

什麼是精算？ What is Actuarial Science?

- Actuarial science is the discipline that applies modern **mathematical (數學)** and **statistical (統計)** methods to assess and manage **risk (風險)** in the **insurance (保險)** and **finance (金融)** industries
- Actuarial science includes a number of interrelating subjects, including **probability (概率)** and **statistics (統計)**, **finance (金融)**, and **economics (經濟)**



Actuary's Work 精算師的工作

- 精算師是運用精算方法和技術去解決未來財務風險的**專家和專業人士**
- Actuaries are **experts and professionals**, qualified in this field through examinations and experience, that utilize actuarial methods and techniques to address future financial risk



Actuary's Work 精算師的工作

- Actuaries are the **leading professionals** in finding ways to manage risk.
 - It takes a combination of **strong analytical skills** and **business knowledge** to manage today's complex risks facing our society.
- Actuaries are **key players** on the management team of companies that deal with risk.
 - In a fast-changing world, with emerging risks and the need for more creative ways to tackle them, there are **constant opportunities** for personal and professional growth.
- Actuaries are the **analytical backbone** of our society's financial security programs.

(Be An Actuary)

怎樣成為一個精算師？

How to Become an Actuary

Actuaries

Risk is Opportunity.®



- 考取美國、英國、澳洲等地其中一個專業資格
Admitted into one of the professional bodies in the US, UK, or Australia
- 一般分兩個階段 (Two Stages)
 1. Associateship (準(副)精算師會員)
 2. Fellowship (精算師會員)
- 需時大概 5 - 8 年
Generally takes 5 - 8 years



Typical Exam Systems

Fellowship



Specialist examinations, professionalism



Associateship



Fundamentals of actuarial practice, actuarial control cycle,
investment practice, professionalism



Actuarial models, statistics, data analytics,
economics, corporate finance, etc.

TOP 6 REASONS

you should choose

HKU Actuarial Science



#1

Excellent Employment Prospect



精算師出路多！ Prospect of Actuaries

- 精算專業資格，世界通行
- Actuarial qualification is recognized worldwide



The Top 5 Growing Career Fields In 2022

Ashley Stahl Contributor @

Follow

<https://www.forbes.com/sites/ashleystahl/2021/11/08/the-top-5-growing-career-fields-in-2022>

Nov 8, 2021, 09:00am EST

5. Actuarial and Statistician

Actuaries enjoy an almost 20% growth rate by the end of the decade and a median income over six figures. If you enjoy data and statistics, this could be the perfect high-growth field. Most work for insurance companies, deciding whether or not to insure a potential customer. Being able to evaluate risk is an in-demand skill. Actuaries often have a degree in actuarial science and have passed a series of licensing exams. Statisticians fulfill a similar role for companies by analyzing data and projecting future sales, profits, and obstacles to growth. Data Scientists, who help companies better utilize information, enjoy a projected 30% growth in employment by 2030.

Of course the best job for you may not be the highest paying, nor one with the fastest growth. The key is leveraging your skill set and achieving the best possible outcome. Besides, how many would have guessed the number one fastest growing occupation? According to the BLS, it's motion picture projectionists.

EXPLORING CAREERS

15 High-Paying Jobs That Are in Demand for the Future

by [Deanna deBara](#)



1. Actuary

Median salary in 2020: \$111,030

Projected growth rate between 2019 and 2029: 18% (much faster than average)

Actuaries typically work for insurance companies and are responsible for evaluating risk. Actuaries use math, data, and statistics to determine whether their employer should issue a policy to a potential customer—whether that’s an individual or a business—and, if they determine a policy should be issued, what the premium should be. Actuaries make evaluations regarding health, life, automobile, homeowners, medical malpractice, and workers’ compensation insurance, as well as retirement benefits and other investments.

A degree in actuarial science (which focuses on using math and statistical modeling to assess risk) or a related field (such as math or statistics) is a must. Plus, actuaries need to pass a series of rigorous exams over the course of several years in order to be certified to do the job by the Casualty Actuarial Society (CAS) or the Society of Actuaries (SOA).

[Find actuary jobs on The Muse](#)

24/1/2022

Career outlook and demand for actuaries

10 July 2018

In this blog, Chloe Hung, Amazon best-selling author, reveals in her opinion, the career outlook for actuaries and why they're in demand.

Actuarial science is consistently ranked as one of the top professions to venture into. Despite it being a top-ranking profession, the actuarial industry is a small industry and the number of students pursuing actuarial science has been increasing rapidly over the years. This makes competition within the actuarial job market stiffer each year.

Despite the competition that you may face as an actuarial student, the actuarial profession is continually growing and expanding. Actuaries are still in short supply around the world and the demand for actuaries will continue to grow as the world expands into new territories, such as artificial intelligence.

Actuaries will always be in demand because they are great risk managers and problem solvers. As the world moves into the era of machine automation, the demand for insurance and protection will increase because society will be exposed to new risks. And this is where actuaries are most needed, as their main responsibility is to manage and mitigate risks.

(A report from the Institute and Faculty of Actuaries)

These are the 6 fastest-growing jobs of the decade that pay over \$100,000

Published Wed, Sep 29 2021 3:10 PM EDT

Job	Projected Employment Change, 2020-2030	Median Pay
Nurse practitioners	52.2%	\$111,680
Information security analysts	33.3%	\$103,590
Medical and health services managers	32.5%	\$104,280
Physician assistants	31.0%	\$115,390
Actuaries	24.5%	\$111,030
Software developers, software quality assurance analysts and testers	22.2%	\$110,140

Source: Bureau of Labor Statistics • [Get the data](#)



Talent List Actuaries

Actuaries

Financial services



Professionals
in
Compliance
in Asset
Management



Financial
Professionals
in
Environmental,
Social and
Governance
(ESG)



Waste
Treatment
Specialists



Asset
Management
Professionals



Marine
Insurance
Professionals



Actuaries



Fintech
Professionals



Data
Scientists &
Cyber
Security
Specialists



Innovation
and
Technology
Experts



Naval
Architects



Marine
Engineers &
Superintendents
of Ships



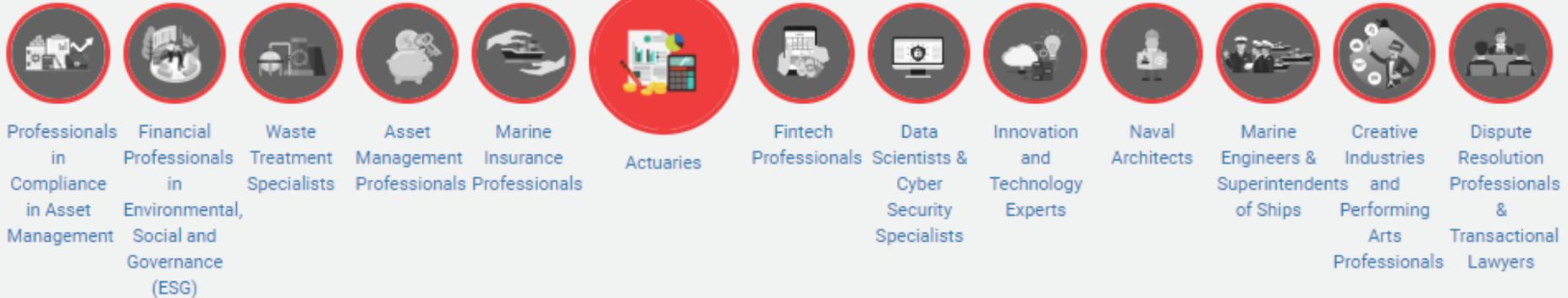
Creative
Industries
and
Performing
Arts
Professionals



Dispute
Resolution
Professionals
&
Transactional
Lawyers

Actuaries

Financial services



Detailed Descriptions

Latest Position and Perspective in Hong Kong

Increasing demand for experienced professional actuaries to meet market development

The market demand for experienced professional actuaries is going to increase in the coming years in light of the development in the local regulatory regime and international standards of the insurance sector, in particular the implementation of the Risk-based Capital Regime, the International Financial Reporting Standards 17 – Insurance Contracts, etc.

01倡議 | 人才政策要從入境、產業、 經濟、教育全面著手

撰文：評論編輯室

出版：2022-10-08 08:00 更新：2022-10-08 16:10



近年泰國、新加坡、英國等都推出了吸引海外人才的政策，而李家超政府將於本月19日發表的《施政報告》，人才政策預計也會是重點。不少團體和智庫的建議都包括了人才政策，例如香港新方向建議針對新興產業吸引內地和海外的創科人才來港創業、取消優才計劃的年度配額，簡化其程序和更新評分標準。由立法會議員等人士組成的香港人才大融合促進組則列出了十點人才政策建議，包括建立人才信息庫、跨灣區科研人才庫等。

人才清單便利入境 指定領域重點投資

首先，人才政策必須具針對性，延攬及留住的人才應是對香港經濟和產業發展有重要作用的人才。香港政府2018年制訂首份人才清單，經2021年檢討後現時涵蓋13項專業，包括資產管理合規專才、ESG相關財經專才、廢物處理專家、資產管理專才、海事保險專才、**精算師**、金融科技專才、數據科學家及網絡安全專家、創新及科技專家、造船師、輪機工程師及船舶總管、創意產業和表演藝術專才、爭議解決專才及業務交易律師。

美國求職網站CareerCast.com稱，**精算行業在薪資和增長潛力方面在所有行業中名列前十。**

CareerCast.com對職業的薪酬和增長前景進行了年度排名，透過排名發現，在這個領域占主導地位的是精算師等以處理數字為基礎的職業。

資料科學家、統計學家和資訊保安分析師的排名也很高。

精算師被評為「最佳職業排行榜的中流砥柱」，平均年薪為102,880美元(67萬人民幣)，到2026年的增長前景為22%。

CareerCast.com的調查結果基於美國勞工統計局的資料，並根據環境、收入、前景和壓力這四項核心標準對調查結果進行了分析。

(<https://www.jasve.com/zh-tw/zhichang/a415e9f61636a73a022f9a99296e1d75.html>)

The Best Jobs of 2021



9. Actuary

Median Salary: \$111,030

Projected Growth: 18.00%

根據美國職涯網站O*NET ONLINE統整出的職業壓力量表，其以「必須接受批評、同時從容應對高壓情況的程度」為標準，列出各項職業得承受的壓力指數，而求職網站the muse則將壓力指數低於70、年薪高於7萬美元（美國家庭年收中位數，約新台幣210萬）的工作，定義為「低壓高薪」的職業，並從中推薦下列13種職缺，其中某些工作不僅前途好、待遇佳，也不需要頂尖學歷就能勝

2.精算師 (Actuary)

壓力指數：70

年薪中位數：102,880美元（約台幣290萬）

學經歷條件：需要有數學相關領域的學士學位，並得獲得執業證書。

10年內薪資預估成長：20%

精算師須利用統計數據分析各式風險，他們通常替金融或保險公司工作，為其開發模組來預測各種突發狀況（例如天災、疫情、意外事故等），評估背後的財務風險與成本。由於攸關公司的存亡和經濟體系的穩定，因此精算師除了須具備相關科系的學士學位，還要通過一系列的證照考試，才能獲得執業證書。

Salary Survey 2020

Range of Annual Base Salary (HKD)

EXPERIENCE
(YEARS)

LIFE

GENERAL

RE-INSURANCE

ACTUARY (QUALIFIED)

	EXPERIENCE (YEARS)	LIFE	GENERAL	RE-INSURANCE
Department Head	10+	1.7M+	1.7M+	1.7M+
Director	10+	1M - 1.7M	1M - 1.7M	1M - 1.7M
Senior Manager/Manager	6 - 10	650K - 1.3M	800K - 1.3M	900K - 1.4M
Assistant Manager	3 - 6	480K - 650K	480K - 800K	480K - 900K
Senior Analyst	2 - 3	300K - 480K	300K - 480K	300K - 480K
Analyst	0 - 2	180K - 300K	180K - 300K	180K - 400K

HOT JOBS
FOR 2020

AVERAGE SALARY INCREMENT (JOB SWITCH)

Actuary Manager

15%

Compliance Manager

15%

Salary Survey 2021

Range of Annual Base Salary (HKD)

	(0-4 YEARS) OFFICER - SENIOR ANALYST	(5-9 YEARS) ASST. MANAGER - MANAGER	(10-15+ YEARS) SENIOR MANAGER - SENIOR DIRECTOR	(15+ YEARS) HEAD
Actuarial				
Direct Insurance	240k - 480k	480k - 720k	720k - 1.2m+	1.4m - 1.8m+
Reinsurance	240k - 520k	520k - 900k	900k - 1.2m+	1.4m - 1.8m+
Consultancy	240k - 480k	520k - 900k	900k - 1.4m+	1.4m - 1.8m+
Product Development	240k - 400k	400k - 780k	780k - 1.2m+	1.2m - 1.25m+

(PERSOLKELLY Hong Kong Salary Guide 2020/21)

Salary Survey 2022

Insurance

Range of Annual Base Salary (HKD)

JOB TITLES

(0-4 YEARS)

OFFICER -
SENIOR ANALYST

(5-9 YEARS)

ASST. MANAGER -
MANAGER

(10-15+ YEARS)

SENIOR MANAGER -
SENIOR DIRECTOR

(15+ YEARS)

HEAD

ACTUARIAL

Bancassurance Partnership

240k - 480k

480k - 720k

720k - 1.2m+

1.4m - 1.8m+

Agency

240k - 520k

520k - 900k

900k - 1.2m+

1.4m - 1.8m+

Brokerage

240k - 480k

520k - 900k

900k - 1.4m+

1.4m - 1.8m+

Training & Development

240k - 400k

400k - 780k

780k - 1.2m+

1.2m - 1.25m+

(PERSOLKELLY Hong Kong Salary Guide 2021/22)

Salary Survey 2023

► Range of Annual Base Salary (HKD)

EXPERIENCE
(YEARS)

MIN

MAX

▼ ACTUARIAL				
Bancassurance Partnership	Head	15 +	1.4m	1.8m+
	Senior Manager - Senior Director	10-15	720k	1.2m+
	AssT. Manager - Manager	5-9	480k	720k
	Officer - Senior Analyst	0-4	240k	480k
Agency	Head	15 +	1.4m	1.8m+
	Senior Manager - Senior Director	10-15	900k	1.2m+
	AssT. Manager - Manager	5-9	520k	900k
	Officer - Senior Analyst	0-4	240k	520k
Brokerage	Head	15 +	1.4m	1.8m+
	Senior Manager - Senior Director	10-15	900k	1.4m+
	AssT. Manager - Manager	5-9	520k	900k
	Officer - Senior Analyst	0-4	240k	480k
Training & Development	Head	15 +	1.2m	1.25m+
	Senior Manager - Senior Director	10-15	780k	1.2m+
	AssT. Manager - Manager	5-9	400k	780k
	Officer - Senior Analyst	0-4	240k	400k

(PERSOLKELLY Hong Kong Salary Guide 2023)

Salary Survey 2023

Title	25th percentile	50th percentile	75th percentile
Assistant Actuarial Analyst / Actuarial Analyst / Senior Actuarial Analyst	\$249,000	\$436,000	\$603,000
Assistant Manager / Manager - Actuarial	\$561,000	\$773,000	\$1,060,000
Senior Manager - Actuarial	\$884,000	\$1,060,000	\$1,248,000
Sub Team Head / Director - Actuarial	\$1,248,000	\$1,508,000	\$1,747,000
CFO - Insurance / Actuarial	\$2,028,000	\$2,392,000	\$3,016,000

(<https://www.roberthalf.com.hk/salary-details/appointed-actuary-senior-director-chief-actuary/hong-kong>)

ACTUARIAL SALARIES BY SENIORITY	
Level	Average Salary
Graduate	£35,500
Actuarial Analyst/Consultant	£43,000
Senior Actuarial Analyst/Consultant	£75,500
Manager	£75,500
Senior Manager	£102,500
Director	£145,000
Chief Actuary	£163,000
Chief Risk Officer	£199,000
Associate Partner	£214,000
Partner	£276,000

General Insurance Average Salaries

	London	South	Midlands	North	Yorkshire
Partner	£335,000	£314,000	£297,000	£279,000	£286,000
Associate Partner	£255,000	£232,000	£226,000	£208,000	£219,000
Chief Risk Officer	£238,000	£219,000	£211,000	£193,500	£192,000
Chief Actuary	£199,000	£181,000	£172,000	£157,500	£164,000
Director	£174,000	£159,000	£151,000	£139,000	£148,000
Senior Manager	£116,000	£105,000	£102,000	£94,000	£87,000
Manager	£86,000	£80,000	£76,000	£70,000	£72,500
Senior Actuarial Analyst/Consultant	£68,000	£62,000	£60,000	£56,500	£58,000
Actuarial Analyst/Consultant	£46,500	£42,000	£40,000	£37,250	£38,000
Graduate	£36,000	£33,000	£32,000	£30,000	£30,500

Life Insurance Average Salaries

	London	South	Midlands	North	Scotland
Partner	£284,000	£270,000	£258,000	£243,000	£237,000
Associate Partner	£220,000	£202,000	£195,000	£187,000	£173,000
Chief Risk Officer	£205,000	£188,000	£183,000	£163,000	£163,000
Chief Actuary	£168,000	£152,000	£147,000	£142,000	£132,000
Director	£149,000	£137,000	£132,000	£125,000	£122,000
Senior Manager	£105,000	£100,000	£92,000	£79,000	£84,000
Manager	£77,500	£73,500	£69,000	£67,000	£63,000
Senior Actuarial Analyst/Consultant	£77,500	£57,000	£56,000	£52,500	£51,000
Actuarial Analyst/Consultant	£44,000	£40,000	£38,000	£36,500	£34,500
Graduate	£36,500	£31,500	£31,500	£31,500	£26,250

2022 Actuarial Science Graduates



- Employed 93.2%
- Further Studies 6.8%

- Mean Salary
 - Basic: \$26321
 - Gross: \$27635

- Number of Full-time Job Offers
 - One: 35.7%
 - Two: 26.2%
 - Three: 21.4%
 - Four+: 16.7%

#2

Comprehensive and Flexible Curriculum



覆蓋北美精算學會準精算師考試課程90%以上
Cover over 90% of the ASA exam requirement of the SOA

INTRODUCTORY I

INTRODUCTORY II

ACTUARIAL

ADVANCED

PROFESSIONALISM

VEE
ECONOMICS
*ECON1210, ECON1220

VEE
ACCOUNTING AND FINANCE
*ACCT1101, STAT3904

EXAM
FINANCIAL MATHEMATICS
STAT2902, STAT3905

EXAM
PROBABILITY
STAT2901, STAT3902

EXAM
INVESTMENT AND FINANCIAL MARKETS
STAT3903, STAT3904, STAT3905, STAT3910

VEE
MATHEMATICAL STATISTICS
*STAT3902

EXAM
LONG-TERM ACTUARIAL MATHEMATICS
STAT3901, STAT3903, STAT3906, STAT3909, STAT3956

EXAM
SHORT-TERM ACTUARIAL MATHEMATICS
STAT3906, STAT3908, STAT4903

EXAM
STATISTICS FOR RISK MODELING
STAT3907, STAT4904

e-LEARNING
FUNDAMENTALS OF ACTUARIAL PRACTICE
STAT3953

PROJECT
PREDICTIVE ANALYTICS
STAT4904

SEMINAR
ASSOCIATESHIP PROFESSIONALISM COURSE

YOU MUST COMPLETE 2 EXAMS BEFORE APPLYING TO VALIDATE YOUR EDUCATIONAL EXPERIENCE (EDUCATIONAL EXPERIENCES MAY HAVE OCCURRED PRIOR TO COMPLETING EXAMS).

*VEE approved courses

學生可自由選擇主副修課程

Students can freely choose to take any major or minor study

Possible combinations

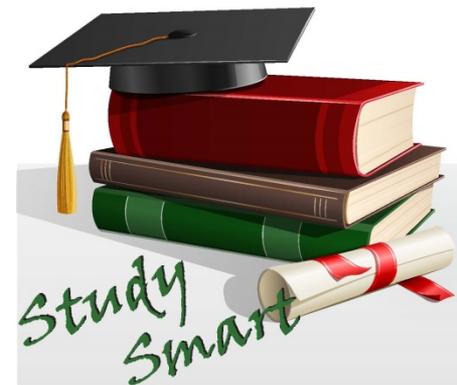
- ✓ 1st Major (AC) + 2nd Major
- ✓ 1st Major (AC) + Minor
- ✓ 1st Major (AC) + 1st Minor + 2nd Minor

Popular choices of 2nd Major

Computer Science, Mathematics, Finance, Economics, Information System, Quantitative Finance, Decision Analytics

Popular choices of Minor

Economics, Finance, Marketing, Accounting, Chemistry, Mathematics, Physics, Ecology & Biodiversity, Food and Nutritional Science, Computer Science, Geography, Urban Studies, Sociology, Psychology, Spanish, French, Japanese Language, German, Music, Literature, Philosophy



#3

Recognition by Professional Bodies



Institute and Faculty of Actuaries (UK)



Institute
and Faculty
of Actuaries

- ✓ **Accreditation** for ALL Core Principles subjects
CS1, CS2, CM1, CM2, CB1, CB2
- ✓ Our BSc(ActuarSc) programme is **the first in Asia, the only one in HK**, accredited by the IFoA

Society of Actuaries (US)



- ✓ All 3 VEEs
- ✓ Center of Actuarial Excellence
- ✓ Exemption of profession exams:
FM, FAM-L, SRM, FAM-S and ASTAM Sequence

#4

Comprehensive Career Support



Career Advising Programme

- Professional Preparation Programme (PPP)
- Individual consultation on cover letter, CV and interview skills
- Corporate Mentorship Programme (CMP) *AIA Group, AIA International, AXA, Bloomberg, China Life, Chubb, Cigna, Deloitte, Ernst & Young, HSBC, KPMG, SCOR Re, Swiss Re, etc*
- Market information workshops
- Firm visits and alumni sharing
- Career Fair



#5

Internship Opportunities





- ABN AMRO Asset Management
- ACE Life
- American International Assurance (AIA)
- Aon Hewitt
- AXA
- BOC Group Life Assurance
- Citibank
- Dah Sing Life
- Deloitte
- Deutsche Bank
- Ernst & Young
- FTSE Group
- FWD Life Insurance Company (Bermuda) Ltd.
- Goldman Sachs
- Hang Seng Bank
- Hewitt Associates
- HSBC Investment (HK) Ltd.
- ING Life
- JP Morgan
- KPMG
- Manulife (International) Ltd.
- Morgan Stanley
- Munich Reinsurance Co.
- New York Life
- Prudential Assurance Co. Ltd.
- Rabobank
- RGA Reinsurance
- Standard Chartered Bank (Hong Kong) Ltd.
- Swiss Re
- Towers Watson

94% of our students have participated in the internship programme.

#6

Scholarships



Dr Patrick S C Poon Scholarship in Actuarial Science

★ 5 scholarships

★ Awarded to first year students admitted through JUPAS with most outstanding entrance record

★ Each at HK\$50,000 or HK\$60,000 per year, all renewable based on satisfactory performance in each year's study in the programme



China Life Insurance (Overseas) Scholarship in Actuarial Science

- ❖ Award of HK\$10,000



Hong Kong Federation of Insurers Scholarship

- ❖ Award of HK\$20,000



Sir Edward Johnston Prize (by Institute and Faculty of Actuaries (IFoA))

- ❖ Only for students from the actuarial programme at *specific universities*
- ❖ An annual award of £250



Institute
and Faculty
of Actuaries

The Life Underwriters Association of Hong Kong Scholarship

- ❖ Award of HK\$10,000



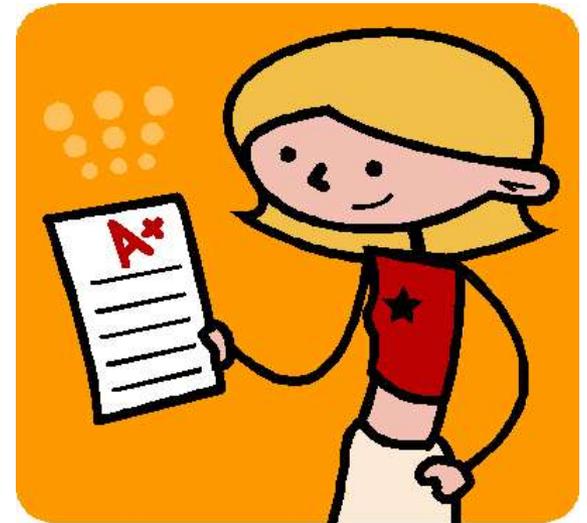
YF Life Scholarship in Actuarial Science and Risk Management

- ❖ Award of HK\$15,000



精算課程入學要求

Admission Requirement of Actuarial Science Programme



入學要求 Admission Requirement

HKDSE

- ☺ English Language Level 3
- ☺ Chinese Language Level 3
- ☺ Mathematics (Compulsory Part) Level 4
- ☺ Mathematics (Extended Part – Module 1 or 2) Level 4
- ☺ Citizenship and Social Development / Liberal Studies Attained/Level 2
- ☺ 1 Elective Level 3

Admission formula = [Eng + Math + (M1 or M2)] × 1.2 + Best 2

DSE Level	3	4	5	5*	5**
Score	3	4	5.5	7	8.5

ENQUIRIES

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<https://www.facebook.com/hkustatisticsactuarialscience>

