1051H 2020FA: Lecture #01

Wesley Burr

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Welcome Information

Contact Details

- **Me**: Dr. Wesley Burr
- **Email**: wesleyburr@trentu.ca (only for important, personal issues!)
- **Office**: ENW/GCS 335 (not that this matters … no in person contact)
- **Student Contact Hours**: Posted on Blackboard and Teams - throughout the week
- **Instructor for Section B**: Dr. Haile Gessesse
- **Email**: hailegessesse@trentu.ca (same!)

Digital Tech & Links

I believe in the power of technology to make teaching and learning easier. So we're going to use quite a bit of it in this class. Plus, since we're forced to be remote … we have little choice!

- **Blackboard**: official grades, class-wide communications, paper assignment postings, slides and (lots) of videos
- **WeBWorK**: assignments (digital)
- **Chat ('Teams')**: asking questions, communicating, sharing, talking to the TAs and me; also class-wide communications and paper assignment postings
- **RStudio**: learning to **do** statistics and data analysis (4 assignments) - **new computer program**
- **math.trentu.ca**: copies of the lecture slides in HTML format
- **Video Chat**: we will be available to video chat via both Zoom (official larger groups) and Microsoft Teams (small groups or 1:1 with a tutor or professor)

WeBWorK

- Linked from Blackboard
- Posted demo in the Extra Videos
- First two assignments (worth 4% each!) already live
- Multiple attempts (**varies** by question)
- Some questions require that you get all parts correct to get the point; others give partial credit. Read carefully to tell the difference (it's at the bottom, in italics)
- Assignments due throughout the term (10 in total) - worth 40% of your grade!

‘Teams’ Chat Interface

- persistent
- multiple user
- replaces email
- where the TAs and professors will spend time outside of class & office hours
- there’s a video on Blackboard on installing the program, and a quick guide to using it
- look for the announcement with the invite link

RStudio

The **R** programming language and interface is **the** language of statistics in the 21st century.

- MATH 1051H is not a traditional mathematics course
- Statistics blends mathematics, computer science, data analysis, data science, and philosophy
- You will be learning to do **data analysis** using **R** in this class
- Many ways to use RStudio - there's a video on Blackboard going through them, and then separate videos going through how to install and use the program

Course Overview

Now I’d like to go over the course with you.

Posted Material

- lectures: about 2 hours per week, 1-4 videos, by topic
- workshops: one topic per week, 1+ videos, organized sequentially (numbered 1-12)
- problem solving: at least one video per week
- extra topics: as often as needed, with announcements
- summary: every week I will post a summary and chat reminding you of what we're doing, and suggesting an order to watch things in, and do things in

Texts & Software

- OpenIntro Statistics (4th edition: free PDF, or order a paper copy from the Trent Bookstore or Amazon)
- Book of R: excellent reference for your shelf and doing the big assignments (about $58 in paper, digital copies available on Google Play Books or Amazon for less)
- Calculator: strongly recommend you don't use one - use R instead!
- R & RStudio: free for your personal computer, free using Remote Desktop through Trent, **subscription fee** if you want the fancy cloud version ($5USD per month)

The Textbook

The textbook we are using is an open-source CC-BY statistics textbook written by some excellent folks. The PDF is completely free if you want it, and I encourage all of you to at least get a copy of the **4th Edition**.

There is a link to the 4th Edition on Blackboard.

Extra Textbook

In addition, there is a book on the use of R and R programming available in the bookstore (and digitally on Google Play Books, and elsewhere). It's a really, really good reference text for the future - most of you will end up using R in a later course (especially you BIOL and FRSC folks), and this is the kind of book you keep on your shelf for later. It's about $58 for a dead tree version, or you can save $20 and get an electronic copy from Amazon.

Links:

- Book of R, paper, Amazon
- Book of R, Kindle edition, Amazon
- Book of R, paper, Trent Bookstore

Cheapest price seems to be the Amazon prices. I don't recommend renting the book - if you're going to bother having it at all, buy it and mark it up. Save it for the future. It's a really solid reference.

Things Worth Marks

- WeBWork2: 40%
- R Assignments: 4, 10% each (due dates are in the syllabus) - first one posted next week!
- Final Exam: 20% (on WeBWorK)

WeBWorK (40%)

WeBWorK is an open-source homework system with automatically graded problems. It allows for some fun things like multiple attempts, and in-response math (e.g., you can say “My Answer is [2 * 2 + 2]” and it will recognize it).

- WeBWorK assignments will all be posted for as long as is reasonable - extensions will be granted easily if you need or want them (up to the end of term - extensions for Assignments 9 and 10 are harder)
- you can work ahead a bit!
- realistically, you need both lecture plus workshop to successfully do the assignments

R Assignments (40%, 4x10%)

The R assignments are designed to assess your learning of the material covered mostly in the workshops, and demonstrated in class. The first will be a simple syntax check, seeing if you've learned how to create documents and use basic features.

The second will be a probability-based assignment, asking you to **do** computations, with some file input/output and plotting.

More details on the third and fourth will come later in the term.

How to Get Help

- Chat: anytime (rotating coverage of TAs and Profs)
- Synchronous small-group or 1:1 Teams time: schedule will be posted next week, as the TAs get their course schedules sorted
- read the textbooks
- Google is surprisingly helpful for learning R stuff - there's a huge wealth of materials out there for beginners, some of which we will link to through the term

A Promise

This is a really difficult time for all of us. None of us want to be doing this remotely. So here is my pledge to you - within the limits of the university semester and schedule:

- If you need help, we will provide it to you.
- If you need extra time because of the stress of COVID, or because of family or health concerns, we will do our very best to provide it to you.

We want you to succeed. If you work hard, and take advantage of all the resources that the Dean of Science has made available to us this year (way more than normal!), we will do everything we can to help you get there.