



# **Rotman** Commerce UNIVERSITY OF TORONTO

## **Course Outline**

**RSM434H1: Section L0201 Mondays 9-11 AM; Section L0101 Mondays 1-3 PM**

Financial Trading Strategies

Course meets in the Finance Lab (west side of the 2<sup>nd</sup> floor, North Rotman Building)

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Instructor: Tom McCurdy, RT 455

Office Hours: TBA

Teaching Assistants: Marco Salerno [Marco.Salerno@rotman.utoronto.ca](mailto:Marco.Salerno@rotman.utoronto.ca) and  
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## **Course Objectives**

1. To learn to make effective financial decisions when the future is uncertain
2. To develop implementation strategies associated with various trading and investment objectives
3. To identify, quantify, and manage risks and expected return associated with those strategies

## **Course Scope**

These objectives require us to understand how financial markets work, for example: how security prices get determined reflecting information, news, and investor behavior; and how traders generate liquidity, volatility, and profits/losses. We also will need to understand the role of various market participants, including dealers, brokers, arbitrageurs, buy-side traders (institutions) and retail investors, and different order types, such as market orders, limit orders and marketable limit orders.

We will begin by reviewing different market types and recent changes that have led to multiple trading venues and the resulting increased competition that has spurred innovation in high frequency trading strategies to manage liquidity and price risk. For example, we will learn arbitrage and market-making strategies and how to work large institutional orders by managing price impact (liquidity risk). Some of the new features of markets that we will encounter include fee-bates, the TMX electronic liquidity provider (ELP) program, trading algorithms, and smart order routers (SOR).

Once we are familiar with the liquidity, technology and regulatory realities associated with markets, we will proceed to applying our skills to the types of decisions that traders, investors and risk managers must make in a variety of situations and scenarios. For example, we will attempt to identify mispriced securities, manage downside risk, trade volatility, etc.

## **Rotman Interactive Trader**

We will use the Rotman Interactive Trader (RIT) platform, which simulates an order-driven market, to deliver learning-by-doing cases. These cases, coupled with Excel support applications to apply the relevant theory, will guide decision making and allow us to derive effective strategies when faced with uncertainty and quantifiable risks. This training is analogous to using a flight simulator. More details are available at <http://rit.rotman.utoronto.ca> and <http://rit.rotman.utoronto.ca/cases.asp>.

## **Rotman Portfolio Manager**

Rotman Portfolio Manager (RPM) exercises will be assigned to apply your strategies to real-time quotes for actual securities. This facilitates learning about important institutional details and reinforces the learning objectives of the RIT cases. You will be able to install the RPM client and connect to the RPM server from any computer with a web connection (see <http://rpm.rotman.utoronto.ca> for details).

## Weekly Schedule Summary

<b>Class &amp; Topic</b>	<b>Cases, Assignments and Practice Exercises</b>	<b>Resources</b>
Class #1: Jan 6 Overview of the Course Review of Uncertainty and Risk	RIT Video & Feature Guide RPM Guides and Videos	Slides
Class #2: Jan 13 Introduction: Order-Driven Markets	<b>RIT Agency Trading 1 &amp; 2 Cases</b>	Slides AT1 & AT2 Case Materials IRROC's Guide to Trading
Class #3: Jan 20 Liquidity Risk	<b>RPM VWAP Exercise</b> <b>RIT Liability Trading 2 &amp; 3 Cases</b>	Slides LT2 & LT3 Case Materials RIT RTD Documentation
Class #4: Jan 27 Multiple Venues and Arbitrage	<b>RPM Cross-Listed Arbitrage Exercise</b> <b>RIT Liability Trading 4 Case</b> <b>RIT ALGO1 Case</b> <b>Assignment 1: ALGO2 Case</b>	Slides LT4 & ALGO Case Materials RIT VBA API Documentation HFT White Paper Stealth Traders Posted background reading
Class #5: Feb 3 Fixed Income Pricing Price Discovery in Equity Mkts	<b>LT4 Performance Evaluation</b> <b>RIT Fixed Income 1</b> <b>RIT Price Discovery 0</b>	Slides FI1 & PDO Case Materials
Class #6: Feb 10 Diversification Managing Risk Capital	<b>Midterm Quiz</b> <b>RIT PM1 Case</b> <b>RIT VaR Case</b>	Slides PM1 & VaR Case Materials
Class #7: Feb 24 Real Economy Risks	<b>Assignment #1 due</b> <b>RIT COM2 Case</b> <b>Assignment 2: COM5 Excel Support</b>	Slides COM2 & COM5 Case Materials
Class #8: March 3 Using Options: Portfolio Insurance & Trading Vol	<b>RIT H2 &amp; OP2 Cases</b>	Slides H2 & OP2 Case Materials
Class #9: March 10 Using Futures: Price & Production Risk	<b>RPM Portfolio Insurance Exercise</b> <b>RIT F2 &amp; AH1 Cases</b>	Slides F2 & AH1 Case Materials
Class #10: March 17 Commodity Arbitrage	<b>RPM Commodity Hedging Exercise</b> <b>Assignment #2 due</b> <b>RIT COM5 Case</b>	Slides COM5 Case Materials
Class #11: March 24 Review	<b>COM5 Performance Evaluation</b> <b>ALGO2 Performance Evaluation</b> Discussion and Overview	Review Course Overview Slides
Class #12: March 31	<b>Final Test</b>	

### **Dates of Deliverables**

## Course Prerequisite: RSM332H1

### Course Resources:

- Slides, RIT Case Briefs, Excel support templates, help files, and additional required reading can be downloaded from our course webpages: <http://www.rotman.utoronto.ca/~tmccurdy/434>
- Excellent background reading is available in: *Financial Trading and Investing* <http://www.sciencedirect.com.myaccess.library.utoronto.ca/science/book/9780123918802>.
- An RPM subscription is required <http://rpm.rotman.utoronto.ca>

### Evaluation and Grades

Grades are a measure of the performance of a student in individual courses. Each student shall be judged on the basis of how well he or she has command of the course materials.

		<b>Due Dates</b>
Hand-In Group Assignments (10 + 10 marks)	20 marks	Feb 24 & March 17
Performance Evaluations (LT4, COM5, ALGO2)	10+10+6 marks	Feb 3 & March 24
RPM Exercises (4 x 3 marks)	12 marks	Jan 20 & 27, Mar 10 & 17
Midterm Quiz	12 marks	Feb 10
Final Test	30 marks	March 31

### Details about Deliverables:

#### Assignments:

Assignment 1 involves learning how to use VBA to write an algorithm to implement a strategy. Assignment 2 requires you to build an Excel template with RTD links to the COM5 markets to identify speculative and arbitrage opportunities for commodities.

#### RIT Performance Evaluations:

Score will be based on your average rank across several replications of the RIT cases.

#### RPM Exercises:

These short exercises will show you how to apply the lessons we learn from simulation to real-time quotes for actual securities. They are due prior to class the week after assigned.

#### Midterm Quiz and Final Test:

Q&A and discussions at the start of classes will be excellent preparation for the questions on the tests.

#### Format for assignments:

You must hand in a hard copy of your assignment reports that has an executive summary and is self-contained, that is, has tables, figures, etc., integrated into the text.

Please note that clear, concise, and correct writing will be considered in the evaluation of the assignments. That is, you may lose points for writing that impedes communication: poor organization, weak paragraph development, excessive wordiness, hard-to-follow sentence structure, spelling mistakes and grammatical errors. Students who require additional support and/or tutoring with respect to their writing skills are encouraged to visit the Academic Success Centre ([www.asc.utoronto.ca](http://www.asc.utoronto.ca)) or one of the College Writing Centres ([www.writing.utoronto.ca/writing-centres](http://www.writing.utoronto.ca/writing-centres)). These centres are teaching facilities – not editing services, where trained staff can assist students in developing their academic writing skills. There is no charge for the instruction and support.

## **POLICY AND PROCEDURE**

### **Missed Tests and Assignments (including midterm examinations)**

Students who miss a test or assignment for reasons entirely beyond their control (e.g. illness) may submit a request for special consideration. Provided that notification and documentation are provided in a timely manner, and that the request is subsequently approved, no academic penalty will be applied.

In such cases, students must notify Rotman Commerce on the date of the missed test (or due date in the case of course work) and submit supporting documentation (e.g. [Verification of Student Illness or Injury form](#)) to the Rotman Commerce Program Office within **48 hours** of the originally scheduled test or due date. Students who do not provide Rotman Commerce or the instructor with appropriate or sufficient supporting documentation will be given a grade of 0 (zero).

**Note that the physician's report must establish that the patient was examined and diagnosed at the time of illness, not after the fact. Rotman Commerce will not accept a statement that merely confirms a report of illness made by the student and documented by the physician.**

If the Rotman Commerce Office grants permission for special consideration, the instructor will reallocate the missed mark to the final test.

### **Late Assignments**

Assignments are due at the beginning of class on the date specified in the course outline. Late submissions will normally be penalized by 10% if the assignment is not received on the specified date, at the specified time. A further penalty of 10% will be applied to each subsequent day. Students who, for reasons beyond their control, are unable to submit an assignment by its deadline must obtain approval from the instructor prior to the due date for an extension. Supporting documentation will be required as per the policy on missed tests and assignments.

### **Accessibility Needs**

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: [disability.services@utoronto.ca](mailto:disability.services@utoronto.ca) or <http://www.accessibility.utoronto.ca/>.

### **Academic Integrity**

Academic Integrity is a fundamental value essential to the pursuit of learning and scholarships at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the UofT degree that you earn will continue to be valued and respected as a true signifier of a student's individual work and academic achievement. As a result, the University treats cases of academic misconduct very seriously.

*The University of Toronto's Code of Behaviour on Academic Matters*

<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm> outlines the behaviours that constitute academic misconduct, the process for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment (this includes collaborating with others on assignments that are supposed to be completed individually).

On test and exams:

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else's answers
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to), medical notes.

All suspected cases of academic dishonesty will be investigated by the following procedures outlined in the *Code of Behaviour on Academic Matters*. If you have any question about what is or not is permitted in the course, please do not hesitate to contact the course instructor. If you have any questions about appropriate research and citation methods, you are expected to seek out additional information from the instructor or other UofT resources such as College Writing Centres or the Academic Success Centre.

### **Email**

At times, the course instructor may decide to communicate important course information by email. As such, all UofT students are required to have a valid UTmail+ email address. You are responsible for ensuring that your UTmail+ email address is set up AND properly entered on the ROSI system. For more information please visit <http://help.ic.utoronto.ca/category/3/utmail.html>

Forwarding your utoronto.ca email to a Hotmail, Gmail, Yahoo or other type of email account is not advisable. In some cases, messages from utoronto.ca addresses sent to Hotmail, Gmail or Yahoo accounts are filtered as junk mail, which means that important messages from your course instructor may end up in your spam or junk mail folder.

### **Course Webpages**

The online course page for this course is accessed at [www.rotman.utoronto.ca/~tmccurdy/434/](http://www.rotman.utoronto.ca/~tmccurdy/434/). User name and password will be provided at the first class.

### **Recording Lectures**

Lectures and course materials prepared by the instructor are considered by the University to be an instructor's intellectual property covered by the Canadian Copyright Act. Students wishing to record a lecture or other course material in any way are required to ask the instructor's explicit permission, and may not do so unless permission is granted (note: students who have been previously granted permission to record lectures as an accommodation for a disability are, of course, excepted). This includes tape recording, filming, photographing PowerPoint slides, Blackboard materials, etc.

If permission is granted by the instructor (or via Accessibility Services), it is intended for the individual student's own study purposes and does not include permission to "publish" them in anyway. It is absolutely forbidden for a student to publish an instructor's notes to a website or sell them in any other form without formal permission.