

Subject Description Form

Subject Code	AMA1000
Subject Title	Freshman Seminar
Credit Value	3
Level	1
Pre-requisite	Nil
Objectives	<p>(a) To introduce students to applied mathematics and statistics disciplines, and enthuse them about their major study;</p> <p>(b) To expose students to the basic skills of teamwork and ethical leadership, and the concepts and an understanding of their disciplined-based professional career development with the incorporation of entrepreneurship;</p> <p>(c) To foster students' creativity, effective communication skills and innovative problem-solving abilities, as well as development of socially responsible global citizenship;</p> <p>(d) To engage students, in their first year of study, in desirable forms of learning at a university setting that are conducive to smooth adjustment to University life, self-regulation, and autonomous lifelong learning.</p>
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <p>(a) have a general understanding of application of mathematics and statistics in investment and finance</p> <p>(b) generate innovative ideas and use different perspectives and creative solutions to tackle scientific problems</p> <p>(c) command the basic communication and interpersonal skills in teamwork</p> <p>(d) appreciate the basic concepts of entrepreneurship</p> <p>(e) develop a global outlook and passion for lifelong learning</p>
Subject Synopsis/ Indicative Syllabus	<ul style="list-style-type: none"> • Introduction of PolyU and the Department of Applied Mathematics • Understanding of programme curriculum and career prospects • The latest development of the investment and finance analytics industry • Importance of academic integrity as a university student • Explore a boarder perspective of other science disciplines
Teaching/Learning Methodology	<ul style="list-style-type: none"> • Inspirational lectures and seminars by professors and renowned experts from various areas to excite students about their major study and to motivate students' career inspirations. • Renowned experts from various areas are invited to deliver Expert Seminar to students. Some of them are scholars as well as entrepreneurs. Some have been working in the industrial/ commercial sector for years. They share with students their success stories in which students could know more about the

	<p>basic concept of entrepreneurship.</p> <ul style="list-style-type: none"> • Speakers from other Departments of the Faculty are also invited to give sharing to the students so as to broader perspective beyond their field of specialization. • The importance of learning to learn and lifelong learning are introduced to students through the workshops organized in collaboration with the supporting offices, such as Library and Student Affairs Office. • Designated academic staff at Assistant Professor level or above from different departments are invited as interviewees to participate in the “Interview a Professor” activity. They respond to the questions of interest from students and share the history and story of their respective department. This develops students’ critical thinking skills, builds their recognition to the department and establishes a close relationship among teachers and students. • Small group projects to develop students’ the ability of innovative problem-solving and their understanding/application of theories in different disciplines. • Students will be informed to form groups in the first class. They have to come up with a grouping and a project title in week 4. They will need to search for materials and information and report to the supervisor progress of the project regularly. Supervisors will continuously monitor students’ work. In week 11 – 13, each group will present their project and come up with a written report to demonstrate their leadership, teamwork and individual performance. • The Online Tutorial on Academic Integrity (OTAI) is provided to ensure students understand the principles and the importance of academic honesty before they proceed to complete the rest of their university study and learn ways to ensure that their work and behaviour at PolyU are acceptable in that regard. Students are required to complete the Tutorial not later than the end of week 5. 																																																						
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<p>Students’ performance will be assessed by a letter-grading system.</p> <p>The following assessment methods will be adopted:</p> <table border="1" data-bbox="448 1350 1439 1984"> <thead> <tr> <th rowspan="2">Specific assessment methods</th> <th rowspan="2">% weighting</th> <th colspan="5">Intended subject learning outcomes to be assessed</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>e</th> </tr> </thead> <tbody> <tr> <td>1. Project write-up</td> <td>30%</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>2. Project presentation</td> <td>20%</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>3. Assignments on Professor/ Expert Seminar</td> <td>24%</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> </tr> <tr> <td>4. Seminar attendance</td> <td>8%</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>5. Interview Report</td> <td>18%</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>100%</td> <td colspan="5"></td> </tr> </tbody> </table>	Specific assessment methods	% weighting	Intended subject learning outcomes to be assessed					a	b	c	d	e	1. Project write-up	30%	✓	✓	✓	✓	✓	2. Project presentation	20%	✓	✓	✓	✓	✓	3. Assignments on Professor/ Expert Seminar	24%	✓	✓		✓	✓	4. Seminar attendance	8%	✓	✓		✓		5. Interview Report	18%	✓	✓	✓			Total	100%					
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	<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <ol style="list-style-type: none"> 1. Project write-up – A project write-up forms the most important part of the assessment for this subject. Students are required to design a science-based multidisciplinary project to critically examine and to suggest possible solutions to a daily life problem. The project will be assessed based on its creativity, demonstration of critical thinking and the viability of the proposed solutions. The required number of words for the project is 4,000 – 7,000 per group. 2. Project presentation - Students are required to present their project. Assessment will be based on similar criteria as above. Students will fail the subject, regardless the grade attained in other components, if they do not participate in the presentation of their group project. Presentation session attendance - Students are required to assess other groups' project presentation and thus have to attend all group project presentation. Students will fail the subject, regardless the grade attained in other components, if their attendance rate is lower than 70%. The exact number of presentation sessions they are required to attend will be announced at the beginning of the semester. 3. Assignments on Professor/ Expert Seminar – Students will be asked to write a one page summary essay or answer open-ended questions/MCQ based on each seminar they attended. Students will be assessed on their understanding of the content of the seminars. Students are also required to add their own opinions in the essays in order to show their problem-solving skills and critical thinking ability. Submission of assignment without attendance is not allowed. 4. Seminar attendance – Students are expected to attend all seminars. The attendance of those joined the class after the seminar started may not be counted. Students shall actively participate in the seminars by asking questions and interacting with the speakers. 5. Interview Report – Each student will be asked to write a summary report based on the group interview with a designated academic staff. Students will be assessed on their preparation of questions and report of the interview. Students are welcome to demonstrate their creativity in the design of the report. The required number of words for the report is – 800 - 1,000. 6. The Online Tutorial on Academic Integrity (OTAI) can be accessed on LEARN@PolyU (理學網). It takes approximately two hours to complete. To successfully complete the Tutorial, students will attempt the Pre-test, read the four modules, obtain at least 75% in the post-test (multiple attempts allowed), and sign the Honour Declaration. 7. The OTAI is part of the subject completion requirement. <u>Students who fail to complete the OTAI will fail this subject.</u> 	
<p>Student Study Effort Required</p>	<p>Class contact:</p>	
	<ul style="list-style-type: none"> ▪ Lecture/Seminar/Workshop 	<p>24 Hrs.</p>
	<ul style="list-style-type: none"> ▪ Tutorial 	<p>9 Hrs.</p>
	<ul style="list-style-type: none"> ▪ Presentation 	<p>6 Hrs.</p>

	Other student study effort:	
	<ul style="list-style-type: none"> ▪ Preparation of the interview with Professor and the written report 	18 Hrs.
	<ul style="list-style-type: none"> ▪ Reading/writing/preparation of the project presentation and the write-up 	46 Hrs.
	<ul style="list-style-type: none"> ▪ Online Tutorial on Academic Integrity (OTAI) 	2 Hrs.
	Total student study effort	105 Hrs.
Reading List and References	References <ol style="list-style-type: none"> 1. Investment Science by D G Luenberger, Oxford University Press, 2014. 2. Fundamentals of Futures and Options Markets by John C. Hull, 9th edition, Pearson International Edition, 2016. 	