

School of Administrative Studies
Faculty of Liberal and Professional Studies

AP/ADMS 2310 3.00
BUSINESS STATISTICS THROUGH APPLICATIONS

[OUTLINE 1.0 – TO BE UPDATED; LIVE LINKS ARE UNDERLINED]

DON'T BE DUPED!

WINTER 2024

Live Zoom Classes in 2:30-5:30 PM EST Friday Only

Thaddeus Hwong

Challenge someone's truth and often you challenge their whole world.

~ Julian Baggini

*** Adapted Standardized Information from York University ***

York University recognizes that many Indigenous Nations have longstanding relationships with the territories upon which York University campuses are located that precede the establishment of York University. York University acknowledges its presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, and the Huron-Wendat. It is now home to many First Nation, Inuit, and Métis communities. We acknowledge the current treaty holders, the Mississaugas of the Credit First Nation. This territory is subject of the Dish with One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region ([LA&PS Land Acknowledgement](#)). For video, see [Understanding the Land Acknowledgement](#).

**

1. Overview: Learning Statistics in a Different Way

The course is different from what many students might think.

Many students might think they can't do math so they are anxious to learn statistics. This course teaches data analysis like a language instead of math. The reason is that all students can function in at least one language. On math, even those who think they can't do math might actually be able to do so but they just don't know it yet. But that would be for another course.

The "language" the course teaches with is Stata [<https://www.stata.com>]. The ability to use Stata, a professional statistical software, can help students get jobs. Learning Stata is not as hard as learning R. But it is a lot harder than learning Excel.

This course is not mainly about programming Stata even students are expected to learn to use Stata in real time in class. No prerequisite in computer programming is required as I teach students everything they need in real time in class.

The course is not mainly about splashing technical statistical stuff everywhere even students are required to learn to compile a little Stata program called a do-file to run some data analyses using real data. No prerequisite in mathematics is required as I teach Stata like a language given that all students can function in at least one language.

The course is mainly about developing a mindset in solving seemingly unsolvable problems. The Winter 2024 version of the course will take on the market fundamentalism of the Fraser Institute. The anti-tax think tank claims that we would be better off with lower taxes and less government. But the data the Fraser Institute uses to make its claims actually shows that we would be better off with higher taxes and more government.

The teaching approach anchors on learning in real time using real data through trial and error. Students are required to try out the codes, debug what they have coded after crashes and repeat that process again and again in class. If the problems are not solved right then and there in real time in class, the problems will fester and derail the learning progress.

The very simple approach to use Stata that the students are required to follow in real time in class in developing their problem-solving mindset is unique as it is very different from the more complicated Stata tutorials and courses out there. Following this teaching approach, students who attend all classes can save hours if not days of work. To protect the integrity of the customized teaching approach, no class will be recorded.

Here's the synopsis of the course on my university academic page: "The Winter 2024 course of Business Statistics Through Applications would decode seemingly scientific misinformation and disinformation to debunk the free market myths. Is economic freedom worse than a white lie as it is actually about capitalism without democracy?" For my teaching philosophy, see <https://profiles.laps.yorku.ca/profiles/thwong/>.

If you read my academic page and maybe even my twitter feed, you will find that I have a particular point of view. Of course, please feel free to decide whether you agree or disagree with it or not. If you agree with it, I would very much hope that you will enjoy learning how to put theory to practice. More importantly, if you disagree with it, I would very much hope that you will enjoy learning how to learn from a point of view that is different from yours. After all, that's what university is for.

The course is designed for students who want to learn to become independent lifelong learners. The content in the Academic skills folder on eClass is useful for students to think about what they can do as learners.

No class is designed to be missed. Given the course design as well as the protection of privacy of all involved, the course will not be recorded. Not attending any class defeats the academic purpose of the course.

2. Learning Outcomes: Learning to Get the Most Obtainable Version of the Truth From Data

The course is an introductory course about applied statistics, and you will learn statistical literacy for self-defense in this post-truth age.

The learning outcomes could be transformative if students want them to be, no matter what the subject of a course is. Being held hostage in the quagmire of post-truth delusions, we could safeguard a scintilla of hope that whatever that is left of our idealism is not destined for demolition by daring ourselves to ask: does it have to be this way? If students are willing, at the end of our time together, students would be able to ask the tough questions needed in challenging the status quo.

At university you learn to become not only a productive employee but also an informed and responsible citizen. Like university studies in general, the course is designed to develop your capabilities in critical thinking, information literacy, effective communication as well as your sense of your responsibility.

Critical thinking. A big challenge in your daily experience is to live with ambiguity. The world is not neatly organized, and it won't organize itself for you. But you can make sense of what you initially see as disorganization if you want to. Hopefully this seminar will give you plenty of opportunities to learn to face the messy world.

Information literacy. In our society another big challenge is to live with information overload. The information flow does not come with navigation manuals or handouts or PowerPoint slides. But you can separate the useful information from the noise if you want to. Hopefully this seminar will give you plenty of opportunities to learn to separate the good information from the bad information.

Effective communication. Whether some ideas become entrenched often rests on how they are argued. At times unfortunately the most compelling arguments beat the most sensible ideas. But you can be precise and concise in making your arguments if you want to. Hopefully the seminar will give you plenty of opportunities to learn to cut to the chase.

A sense of your responsibility. University education is to enlighten, not to indoctrinate to conform. It incurs opportunity costs for not just you but also our society. Sadly, nowadays our society allows university education to become just a big broken promise that mutates into a gigantic opportunity loss. But if you want to you can help make things right by learning to be responsible. As responsible students, you would solve the problems you are asked to solve on your own rather than just giving up and asking others to solve them for you. Hopefully the seminar will give you plenty of opportunities to learn to nurture your identity of responsibility.

On how to learn in this seminar, here are three actionable suggestions:

- *Pay attention.* Once you start paying attention many seemingly unanswerable questions will end up as information that you can simply look up.
- *Prepare relentlessly.* Students are expected to do most of their work outside the classroom, and they are expected to demonstrate their outside work with their level of engagements inside the classroom.
- *Own it.* When you think you have run into a problem, look for the solution yourself. Whenever something does not go your way, ask the following series of questions: “What have I done wrong and how can I do better?”

At university you learn to become not only a productive employee but also an informed and responsible citizen. If you learn to think about justice in a way to appreciate its important role in society, you will have achieved something in this seminar.

Your seminar grade is just a reflection of your performance in the seminar, but you are the only one who really knows whether you are making any progress in learning to become a lifelong learner. A grade is just a grade. In five years no one will care what you get as a student in this seminar. But people do care who you are as a human being – whether you care not only about your own self-interests but also about others’ well-being.

3. Course Materials: Basic Tools

No one can predict the future accurately but we all could learn from the past to not only understand the present but also make an educated guess about the future. In working through the course materials, students will gain a sense of the convergence of the past, the present and the future. Students are required to make good use of the following:

- Stata/BE [student license for at least six months; the need for Stata to be discussed in Class 1]
- A Stata dataset entitled “2310-2024-.dta” in the Outline+ folder at the bottom of the eClass page to be available in the Outline+ folder at the bottom of the eClass page by Class 1
- Stata do-files – Stata program files containing Stata codes specially prepared as teaching tools for the course – entitled “2310-X.do” in the Outline+ folder at the bottom of the eClass page uploaded by each class [X refers to the class number as per the schedule at the back of this outline]. For example, the filename of the Class 1 do-file will have “2310-1.do” in it.
- Introductory Business Statistics [free Kindle textbook for students’ own reference at home]
- A designated Kindle book for Reading Diary to be unveiled in Class 3 as explained in Section 5.2 of this outline

4. Teaching Approach: Use What It Is to Probe What It Could Be

*** Adapted Standardized Information from York University ***

Students shall note the following:

- *Zoom is hosted on servers in the United States and Canada. Recordings done since May 4, 2022 are stored in Canada. For more information, please refer to the notes on [Zoom Privacy and Security](#) provided by Information Security at York.*
- *If you have privacy concerns about your data, provide only your first name or a nickname when you join a session.*
- *The system is configured in a way that all participants are automatically notified when a session is being recorded. In other words, a session cannot be recorded without you knowing about it.*

The course focuses on making sense of statistics rather than solving something to compute something or proving some equations to come up with more equations. In the course, we will learn statistical literacy by doing in each class. Each step will build on prior steps in real time, and each class will build on prior classes in real time.

In addition to using Stata, for security purposes all students are required to use their York University email accounts – perhaps through Outlook – for all course correspondences [all York students can download MS Office for free at <https://yuoffice.yorku.ca>; you don't need to log into, for example, MS Word to use your downloaded MS Word]. All students are also required to download and use Excel to complete the Reading diary template as mentioned in Section 5.2 of this outline.

All course emails should be sent to taxlaw@yorku.ca. At times functions follow forms. All students must use their York University email accounts to send all submissions for the course to taxlaw@yorku.ca with the appropriate email subject line. The email subject line for queries would be "2310-queries".

Students are expected to learn to find answers on their own. If after exhausting all avenues you still think you cannot find answers on your own please follow the course email protocol as stated above to send an email to taxlaw@yorku.ca. If you don't get any non-automatic reply within 72 hours, you should assume that you are expected to have the capability to find your answer on your own.

I am eager to talk shop all the time. But to make sure that any academic discussion with any student will be shared with all students in the course so all students can benefit from it, please follow course email protocol to email the questions to taxlaw@yorku.ca so I can incorporate your wonderful contributions into the development of our course for all students. I am confident that such an approach is more conducive to learning than, let's say traditional office hours, given the design of the course.

5. Evaluation: Less is more

The evaluation focuses on what would help develop students into lifelong learners – information literacy, critical thinking and effective communication as well as responsibility. A letter grade for the seminar will be given to each student at the end of the academic year based on the following components. On grading schemes, see <https://calendars.students.yorku.ca/2023-2024/grades-and-grading-schemes>.

All students will be graded and ranked in comparison to their peers. That is, for example, at the end of the term students who have attended more classes than others will likely have advantages over those who attended fewer classes. The reason is not about attendance. The reason is that the former students have likely learnt more than the latter, and their learning outcomes would likely show up in their work done for the seminar.

The marks for the Reading Diary – 40% of the course grade – would be posted on eClass before the drop date. Please consider everything said in class as feedback that is relevant to your work.

*** Adapted Standardized Information from York University ***

Students are not permitted to use generative artificial intelligence (AI) in this course. Submitting any work created through the use of generative AI tools will be considered a violation of York University's Senate Policy on Academic Honesty. If you do not know whether an online resource or tool can be used in this course, please contact your instructor for guidance. For more information, please review [AI Technology & Academic Integrity: Information for Students](#).

**

Course Evaluation Table Format as per LA & PS template

Assessment	Due date	Weight %	Course Learning Outcomes
<i>Stata do-files [a total of at least three]</i>	<i>Submission of one do-file by 7 am EST of the Wednesday before Class 4, Class 5, Class 6, Class 7, Class 8, Class 9, Class 10 and Class 11</i>	30%	<i>As achieved in learning to use Stata</i>
<i>Reading Diary [using the Excel template for four submissions]</i>	<i>Weekly submission by the start of Class 4, Class 5, Class 6 and Class 7</i>	40%	<i>As achieved in developing a learning habit</i>
<i>Capstone Project Stata do-file</i>	<i>11.59 pm EST of Friday April 12, 2024 to taxlaw@yorku.ca</i>	30%	<i>As achieved in demonstrating the use of Stata in data analysis</i>
		100%	

**

5.1. At least three short Stata do-files (30%).

Each student will be assigned a different country as her or his focus in Class 3. Making a comparison of the country assigned to countries and country groups in the dataset, the student will prepare a Stata do-file to answer a research question. A research question is set forth at the end of the do-file for each of Class 3 to Class 10.

All students are required to make at least three 5.1 submissions. Each student can elect to submit a do-file that answers the research question in light of the country assigned to the student by 7 am EST Wednesday before each of Class 4 to Class 11 following specific submission protocol. All students must use their York University email accounts to send all submissions to taxlaw@yorku.ca with the appropriate email subject line. For 5.1 submissions, the email subject line is 2310: 5.1-X-[student number] with X referring to the class number in each of Class 4 to Class 11. Each 5.1 submission should have only the do-file in the Stata do-file format ending with .do attached. The Stata do-file should have the email subject line as its filename. No mark can be given if a Stata do-file cannot be run.

For example, a student whose student number is 2310000 elects to submit a Stata do-file to answer the research question specified at the end of the Class 3 do-file. The student has until 7 am EST in the Wednesday before Class 4 to use her university email account to send an email with the subject line 2310:5.1-4-2310000 containing the Stata do-file entitled 2310:5.1-4-2310000 to taxlaw@yorku.ca.

Students are required to submit at least three do-files, with one for a separate class. Given that all students have eight opportunities to make the minimum of three 5.1 submissions, no late submission would be accepted.

Students can opt to submit more than three. For example, students can opt to submit a do-file by the deadline before Class 4, Class 5, Class 6, Class 7, Class 8, Class 9, Class 10 and Class 11.

5.2. Reading diary (40%).

All students are required to read a part of the assigned Kindle book unveiled in Class 3 every day. Every day means every day. Students will use the provided Excel template to log their daily reflections of what they read. The use of the template is slated to be discussed in Class 3. The Excel template must be used.

Students are required to file the latest version of their Reading Diary by the start of each of Class 4 to Class 7 following specific submission protocol. All students must use their York University email accounts to send all submissions to taxlaw@yorku.ca with the appropriate email subject line. For 5.2 submissions, the email subject line is 2310: 5.2-X-[student number of the student] with X referring to the class number in each of Class 4 to Class 6. Each 5.2 submission should only contain the Excel file. The Excel file should have the email subject line as its filename.

For example, a student whose student number is 2310000 would use her university email account to send her first 5.2 submission to taxlaw@yorku.ca with the email subject line 2310: 5.2-4-2310000 containing the Excel file entitled 2310: 5.2-4-2310000 by the start of Class 4.

Given that this is a daily exercise, students are required to submit what they have done up to the point of submission thus no late submission would be accepted.

5.3. Capstone Project (30%).

One feature of the course is the Capstone Project, which requires students to use what they have learnt in the course to prepare a Stata do-file to generate statistical analysis of a country as if they were asked to prepare that for an internship application to an international organization.

As exemplified in the design of the Capstone Project, the applied statistics course encourages students to develop problem solving skills by immersing in an environment that requires them to solve problems independently in real time through trial and error. One rationale behind the course design is that employers expect employees to be independent in problem solving.

In Class 1, students will be given a list of internships for them to choose from. As indicated in Section 5.1 above, in Class 3 each student will be assigned to focus on a different country. The requirements of the Capstone Project will be unveiled along the way in classes and will be firmed up after the drop date. The deadline for the submission of the Capstone Project is 11:59 pm EST Friday April 12, 2024.

6. Tentative Schedule: Learning by doing

Students are expected to learn by doing in real time in class. Each class builds on the previous one. Below is a tentative class schedule with live links to data sources.

Module I: In this unequal world what do indicators of economic freedom indicate?		
Jan. 12	Class 1	Take a first look at data from:
Jan. 19	Class 2	<ul style="list-style-type: none"> ▪ World Inequality Database
Jan. 26	Class 3	<ul style="list-style-type: none"> ▪ Economic Freedom of the World: 2023 Annual Report ▪ 2023 Index of Economic Freedom
Module II: Advancing the explorations of economic freedom in light of economic justice		
Feb. 2	Class 4	Contextualize the explorations of economic freedom in light of data from:
Feb. 9	Class 5	<ul style="list-style-type: none"> ▪ World Development Indicators ▪ Standardized World Income Inequality Database ▪ Global Revenue Statistics Database
Module III: Expanding the explorations to include well-being		
Feb. 16	Class 6	Contextualize the explorations of economic freedom so far in light of data from:
Mar. 1	Class 7	<ul style="list-style-type: none"> ▪ World Health Statistics 2022 ▪ World Happiness Report 2023
Module IV: Adding gender to the mix		
Mar. 8	Class 8	Further develop the explorations in light of gender indices including:
Mar. 15	Class 9	<ul style="list-style-type: none"> ▪ Gender Development Index and Gender Inequality Index from Human Development Report 2021-22 ▪ Women's Empowerment Index and Global Gender Parity Index
Module V: Debunking the myths of economic freedom		
Mar. 22	Class 10	Compile the arguments
Apr. 5	Class 11	

[THE FOLLOWING PAGES ARE INFORMATION SUPPLIED BY LA & PS]

Course Policies

All students are expected to familiarize themselves with the following information:

- [Student Rights & Responsibilities](#)
- [Academic Accommodation for Students with Disabilities](#)

Please also review the following course policies:

Academic Integrity

As a student at York University, you have a responsibility to both understand and uphold the integrity of the academic experience. The Faculty of Liberal Arts & Professional Studies supports the International Center for Academic Integrity's [definition of academic integrity](#). That is, you will be committed to acting in all academic matters, even in the face of adversity, with honesty, trust, fairness, courage, respect and responsibility. Here is how you can demonstrate academic integrity in the completion of this course:

- **Respect the ideas of others:** Your course work should represent your own knowledge and ideas. You should not falsely claim credit for ideas that are not your own, by presenting another's work as yours. If you are quoting, paraphrasing, or summarizing another person's work in order to support your own ideas, identify the work and the author through proper citation practices. For more information about how to cite properly, use the [Student Papers and Academic Research Kit \(SPARK\)](#). You can improve your writing, research, and personal learning abilities through the [Learning Commons](#), or by visiting the [Writing Centre](#) or [ESL Open Learning Centre](#).
- **Respect your peers:** Know when you are allowed to collaborate. Ask your instructor about what group work entails when it comes to the sharing of work. In test situations and assignments, don't steal or give answers to your peers, whether in-person or online (e.g., in group chats and/or on third-party content-sharing websites, such as Chegg, Course Hero, etc.). Both cheating and aiding in a breach of academic honesty are violations of York University's academic honesty policy.
- **Respect your course instructor(s):** Understand what your instructors are asking of you in class, as well as on assignments, tests and/or exams. If you are unsure, ask your professor or teaching assistant. They are committed to making you feel supported and want to assess you fairly and with integrity. Please do not submit the same piece of work for more than one course without your instructor's permission. That can be considered an act of cheating.
- **Respect yourself:** When you act with integrity, you know that your work is yours and yours alone. You do not allow others to take tests for you. You do not buy or otherwise obtain term papers or assignments. You do the work. As a result, you know that you *earned* the grades that you receive, so you can be proud of your York degree. By acting with integrity in your course work, you are also practising a valuable professional skill that is important in all workplaces.
- **Take responsibility:** If you have acted in an academically dishonest way, you can demonstrate courage and take responsibility for your mistake. You can admit your mistake to your course instructor as soon as possible.

Students who engage in academic dishonesty can be subject to disciplinary action under the [Senate Policy on Academic Honesty](#). Your lack of familiarity with the Senate Policy does not constitute a defense against its application. Some academic offences can also constitute offences under the [Criminal Code of Canada](#), which means that you may also be subject to criminal charges.

Accessibility

While all individuals are expected to satisfy the requirements of their program of study and to aspire to achieve excellence, the University recognizes that persons with disabilities may require reasonable accommodation to enable them to perform at their best. The University encourages students with disabilities to register with [Student](#)

Accessibility Services to discuss their accommodation needs as early as possible in the term to establish the recommended academic accommodations that will be communicated to Course Directors through their Letter of Accommodation (LOA).

Please let your instructor know as early as possible in the term if you anticipate requiring academic accommodation so that we can discuss how to consider your accommodation needs within the context of this course. Sufficient notice is needed so that reasonable steps for accommodation can be discussed. Accommodations for tests/exams normally require three (3) weeks (or 21 days) before the scheduled test/exam to arrange.

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making reasonable and appropriate accommodations to adherents for observances of special significance. Should any of the dates specified in this syllabus for course examinations, tests, or deadlines conflict with a date of religious significance, please contact the instructor within the first three (3) weeks of class. If the date falls within the formal examination periods, you must complete and submit a Religious Accommodation for Examination Form at least three (3) weeks before the start of the exam period.

Intellectual Property

Course materials are designed for use as part of this particular course at York University and are the intellectual property of the instructor unless otherwise stated. Third-party copyrighted materials (such as book chapters, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian copyright law. Students may not publish, post on an Internet site, sell, or otherwise distribute any course materials or work without the instructor's express permission. Course materials should only be used by students enrolled in this course.

Copying this material for distribution (e.g., uploading material to a commercial third-party website) may lead to a charge of misconduct according to York's Code of Student Rights and Responsibilities, the Senate Policy on Academic Honesty, and/or legal consequences for copyright violations.

Student Conduct in the Learning Environment

York University is committed to fostering teaching and learning environments that are free of disruptive and/or harassing behaviour, are physically safe, and conducive to effective teaching and learning. Students and instructors are expected to maintain a professional relationship characterized by courtesy, civility, and mutual respect and to refrain from actions disruptive to such a relationship. Individuals who fail to adhere to such standards and who violate University or public law may be subject to disciplinary action by the University.

For more information, see the policies on Disruptive and/or Harassing Behaviour in Academic Situations and Student Conduct and Responsibilities, as well as the Code of Student Rights & Responsibilities.

Netiquette for eClass and Online Learning

Students and instructors have a joint responsibility to create and maintain a welcoming and inclusive learning environment. All students are expected to conduct themselves in accordance with the Code of Student Rights and Responsibilities. Please review and familiarize yourself with behaviours that support "netiquette" in virtual classrooms by consulting the Student Guide to eLearning.

Student Support and Resources

To help you succeed academically, York University offers a wide range of resources and services. Everything from writing workshops and peer mentorship to wellness support and career guidance is available to fulfill our LA&PS students' needs. Explore the links below to access these on-campus resources:

- [Academic Advising](#) is available to provide students support and guidance in making academic decisions and goals.
- [Student Accessibility Services](#) are available for support and accessibility accommodation when required.
- [Student Counselling, Health & Wellbeing](#) offers workshops, resources, and counselling to support your academic success.
- [Peer-Assisted Study Sessions \(PASS\) Program](#) provides student study sessions for students to collaborate and enhance their understanding of course content in certain courses.
- [Student Numeracy Assistance Centre at Keele \(SNACK\)](#) supports students in courses involving math, stats, and Excel.
- [The Writing Centre](#) provides multiple avenues of writing-based support including drop-in sessions, one-to-one appointments, a Multilingual Studio, and an Accessibility Specialist.
- [ESL Open Learning Centre \(OLC\)](#) supports students with building proficiency in reading, writing, and speaking English.
- [Learning Skills Services](#) provides tips for time management, effective study and learning habits, keeping up with coursework, and other learning-related supports.
- [Learning Commons](#) provides links to supports for time management, writing, study skills, preparing for exams, and other learning-related resources.
- [Roadmap to Student Success](#) provides students with timely and targeted resources to help them achieve academic, personal, and professional success.
- [Office of Student Community Relations \(OSCR\)](#) is responsible for administering the [Code of Student Rights & Responsibilities](#) and provides critical incident support.
- [goSAFE](#) is staffed by York students and can accompany York community members to and from any on-campus location, such as the Village Shuttle pick-up hub, parking lots, bus stops, or residences.

For a full list of academic, wellness, and campus resources visit [Student Support & Resources](#).