

**UNIVERSITY OF WATERLOO**  
**Computing and Financial Management**  
**School of Accounting and Finance**  
**CFM 101 - Introduction to Financial Data Analytics**  
**Fall 2024**

|                    |                                                                                                                                        |                                                 |                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------|
| Instructor:        | Prof. James Thompson                                                                                                                   |                                                 |                            |
| Office:            | HH 289D                                                                                                                                |                                                 |                            |
| Office hours:      | TBA and by appointment                                                                                                                 |                                                 |                            |
| Email:             | <a href="mailto:james@uwaterloo.ca">james@uwaterloo.ca</a>                                                                             |                                                 |                            |
| Course web page:   | Access via LEARN                                                                                                                       |                                                 |                            |
| Lectures:          | Section 001    MW 1:00 p.m. to 2:20 p.m.    HH 1102                                                                                    |                                                 |                            |
| Prerequisite:      | Computing and Financial Management Students only                                                                                       |                                                 |                            |
| Antirequisite:     | AFM 121, COMM 101                                                                                                                      |                                                 |                            |
| Text:              | S. Cleary S, <i>Canadian Securities Exam: Fast Track Study Guide</i> (Third Edition), Wiley, 2009 (digital version available for free) |                                                 |                            |
| Course evaluation: | Assignment #1                                                                                                                          | Sept 23 at 9am                                  | 5%                         |
|                    | Assignment #2                                                                                                                          | Oct 11 at 9am*                                  | 7%                         |
|                    |                                                                                                                                        | (*accepted until Oct 14 at 9am without penalty) |                            |
|                    | Assignment #3                                                                                                                          | Nov 4 at 9am                                    | 7%                         |
|                    | Group Assignment                                                                                                                       | Nov 23 at 9am                                   | 16%                        |
|                    | Midterm Exam                                                                                                                           | Oct 22 at 7pm-8:30pm, Location TBA              | 15% or 20%, see note below |
|                    | Final Exam                                                                                                                             | Timing and Location TBA                         | 40% or 35%, see note below |
|                    | Classroom/Online contribution                                                                                                          |                                                 | 10%                        |

**Important Notes:**

1. Your overall exam grade will be calculated as follows  $\max\{(15\% \text{ Midterm}, 40\% \text{ Final}), (20\% \text{ Midterm}, 35\% \text{ Final})\}$ . Thus, if you perform well on the midterm, it will be worth more, if you perform poorly, weight will be shifted to the final.
2. Assignments *will not* be accepted after the due date and time. Please leave yourself plenty of time to submit.
3. In the (hopefully extremely unlikely) event that in-person learning is prohibited (either temporarily or for the remainder of the semester), all in-person students will immediately switch to online. The midterm and final will switch to remote writing, and all assignments will proceed unaffected. Classroom/Online contribution will continue if we switch to fully online. It is advisable that students do not wait until later in the semester to start contributing to our class.
4. The grade I assign for your classroom/online contribution is a careful, but subjective (on my part) assessment of the value of your input to the classroom learning over the whole course. This contribution includes the following interrelated aspects of your input.

**Attendance & Punctuality.** The following applies regardless if you are taking the course in-person or online. You may have isolated occasions where you unavoidably miss a class. This is acceptable. If the occasion is foreseeable, a brief explanatory email to me before class is polite and expected. Otherwise, a brief explanatory email to me after class is next best. You are responsible for catching up on missed material. This requires more than just reading the notes. You are strongly advised to find a trusted colleague who will help you understand what was covered in class. Repeated absences, particularly absences without notification or unjustified absences, may have a negative impact on your class contribution grade.

**Class Preparation.** You are expected to be ready for class having already read any assigned materials, attempted any questions assigned, and prepared with your own questions.

**Class oral contribution.** This involves making a meaningful contribution to the learning of the class, whether you are attending in person or synchronously online. This can be achieved in many ways, including: i) answering direct questions posed to the class ii) participating in class discussions on issues we are addressing iii) raising questions or comments that

help the class better understand the issues or gain a different perspective on material covered. Note that due to the class size, everyone is not expected to participate every class (nor would this be possible).

Listening to others and respecting their points of view is an essential part of engaging in class.

Emphasis will be placed on the *quality* of contribution.

**Additional Venues to earn Classroom Contribution Grades.** Your classroom contribution grade can also be helped by contributing to tutorials, and by thoughtfully contributing to our online discussion site, Piazza.

5. Assigned chapter readings will reinforce the material covered in class. The most difficult and important topics will be covered in class, but time constraints do not permit coverage of all topics at the same level of detail. However, you are responsible for all assigned chapter readings regardless of whether the material has been covered in class. You are also responsible for topics not in the text but covered in the lectures (see class schedule for more information).

6. SAF Process for Requesting Accommodation for Missed Assessments: UW's policy regarding requests for accommodation can be found at <http://ugradcalendar.uwaterloo.ca/page/Acad-Regs-Accommodations>. Please note that SAF policy/practices are meant to be consistent with this.

Required supporting documentation is uploaded within the Request for Academic Accommodation web form (Accommodations for illness or extenuating circumstances <https://uwaterloo.ca/arts/undergraduate/student-support/academic-considerations-and-accommodations-illness-or#submit-other>). Submissions must be complete and accurate. Please refer to the web form for links and additional information regarding the illness documentation requirements and process. The web form is regularly updated to guide students in making requests for accommodation as processes change.

The university identifies acceptable grounds for being excused from a course expectation and it is very limited. Accordingly, students must understand that when accommodation is granted, it will typically be on a limited basis. For other requests for accommodations that do not fit within the explicitly identified university identified grounds, (e.g., death of a family member), appropriate documentation should still be provided within a reasonable time period to your course instructor or a SAF advisor (as directed). \*CFM students only: you can begin by consulting the CFM advisor. The SAF Administrative Coordinator and Advisor may co-ordinate the review of accommodation requests that do not fit the within the broader Verification of Illness process. SAF will maintain a record of missed exams by student (name, ID ), so that unusual situations can be identified and addressed.

If you believe you experience extenuating circumstances which have affected your academic record, you may wish to speak with your academic advisor. Do NOT wait until the end of the term once final grades are in. The sooner you let someone know that there are ongoing circumstances, typically the easier it is for you to document, exhibit necessary proactivity and timeliness and, in some cases, there may be more options available than if you leave to the end of a term.

The University of Waterloo INC grade process will be followed, where all course requirements are not completed during the term.

Note: For all valid missed assessments, **the weight will be transferred to the final exam.**

7. Requests for re-grading of the Exam/test must be made within one week after it has been given back and must be in writing. *Note that the instructor reserves the right to re-grade the entire exam, and raise or lower the grade originally assigned.* This is important as “shopping” for a higher grade is a bad strategy and has, in the past, resulted in lower grades.
8. The final Exam/test will be comprehensive.
9. Note on avoidance of academic offences: All students registered in the courses of the Faculty of Arts are expected to know what constitutes an academic offence, to avoid committing academic offences, and to take responsibility for their academic actions. When the commission of an offence is established, disciplinary penalties will be imposed in accord with Policy #71 (Student Academic Discipline). For information on categories of offences and types of penalties, students are directed to consult Policy #71 (<https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71>). If you need help in learning what constitutes an academic offence; how to avoid offences such as plagiarism, cheating, and double submission; how to follow appropriate rules with respect to “group work” and collaboration; or if you need clarification of aspects of the discipline policy, ask your TA and/or your course instructor for guidance. Other resources regarding the discipline policy are your academic advisor and the Undergraduate Associate Dean. Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance, <https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70>.

10. Generative artificial intelligence (GenAI) trained using large language models (LLM) or other methods to produce text, images, music, or code, like Chat GPT, DALL-E, or GitHub CoPilot, may be used in this course for assignments with proper documentation, citation, and acknowledgement. Permitted uses of and expectations for using GenAI will be discussed in class and outlined on assignment instructions. Recommendations for how to cite generative AI in student work at the University of Waterloo may be found through the Library:  
[https://subjectguides.uwaterloo.ca/chatgpt\\_generative\\_ai](https://subjectguides.uwaterloo.ca/chatgpt_generative_ai). Please be aware that generative AI is known to falsify references to other work and may fabricate facts and inaccurately express ideas. GenAI generates content based on the input of other human authors and may therefore contain inaccuracies or reflect biases. In addition, you should be aware that the legal/copyright status of generative AI inputs and outputs is unclear. Exercise caution when using large portions of content from AI sources, especially images. More information is available from the Copyright Advisory Committee:  
<https://uwaterloo.ca/copyright-at-waterloo/teaching/generative-artificial-intelligence>  
 You are accountable for the content and accuracy of all work you submit in this class, including any supported by generative AI.
11. For Assignments and exams. You will provide both code as well as output. The output must be produced from the code. Output that is not produced by the provided code is indicative of an academic offence. You need to be careful. Any time you change your code, you must re-generate your output. Failure to do so will lead to an academic dishonesty investigation.
12. Note for students with disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.

### Course Description

This course is an introduction to finance for Computing and Financial Management Students. Given the computational interests of CFM students, this course will explore concepts using the python programming language. In addition, the course will explore non-traditional finance topics such as cryptocurrencies and their relationship with finance. At the conclusion of the course, students will have a broad overview of finance topics. Students will dive deeper into many of the topics in AFM 272. In addition, students will be able to locate, manipulate, and visualize financial data using multiple freely available sources and the most widely used data analytics libraries within python.

### Tentative Class Schedule

| Class | Subject                                     | Chapter Readings    |
|-------|---------------------------------------------|---------------------|
| 1-2   | Course introduction and The Capital Market  | Chapter 1           |
| 2-3   | The Canadian Securities Industry            | Chapter 2           |
| 4-5   | Common and Preferred Securities             | Chapter 8           |
| 6-9   | Equities Securities and Equity Trading      | Chapter 9           |
| 10-11 | Time Value of Money                         | No assigned reading |
| 12    | Fixed Income Securities Features and Types  | Chapter 6           |
| 13-14 | Fixed Income Securities Pricing and Trading | Chapter 7           |
| 15-16 | Portfolio Approach                          | Chapter 15          |
| 17-18 | Derivatives                                 | Chapter 10          |
| 19-20 | Money, Blockchain, and Cryptocurrencies     | No assigned reading |
| 21    | Canadian Taxation                           | Chapter 25          |
| 22    | Team Competition Results and Course Wrap-up | No assigned reading |

Please note: the timing of each chapter may not be exact. Please bring notes for one class ahead in case we progress faster than anticipated.