary will take the form of completing the Article Summary Template, provided on BrightSpaces. The second summary will require you to write a summary paper – this summary will be 2-4 pages (doubled spaced, APA style) and must include all of the aspects as outlined in the Article Summary Template. Although I suggest using the template to organize your thoughts prior to writing the second summary, you will not need to submit a completed template for this assignment.

#### ATTENDANCE BONUS

It's important for you to attend and engage with live lectures. As such, I will be taking attendance for bonus marks in that you can receive a bonus of up to 2% of your final grade for attending 30 or more lectures (split equally across the 30 lectures, not including exam days). You must attend a significant portion of the lecture for credit.

#### **GRADING**

The University Undergraduate Grading Scale is attached on the last pages of this outline.

#### Note

Due to the online nature of this course, the schedule is tentative and subject to change.

SCHEDULE
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	<u>SCHEDULE</u>	
Monday	WEDNESDAY	THURSDAY
Jan 11	Jan 13	Jan 14
INTRODUCTION AND SYLLABUS	SUMMARIZING AN ARTICLE	THE NERVOUS SYSTEM
Reading: Syllabus	READING: WILLIAMS ET AL., 2019*	Reading: Chapter 2**
Jan 18	Jan 20	Jan 21
COGNITIVE & BEHAVIOURAL METHODS	THE DAMAGED BRAIN	DISRUPTED NEURAL FUNCTIONING
Reading: Chapter 3	Reading: Chapter 3	Reading: Chapter 3
+ Newman Chapter 2	+ <u>Vaidya et al.</u> , 2019	+ Pascual-Leone et al., 2000
Jan 25	Jan 27	Jan 28
Invasive Electrophysiology	ELECTROENCEPHALOGRAPHY	ELECTROENCEPHALOGRAPHY
Reading: Chapter 3	Reading: Chapter 3	Reading: Chapter 3
+ Luck, 2014	+ Newman Chapter 3	+ Newman Chapter 3
FEB 1	FEB 3	Feb 4
STRUCTURAL NEUROIMAGING	FUNCTIONAL MRI	FUNCTIONAL MRI
Reading: Chapter 3	Reading: Chapter 3	Reading: Chapter 3
+ Thiebaut de Schotten et al., 2015	+ Newman Chapter 8	+ Newman Chapter 8
Feb 8	Feb 10	Feb 11
COMPUTATIONAL MODELLING		
Reading: Chapter 3	CATCH-UP & REVIEW	Exam 1
Feb 15	Feв 17	FEB 18
READING BREAK	READING BREAK	READING BREAK
FEB 22	Feb 24	FEB 25
Perception	Perception	Perception
READING: CHAPTER 5	Reading: Chapter 5	READING: CHAPTER 5
READING. CHAPTER 3	READING, CHAPTER 3	READING, CHAPTER 3
Mar 1	Mar 3	Mar 4
ATTENTION	ATTENTION	ATTENTION
Reading: Chapter 7	Reading: Chapter 7	Reading: Chapter 7
READING, CHAPTER /	READING, CHAPTER /	TEADING, CHAPTER /
Mar 8	Mar 10	Mar 11
ACTION	ACTION	
Reading: Chapter 8	Reading: Chapter 8	CATCH-UP & REVIEW
		First Article Summary Due
Mar 15	Mar 17	Mar 18
	Language	LANGUAGE
Exam 2	Reading: Chapter 11	Reading: Chapter 11
DAAM 2	READING, CHAPTER 11	READING, CHAPTER II
Mar 22	Mar 24	Mar 25
Memory	MEMORY	MEMORY
Reading: Chapter 9	READING: CHAPTER 9	READING: CHAPTER 9
READING, CHAPTER 9	READING. CHAPTER 9	READING. CHAPTER 9
Mar 29	Mar 31	Apr 1
COGNITIVE CONTROL	COGNITIVE CONTROL	COGNITIVE CONTROL
Reading: Chapter 12	Reading: Chapter 12	Reading: Chapter 12
Apr 5	Apr 7	Apr 8
EASTER MONDAY	CATCH-UP & REVIEW	Being a Neuroscientist
AUGUS AUGUS AT BOOK TOPA &	SECOND ARTICLE SUMMARY DUE	
Apr 12	*PLEASE ONLY SKIM THIS ARTICLE. YOU	WILL NOT BE TESTED ON THIS DEADING:
AFR 12	IT IS ONLY AN EXAMPLE FOR THE ASSIGNMENT	
Driving . Navinggerayar-		
Being a Neuroscientist	**THIS CHAPTER IS OPTIONAL AND ONLY MEANT FOR REVIEW. EXAM CONTENT FOR	
	THIS TOPIC WILL ONLY INCLUDE THE LEC	TURE MATERIAL.



## **BE WELL**

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

#### Social Life, Friends, & Community at UVic:

Having a social network is an extremely important foundation for positive mental health. There are lots of benefits to joining clubs, course unions, intramurals and teams on campus.

https://www.uvic.ca/mentalhealth/undergraduate/connecting/index.php

#### **Counselling Services:**

Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students. www.uvic.ca/services/counselling/

#### **Health Services:**

University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives. <a href="https://www.uvic.ca/services/health/">www.uvic.ca/services/health/</a>

#### **Centre for Accessible Learning:**

The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations <a href="www.uvic.ca/services/cal/">www.uvic.ca/services/cal/</a>. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

#### Elders' Voices:

The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.

www.uvic.ca/services/indigenous/students/programming/elders/

#### Mental Health Supports and Services:

Mental health supports and services are available to students from all areas of the UVic community: <a href="https://www.uvic.ca/mentalhealth/undergraduate/">www.uvic.ca/mentalhealth/undergraduate/</a>

## UNIVERSITY OF VICTORIA Department of Psychology

#### Important Course Policy Information Spring 2021

#### **Prerequisites**

Students who remain in courses for which they do not have the prerequisites do so at their own risk. Students who complete courses without prerequisites ARE NOT exempt from having to complete the prerequisite course(s) if such courses are required for the degree program.

#### **Program Requirements**

For more information see the UVic Calendar January 2021.

#### **Registration Status**

Students are responsible for verifying their registration status. Registration status may be verified using My Page, View Schedule. Course adds and drops will not be processed after the deadlines set out in the current <a href="UVic Calendar">UVic Calendar</a>.

## **Commitment to Inclusivity and Diversity**

The University of Victoria is committed to promoting, providing and protecting a positive and supportive and safe learning and working environment for all its members.

#### In the Event of Illness, Accident or Family Affliction

#### What to do if you miss the final exam scheduled during the formal exam period

Apply at Records Services for a "Request for Academic Concession", normally within 10 working days of the date of the exam. Records Services will forward the form to the instructor. If the concession is granted, the instructor will determine how to deal with the situation (for example, a deferred exam). Where a concession is not applied for or where such application is denied, an N grade will be entered on the student's academic record.

OR, you can download the Request for Academic Concession form here: <a href="http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf">http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf</a>

#### What to do if you miss an exam other than one scheduled during the formal exam period

Do <u>not</u> apply at Records Services for a "Request for Academic Concession". Instead submit documentation of the illness, accident or family affliction directly to your course instructor (or designated teaching assistant).

#### What to do if you require additional time to complete course requirements

Apply at Records Services for a "Request for Academic Concession", normally within 10 working days of the end of the course. Records Services will forward the form to the instructor. If the concession is granted, the instructor will determine how to deal with the situation (for example, a deferred exam). Where a concession is not applied for or where such application is denied, an N grade will be entered on the student's academic record.

OR, you can download the Request for Academic Concession form here: <a href="http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf">http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf</a>

#### Policy on Academic Integrity including Plagiarism and Cheating

The Department of Psychology fully endorses and intends to enforce rigorously the Senate Policy on Academic integrity <a href="https://www.uvic.ca/calendar/future/undergrad/#/policy/Sk\_0xsM\_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies.">https://www.uvic.ca/calendar/future/undergrad/#/policy/Sk\_0xsM\_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies.</a> It is of utmost importance that students who do their work honestly be protected from those who do not. Because this policy is in place to ensure that students carry out and benefit from the learning activities assigned in each course, it is expected that students will cooperate in its implementation.

The offences defined by the policy can be summarized briefly as follows:

- Plagiarism. You must make sure that the work you submit is your work and not someone else's. There are
  proper procedures for citing the works of others. The student is responsible for being aware of and using
  these procedures.
- Unauthorized Use of an Editor. The use of an editor is prohibited unless the instructor grants explicit written authorization.
- Multiple Submission. Only under exceptional circumstances may a work submitted to fulfill an
  academic requirement be used to satisfy another similar requirement. The student is responsible for
  clarifying this with the instructor(s) involved.
- Falsifying Materials Subject to Academic Evaluation. This includes falsification of data, use of
  commercially prepared essays, using information from the Internet without proper citation, citing sources
  from which material is not actually obtained, etc.
- 5. Cheating on Assignments, Tests, and Examinations. You may not copy the work of others in or out of class; you may not give your work to others for the purpose of copying; you may not use unauthorized material or equipment during examinations or tests; and you may not impersonate or allow yourself to be impersonated by another at an examination. The Department of Psychology has a policy of not making old examinations available for study purposes. Therefore, use of old exams without the express written permission of the instructor constitutes cheating by the user, and abetting of cheating by the person who provided the exam.
- Aiding Others to Cheat. It is a violation to help others or attempt to help others to engage in any of the conduct described above.

Instructors are expected to make every effort to prevent cheating and plagiarism. This may include the assignment of seating for examinations, asking students to move during examinations, requests to see student identification cards, and other measures as appropriate. Instructors also have available to them a variety of tools and procedures to check for Internet and electronic media-based cheating. In instances of suspected or actual plagiarism or cheating, instructors, following prescribed procedures, are authorized to take steps consistent with the degree of the offence. These measures will range from a zero on the test or assignment or a failing grade for the course, probation within a program to temporary or even permanent suspension from the University.

Rights of Appeal are described in the Policy on Academic Integrity in the University calendar January 2021.

The definitive source for information on Academic Integrity is the University Calendar Other useful resources on Plagiarism and Cheating include:

- The Ombudsperson's office: <a href="https://uvicombudsperson.ca/tips/plagiarism/">https://uvicombudsperson.ca/tips/plagiarism/</a>
   The Office of the Ombudsperson is an independent and impartial resource to assist with the fair resolution of student issues. A confidential consultation can help you understand your rights and responsibilities. The Ombudsperson can also clarify information, help navigate procedures, assist with problem-solving, facilitate communication, provide feedback on an appeal, investigate and make recommendations. Phone: 250-721-8357; Email: <a href="mailto:ombuddy@uvic.ca;Web">ombuddy@uvic.ca;Web</a>: uvicombudsperson.ca.
- 2. UVic Library Resources: http://www.uvic.ca/library/research/citation/plagiarism/
- https://www.uvic.ca/library/research/citation/documents/ avoiding%20plagiarism%20guideUpdate\_Sept\_2013.pdf

#### FAIR DEALING / ACCESS COPYRIGHT STATEMENT

Please refer to: https://www.uvic.ca/library/featured/copyright/fairdealing/statement/index.php

#### SEXUALIZED VIOLENCE PREVENTION AND RESPONSE AT UVIC

UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting www.uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Sexualized violence resource office in EQHR, Sedgewick C119

Phone: 250.721.8021 Email: <a href="mailto:svpcoordinator@uvic.ca">svpcoordinator@uvic.ca</a> Web: www.uvic.ca/svp

#### STATEMENT OF COPYRIGHT NOTICE

Please note that all content including, but not limited to, course lecture materials, assignments, and exams are my intellectual property, and are only for instructional purposes. Please do not distribute any content from this course that is not already freely available.

#### OMBUDSPERSON

#### If You Have an Academic Problem or Concern

Depending on the nature of the academic matter or concern, the order in which you would normally seek assistance or redress is:

- 1. Instructor
- 2. Chair, Department of Educational Psychology & Leadership Studies
- 3. Associate Dean, Undergraduate Programs of Faculty of Education
- 4. The Senate

If the problem is related to a specific course, the first person you should contact is the course instructor. In addition, you may wish to consult the Office of the Ombudsperson, located at: SUB B205, phone: 250-721-8357, <a href="mailto:ombuddy@uvic.ca">ombuddy@uvic.ca</a> or <a href="mailto:uvicombudsperson.ca">uvicombudsperson.ca</a>, Monday to Friday.

#### COURSE EXPERIENCE SURVEY (CES)

I value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to <a href="http://ces.uvic.ca">http://ces.uvic.ca</a>. You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. I will remind you nearer the time, but please be thinking about this important activity, especially the following three questions, during the course.

- 1. What strengths did your **instructor** demonstrate that helped you learn in this course?
- Please provide specific suggestions as to how the instructor could have helped you learn more effectively.
- 3. Please provide specific suggestions as to how this **course** could be improved.

#### **Meds 487**

#### **COURSE OUTLINE**

#### MEDS 487 / NRSC 500B / NRSC 600B

#### **Advanced Topics in Cognitive Neuroscience**

Time & Location: Mondays and Thursdays from 9:00 to 9:50 am. Classroom will be DSB C108.

<u>Purpose</u>: To provide students with a foundational basis in neuroscience, spanning the spectrum from cognitive to perceptual to motor neuroscience.

Optional Textbook: Kandel, E., Schwartz, J., Jessel, T., Siegelbaum, S., & Hudspeth, A. J. (Eds.). (2012). Principles of Neural Science, Fifth Edition. New York: McGraw Hill.

Other material: Neuroanatomy notes, assigned research papers, and lecture slides (at the discretion of each block instructor) will be posted on http://www.krigolsonteaching.com/neuro500.html

Instructors: Dr. Olave E. Krigolson, krigolson@uvic.ca, and Chad C. Williams, ccwillia@uvic.ca

<u>Administration</u>: For general course administration please contact our Neuroscience Program Graduate Secretary:

o dmscsec@uvic.ca, 250-853-3129, MSB 214

Organization: The course is separated into 3 units: Cognition (1), Perception (2), and Motor Systems (3).

#### Units 1-3: Cognitive, Perception, and Motor Neuroscience

Each block can <u>include</u>: a) lectures highlighting key concepts from the textbook and providing students with the opportunity to ask questions and solidify understanding and b) a group critical analysis of 1 or 2 assigned research papers.

Lecturers will provide leading questions for discussion. E.g.: What was the driving research question for this study? Explain the methods used to test the hypothesis? Do the data in this figure support the conclusions made by the authors (why or why not)?

Students will write a quiz based on the assigned readings and informed by target questions at the start of each class. These quizzes will be equally weighted and worth 25% of the course grade. Students that are not present for a quiz will receive a score of zero unless the absence is approved in advance by the course instructor.

Each unit will end with a one-hour exam comprised of questions covering the assigned textbook readings, the lectures and the discussion material from each of the blocks in the unit. The block instructors will provide and mark the questions from their respective blocks. Note, there will be a final exam during the university exam period but this is simply an opportunity to re-write previous exams to improve your standing.

## Evaluation:

Quizzes:25%Unit 1 Exam (Cognition):25%Unit 2 Exam (Perception):25%Unit 3 Exam (Motor Systems):25%Total:100%

<u>Exams:</u> You are responsible for attending exams as scheduled. If you miss an exam for a valid, documented reason (e.g., illness, accident) you *may* be permitted to write a make-up test at the co-organizers' discretion. Unexcused missed examinations will be assigned a score of zero.

<u>Grades</u>: Your final letter grade will be based on your total percent score according to the standardized <u>UVic</u> Faculty of Graduate Studies Grading Scale (attached).

## COURSE SCHEDULE

Unit 1	Rоом	Cognition	Reading
Y	DSB		
January 6th	C108	Cognitive Neuroscience: Introduction	
January 9th	C108	Lecture: Memory	Baddeley (2012)
January 13th	C108	Seminar: Memory	Osaka et al. (2007)
January 16th	C108	Lecture: Learning	Schultz (2016)
January 20th	C108	Seminar: Learning	Schultz et al. (1997)
January 23rd	C108	Lecture: Decision Making	Kool et al. (2017)
January 27th	C108	Seminar: Decision Making	Williams et al. (2019)
January 30th	C108	Unit 1 Exam (25%)	
Unit 2	Room	Perception	Reading
	DSB		
February 3rd	C108	Sensory Neuroscience: Introduction	
February 6th	C108	Lecture: Ventral Stream	Kendel, Chapter 28
February 10 <sup>th</sup>	C108	Seminar: Ventral Stream	Bar et al., 2006
February 13th	C108	Lecture: Dorsal Stream	Kendel, Chapter 29
February 17 <sup>th</sup>	C108	READING BREAK	
February 20th	C108	READING BREAK	
February 24th	C108	Seminar: Dorsal Stream	Culham et al., 2003
February 27 <sup>th</sup>	C108	Lecture: Attention	Peterson & Posner, 2012
March 2nd	C108	Seminar: Attention	Posner & Peterson, 1990
March 5 <sup>th</sup>	179	Unit 2 Exam (25%)	
Unit 3	Rоом	Motor Systems	
	DSB		
March 9 <sup>th</sup>	C108	Motor Neuroscience: Introductions	
March 12 <sup>th</sup>	C108	Lecture: Reflexes	TBD
March 16 <sup>th</sup>	C108	Seminar: Reflexes	TBD
March 19 <sup>th</sup>	C108	Lecture: Gait	TBD
March 23rd	C108	Seminar: Gait	TBD
March 26 <sup>th</sup>	C108	Lecture: Goal Directed Action	Cohen et al., 1990
March 30th	C108	Seminar: Goal Directed Action	Kable & Glimcher, 2007
April 2 <sup>nd</sup>	179	Unit 3 Exam (25%)	