

Insurance, Financial and Actuarial Analysis

Course List

<i>Code</i>	<i>Course Title</i>	<i>Unit</i>
Required Courses		
ACY 1111	Introductory Financial Accounting	3
ACY 1112	Management Accounting for Decision Making	3
DSE 1030	Economics for Business Studies I	3
DSE 1040	Economics for Business Studies II	3
DSE 2010	Statistical Analysis for Business Decisions I	3
DSE 2020	Statistical Analysis for Business Decisions II	3
DSE 2050 [3050]	Information Systems and E-Commerce	4
FIN 2010	Financial Management	3
FIN 2020	Interest Theory and Finance	3
FIN 3050	Risk Management and Insurance	3
FIN 3090	Actuarial Modelling	3
FIN 4090	Corporate Property and Liability Insurance	3
FIN 4091	Life and Health Insurance	3
FIN 4092	Principle of Reinsurance	3
FIN 4095	Advanced Actuarial Modelling	3
FIN 4097	Applications of Loss Models	3
MGT 1020	Principles of Management	3
MGT 4010	Business Policy and Strategy	3
MKT 2010	Marketing Management	3
Elective Courses		
ACY 3050 [2151]	Business Law	3
ACY 3161	Taxation	3
CSC 1500	Computer Principles and Programming	3
FIN 3010	Financial Markets	3
FIN 3030	Management of Financial Institutions	3
FIN 3080	Investment Analysis and Portfolio Management	3
FIN 4030	Selected Topics in Finance	3
FIN 4040	Options and Futures	3
FIN 4070	Fixed Income Securities Analysis	3
FIN 4072	Quantitative Finance	3
FIN 4081	Computational Finance	3
FIN 4082	Quantitative Methods for Financial Derivatives	3
FIN 4088	Intermediate Financial Theory	3
FIN 4096	Employee Benefits, Retirement and Estate Planning	3
MGT 2510	Introduction to International Business	3
RMS4001	Simulation Methods for Risk Management Science and Finance	3
RMS4005	Stochastic Calculus for Finance and Risk	3
STA 2004	SAS for Data Management	3
STA 3007	Applied Probability	3
STA 3008	Applied Regression Analysis	4
STA 4005	Time Series	3

[] Old course codes used in 2002-03 and before.

STA 4008	Survival Modelling	3
MAT 2010	Advanced Calculus I	3
MAT 2080	Essential Mathematical Methods I	3
MAT 2310	Linear Algebra and Applications	3

Course Description

(Except for FIN 2020, 3090, 4091, 4092, 4095, 4096 and 4097, please refer to the programmes concerned for the course descriptions of the above courses. Unless otherwise specified, all are 3-unit term courses of three hours of lecture per week.)

FIN 2020

Interest Theory and Finance

1st and/or 2nd term

This course discusses the mathematical and technical aspects of the theory of interest in both finite and continuous time. Topics include: measurement of interest and discount rates, accumulated value and present value, annuities, sinking funds, amortization of debt, determination of yield rates on securities. Applications include: bond evaluation, mortgages, depreciation methods and insurance. This course provides the foundation for the study of actuarial mathematics.

FIN 3090

Actuarial Modelling

1st and/or 2nd term

This course develops the student's knowledge of the theoretical basis of actuarial models and the application of those models to insurance. Applications include: premium rate for life insurance and annuity contracts; benefit reserves for insurance contracts; and valuation of pension plans. Prerequisite: FIN 2020.

FIN 4091

Life and Health Insurance

1st and/or 2nd term

This course covers laws and regulations of the life and health insurance, needs analysis, the life insurance contract, policy provisions and ownership rights, settlement options, pricing of life products, the underwriting function, medical insurance and long term disability income policies, retirement income and pension plans. Prerequisite: FIN 3050.

FIN 4092

Principle of Reinsurance

1st and/or 2nd term

This course aims to provide the student with knowledge in business, legal and financial principles relating to reinsurance arrangements and in the practice of analysing reinsurance portfolios. Topics include: the international reinsurance market, facultative reinsurance, proportional treaties, excess of loss treaty, stop loss treaty, risk excess, catastrophe excess, buffer excess of loss, treaty wordings, identification and measurement of exposures to large risks, fixing of retention, acceptable probability of ruin, design and negotiation of reinsurance programmes. Prerequisite: FIN 3050.

FIN 4095

Advanced Actuarial Modelling

1st and/or 2nd term

This course covers the advanced principles of life contingencies. Topics include: present value model, single decrement model, multiple decrement model, joint life model and stochastic modelling. Prerequisite: FIN 3090 or permission from instructor.

FIN 4096

Employee Benefits, Retirement and Estate Planning

1st and/or 2nd term

This course provides conceptual and working knowledge in the areas of employee benefits, retirement planning and estate planning. The course examines employer and employee objectives for benefit plans; government programmes for employees' compensation; unemployment insurance; MPF; employer-sponsored pension plans; integration of government and employer-sponsored retirement benefits into an individual's retirement planning; and design and administration of estate planning into an individual's complete financial planning portfolio. Prerequisite: FIN 3050.

FIN 4097

Applications of Loss Models

1st and/or 2nd term

This course covers the model-based and simulation-based approach to actuarial analysis. The objective is to apply models and simulation techniques to business applications. Topics include: elementary stochastic models, approximation methods of aggregate claims distribution, credibility theory, multi-period risk models of insurance operation, basic simulation techniques, and applications of resampling methods. Areas of applications include: determination of premium rates and loss reverses for insurance contracts, assessment of the credibility of data for ratemaking, estimation of insurance company solvency, and valuation issues of insurance industry. Prerequisite: FIN 4095.

Study Scheme

I. Major Programme

Students are required to complete a minimum of 73-74 units of courses as follows:

- | | | |
|------|--|-----------|
| (i) | Required Courses: | 58 units |
| | ACY 1111, 1112, DSE 1030, 1040, 2010 [#] , 2020 [#] ,
DSE 2050 [#] , FIN 2010, 2020, 3050, 3090, 4090, 4091,
4092, 4095, 4097, MGT 1020, 4010 [#] , MKT 2010 [#] | |
| (ii) | Elective Courses: | |
| (a) | 3 courses with at least 2 Finance courses from:
ACY 3050 [#] , 3161 [#] , FIN 3010, 3030, 3080,
4030, 4040, 4070, 4072, 4081, 4082, 4088,
4096, MGT 2510 [#] | 9 units |
| (b) | 2 courses from:
CSC 1500, RMS 4001 [#] , 4005 [#] , STA 2004 [#] ,
3007 [#] , 3008 [#] , 4005 [#] , 4008 [#] , MAT 2010 [#] ,
2080 [#] , 2310 [#] | 6-7 units |

Total: 73-74 units

[#] to be included in the Major GPA as well

Recommended course pattern

<i>First Year of Attendance</i>	24 units
ACY 1111, 1112, DSE 1030, 1040, 2010, 2020, FIN 2010, 2020	
<i>Second Year of Attendance</i>	28 units
DSE 2050, FIN 3050, 3090, 4090, 4091, 4095, MGT 1020, MKT 2010, 1 elective course	
<i>Third Year of Attendance</i>	21-22 units
FIN 4092, 4097, MGT 4010, 4 elective courses	
	Total: 73-74 units

2. *Faculty Language Requirement*

I. Applicable to students admitted through the JUPAS

English

Insurance, Financial and Actuarial Analysis Majors who have obtained Grade “D” or below in “Use of English” of HKALE* (AS Level) are required to complete ELT 1100 English Enhancement for Business Studies in their first year of attendance.

Chinese

Insurance, Financial and Actuarial Analysis Majors who have obtained Grade “E” in “Chinese Language and Culture” of HKALE* (AS Level) are required to complete CHI 1660 Chinese for Faculty of Business Administration in their first year of attendance.

* *Obtained in that particular sitting of HKALE which the University has used to assess the admission qualification of the student concerned.*

II. Applicable to students admitted through the Early Admissions Scheme (EAS)

English

Insurance, Financial and Actuarial Analysis Majors admitted through the Early Admissions Scheme are required to complete ELT 2501 Effective Oral Communication in their first year of attendance.

Chinese

Insurance, Financial and Actuarial Analysis Majors admitted through the Early Admissions Scheme are required to complete CHI 1660 Chinese for Faculty of Business Administration in their first year of attendance.

III. Applicable to students NOT admitted through the JUPAS or EAS

English

Insurance, Financial and Actuarial Analysis Majors NOT admitted through the JUPAS or EAS are required to complete ELT 1100 English Enhancement for Business Studies in their first year of attendance. They can take a replacement course for this course or be exempted from this course as approved by the Programme Director.

Chinese

Insurance, Financial and Actuarial Analysis Majors NOT admitted through the JUPAS or EAS are required to complete CHI 1660 Chinese for Faculty of Business Administration in their first year of attendance. They can take a replacement course for this course or be exempted from this course as approved by the Programme Director.