



MACF 301: Introduction to Quantitative Finance (Fall 2026)

Instructor:	Dr. F. Godin
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Office Hours:	Mondays and Wednesdays. 13:15-14:45
Important:	Students should get the above information from their instructor and from the course Moodle site. The instructor is the person to contact should there be any questions about the course.
Class Schedule:	Tuesdays and Thursdays, 13:15-14:30.
Prerequisites:	MAST 218 or equivalent; MAST 221 or STAT 249 .

Reading Week

Begins on Saturday, October 10 and ends on Friday, October 16, 2026. No classes that week.

Optional References

Portfolio Theory and Risk Management (Fifth Edition), 2014, by Capiński, M. J., and Kopp, E. Cambridge University Press.

Derivatives Markets (Third Edition), 2013, by McDonald, R.L., Pearson Education.

Corporate Finance (Fourth Edition), 2017, by Berk, J. and DeMarzo, P., Pearson.

Outline

This course is an introduction to several topics related to quantitative finance:

- **Funding sources for companies:** equity and debt instruments.
- **Mean-variance portfolio theory:** mean-variance setting, efficient frontier, capital market line.
- **Asset pricing models:** CAPM, factor models.
- **Investment Risks:** risk measures.
- **Elements of corporate finance:** impact of capital structure on company value.
- **Behavioral finance:** efficient market hypotheses, market anomalies.

- **Financial derivatives:** derivatives specification and cash flows, static no-arbitrage relationships, futures contract.
- **Binomial option pricing models:** risk-neutral pricing, replicating portfolio.
- **Black-Scholes option pricing model:** lognormal model, Black-Scholes formula, historical volatility.
- **Derivatives risk management:** Greeks, hedging.

Evaluation

The course mark will be determined by a final exam (60%), assignments (20%) and five biweekly in-class quizzes (20% for the maximum between i) the average of the best four quizzes and ii) the final exam). The quizzes will be held at the beginning of classes, on the following Tuesdays: **September 22, October 6, October 27, November 10, November 24.**

NOTE: It is the Department's policy that tests missed for any reason, **including illness**, cannot be made up.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

PLEASE NOTE: Students are responsible for finding out the date and time of the final exam once the schedule is posted by the Examination Office. Any conflicts or problems with the scheduling of the final exam must be reported directly to the Examination Office, **not** to your instructor. It is the Department's policy and the Examination Office's policy **that students are to be available until the end of the final exam period. Conflicts due to travel plans will not be accommodated.**

CIA Accreditation

This course is accredited by the Canadian Institute of Actuaries (CIA) under the University Accreditation Program (UAP).

In addition to the university's internal policies on conduct, including academic misconduct, candidates pursuing CIA designations shall also be subject to the [Code of Conduct and Ethics for Candidates in the CIA Education System](#) and the associated [Policy on Conduct and Ethics for Candidates in the CIA Education System](#). For more information, please visit [University Accreditation Program](#) and the [CIA FAQ](#).

Student Services

You may wish to access the many services available to you as a Concordia student. An overview of these resources can be found here: <https://www.concordia.ca/students/services.html>

Academic Integrity and the Academic Code of Conduct

This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity

can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: <https://www.concordia.ca/conduct/academic-integrity.html>" [*Undergraduate Calendar, Sec 17.10.2*]

Behaviour

All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications.

Concordia students are subject to the [Code of Rights and Responsibilities](#), which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in university activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

Intellectual Property

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the [Academic Code of Conduct](#) and/or the [Code of Rights and Responsibilities](#). As specified in the [Policy on Intellectual Property](#), the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

Use of Concordia email

Your [Concordia email](#) is the official channel for all university communications, as required by the university's [Policy on Concordia email accounts for students and employees](#). Please use your Concordia email for all communication related to this course and check it regularly so you don't miss important information. [Learn more about how to access your Concordia email](#).

As a student, you are expected to follow the email policy and to use your Concordia email in a respectful and responsible manner. The policy helps ensure that communication across the university is secure, reliable, and consistent.

Extraordinary circumstances

In the event of extraordinary circumstances and pursuant to the [Academic Regulations](#) the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the change.