

# B.Sc. Degree Program

Actuarial Science & Quantitative Finance

3 YEARS | FULL TIME



India's Only Degree Program  
to be Accredited by IFoA  
for Exemptions

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UNIQUE BLEND OF ACTUARIAL SCIENCE AND QUANTITATIVE FINANCE

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## Actuarial Science

Actuarial science is a discipline that assesses financial risks in the insurance and finance fields, using mathematical and statistical methods.

While historically, actuaries have often been associated with fields such as life, pensions and insurance, a growing number of professionals are now branching out into a newer variety of fields including but are not limited to health, banking and finance, technology, and climate change. An actuary's role in each industry can be extremely different, ranging from product pricing, financial modelling, valuations, risk-management to carrying out peer reviews and designing social security schemes.



**515**  
FELLOWS



**6**  
AFFILIATES



**210**  
ASSOCIATES



**6**  
HON FELLOWS

**21%**

Projected  
employment growth  
till 2028

**#7**

Rank in  
Best Business Job

**₹ 22.2  
Lakhs**

Average actuarial  
analyst salary  
(Source: 6figr.com)

## Data Science

Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract or extrapolate knowledge and insights from noisy, structured and unstructured data, and apply knowledge from data across a broad range of application domains.

Data science is a "concept to unify statistics, data analysis, informatics, and their related methods" in order to "understand and analyse actual phenomena" with data. A data scientist is a professional responsible for collecting, analyzing and interpreting extremely large amounts of data.

**#1**

list of top 25 skills  
on LinkedIn

**11.5  
MILLION**

new Jobs By  
**2026**  
(Estimated by  
US bureau of statistics)

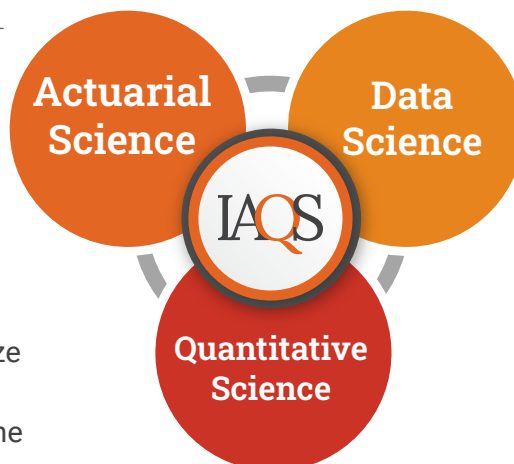
**30%**

expected increase in  
market of data science

## Quantitative Finance

Quantitative finance is the use of mathematical models and extremely large datasets to analyze financial markets and securities. Quantitative finance focuses on the mathematical models used to price securities and measure risk.

A quantitative analyst uses mathematical models and applies them to financial markets in order to support the trading and risk management departments that operate in banks and financial institutions.



**54,350**

expected new jobs  
to be created by 2029

**9%**

Projected employment  
growth till 2028

**₹ 7-10 Lakhs**

average fresher salary of  
Quant analyst  
(source - glassdoor)




## About IAQS

Founded in 2018, IAQS is a premier education institute helping students to pursue Actuarial Science and Quantitative Finance studies. The institute is associated with Patkar-Varde College, University of Mumbai in offering the Bachelors and Masters program.

We curated a degree which is a unique blend of Actuarial Science and Quantitative Finance keeping in mind their growing interdependencies. The courses have been developed to sync education with industry realities, compliment professional qualifications, and designed to impart knowledge with holistic development.

At the end of the program this unique combination of technical skills and professional acumen will ensure that you will make a difference, guarding against the impacts of future uncertainty.

## Key Highlights of the Program

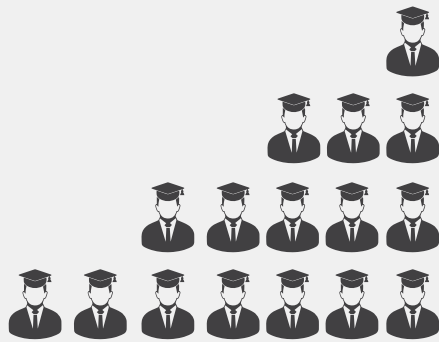
|   |  |   |   |
|---|--|---|---|
|    | <b>ELIGIBILITY:</b> <ul style="list-style-type: none"> <li>• 10 + 2 years of education from any stream</li> <li>• Cleared QAT/ ACET/ any actuarial paper and Personal Interview Round</li> </ul> |    | <b>PLACEMENT CELL:</b> <ul style="list-style-type: none"> <li>• Guidance for future career</li> <li>• Resume building</li> <li>• 100% Job Placement Assistance</li> </ul> |
|  | <b>QAT:</b> <ul style="list-style-type: none"> <li>• MCQs based test on Math, Stats and English (11th and 12th Grade – All Streams)</li> </ul>   |  | <b>L.M.S</b> <ul style="list-style-type: none"> <li>• Revisit, Rethink and Revise lectures anywhere, anytime</li> </ul>   |
|  | <b>COMPLIMENTS PROFESSIONAL COURSES:</b> <ul style="list-style-type: none"> <li>• Actuarial Science, CFA, FRM, CAIA via formal education system</li> </ul>                                       |  | <b>GLOBAL REACH:</b> <ul style="list-style-type: none"> <li>• International tie-ups and internship opportunities</li> </ul>   |
|  | <b>FACULTY:</b> <ul style="list-style-type: none"> <li>• Industry Experts and Academicians</li> <li>• 40+ Years of Cumulative Experience</li> </ul>  |  | <b>CAMPUS:</b> <ul style="list-style-type: none"> <li>• Situated at the heart of Mumbai</li> <li>• Co-curricular and Extra-curricular activities</li> </ul>               |
|  | <b>PRACTICAL LEARNING:</b> <ul style="list-style-type: none"> <li>• Capstone projects, job-oriented training, industry connect</li> </ul>  |  | <b>JOB-READY:</b> <ul style="list-style-type: none"> <li>• Platform enabling students to take lucrative career paths</li> </ul>   |



At IAQS, our courses have been developed to sync education with industry realities, compliment professional qualifications and designed to impart knowledge coupled with holistic development.

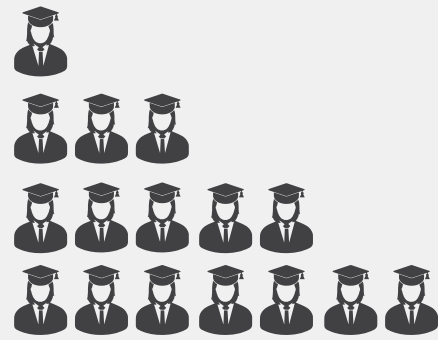
**- Akash Rughani**  
Program Director

## Students from 10+ States and 5 countries



**53%**  
Male

**47%**  
Female



**250+**  
Students

**45:1**  
Student to Faculty  
Ratio

## Beyond the Classroom

### THE CULTURAL COMMITTEE



A flagship committee of IAQS

### IAQS FINANCE SOCIETY (IFS)



A student-led initiative that works towards boosting interest in finance with ongoing trends.

### IAQS THE ACTUARIAL SOCIETY (TAS)



A student-led platform, connecting the actuarial science subject with today's growing and risky world.

### COGNIZANCE



A student-driven publication that aims to make the scholastic journey of the students of IAQS a lot more intuitive and creative. It provides them with a platform to express their opinions and perspectives about the latest trends in the BSFI sector.



## Global Accreditations

### How will it help?

This 3-Year, Full Time, B.Sc. (Actuarial Science and Quantitative Finance) degree program offered by Patkar-Varde College, University of Mumbai, provides a complete solution to the various issues faced by an actuarial aspirant in India. It not only equips students with the relevant technical skills but also focuses on holistic development.



**Institute  
and Faculty  
of Actuaries**

### Exemptions

B.Sc. (Actuarial Science & Quantitative Finance) is currently the only undergraduate program in India that offers exemptions for upto 6 of the IFoA Core Principle subjects - (CM1, CM2, CS1, CS2, CB1 and CB2).

Graduates from the programme who meet the IFoA's exemption threshold in the relevant university subjects will be eligible for exemption from the corresponding IFoA subjects and will not need to sit the IFoA exam for those subjects.

Depending on the modules taken and the grades obtained, completion of these degree programmes at the University of Mumbai, Patkar Varde College can lead to a recommendation for exemption.

#### Details available at:

Exemption >

<https://bit.ly/ifo-a-exemptions>

## Pathway between Australian National University (ANU) and Institute of Actuarial and Quantitative Studies (IAQS)

Students who have completed the B.Sc. (Actuarial Science and Quantitative Finance) may be eligible for admission to the following CBE programs:

- **Master of Actuarial Practice**
- **Master of Actuarial Studies**
- **Master of Applied Finance**
- **Master of Finance**
- **Master of Financial Management**
- **Master of Statistics**

#### Details available at:

ANU >

<https://bit.ly/ANU-CBE>



**Australian  
National  
University**

#### Facts:

**#1**

University in Australia  
(QS World University Rankings 2023)

**#1**

University for graduate employability in Australia  
(Times Higher Education World University Rankings 2020)

**#30**

University in the world  
(QS Top Universities Rankings 2023)

## MEET THE ENTRY REQUIREMENT

### Semester 1

- Calculus
- Financial Mathematics
- Business Finance – 1
- Probability & Statistics – 1
- Applications of IT – Basics of Excel
- Life Insurance – Principles, Products & Practices

### Semester 2

- Numerical methods & Algebra
- Probability & Statistics
- Business Finance – 2
- Introduction to Actuarial Models
- Non-Life Insurance – Principles, Products & Practices
- Basics of R

### Semester 3

- Statistical & Risk Modelling – 1
- Portfolio Theory & Security Analysis
- Project Work – 1
- Applications of IT – Basics of Python
- Business Economics – Micro Economics
- Introduction to Derivatives & Financial Markets

### Semester 4

- Numerical methods & Algebra
- Probability & Statistics
- Business Finance – 2
- Introduction to Actuarial Models
- Non-Life Insurance – Principles, Products & Practices
- Basics of R

## MANDATORY INTERNSHIP

### Choose your area of Specialization

### Semester 4

- Professional Ethics / Actuarial Practice Standards
- Business Communication
- Model Documentation, Analysis & Reporting

#### Elective A:

- Pricing & Reserving for Life Insurance Products -1
- Statistical & Risk Modelling – 3

#### Elective B:

- Financial Engineering – 2
- Risk Management & Investment Management – 1

### Semester 5

- Predictive Analytics & Machine Learning
- Psychology of human behaviour at work
- Application on Bloomberg Terminal or Similar Software
- Data Visualisation Using Power BI

#### Elective A:

- Pricing & Reserving for Life Insurance Products -2
- Statistical & Risk Modelling – 4

#### Elective B:

- BASEL
- Risk Management & Investment Management – 2



**CONGRATULATIONS! YOU ARE A GRADUATE**

## Career Opportunities

This one-of-a-kind degree aims at providing students various career opportunities like:

- Investment Banking
- Data Science
- Actuarial Science
- Risk Modelling
- Equity Research
- Asset-Liability Management
- Financial Analysis

## Build a career with our Top Recruiters


















# Advisory Board



## Thomas Mathew T

Board of Director (L&Ta group of companies, LIC of India, Canara HSBC OBC L.I.C Ltd.)

- Formal Chairman-in-charge & MD of LIC of India.
- Ex member - Panel of experts (Ministry of Finance, Govt. of India)
- Ex member - Quality review board (Institute of Actuaries of India)



## JV Prasad

Director, Willis Towers Watson

- Ex Appointed Actuary & Vice - President - ICIC Lombard GIC
- Ex CRISIL - Structured finance Ratings.



## Pratibha Jain

Founder & Managing Director, Eduabroad Consultant.

- Education Counsellor, Mumbai University affiliated colleges.



## D Sivanandhan

Board of Directors on Various Companies, IPS Officer (Retd.), Ex Commissioner of Police

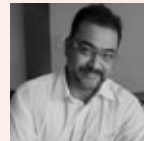
- Ex member - Central Security Cell (Reserve Bank Of India Panel)
- Ex member - Special task force, National Security Council (Prime Minister's Office).
- Recipient of the President's Distinguished Service Medal.



## Nilesch Shah

Managing Director, Kotak AMC Ltd

- Ex MD CEO - Axis Capital Ltd.
- Ex Chief Investment Officer - ICiC Prudential AMC Ltd. & Franklin Templeton India.



## Sauvik Banerjee

Digital Technology leader - Tata Group

- Ex VP Tata Industries, CTO TataCLiQ, SAP, Accenture, Infosys, Netsuite Author, Tedx Speaker, MIT starter hub mentor.



## Rajesh Khairajani

Partner - KNAV International, Partner - Inde Global Advisory

- Valuation expert, Speaker at Indo American Chamber of Commerce & NASSCOM
- Candidate of the American Society of Appraisers.



## Tanveer Quraishi

Head – Analytics, Marsh McLennan Global Services India Private Limited (MMGS)

- Ex Consultant, Ernst & Young, Insurance and Actuarial Advisory Services
- Ex Senior Analyst – Actuarial, WNS Global Services



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[www.iaqs.in](http://www.iaqs.in)

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# IAQS