# Foundations of Finance

## Class code
FINC-UB 9002 – 004

## 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 2015**

*Foundations of Finance*

Wednesday, 3.00 – 6:00pm  
September 2 to December 9  
Room 304  
NYU Sydney Academic Centre  

## Prerequisites
This is a core course that assumes no prior background in finance. However, you are expected to have an understanding of basic economic and statistical concepts beforehand. From economics you should understand supply and demand curves, including how shifts in the curves change the equilibrium price. From statistics you should understand mean, standard deviation, covariance and correlation as descriptive statistics. Students are strongly encouraged to study the review statistics at the beginning of the semester.

## 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

- Class participation 5%
- Assignment: Problem sets 20% (Week 4, 7, 10, 13)
- Presentations 5% (Week 4, 7, 10, 13)
- Midterm exam 30% (Week 8)
- Final exam 40% (Week 15/Exam Week)

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 behavior (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. There will be no make-up exams.

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.*

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 performance showing a thorough knowledge and understanding of the topics of the course; all work includes clear, logical explanations, insight, and original thought and reasoning.

**Grade B:** Good performance with general knowledge and understanding of the topics; all work includes general analysis and coherent explanations showing some independent reasoning, reading and research.

**Grade C:** Satisfactory performance with some broad explanation and reasoning; the work will typically demonstrate an understanding of the course on a basic level.

**Grade D:** Passable performance showing a general and superficial understanding of the course’s topics; work lacks satisfactory insight, analysis or reasoned explanations.

**Grade F:** Unsatisfactory performance in all assessed criteria. Work is weak, unfinished or unsubmitted

Grade Conversions

Your total numerical score, calculated from the components listed above, correspond to the following letter grades:

<table>
<thead>
<tr>
<th>If your total percent score is at least:</th>
<th>90</th>
<th>86</th>
<th>82</th>
<th>72</th>
<th>68</th>
<th>64</th>
<th>54</th>
<th>40</th>
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<tbody>
<tr>
<td>then you will receive a grade no lower than:</td>
<td>A</td>
<td>A-</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
<td>C+</td>
<td>C</td>
<td>D</td>
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</table>

Submission of Work

*Should work be submitted as a hard copy, or electronically?*

Unless otherwise specified, all written work must be submitted as a hard copy. The majority of written assignments must also be submitted electronically via NYU Classes. All in-class presentations must be completed during class time.

*Who may submit a student’s work?*

Each student’s assigned work must be handed in personally by that student. The student may not nominate another person to act on his/her behalf.

*When and where should the work be submitted?*

The hard copy of any written work must be submitted to the instructor at the beginning of class on the date the work is due. If the assignment due date falls outside of class time, work must be submitted to the Staff Member on duty in Room 2.04 during prescribed Office Hours (11:30am-12:30pm and 2:30-3:30pm Mon-Thu), or by appointment with the Academic Programs Coordinator. Each submitted item of work received in Room 2.04 will be date and time stamped in the presence of the student. Work submitted in Room 2.04 will not be considered “received” unless formally stamped.
What is the Process for Late Submission of Work?
After the due date, work may only be submitted under the following conditions:

- Late work, even if an extension has been granted, must be submitted in person by appointment with the Academic Programs Coordinator. Each submitted item of work must be date and time stamped in order to be considered “received”.

- Work submitted after the submission time 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. Written work submitted beyond five weekdays after the submission 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 course component will result in failure of the course, it is crucial for students to submit every assignment even when it will receive a mark of zero. Early departure from the program therefore places the student at risk of failing the course.

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.

Penalties for confirmed cases of plagiarism are severe and are dealt with by the Director, NYU Sydney, not your instructor. Your home school will be notified and you will be dealt with according to the standards of that school. The codes of conduct and academic standards for NYU’s various schools and colleges are outlined in the respective school’s academic resources.

Attendance Policy
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 in the first five minutes 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 penalized 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.
Classroom Expectations

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.

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 Assistant Director, Academic Programs 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


Supplemental Texts

- Selected Materials from “Essentials of Corporate Finance” by Stephen A. Ross, Randolph
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 well as 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:

#### Australian Sources:

#### Share Market Data:
- New York Stock Exchange: [https://nyse.nyx.com/](https://nyse.nyx.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.
<table>
<thead>
<tr>
<th>Session</th>
<th>Text Topic and Readings</th>
<th>Additional In Class Activity</th>
<th>Assessment Due</th>
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<tbody>
<tr>
<td>Session 1, Wednesday 2 September</td>
<td>Introduction &amp; Course Overview (BKM, Ch. 1, 2, 3) Financial instruments and markets</td>
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<td>Session 2, Wednesday 9 September</td>
<td>Time Value of Money (RWJ, Ch. 4, 5) PV, FV, r, annuities, perpetuities</td>
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<td>Session 3, Wednesday 16 September</td>
<td>Performance Measurement (RWJ, Ch. 8) Compounding, investment evaluation, HPR, IRR</td>
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<td>Session 4, Wednesday 23 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>Session 5, Wednesday 30 September</td>
<td>Portfolio Theory 2 (BKM, Ch. 6) Portfolio terminology</td>
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<td>Fall Break 5 - 9 October</td>
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<td>Session 6, Wednesday 14 October</td>
<td>The CAPM (BKM, Ch. 7) Equilibrium asset pricing</td>
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<td>Session 7, Wednesday 21 October</td>
<td>Guest Speakers: How is Finance used in real life</td>
<td>Assignment: Problem Set 2 due in class (5%) plus Presentation 2</td>
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<tr>
<td>Session 8, Wednesday 28 October</td>
<td>Equity Valuation (BKM, Ch. 13) Dividend discount models</td>
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<td>Midterm Exam (30%) 3:00-4.30pm</td>
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<td>Session 9, Wednesday 4 November</td>
<td>Arbitrage and Midterm Exam Arbitrage and the law of one price (BKM, Ch. 7.5)</td>
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<td>Session</td>
<td>Text Topic and Readings</td>
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<td>Session 10,</td>
<td>Fixed Income Securities 1</td>
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<td>Assignment: Problem</td>
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<td>Wednesday 11</td>
<td>(BKM, Ch. 10 )</td>
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<td>Set 3 due in class (5%)</td>
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<td>November</td>
<td>Bond prices</td>
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<td>plus Presentation 3</td>
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<tr>
<td>Session 11,</td>
<td>Fixed Income Securities 2</td>
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<tr>
<td>Wednesday 18</td>
<td>(BKM, Ch. 11)</td>
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<td>November</td>
<td>Yield Curve Theories</td>
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<td>Session 12,</td>
<td>Options (BKM, Ch. 15)</td>
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<td>Assignment: Problem</td>
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<td>Wednesday 25</td>
<td>Options markets and option</td>
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<td>Set 4 due in class (5%)</td>
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<tr>
<td>November</td>
<td>payoffs, option</td>
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<td>plus Presentation 4</td>
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<td></td>
<td>strategies</td>
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<tr>
<td>Session 13,</td>
<td>Futures &amp; Swaps (BKM, Ch. 17)</td>
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<td>Final Exam 12:30-</td>
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<td>Wednesday 2</td>
<td>Forward and futures</td>
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<td>2:30pm Tuesday December 15</td>
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<td>December</td>
<td>contracts, swaps</td>
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<td>Session 14,</td>
<td>Review</td>
<td></td>
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<td>Wednesday 9</td>
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<td>December</td>
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<td>Exam Week</td>
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**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.