BUSINESS SCHOOL
Te Kura Pakihi

COURSE OUTLINE

FINC302
Applied Investments
February-June 2024

Semester One, 2024

This course outline contains information specific to this paper. Please refer to the COMMERCE_UG_2024: Commerce Undergraduate Students site on Blackboard for more general information common to your papers.

Paper Description and Aims

This is an 18-point paper. The University says "As a guide, based on an 18-point paper, this usually works out to a minimum of 14 hours work per paper per week. Work is made up of formal contact time (lectures, tutorials, etc.) and independent study (studying, revision, assignments, reading, etc.)." (Source: https://www.otago.ac.nz/study/planning/workload.html)

So, if you spend 4 hours per week in class, you are expected to spend 10 hours per week working out of class time.

Rough Guide to Hours

FINC302 is an 18-point paper. This implies about 180 hours of work per student for the semester. My guess is this allocation: 25 lectures (50 h); n problem sets at 60/n hours each (60 h) where n is n is usually 3 or 4; weekly revision (20 h); mid-term revision (15 h); and final revision (30 h). On average, students also attend roughly five hours (5 h) out of 12 hours of tutorials.

Subject Matter

Prerequisite: FINC202. Recommended: FINC102.

This course is: Applied Investments, with the following emphasis, ranked in this order:

#1: Investment world; institutional capital markets; quantitative fund management; equities; practitioner applications of theory; empirical tests, and stylised facts.

#2: Basic spreadsheet skills; use of Bloomberg terminal; fundamental and technical analysis; trading; fundamental and qualitative fund management.

#3: Personal finance; FX; fixed income; corporate finance perspective; options.

Class Content (with Emphasis Indicated using Asterisks)

Foundations I: Quantitative (**) Transaction costs, Dividends, Skill, Algebra, Calculus, Statistics, Numerical Methods, Experiments. **Foundations II: Financial Economics (***)** Returns, TVM, Fundamental and Technical Analysis, Dividends, Risk, Markowitz, Active Management, T-Costs, Optimisation, Retirement, Unconventional Wisdom. **Theory and Empirics (*)** Zero-Sum Game, Random Walk, EMH, CAPM, Anomalies, Momentum and Reversal, Corporate Finance. **Active Investment Topics (*)** Perennial Favourites (Active/Passive, Value/Growth, etc.), Fads and Fashions (Stocks/Bonds, DB/DC/LDI, smart beta, etc.).

Course Learning Resources

We always use the latest edition of the textbook. For 2024, the **textbook** is the 13th edition of **Foundations for Scientific Investing** by Timothy Falcon Crack, ISBN: 9781991155474. All earlier editions contain errors that are corrected in the latest edition. Recent changes in investment practice are not fully reflected in earlier editions. Usually, about 90% of students buy the textbook. We walk through the book in class every day. Lecture slides, problem sets and classes point at specific page ranges of the textbook. There is a **Q&A Book** *Foundations for Scientific Investing: Multiple-Choice, Short-Answer, and Long-Answer Test Questions*, 7th edition ISBN: 9780995117358. It provides 600+ questions. Earlier editions contain a few errors, corrected here. Suggested solutions are in the book and online.

Students should consult the Textbook tab on Blackboard for details on ordering eBook versions of the textbook and Q&A Book.

Learning Outcomes

These are the goals of the instructor:

Learning Outcome	Quizzes	P.Sets	Exams	Total
To dig into capital markets finance and get our hands dirty with data and real-world issues.	✓	✓	✓	
Loosely speaking, to learn the names of things and the size of things.	✓	✓	✓	
To improve capital markets' quantitative critical thinking skills and data analysis skills.	✓	✓	✓	
To gain empirical knowledge of financial markets.	✓	✓	✓	
To grasp big picture understanding of portfolio construction, investment styles, and T-cost issues.	✓	✓	✓	
To understand key issues surrounding the choice of active versus passive investing (from both the manager and investor perspectives).	✓	✓	✓	
To improve data handling skills and spreadsheet construction.	✓	✓	✓	
To separate practitioner wheat from academic chaff	✓	✓	✓	
Time permitting, to discuss 10 cutting-edge current practitioner techniques, results, products, or trends.	✓	✓	✓	
Total	6%	24%	10%/60%	100%

Teaching Staff

Paper Coordinator

Name: Dr. Muhammad A. Cheema

Office: 5.14

Email: muhammad.cheema@otago.ac.nz

Office Hours: Mon and Fri 3-4 pm (5.14)

Bloomberg Hours: Thu 3-4 pm (BNZ Markets Bloomberg Lab)

Class Representatives

Class representatives are an important means of communication between students and staff. Contact details for your student class representatives can be found on the Blackboard page for this paper.

Course Delivery

Lecture Day/Time: Wednesday (12:00-13:50), Thursday (12:00-13:50)

Room: TG07

Tutorials and/or Labs Day/Time: TBA

Blackboard

https://blackboard.otago.ac.nz/ provides you with access to course materials, class notices, and resources. Blackboard is used to email the whole class, so it is important that you check your student email and *Blackboard* regularly.

Further information about student support, learning support and information, academic integrity and other University resources for students is available on the COMMERCE_UG_2024: Commerce Undergraduate Students site on Blackboard.

Student Webmail

We will use your student email account to email you information relevant to your programme. To forward your University email address to an email address that you use regularly:

1. Log into your Student Mail account (http://www.otago.ac.nz/smlanding/) using your student username and password.
2. Click the **Cog** button (top right corner).
3. Click on **Mail** under **Your App Settings**.
4. Under **Accounts** on the left-hand side, select **Forwarding**.
5. Under the Forwarding heading, type in the email address to which you want your email to be forwarded. You can also choose to keep a copy of these emails on your student email account, so please check the box if you would like this.
6. Click the **Save** button.

Assessment and Course Requirements

All material presented is examinable (except where stated otherwise) by quizzes, class test, assignments and the final examination. All important assessment information, such as due dates and times, content, guidelines, and so on, will be discussed at lectures and, where appropriate, detailed on Blackboard. *Students are responsible for ensuring that they are aware of this information, keeping track of their own progress, and catching up on any missed classes.*

Assessment

- The FINC302 final exam generally takes place in the **first week of the exam period**. Plan for that.
- There are 3 in-class Quizzes at 2% per quiz, n Problem Sets worth (24/n)% (n is likely to be 3 or 4; n is to be announced in the first class), one Mid-Term Exam at 10%, one Final Exam at 60%. Total=100%.
- Unless instructed otherwise, you must hand in a fully self-contained hard copy problem set and email all EXCEL work to the **Gmail account** quoted on the question sheet.
- There is **plussage** for the mid-term and quizzes (so the mid-term exam and quizzes grade is erased and replaced by the final exam grade if the final exam grade is superior to the midterm exam and quizzes grade; in particular, this means you are not required to sit the midterm and quizzes).
- The final exam covers the entire semester's work. **You must score greater than 40% in the final to pass the course.** University policy is that if you score lower (than 40% in FINC302) in the final, but your total marks would give a result of 50% or more, your result is returned as "FAIL CA", or something like that, with no number.
- The mid-term, quizzes, and final exams are designed to test your understanding of the material presented in class and all problem set content. Exam notes: material emphasised in the course is more likely to appear in exams than material not emphasised in the course; you will not be examined on how to use EXCEL or other software, but you can be examined on whatever it was you implemented using EXCEL or other software, and such questions may be phrased in terms of an EXCEL spreadsheet (e.g., "you have a column of data 16x1 in an EXCEL sheet..."). No terms requirement. Tentative dates for problem sets and exams are on BlackBoard and subject to change.

- You have already been notified about how special exams work. In case you did not notice, let me remind you that you have five calendar days following the final exam in which to apply to the Registry for special consideration if you were physically/mentally/emotionally handicapped for the Exam (it's actually five calendar days after the last exam for which you were handicapped). If the rules have changed since I wrote this, then the new rules apply, and it is your responsibility to be aware of the new rules.
- You should assume now that you will have three final exams in two days, including this one, and plan/begin studying accordingly.

Quizzes

There will be a total of 3 quizzes that will take place in the lectures starting from the fourth week (i.e., the week beginning 18 March, 2024). The quizzes will be short (20 minutes) in-class tests. Each quiz will cover material from previous weeks' lectures and may involve a combination of multiple-choice, short-answer, and calculation questions. They are designed to provide students with an incentive not to get too far behind on the course material. They will also provide the lecturer with feedback on student learning.

Problem Sets

- Dates for problem sets will be announced in class and on BlackBoard. Unless you have made prior arrangements with me, work turned in *k* days late will have its grade multiplied by $(½)^k$ as a penalty, without exception. Handing in work late because of person-specific risks (e.g., you did not back up, your computer crashed, etc.) is no excuse because you can hedge those risks.
- Problem sets may be done in teams of from 4 to 5 students. The teams are of your choice for the problem sets (subject to change).
- Problem sets and projects must be neatly prepared (typed or neatly handwritten) and presented on A4 paper. Every team must have a team leader as a point of contact for me (circle the name and supply an email address on the problem set cover sheet on BlackBoard). They should be stapled in the corner (not pinned, clipped, or bound). Colour laser printing is viewed with considerable prejudice.
- Problem sets will include questions requiring full use of the BNZ Markets Bloomberg Lab.

Peer Evaluation Override

If any student feels that an equal allocation of grades in their group is not fair for any problem set, then I will, upon request, use a standard peer assessment form to change the grade. For example, maybe you worked really hard, and your teammates did not, or maybe everyone thinks one student was not pulling their weight. Send me an email, and I will keep your identity anonymous. I will email a form for each member of your group to fill in, and HALF the grades on that problem set will be reassigned using the University's standard peer assessment form. Each person scores each member of the group on a half-dozen types of group contribution, and each person's total is then ranked relative to the group average. The calculation will not allow the highest-ranked person to get over 100% or the lowest to get below half the original group score.

Academic Integrity & Course-Specific Guidance

Academic integrity means being honest in your studying and assessments. It is the basis for ethical decision-making and behaviour in an academic context. Academic integrity is informed by the values of honesty, trust, responsibility, fairness, respect, and courage. Students are expected to be aware of and act in accordance with the University's Academic Integrity Policy.

Academic misconduct, such as plagiarism or cheating, is a breach of Academic Integrity and is taken very seriously by the University. Types of misconduct include plagiarism, copying, unauthorised collaboration, submitting work written by someone else (including from a file sharing website, text generation software, or purchased work) taking unauthorised material into a test or exam, impersonation, and assisting someone else's misconduct. A more extensive list of the types of academic

misconduct and associated processes and penalties is available in the University's Student Academic Misconduct Procedures.

It is your responsibility to be aware of and use acceptable academic practices when completing your assessments. To access the information in the Academic Integrity Policy and learn more, please visit the University's Academic Integrity website at www.otago.ac.nz/study/academicintegrity or ask at the Student Learning Centre (HEDC) or the Library or seek advice from your paper coordinator.

All students in groups suspected of alleged breaches of the University Ethical Policy Guidelines will be given blank grades for that work until investigated by the Department Head, Pro Vice Chancellor, or delegate. Given heavy workloads, there has in the past been a considerable delay involved in resolving alleged breaches and assigning individual grades.

If in doubt about any behaviour, just ask Dr. Cheema. Here are examples taken from the past:

- **Yes, you are allowed to download and consult any material (spreadsheets, solutions, etc.) from the Website that accompanies the textbook.** These materials are viewed as accompanying the textbook for the course. So, it is OK to use them in the course. The passwords on that Web site are there only to stop people who did not buy the book from using the material. Many of these spreadsheets already appear on BlackBoard.
- **It is unethical to compare your problem set answers with the answers of any student outside your group or any other group (from this year or any other year) before handing in your problem set.** It is unethical to view solutions from any other year's problem sets (student solutions or instructor solutions) to aid in answering these questions. If you took the course previously, it is unethical to use your previous group's solutions to assist your current group because that is using student work from outside your group.
- **When you have a live problem set in your hands, you may seek assistance from (or give assistance to) your classmates outside your group only if that assistance is low-level guidance of the sort that they would receive from the instructor during office hours.** For example, help in understanding what a question is asking, or what a phrase means in a question.
- I am happy for students working on problem sets to consult with other members of the class to assist them in understanding: the questions (e.g., "what is he asking here?"), the material they pertain to (e.g., "was this in lecture notes?", "what is this about?"), the techniques required (e.g., "how do we get EXCEL to invert a matrix again?", "remind me what bps are", etc.), and other things along these lines. I expect you to cite any such consultations in footnotes so that you do not "present work as your own when it is not." You still need to do the work in the problem sets. It has to be your work, but you can get assistance from classmates via limited consultations of this sort.
- **You must be able to point to the work in the problem sets and say "My group did this." It must not be the case that people outside the group actually answered the questions, because I consider that inappropriate when it comes to awarding grades. In other words, you may consult your classmates the same way you may consult me, but neither they nor I should do the work for you.** If you want someone outside the group to help with the actual work, then ask them to join your group!
- Student X in Group A emails part of a spreadsheet solution to Student b in Group B who uses it in their solution. Groups A and B hand in their spreadsheet solutions. Then Group B has presented work as their own when it is not (Student a helped). This is a Level 2 breach of the University Ethical Policy Guidelines and must be taken to the Pro Vice-Chancellor. The penalty for Student b is anywhere between a warning and exclusion from the University. Student a's behaviour is inappropriate, but I see nothing in the Guidelines discussing penalties.
- Student A takes a quote from a web page or a book or lecture notes and presents it as part of a solution to a problem set without citing the source. This is a Level 1 breach of the University Ethical Policy Guidelines and must be taken to the Head of Department, Accountancy & Finance. The penalty is anywhere between a warning and zero marks for the entire problem set plus a reduction in grades on the final Exam.

- Student X does it again. This is now a Level 2 breach of the University Ethical Policy Guidelines and must be taken to the Pro Vice-Chancellor. The penalty is anywhere between a warning and exclusion from the University.
- Student X takes a quote from a web page or a book or lecture notes and rewrites it partially in his/her own words, but it is clearly just paraphrasing to a moderate extent. This is presented as part of a solution to a problem set without acknowledging the source. This is a Level 1 breach of the University Ethical Policy Guidelines and must be taken to the Head of Department, Accountancy & Finance. The penalty is anywhere between a warning and zero marks for the entire problem set plus a reduction in grades on the final Exam.
- Student X does it again. This is now a Level 2 breach of the University Ethical Policy Guidelines and must be taken to the Pro Vice-Chancellor. The penalty is anywhere between a warning and exclusion from the University.
- Student X hires a tutor who helps him/her with revising for exams. No problem!
- Student X hires a tutor who helps him/her answer problem set questions. The solution is handed in as part of the answer to a problem set. Then the group has presented work as their own when it is not. This is a Level 2 breach of the University Ethical Policy Guidelines and must be taken to the Pro Vice-Chancellor. The penalty is anywhere between a warning and exclusion from the University.
- Student X looked at previous years' solutions to help answer a question on a problem set. The solution is handed in as part of the answer to a problem set. Then the group has presented work as their own when it is not. This is a Level 2 breach of the University Ethical Policy Guidelines and must be taken to the Pro Vice-Chancellor. The penalty is anywhere between a warning and exclusion from the University.
- Student X looks at previous years' students' solutions to a problem set to help him/her answer a question. The solution is handed in as part of the answer to a problem set. Then the group has presented work as their own when it is not. This is a Level 2 breach of the University Ethical Policy Guidelines and must be taken to the Pro Vice-Chancellor. The penalty is anywhere between a warning and exclusion from the University.
- Student X sees that an assignment question in FINC302 is the same as (or overlaps with major portions of) an assignment question in another course. Student X hands in the same work, or major portions thereof to satisfy the requirements of both courses without the permission of both instructors. This is a Level 2 breach of the University Ethical Policy Guidelines and must be taken to the Pro Vice-Chancellor. The penalty is anywhere between a warning and exclusion from the University.
- Student Z failed the course previously and still has access to solutions to problem sets from a previous year. Student Z uses these solutions to assist in personal revision for exams after the problem sets have been completed. No problem!
- Student Z failed the course previously and still has access to solutions to problem sets from a previous year. Student Z uses these solutions to assist her groupmates in completing their assignment. Then the group has presented work as their own when it is not. My reading of the Guidelines is that this is a Level 2 breach of the University Ethical Policy Guidelines and must be taken to the Pro Vice-Chancellor. The penalty is anywhere between a warning and exclusion from the University. The safer option is that Student Z should have either destroyed or filed away the previous year's solutions and should not have consulted them for group work.

Last FINC302 Lecture Thursday 30 May 2024

University Exam Period 5 June – 19 June 2024

Disclaimer

While every effort is made to ensure that the information contained in this document is accurate, it is subject to change. Changes will be notified in class and via Blackboard. Students are encouraged to check Blackboard regularly. It is the student's responsibility to be informed.

Finally: The "Dirty Dozen" Investments Quiz: (T/F)

1. If the efficient markets hypothesis (EMH) holds, future stock returns are not predictable.
2. Nominal yields on treasury discount securities like T-bills must be positive. For example, no one would pay 1,000 now to lock in 995 in the future.
3. Negative correlation between returns on stocks A and B implies that stock A tends to rise in price whenever stock B falls in price, and vice versa.
4. A risky stock (i.e., $\sigma^2 > 0$) must have an expected return greater than the riskless rate in equilibrium.
5. A portfolio of two risky stocks must have volatility less than or equal to either stock's volatility (i.e., both $\sigma_P \leq \sigma_1$ and $\sigma_P \leq \sigma_2$).
6. Assuming the US Treasury cannot default, a US Treasury T-bill is riskless to a US investor.
7. The CAPM in its original form (i.e, Tryenor [1961], Sharpe [1964], Lintner [1965], Mossin [1966]) is widely used in practice.
8. Forward price F satisfies F=E(S_T), where S_T is future spot price.
9. The steeper the slope of the bond price vs. YTM curve, the higher the duration of the bond.
10. Major foreign currencies are typically less volatile than major US stocks.
11. A country's currency always appreciates relative to other currencies when interest rates in that country are raised.
12. A stock price almost always rises when an earnings increase is announced.
13. Plain vanilla options are always worth more if they have longer life spans (because you then have, in effect, more options open to you).
14. A bond of maturity 10 years must have a Macaulay duration D_{Mac} satisfying $0 < D_{Mac} \leq 10$.

ANSWERS:

1. F
2. F
3. F
4. F
5. F
6. F
7. T
8. F
9. F
10. T
11. F
12. F
13. F
14. F