

BIOL/STAT 2244

Take Home Exam Information

This file is quite long, but it is ALL important and should answer nearly every question you have about the take home exam. I have provided a table of contents here that you can use to ‘jump’ around the file. But you really need to read EVERYTHING.

Contents

WHEN does the take home exam occur?.....	2
What if I have ANOTHER EXAM/PROJECT that day?	2
How do I OBTAIN the take home exam?.....	2
IMPORTANT: How do I FORMAT my take home exam answers?	3
How do I SUBMIT the take home exam?.....	4
What RESOURCES can/will I use to complete the exam?	4
What are the expectations for integrity and ACADEMIC CONDUCT?	5
How should I PREPARE for the take home exam?	6
DO I HAVE TO WRITE the take home exam if I think I’m passing the course without it?	6
What if I am UNABLE TO COMPLETE the exam during the 24-h period due to illness or compassionate reasons?	7
What material is TESTABLE on the take home exam?	7
What is the FORMAT of the take home exam?.....	8
What INFORMATION/MATERIALS will be provided during the exam?	9
How do I access R Studio if I can’t get it installed on a computer?	9
I normally write exams with Accommodated Exams. How are you handling that?.....	10

WHEN does the take home exam occur?

The ‘take home exam’ will be *available* to you for a 24-hour period as follows: **Thursday, April 23 at 5 pm to Friday, April 24 at 5 pm**. The dates/times mentioned are local to London, Ontario; if you are in an alternate time zone, it is YOUR responsibility to identify the corresponding time frame.

You will need to download a copy of the take home exam using YOUR OWL login at some point during the 24-h period. You will complete the take home exam during that period, and must submit your completed take home exam by Friday, April 24 at 5 pm (again, this time is local to London, ON).

What if I have ANOTHER EXAM/PROJECT that day?

As instructors, I was advised to not make my final project/take home exam “due” before the originally scheduled final exam (i.e. when we were originally supposed to have an in-person exam). This scheduling requirement was put into place to avoid students completing all their final projects at the same time.

This means that you might have more than one take home exam or project due the same time as the Biol/Stat 2244 take home exam. This is exactly analogous to a situation in which students write two “regular” exams on the same day. Students should, therefore, approach that type of situation in the same way, i.e. prepare for both projects/exams as you would when you have two exams/assignments due the same day and complete both accordingly.

For the record, the format of the 2244 take home exam will be set up so that it is NOT a 24-h commitment. That is, I’m setting the take home exam such that *prepared students* (see “How should I PREPARE for the take home exam?”) should be able to complete the take home exam in approximately 3-5 hours. The onus is on you, therefore, to organize your day(s) if you have another take home exam or assignment due the same day.

How do I OBTAIN the take home exam?

At 5 pm on Thursday, April 23, the take home exam will become available on our 2244 OWL course site. To obtain the take home exam, you must do the following during the 24-h availability period:

1. Log into our 2244 OWL site using your personal UWO user ID and password (just like you would for any Quiz or Activity in 2244).
2. Go to the OWL tool, “Assignments (OWL submissions)”. Remember this is the tool that you have previously used to *submit* your Lab Assignments through OWL.
3. Look for the Assignment called “Take home exam – due April 24 at 5 pm”. Clicking on that ‘assignment’ will provide you with instructions and access to the Take Home Exam in TWO formats, a .pdf and a .docx file (***Be sure to read the information on “how to SUBMIT the take home exam” (below) to understand which file format to use***) as well as a dataset that will be available in .csv format.
4. Download one or the other file formats of the Take Home Exam AND the dataset file. These files are your take home exam. Be sure to read the instructions on the first page of that exam file carefully before you begin.

IMPORTANT: How do I FORMAT my take home exam answers?

The take home exam file will be set up like a typical *printed* exam paper, i.e. questions followed by space in which you answer the question. That format is VERY important. It means you are constrained to a particular space to answer each question (for ‘written’ answers) or spot to indicate your answer (for multiple choice questions). I will be generous with the space provided...so you should NOT assume that the space provided is indicative of how much you should write. For example, I may give you an entire page to answer a question that should be sufficiently answered with a short paragraph (e.g. 4-6 normal sentences). I will do my best to provide suggestions on the length of answers required so we are all on the same page (pun only partially intended).

So, here’s a summary of the formatting ‘rules’:

1. The file you submit for grading should be the same length (i.e. the same number of pages) with the same spacing of questions as the file you download.
2. The file you submit should contain all the original text, i.e. front cover page and question text. That means you only *add* your answers to the file; you do *not delete* (or reformat) any question text, etc. that was in the file that you downloaded.
3. Type/write your answers in the space allocated for each question. Don’t expect to use up all the space for each question.
4. Save your file as a **single .pdf** for submission purposes.

You have TWO (2) options for how to input your answers in the downloaded take home exam file.

This is why it will be provided to you as both a .docx file and a .pdf file. The *preferred method* is to download the .docx file and *type* your answers into the space provided for each question (much like you did with the answer template files for the Lab Assignments); then, simply save your completed file as a .pdf for submission. You could also use a digital pen (i.e. stylus) to hand write your answers in the space provided if you have that type of technology (e.g. like on a SurfacePro style table/laptop). Inputting your answers directly into the .docx file will make the most sense, as you will potentially need to include R code and output like you have in the Lab Assignments.

The alternative (less preferred, but still an option where needed) method is to *print* a copy of the take home exam file (presumably the provided .pdf copy) and then *handwrite* your answers in the provided spots. This, of course, means you would likely need to print any R code and output to place on your printed exam file for the relevant questions. Then, you would scan your completed take home exam into a single .pdf for submission.

How do I SUBMIT the take home exam?

Be sure to read the information above about *How do I FORMAT my take home exam answers?* Once you have completed your exam, you must submit it ***before 5 pm on Friday, April 24*** (local time for London, ON), as a **single .PDF** format in TWO places:

1. On OWL through the tool, “Assignments (OWL submissions)”; you will submit to the same ‘Assignment’ from which you downloaded the take home exam file.
2. On Gradescope, under the ‘assignment’, “Take Home Exam – due Friday April 24 at 5 pm”

Note that this is the same style of submission process you have used for the 2244 Lab Assignments. However, when you submit to Gradescope, you likely won’t need to select which pages of your submission are allocated to which question...that’s why it is SO important that you retain the original format of the take home exam file (see rules under “*How do I FORMAT my take home exam answers?*”).

What RESOURCES can/will I use to complete the exam?

This is a list of resources that you will NEED to complete the exam:

- Internet access to download the take home exam file, and then, later, upload your completed exam file;
- the take home exam file, which provides the questions and space for your answers;
- the dataset file that is provided with the take home exam file, which will be used to answer some of the exam questions;
- R and/or R Studio;
- A method to complete the exam (i.e. a computer on which to type/digitally write your answers, OR, a computer plus printer plus writing utensils).

As a take home exam, you can also use any other class-related resources you want/need to help you with the exam. That is, you could use the Online R Modules, your lecture notes, the lecture slides, the video lectures, etc. You can also access internet sites if you want. Think of this take home exam as an “open book” exam. That said, you should also review the information in this file under the section for *What are the expectations for integrity and academic conduct?*

What are the expectations for integrity and ACADEMIC CONDUCT?

The take home exam contributes to YOUR personal grade in this course. Consequently, the assumption I am making is that you will be completing the questions and answers *on your own* like you would any other test/exam in this course (i.e. without the aid of your peers, TAs, or personal tutors, etc.). As a result, the front page of the take home exam—where you will provide your name as confirmation of your submitted work—will contain an ‘honour pledge’ that states:

“Western University is a community of students, faculty, and staff involved in learning, teaching, research, and other activities. The University seeks to provide an environment of free and creative inquiry within which critical thinking, human values, and practice skills are cultivated and sustained. It is committed to a mission and to principles that will foster excellence and create an environment where its students, faculty, and staff can grow and flourish.”¹ “Members of the University accept a commitment to maintain and uphold the purposes of the University and, in particular, its standards of scholarship.”²”

By submitting this take home exam, I unequivocally state that all work is entirely my own, and is submitted with an understanding of Western University’s policy on “Scholastic Discipline for Undergraduate Students” (available at:

https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20).

This honour pledge is included to remind you of the expectations for integrity that you accepted as a student at Western University when you first started taking courses and being a member of the University. I would also encourage you to think carefully about the expectations and values for ethical conduct and integrity that will be inherently expected in whatever career you expect to follow in the future—be it in the health and medical field, computer and data sciences, research, environmental sciences, or other fields. The actions you take now should be consistent with who you think you are and who you think you will be in the future.

¹ Text quoted from the Western University code of Student Conduct (effective April 25, 2019) available at: <https://www.uwo.ca/univsec/pdf/board/code.pdf>

² Text quoted from Western University’s Academic Calendar under Academic Rights and Responsibilities, from the section on Scholastic Discipline for Undergraduate Students, available at: https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20

How should I PREPARE for the take home exam?

Treat this take home exam as if it will be our originally scheduled ‘in-person exam’ in the sense that you should review your course materials and study accordingly, over the days leading up to the exam availability period. You might tweak your *focus* on studying a bit given the format and testable content of the take home exam (see the information in the sections for *What material is testable on the take home exam?* and *What is the format of the take home exam?*), but fundamentally, you should be *studying* for an exam as you normally would. The logic behind studying is that I’m setting the take home exam as if it were a regular exam, i.e. wherein you have a limited amount of time to complete the exam. That is, my expectation is that a *prepared student* (one who is familiar with the course material, has reviewed and summarized their notes, and practiced using the material/skills taught) should be able to complete the exam in 3-5 hours. The 24-h availability period is simply provided to support students in alternate time zones...not because you should need that amount of time.

So, my suggestions for preparing include:

1. Make summary charts/tables/graphics of the course material. For example, a table that summarizes the various inference procedures (including when to use them, their formulae, their model conditions and how to evaluate them, relevant R functions, etc) may be useful for studying purposes, as well as for use while actually completing the exam.
2. Try some of the Topic Practice questions on OWL to test your knowledge/understanding of course material. Note that these questions are, of course, all multiple choice which is NOT going to be the main format of the take home exam. But, they may still be useful in ‘testing’ your knowledge (which is applicable for other types of questions).
3. Try some data analysis questions using R and R Studio to practice those skills; you could use the practice data file provided alongside the Online R Modules to answer questions you make up (think about making new variables, taking subsets, doing comparisons, making graphs, etc.), or, you could use questions from the textbook that reference datasets provided in the text.
4. Make a “cheat sheet” of the course, e.g. like you might have for other courses that allowed a ‘one-page’ sheet to bring into an exam (maybe your chemistry class in high school permitted this type of thing). Being able to consolidate the main concepts in a course into a single reference page could be handy during the exam period!

DO I HAVE TO WRITE the take home exam if I think I’m passing the course without it?

This is an interesting question for which I clarified the answer with the Undergraduate Chair. The short answer is, YES, you must write the take home exam in order to pass Biol/Stat 2244.

As you were likely aware, as instructors, we had a few options for revising our course grading schemes (the “Institutional Frameworks for Exam Alternatives”, available under ‘Examinations’ at <https://www.registrar.uwo.ca/updates.html>). Because it was determined that the course work completed by April 3 for our course was *insufficient* to assign a final course grade for the course, we instead are holding a “Alternative Summative Project” (as previously explained in my class-wide emails). Consequently, you should view the take home exam as an “essential component” for our course. This doesn’t mean you have to *pass* the take home exam; you just need to attempt the exam to be eligible to earn a passing (i.e. 50 out of 100) overall course grade in Biol/Stat 2244. As the Undergraduate Chair told me, “not taking the final assessment is not an option in 2244, and if [a student] chooses to do so, they will obtain a grade of 0.”

What if I am UNABLE TO COMPLETE the exam during the 24-h period due to illness or compassionate reasons?

Like any final exam, the take home final exam is still subject to academic relief/consideration in situations where students are unable to complete the take home exam (i.e. due to illness or compassionate concerns) at the scheduled time (i.e. during the 24-h availability period from April 23 at 5 pm to April 24 at 5 pm, local time in London ON). To obtain academic relief/consideration, you should do one of the following depending on the reason for relief/consideration:

1. For **illness** during the 24-h availability period such that you are unable to complete the take home exam by the deadline, you should use the Student Illness Reporting tool at: https://www.registrar.uwo.ca/academics/academic_considerations/index.html
2. For **other reasons** (e.g. other than medical absences) during the 24-h availability period such that you are unable to complete the take home exam by the deadline, you should contact your academic counselor as you normally would have during a final exam period (i.e. before self-reporting existed). ***The reason for this is not because non-illness reasons will be handled any more formally.*** It is because the data from the Illness Reporting Tool is shared (anonymously, I would assume) with the Middlesex-London Health Unit, as a data collection tool to help understand London's current illness status, i.e. for government/policy/health information. As a *statistics* student in 2244, I would hope you recognize that the data submitted to the Health Unit would be compromised and not representative of the actual population if we are using the Illness Reporting Tool for “other” issues.

If you successfully obtain academic relief/consideration through one of the above two methods, you will be eligible for a “Special Examination”, just as you would during a ‘normal’ final exam period. For 2244, this would mean you would write the “Special Examination” at a date in early May 2020. In general, you would expect the Special Examination to be roughly similar in format to the originally scheduled take home exam; however—depending on the number of students needing to write a Special Examination—I may change the format as necessary. A student who is eligible to write the Special Examination in May, but receives relief/consideration for the Special Examination in May (i.e. for continued illness or other reasons) will be rescheduled to write an as-of-yet undetermined date (likely not any time during the summer months).

What material is TESTABLE on the take home exam?


Like the original final exam, the take home exam is **cumulative** in all senses of the word—that is, imagine that Test 1 never occurred, and this Final Exam tested you on the entire course. That's how cumulative it is. The course material tested includes material discussed in lectures from the start of the course to the end of the lecture topic on “One-factor ANOVA and follow up analyses”, and the required textbook readings/Sapling. The expectation is that you will also be able to use R (and/or R studio) to conduct analyses much like we see in lecture and in the Online R Modules 1 through 8. This requirement for using R (and/or R Studio) also holds for students who are taking the lab exemption (because they completed the lab component of the course in a previous term).

What is the FORMAT of the take home exam?

I suspect it is quite clear that the take home exam is not yet finalized/created, given this is the first time I'm making such an exam. But, I have a pretty clear sense of what I want to and will create. The uncertainty comes in the number of questions of each type (which I will try to settle to based on my proposed 'completion time' of 3-5 hours). Nevertheless, you can expect the take home exam to have three main sections, as follows:

1. **Section A – Multiple Choice Questions:** This section will likely be composed of *no more than 10* multiple choice questions, similarly in structure to those you have seen on Test 1 and in the Topic Practice Questions. Each question will be worth 1 mark for selecting the single correct answer. Note that you will NOT be submitting your answers on a 'Scantron' style sheet like you would during an in-person exam. Instead, there will be a box next to each answer option, into which you will place an X to indicate you are selecting that answer. This will look like the following:

Question 1. How old are you?

 Indicate your chosen answer by placing an X in the box next to your selected answer option.

<input type="checkbox"/>	A.	I am 18 years old or younger.
<input type="checkbox"/>	B.	I am 19 or 20 years old.
<input type="checkbox"/>	C.	I am between 20 and 24 years old.
<input type="checkbox"/>	D.	I am older than 24 years old.

2. **Section B – Short Answer Questions:** This section will be composed of a series of questions that require some form of written/typed answer. Questions may be multipart (e.g. part a, part b, etc.) and worth multiple points (e.g. 1 mark, 2 marks, etc.); part marks will be possible for these questions (e.g. you could obtain 3 out of 5 marks for a question. Typically, I won't expect more than a handful of sentences/small paragraph to answer part of a short answer question.

Point form answers are quite acceptable provided they give sufficient information. You will also be welcome to accompany your answers with diagrams/pictures if it helps explain your answers. You may need to use R (and/or R Studio) or some other source to a minor degree for some questions that involve computations. Spelling and grammar won't explicitly be marked, but you should aim to write your responses so that they are intelligible.

Remember, you must constrain your answer to the space allocated for a given question, and you will be given *more than enough* space to answer each question (see the section on *How do I FORMAT my take home exam answers?*).

3. **Section C – Data Analysis Questions:** This section will be series of questions (or multi-part questions) similar to short answer questions (see above) BUT will **require** the use of R (and/or R Studio) to work with the dataset that you were provided along with the take home exam. In essence, you could imagine questions that are similar to questions you were asked on the Lab

Assignments (albeit, you had ~2 weeks to complete the lab assignments, whereas for this take home exam, you should only need 3-5 hours to do the *whole* exam). In questions requiring the use of R, you will be asked to report the R code and output you generated—much like you were asked to do on Lab Assignments 2 and 3.

For the record, the “Reminders/Tips for Success” that were provided on pages 2–3 of Lab Assignment 3 will still apply for the take home exam. It would be appropriate to review these Reminders/Tips for Success in advance of completing the take home exam, in particular, for the Section C – Data Analysis Questions.

An important note about 2244 exam questions

Like previous Test questions, *you do not and should not use your own personal experience of a scenario to answer the questions*. That is, everything you need to correctly answer a question will be provided in the question. If you find yourself drawing on personal experience/knowledge that it NOT in the question (and is not part of the course material), stop! An understanding of the course material (i.e. from lecture and assigned readings) and the information in the test questions is ALL that is necessary to answer that questions.

What INFORMATION/MATERIALS will be provided during the exam?

Seeing as you can treat the take home exam as an open-book exam, you technically already have all necessary materials in your lecture notes, etc. That said, for your convenience, I have posted a formula sheet on OWL under the tool, “Tests & Exam” on the page dedicated to “Final Exam” (where this information file is also available).

How do I access R Studio if I can’t get it installed on a computer?

Some students were relying on access to R (and/or R Studio) on computers available on campus. If you are such a student and are unable to download/install R (and/or R Studio) on your own personal computer, you can still complete the necessary work in R using the **R Studio Cloud**. R Studio Cloud is a free, browser-based version of R Studio.

I would encourage you to set up access to the R Studio Cloud and explore it *in advance* of the 24-availability period for the take home exam (for reference, it took me about 10 min to do so but having the familiarity with it in advance of the take home exam would be useful).. I can support you before the 24-h availability period in how to use the R Studio Cloud if needed so that you are comfortable with it when you actually have to use it. I cannot guarantee such support during the actual 24-h availability period.

Here’s how to access R Studio Cloud:

1. Google (or use your preferred search engine) to search for RStudio Cloud. It will likely be your first search result.
2. Follow the instructions on the RStudio Cloud page to “sign up” (no cost involved; you just need a name, email, and a password to use).
3. Once you have signed up and created an account, create a “New Project”. Upon doing so, you’ll see in your web browser that you essentially have access to R Studio.

4. To import a dataset into this 'project', go to the bottom right section of the R Studio access under the "Files" tab; click "Upload".
5. At that point, you can upload a datafile from your computer to the cloud version of R Studio.
6. Once you have uploaded the datafile to the cloud, select "Import Dataset" from the top right "Environment" tab, and search for the datafile you just uploaded. Import the dataset as you normally would have in R Studio.

At this point, you can work in the R Studio Cloud as you normally would, i.e. creating R Script files, graphs, output, etc. My understanding is you can also log out and back into the R Studio Cloud, reopen your 'project' and what you have done will still be available.

I normally write exams with Accommodated Exams. How are you handling that?

I will send a separate OWL Message to students who I know have academic accommodations through Accessible Education with information that pertains to applying your accommodations to the take home exam.