## Foundations of Finance

### Class code
FINC-UB 9002 – 001

### Instructor Details
Dr Joanna Nash  
joanna.nash@nyu.edu  
Consultations by appointment.  
Please allow at least 24 hours for your instructor to respond to your emails.

### Class Details
Fall 2017

**Foundations of Finance**

Monday 3:30 – 6:30pm  
4 September to 11 December  
Room 202  
NYU Sydney Academic Centre  

### Prerequisites
(1) STAT-UB 103 Statistics for Business Control and Regression/Forecasting Models OR STAT-UB 1 Statistics for Business Control (4 credit) plus STAT-UB 3 Regression/Forecasting (2 credit) OR equivalent AND (2) one of the following: ECON-UB 1 Microeconomics OR ECON-UA 2 Economic Principles II, OR ECON-UA 5 Introduction to Economic Analysis, AND (3) ACCT-UB 1 Principles of Financial Accounting AND (4) At least Sophomore Standing.

### Class Description
This course is a rigorous, quantitative introduction to financial market structure and financial asset valuation. This course seeks to equip students with a fundamental understanding of the concepts and principles of finance. The main topics of the course are time value of money, portfolio selection, equilibrium asset pricing (CAPM), equity valuation, arbitrage pricing, fixed income securities and derivatives. You are expected to understand valuation formulas and be able to apply them to new problems. The appropriate tools necessary for solving these problems will be developed at each stage and practiced in the homework assignments. The models we will cover have immediate applications and implications for real-world financial decisions. Every effort will be made to relate the course material to current financial news.

Throughout the course the emphasis will be on two main areas: learning conceptual knowledge through theory and problem solving; and critical thinking through the application of real-life scenarios and local cases. The course will incorporate aspects of Australian securities market and financial institutions and a comparative approach will be adopted in...
demonstrating similarities and differences between the U.S. capital market and the Australian capital market.

This course consists of one session each week with lecture and tutorial combined. Lecture will introduce the relevant concepts and methods to understand important issues relating to each topic and how one should resolve particular problems. Tutorials will provide students with the opportunity to discuss questions and problems that assigned each week. Tutorials are hands-on workshop sessions where students will work on the problems specified in the subject calendar, individually or with a partner. This time and space in lectures and class discussion is provided to consolidate the learning so students are strongly encouraged to make use of the opportunity. It is also expected that students have familiarity with basic quantitative analysis and the required academic skills in information collection, evaluation and presentation.

In addition, students should spend at least five to six hours each week in private study to read handout notes, required readings, textbook chapters; to prepare for, and undertake assessment tasks; and to complete learning activities specified in the course. The remainder of this syllabus describes the course and your responsibilities in it.

**Desired Outcomes**

After successfully completing this course students should be able to:
- Demonstrate knowledge and understanding of the financial system and financial concepts
- Demonstrate skills in performing accurate financial calculations
- Demonstrate the ability to link theory with real-life financial issues
- Demonstrate knowledge and understanding of the Australian securities market

**Assessment Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Class participation</td>
<td>5%</td>
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<tr>
<td>Assignment: Problem sets</td>
<td>20% (Week 4, 8, 11, 15)</td>
</tr>
<tr>
<td>Presentations</td>
<td>5% (Week 4, 8, 11, 15)</td>
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<tr>
<td>Midterm exam</td>
<td>30% (Week 9)</td>
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<tr>
<td>Final exam</td>
<td>40% (Week 16/Exam Week)</td>
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**Class participation: 5%**
Class attendance is an important part of the learning experience. Keep in mind that class participation does account for 5% of the final grade. Students are expected to participate in all facets of classroom learning. In particular, you are expected to contribute, in a constructive manner, to classroom discussions. These contributions plus class attendance will make up the class participation grade. Inappropriate classroom behaviour (such as coming late repeatedly, disrupting the class, etc.) will negatively affect your final grade.

**Assignment (Problem sets): 20%**
There will be 4 problem sets over the course of the semester. The problem sets are graded on a 5-point scale. Problem set questions will be handed out in class. Each student should hand
in an individual set of solutions with his/her name and section prominently displayed on the top. However, you may discuss the problem sets with other students as long as you acknowledge any help you receive on the front page of your solutions.

Presentations: 5%
The assignment covers 4 problem sets and within each problem set one question will require students to collect a news article, write a brief summary of the article with reference to financial theory and issue that is relevant, and then make a short presentation. Five marks will be allocated on aggregate to all presentations. The purpose is to encourage class discussions and critical thinking when you are applying financial theory to solve real-life problems.

Midterm exam (1.5 hrs): 30%
The in-class midterm will consist of multiple choice questions and short problems like those on the problem sets, in the textbook, and in the lecture notes. The exam tests your understanding of the key concepts in the class. It does not test your ability to memorise or to use your calculator. Rather it probes your deeper understanding of the material. The same approach will be applied to the final exam.

Final exam (2 hrs): 40%
To prepare for final exam, you should review the slides together with your own class notes, the concept questions, the readings, the problem sets, the sample exams, and preferably also the suggested problem sets. The final exam will be cumulative.

You will be allowed one double-sided page of formula sheets at the midterm exam and two double-sided pages of formula sheets at the final exam. The sheets must be no larger than 8.5 inch by 11 inch. You are not allowed to reprint my PowerPoint slides verbatim. You will be asked to turn in these formula sheets after the midterm and exam, but you will be able to recover the midterm sheet in the week after the midterm. You are not allowed to take the exam questions home, and no written answers will be provided. In addition, a formula sheet will be provided.

Failure to submit or fulfill any required course component will result in failure of the class.

For this course your total numerical score, calculated from the components listed above, is converted to a letter grade without rounding.

Extra Credit: Site policy does not allow grading of work outside of the assignments included in the syllabus. The final grade will only be calculated from the assessment components listed here and no other work, whether additional or substituted, is permitted.

At NYU Stern, we strive to create courses that challenge students intellectually and that meet the Stern standards of academic excellence. To ensure fairness and clarity of grading, the Stern faculty have adopted a grading guideline for core courses with enrolments of more than
25 students in which approximately 35% of students will receive an “A” or “A-” grade. In core classes of less than 25 students, the instructor is at liberty to give whatever grades they think the students deserve, while maintaining rigorous academic standards.

**Assessment Expectations**

**Grade A:** Excellent work showing a thorough knowledge and understanding of the topics, with excellent use of scientific language, detailed analysis and clear logical explanations, showing insight, independent, original thought and reasoning.

**Grade B:** Good work with good general knowledge and understanding of the topics, accurate use of scientific language, good general analysis and coherent explanations showing some independent reasoning, reading and research.

**Grade C:** Satisfactory work, broadly correct both factually and analytically, with some explanation and reasoning: the work will typically demonstrate a basic understanding of the topic.

**Grade D:** Passable work, showing a general, superficial knowledge and understanding of the topic, lacking satisfactory use of scientific language or adequate analysis.

**Grade F:** Unsatisfactory work in all criteria. The minimum requirements for the course have not been met.

**Submission of Work**

Assignments (excluding in-class presentations and exams) must be submitted electronically via NYU Classes. It is the student’s responsibility to confirm that the work has been successfully been uploaded. In the unlikely event that a submission to Classes fails, students must immediately submit the work to the Academic Programs Coordinator via email before the original submission deadline accompanied by an explanation of the issue. All in-class presentations and exams must be completed during the scheduled class time. An assessment component is considered completed when the student has met all the terms for that assessment component as outlined by the instructor.

An assessment component completed after the deadline without an agreed extension receives a penalty of 2 points on the 100-point scale (for the assignment) for each day the work is late. Work completed beyond five weekdays after the due date without an agreed extension receives a mark of zero, and the student is not entitled to feedback for that piece of work. Because failure to submit or fulfil any required assessment component will result in failure of the course, it is crucial for students to complete every assignment even when it will receive a mark of zero.

**Plagiarism Policy**

The academic standards of New York University apply to all coursework at NYU Sydney. NYU Sydney policies are in accordance with New York University’s plagiarism policy. The presentation of another person’s words, ideas, judgment, images or data as though they
were your own, whether intentionally or unintentionally, constitutes an act of plagiarism.

It is a serious academic offense to use the work of others (written, printed or in any other form) without acknowledgement. Cases of plagiarism are not dealt with by your instructor. They are referred to the Director, who will determine the appropriate penalty (up to and including failure in the course as a whole) taking into account the codes of conduct and academic standards for NYU’s various schools and colleges.

Study abroad at Global Academic Centres is an academically intensive and immersive experience, in which students from a wide range of backgrounds exchange ideas in discussion-based seminars. Learning in such an environment depends on the active participation of all students. And since classes typically meet once or twice a week, even a single absence can cause a student to miss a significant portion of a course. To ensure the integrity of this academic experience, class attendance at the centres is mandatory, and unexcused absences will affect students’ semester grades. The class roster will be marked at the beginning of class and anyone who arrives after this time will be considered absent. Students are responsible for making up any work missed due to absence.

For courses that meet once a week, one unexcused absence will be penalised by a two percent deduction from the student’s final course grade. For courses that meet two or more times a week, the same penalty will apply to two unexcused absences. Repeated absences in a course may result in failure.

Faculty cannot excuse an absence. Requests for absences to be excused must be directed to the Academic Programs Coordinator. Students must provide appropriate documentation for their absence. In the case of illness, students must contact the Academic Programs Coordinator on the day of absence. They must provide medical documentation to Academic Programs Coordinator within three days of the absence in order to be medically excused. The note must include a medical judgement indicating that the student was unfit to attend class/work on the specific day or dates of the absence. Faculty will be informed of excused absences by the Academic Programs staff.

This is a seminar subject and requires the active participation of all students. It also requires engaged discussion, including listening to and respecting other points of view. Your behaviour in class should respect your classmates’ desire to learn. It is important for you to focus your full attention on the class, for the entire class period.

- Arrive to class on time.
- Once you are in class, you are expected to stay until class ends. Leaving to make or take phone calls, to meet with classmates, or to go to an interview, is not acceptable behaviour.
- Phones, digital music players, and any other communications or sound devices are not to be used during class. That means no phone calls, no texting, no social media, no email, and no internet browsing at any time during class.
• Laptop computers and tablets are not to be used during class except in rare instances for specific class-related activity expressly approved by your instructor.
• The only material you should be reading in class is material assigned for that class. Reading anything else, such as newspapers or magazines, or doing work from another class, is not acceptable.
• Class may not be recorded in any fashion – audio, video, or otherwise – without permission in writing from the instructor.

Diversity, Inclusion and Equity

NYU is committed to building a culture that respects and embraces diversity, inclusion, and equity, believing that these values – in all their facets – are, as President Andrew Hamilton has said, “…not only important to cherish for their own sake, but because they are also vital for advancing knowledge, sparking innovation, and creating sustainable communities.” At NYU Sydney we are committed to creating a learning environment that:
• fosters intellectual inquiry, research, and artistic practices that respectfully and rigorously take account of a wide range of opinions, perspectives, and experiences; and
• promotes an inclusive community in which diversity is valued and every member feels they have a rightful place, is welcome and respected, and is supported in their endeavours.

Religious Observance

Students observing a religious holiday during regularly scheduled class time are entitled to miss class without any penalty to their grade. This is for the holiday only and does not include the days of travel that may come before and/or after the holiday. Students must notify their professor and the Academic Programs Coordinator in writing via email one week in advance before being absent for this purpose.

Provisions to students with Disabilities

Students with disabilities who believe that they may need accommodations in a class are encouraged to contact the Moses Centre for Students with Disabilities at (212) 998-4980 as soon as possible to better ensure that such accommodations are implemented in a timely fashion. For more information, see Study Away and Disability.

Required Texts

It is a course expectation that you have done the required reading and have prepared sufficiently to discuss them in class.


Supplemental Texts

There will be lecture notes, handouts, and supplementary materials (e.g., sample Excel spreadsheets) for many classes. Lecture notes and handouts will be distributed at the beginning of class, and they will also be available on NYU Classes, usually before the relevant class session. If you miss or lose the handouts, you should print them out from NYU Classes. The supplementary materials will also be available on NYU Classes, as will links to other relevant information. The assigned reading should be done before the corresponding class session, and you are also expected to keep up with current business news by reading a publication such as the Wall Street Journal and the Australian Financial Review etc that are listed in the Internet Research Guidelines.

Internet Research Guidelines

International Sources:

• Reuters: http://www.reuters.com/finance
• The Economist- Business and Finance: http://www.economist.com/business-finance

Australian Sources:

• The Australian Financial Review: http://www.afr.com/

Share Market Data:

• New York Stock Exchange: https://nyse.nyx.com/
• Yahoo Finance Australia: http://au.finance.yahoo.com/

Additional Equipment Required
You need a calculator for this class. Please bring your calculator to class. It is an advantage to have a financial calculator, but not a requirement. Standard financial calculators include the HP 12C, the SHARP EL-735S, the HP 10B-II and the TI BA-II Plus. You are expected to learn how to operate the calculator on your own. However, I will guide you with some useful resources on how to work with the calculator and you can practice in class and tutorial. Every student of Stern is expected to be comfortable with EXCEL tools. In particular any Finance area major is expected to have a knowledge of these tools that extends beyond familiarity to an awareness of the uses, and limitations, of this technology.
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<thead>
<tr>
<th>Week</th>
<th>Text Topic and Readings</th>
<th>Assessment Due</th>
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<tbody>
<tr>
<td>Week 1 Monday 4 September</td>
<td>Introduction &amp; Course Overview (BKM, Ch. 1, 2, 3 ) Financial instruments and markets</td>
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<tr>
<td>Week 2 Monday 11 September</td>
<td>Time Value of Money (RWJ, Ch. 4, 5) PV, FV, r, annuities, perpetuities</td>
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<td>Week 3 Monday 18 September</td>
<td>Performance Measurement (RWJ, Ch. 8) Compounding, investment evaluation, HPR, IRR</td>
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<td>Week 4 Monday 25 September</td>
<td>Portfolio Theory 1 (BKM, Ch. 5) Risk and return</td>
<td>Assignment: Problem Set 1 due in class (5%) plus Presentation 1</td>
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<td>Week 5 Friday 6 October</td>
<td>Make-up day for Monday Public Holiday Portfolio Theory 2 (BKM, Ch. 6) Portfolio terminology</td>
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<td>Week 6 Monday 9 October</td>
<td>The CAPM (BKM, Ch. 7) Equilibrium asset pricing</td>
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<td><strong>Fall Break: 16 – 20 October (Week 7)</strong></td>
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<tr>
<td>Week 8 Monday 23 October</td>
<td>Equity Valuation (BKM, Ch. 13) Dividend discount models</td>
<td>Assignment: Problem Set 2 due in class (5%) plus Presentation 2</td>
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<td>Week 9 Monday 30 October</td>
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<td>Midterm Exam (30%) 3:30 – 5:00pm</td>
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<tr>
<td>Week 10 Monday 7 November</td>
<td>Arbitrage and the law of one price (BKM, Ch. 7.5) Guest Speakers: How is Finance used in real life?</td>
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<td>Week</td>
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<td>Assessment Due</td>
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| Week 11  
Monday  
13 November | Fixed Income Securities 1 (BKM, Ch. 10)  
Bond prices | Assignment: Problem Set 3  
due in class (5%) plus  
Presentation 3 |
| Week 12  
Monday  
20 November | Fixed Income Securities 2 (BKM, Ch. 11)  
Yield Curve Theories |  |
| Week 13  
Monday  
27 November | Options (BKM, Ch. 15)  
Options markets and option payoffs, option strategies |  |
| Week 14  
Monday  
4 December | Futures & Swaps (BKM, Ch. 17)  
Forward and futures contracts, swaps | Assignment: Problem Set 4  
due in class (5%) plus  
Presentation 4 |
| Week 15  
Monday  
11 December | Review |  |
| Exam Week  
Monday  
18 December |  | Final Exam (40%)  
2:00 – 4:00pm |

**Your Instructor**

Dr Joanna Nash is a Vice President at BlackRock. She holds a PhD from Yale University and a Bachelor of Economics (Hons) and Bachelor of Laws from University of New South Wales. She has experience teaching across universities including Yale University, University of Technology, Sydney and University of New South Wales. Her teaching has covered Introduction to Finance courses, Financial Markets, Quantitative Methods, Derivative Securities and Econometrics. Her research interests include time series econometrics, forecasting, corporate governance and management quality. She has worked in the finance industry for the past 8 years and prior to that worked as an economic consultant. She is a member of the global research team of the Scientific Active Equities (SAE) within BlackRock located in Sydney.