# B.Sc. Financial Mathematics and Economics

## For 1st year students Ac.Yr 2019/2020

| B.Sc. Financial Mathematics - 1FM1 | | | | | |
|---|---|---|---|---|---|
| **1st year** | | | Sem | Pre/Co-requisites | Exclusion-requisites |
| AY104 | Introduction to Financial Accounting | Core | I | | |
| CS103 | Computer Science | Core | I | | |
| EC1108 | Skills for Economics I | Core | I | | |
| EC135 | Principles of Microeconomics | Core | I | | |
| EC136 | Principles of Macroeconomics | Core | II | | |
| MA180 | Mathematics (15ECTS) | Core | I+II | | |
| MA199 | Statistics & Probability & Maths Of Finance (15ECTS) | Core | I+II | | |
| MP191 | Mathematical Methods I | Core | II | | |

## For 2nd year students Ac.Yr 2020/2021

| B.Sc. Financial Mathematics - 2FM1 | | | | | |
|---|---|---|---|---|---|
| **2nd year** | | | Sem | Pre/Co-requisites | Exclusion-requisites |
| CS2101 | Programming for Science and Finance | Core | I | | |
| EC269 | Intermediate Microeconomics | Core | I | | |
| EC247 | Introduction to Financial Economics | Core | II | | |
| EC268 | Intermediate Macroeconomics | Core | II | | |
| MA2286 | Differential Forms | Core | I | | |
| MA284 | Discrete Mathematics | Core | I | | |
| MA283 | Linear Algebra | Core | II | | |
| MA2287 | Complex Analysis | Core | II | | |
| ST2003 | Random Variables | Core | I | | |
| ST2004 | Statistical Inference | Core | II | | |
| MP231 | Mathematical Methods I | Core | I | | |
| MP232 | Mathematical Methods II | Core | II | | |

## For 3rd year students Ac.Yr 2021/2022

| B.Sc. Financial Mathematics - 3FM2 | | | | | |
|---|---|---|---|---|---|
| **3rd year** | | | Sem | Pre-requisites | Exclusion-requisites |
| AY314 | Business Finance II | Core | II | | |
| EC3101 | Microeconomics and Public Policy | Core | I | | |
| EC369 | Money And Banking | Core | I | | |
| EC3102 | Macroeconomics and Public Policy | Core | II | | |
| EC362 | Economics Of Financial Markets | Core | II | | |
| MA3343 | Groups | Core | I | | |
| MA341 | Metric Spaces | Core | I | | |
| *MA3991 † †* | *Actuarial mathematics Cashflow models* | *Core* | *I* | *2yr Cycle, not available in 21.22* | |
| MA3992† | Actuarial mathematics Life contingencies 1, pricing and reserving | Core | I | 2yr Cycle, available in 21.22 | |
| MA342 | Topology | Core | II | | |
| ST313 | Applied Regression Models | Core | I | | |
| MP307 | Modelling II | Core | II | | |
| MP491 | Non-Linear Systems | Core | II | | |

## For 4th year students Ac.Yr 2022/2023 *

| B.Sc. Financial Mathematics - 4FM2 | | | | | Exclusion-requisites |
|---|---|---|---|---|---|
| **4th year** | | | **Sem** | **Pre-requisites** | |
| MM4000 or EC471 | Final Year Project (10ECTS) | Core | I+II | | |
| CS4423 | Networks | Core | II | | |
| EC4100 | Derivatives and Risk Management | Core | II | | |
| EC420 | International Monetary Economics | Core | II | | |
| MA385 | Numerical Analysis I | Core | I | | |
| MA490 | Measure Theory | Core | I | | |
| MA3991†† | Actuarial mathematics Cashflow models | Core | I | 2yr Cycle, available in 22.23 | |
| *MA3992 †* | *Actuarial mathematics Life contingencies 1, pricing and reserving* | *Core* | *I* | *2yr Cycle, not available in 22.23* | |
| MA495 | Actuarial Mathematics: Life Contingencies II | Core | II | | |
| MA418 | Differential Equations With Financial Derivatives | Core | II | | |
| ST413 | Statistical Modelling | Core | I | | |
| **Select one module from the following electives:** | | | | | |
| EC3105 | Econometrics | Elective | I | | |
| EC423 | Ireland in the Global Economy | Elective | I | | |
| SBE3006 | Entrepreneurial Finance | Elective | I | | |
| *† Offered on a 2yr Cycle, next available in 2021.22, †† Offered on a 2yr Cycle, next available in 2022.23.* | | | | | |
| *\* Syllabus structure of any future years may be subject to change due to ongoing annual syllabus review.* | | | | | |