

DIVISION OF COMPUTING, ENGINEERING AND MATHEMATICAL SCIENCES

SCHOOL OF MATHEMATICS, STATISTICS AND ACTUARIAL SCIENCE

School Website: www.kent.ac.uk/smsas

Please refer to the online Module Catalogue for full details of all modules:
www.kent.ac.uk/courses/modules

Note: It is ultimately your responsibility to ensure that you are registered for the correct modules for your course.

Please select a link below to view the Stage 2+ requirements for your course:

- [Actuarial Science: BSc](#)
- [Actuarial Science with a Foundation Year: BSc](#)
- [Actuarial Science with a Year in Industry: BSc](#)
- [Actuarial Science \(Sunway Direct Entry\): BSc](#)
- [Actuarial Science \(Sunway Direct Entry\) with a Year in Industry: BSc](#)
- [Financial Mathematics: BSc](#)
- [Financial Mathematics with a Year in Industry: BSc](#)
- [Data Science: BSc](#)
- [Data Science with a Year in Industry: BSc](#)
- [Mathematics: BSc](#)
- [Mathematics with a Foundation Year: BSc](#)
- [Mathematics: MMATH](#)
- [Mathematics with a Year in Industry: BSc](#)
- [Mathematics with a Year in Industry: MMATH](#)
- [Mathematics and Accounting & Finance: BA](#)
- [Mathematics and Accounting & Finance: BSc](#)
- [Mathematics and Accounting & Finance with a Year in Industry: BA](#)
- [Mathematics and Accounting & Finance with a Year in Industry: BSc](#)
- [Mathematics and Statistics: BSc](#)
- [Mathematics and Statistics with a Year in Industry: BSc](#)
- [Mathematics with Secondary Education: BSc](#)

The information contained herein is correct at the time of publication. Please note, however, that if a module recruits fewer than 8 students it is possible that it will not run. In this event, you will be contacted and asked to select an alternative module.

ACTUARIAL SCIENCE

UASC0001X1BS-F

ACTSCI:BSC

ACTUARIAL SCIENCE WITH A FOUNDATION YEAR

UASC0001F1BS-F

ACTSCI-F-4:BSC

ACTUARIAL SCIENCE WITH A YEAR IN INDUSTRY

UASC0001P1BS-F

ACTSCI-S:BSC

Single Honours

STAGE 2 – 120 credits – up to 75 credits in one term

You must take the following compulsory modules (105 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|--------------------------------------|---------------|-------------|--------------|
| MACT5013 | Actuarial Practice 2 | 15 | Autumn | 5 |
| MACT5160 | Actuarial Mathematics 1 | 15 | Autumn | 5 |
| MACT5270 | Corporate Finance for Actuaries | 15 | Spring | 5 |
| MACT5280 | Financial Reports and Their Analysis | 15 | Spring | 5 |
| MAST5001 | Applied Statistical Modelling | 15 | Spring | 5 |
| MAST5007 | Mathematical Statistics | 15 | Autumn | 5 |
| MAST5010 | Statistics for Insurance | 15 | Spring | 5 |

PLUS 15 credits from the following optional modules:

| Optional Modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|--|---------------|-------------|--------------|
| MAST5011 | Optimisation with Financial Applications | 15 | Autumn | 5 |
| MAST5956 | Big Data and Machine Learning | 15 | Spring | 5 |

Students on a Year in Industry will also take the following non-contributory compulsory module. This can also be taken by students who are not on the Year in Industry version as an optional, non-contributory module:

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH010 | SMSAS Industrial Practice Stage 2 | 0 | Autumn & Spring | W |

ACTUARIAL SCIENCE WITH A YEAR IN INDUSTRY

UASC0001P1BS-F

ACTSCI-S:BSC

STAGE S – 120 credits

You must take the following compulsory modules (120 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|--|---------------|-------------|--------------|
| MAST5801* | Industrial Placement Experience | 90 | Year-long | 5 |
| MAST5802* | Industrial Placement (Report and Presentation) | 30 | Year-long | 5 |

*Module cannot be compensated, trailed or condoned

ACTUARIAL SCIENCE (Sunway Direct Entry)

UASC0001S1BS-F

ACTSCI(SUNWAY):BSC1X

ACTUARIAL SCIENCE WITH A YEAR IN INDUSTRY (Sunway Direct Entry)

UASC0001P2BS-F

ACTSCI-S(SUNWAY):BSC1X

Single Honours

STAGE 2 – 120 credits – up to 75 credits in one term**You must take the following compulsory modules (105 credits):**

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|-------------------------------|---------------|-----------------|--------------|
| MACT3090 | Business Economics | 15 | Autumn & Spring | 4 |
| MACT5013 | Actuarial Practice 2 | 15 | Autumn | 5 |
| MACT5160 | Actuarial Mathematics 1 | 15 | Autumn | 5 |
| MACT6009 | Financial Mathematics | 15 | Autumn | 6 |
| MAST5001 | Applied Statistical Modelling | 15 | Spring | 5 |
| MAST5007 | Mathematical Statistics | 15 | Autumn | 5 |
| MAST5010 | Statistics for Insurance | 15 | Spring | 5 |

PLUS 15 credits from the following optional modules:

| Optional Modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|--|---------------|-------------|--------------|
| MAST5011 | Optimisation with Financial Applications | 15 | Autumn | 5 |
| MAST5956 | Big Data and Machine Learning | 15 | Spring | 5 |

Students on a Year in Industry will also take the following non-contributory compulsory module. This can also be taken by students who are not on the Year in Industry version as an optional, non-contributory module:

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH010 | SMSAS Industrial Practice Stage 2 | 0 | Autumn & Spring | W |

ACTUARIAL SCIENCE

ACTSCI:BSC

UASC0001X1BS-F**ACTUARIAL SCIENCE WITH A FOUNDATION YEAR**

ACTSCI-F-4:BSC

UASC0001F1BS-F**ACTUARIAL SCIENCE WITH A YEAR IN INDUSTRY**

ACTSCI-S:BSC

UASC0001P1BS-F

Single Honours

STAGE 3 – 120 credits

You must take the following compulsory modules (120 credits)

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|----------------------------|--|----------------------|--------------------|---------------------|
| MACT5250 | Survival Analysis | 15 | Autumn | 6 |
| MACT5330 | Actuarial Mathematics 2 | 15 | Spring | 6 |
| MACT5350 | Financial Economics and Assets and Liability Modelling | 15 | Autumn | 6 |
| MACT5370 | Mathematics of Financial Derivatives | 15 | Spring | 6 |
| MACT5390 | Financial Modelling | 15 | Spring | 6 |
| MACT6013 | Actuarial Practice 3 | 15 | Autumn | 6 |
| MAST6360 | Stochastic Processes | 15 | Autumn | 6 |
| MAST6390 | Time Series Modelling and Simulation | 15 | Spring | 6 |

All students, whether they are on a Year in Industry course or not, can choose to take the following non-contributory optional module:

| Optional module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------------|-----------------------------------|----------------------|--------------------|---------------------|
| WMATH011 | SMSAS Industrial Practice Stage 3 | 0 | Autumn & Spring | W |

FINANCIAL MATHEMATICS

FINMATHS:BSC

UFIM0001X1BS-F

FINANCIAL MATHEMATICS WITH A YEAR IN INDUSTRY

FINMATHS-S:BSC

UFIM0001P1BS-F

Single Honours

STAGE 3 – 120 credits

You must take the following compulsory modules (75 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------------|--|---------------|-------------|--------------|
| MACT5350 | Financial Economics and Assets and Liability Modelling | 15 | Autumn | 6 |
| MAST6034 | Derivative Markets | 15 | Autumn | 6 |
| MAST6040 | Financial Econometrics | 15 | Spring | 6 |
| MAST6053 | Statistical Learning for Data Scientists | 15 | Spring | 6 |
| MAST6360 | Stochastic Processes | 15 | Autumn | 6 |

PLUS 45 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|----------------------------|---|---------------|-----------------|--------------|
| MACT5370 | Mathematics of Financial Derivatives | 15 | Spring | 6 |
| MAST5870 | Numerical Solution of Differential Equations | 15 | Autumn | 6 |
| MAST5950 | Graphs and Combinatorics | 15 | Spring | 6 |
| MAST6011 | Bayesian Statistics with Stan and Python | 15 | Spring | 6 |
| MAST6012 | Statistical Consultancy and Data Presentation | 15 | Spring | 6 |
| MAST6018 | Games and Strategy | 15 | Spring | 6 |
| MAST6703 † | Communicating Mathematics | 15 | Autumn | 6 |
| MAST6704 † | Discovering and Communicating Mathematics | 30 | Autumn & Spring | 6 |

† Only one of these modules may be taken

All students, whether they are on a Year in Industry course or not, can choose to take the following non-contributory optional module:

| Optional module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH011 | SMSAS Industrial Practice Stage 3 | 0 | Autumn & Spring | W |

DATA SCIENCE

DATASCIENCE:BSC1

UDSC0001X1BS-F

DATA SCIENCE WITH A YEAR IN INDUSTRY

DATASCIENCE-S:BSC1

UDSC0001P1BS-F

Single Honours

STAGE 2 – 120 credits

You must take the following compulsory modules (120 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|---|---------------|-------------|--------------|
| COMP3830 | Problem Solving with Algorithms | 15 | Spring | 4 |
| COMP5280 | Introduction to Artificial Intelligence | 15 | Autumn | 5 |
| COMP5320 | Database Systems | 15 | Spring | 5 |
| COMP5390 | Web Development | 15 | Autumn | 5 |
| MAST5001 | Applied Statistical Modelling | 15 | Spring | 5 |
| MAST5015 | Data Collection and Analytics | 15 | Autumn | 5 |
| MAST5016 | Optimisation for Data Science | 15 | Autumn | 5 |
| MAST5956 | Big Data and Machine Learning | 15 | Spring | 5 |

Students on a Year in Industry will also take the following non-contributory compulsory module. This can also be taken by students who are not on the Year in Industry version as an optional, non-contributory module:

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH010 | SMSAS Industrial Practice Stage 2 | 0 | Autumn & Spring | W |

DATA SCIENCE WITH A YEAR IN INDUSTRY

DATASCIENCE-S:BSC1

UDSC0001P1BS-F

STAGE S – 120 credits

You must take the following compulsory modules (120 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|--|---------------|-------------|--------------|
| MAST5801* | Industrial Placement Experience | 90 | Year-long | 5 |
| MAST5802* | Industrial Placement (Report and Presentation) | 30 | Year-long | 5 |

*Module cannot be compensated, trailed or condoned

DATA SCIENCE
 DATASCIENCE:BSC1
DATA SCIENCE WITH A YEAR IN INDUSTRY
 DATASCIENCE-S:BSC1

UDSC0001X1BS-F

UDSC0001P1BS-F

Single Honours

STAGE 3 – 120 credits

You must take the following compulsory modules (60 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|-----------------------------------|---------------|-----------------|--------------|
| COMP6670 | Capstone Project | 30 | Autumn & Spring | 6 |
| MAST6045 | Deep Learning and Decision Making | 15 | Spring | 6 |
| MAST6060 | Statistical Machine Learning | 15 | Autumn | 6 |

PLUS 60 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|---|---------------|-------------|--------------|
| COMP6360 | Cognitive Neural Networks | 15 | Autumn | 6 |
| COMP6370 | Natural Computation | 15 | Autumn | 6 |
| COMP8320 | Data Mining and Knowledge Discovery | 15 | Spring | 7 |
| MAST6011 | Bayesian Statistics with Stan and Python | 15 | Spring | 6 |
| MAST6012 | Statistical Consultancy and Data Presentation | 15 | Spring | 6 |
| MAST6053 | Statistical Learning for Data Scientists | 15 | Spring | 6 |
| MAST6703 | Communicating Mathematics | 15 | Autumn | 6 |

All students, whether they are on a Year in Industry course or not, can choose to take the following non-contributory optional module:

| Optional module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH011 | SMSAS Industrial Practice Stage 3 | 0 | Autumn & Spring | W |

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|---|-----------------------|
| MATHEMATICS MATHS:BSC1 | UMTH0001X1BS-F |
| MATHEMATICS WITH A FOUNDATION YEAR MATHS-F-4:BSC1 | UMTH0001F1BS-F |
| MATHEMATICS WITH A YEAR IN INDUSTRY MATHS-S:BSC1 | UMTH0001P1BS-F |
| MATHEMATICS (4 year programme) MATHS-4:MMATH1 | UMTH0001X1MM-F |
| MATHEMATICS WITH A YEAR IN INDUSTRY (5 year programme) MATHS-S:MMATH1 | UMTH0001P1MM-F |

Single Honours

STAGE 2 – 120 credits

You must take the following compulsory modules (45 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|---------------------------------------|---------------|-------------|--------------|
| MAST5003 | Groups and Symmetries | 15 | Autumn | 5 |
| MAST5005 | Linear Partial Differential Equations | 15 | Autumn | 5 |
| MAST5013 | Real Analysis 2 | 15 | Autumn | 5 |

PLUS 75 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|--|---------------|-------------|--------------|
| MAST5001 | Applied Statistical Modelling | 15 | Spring | 5 |
| MAST5007 | Mathematical Statistics | 15 | Autumn | 5 |
| MAST5009 | Numerical Methods | 15 | Spring | 5 |
| MAST5011 | Optimisation with Financial Applications | 15 | Autumn | 5 |
| MAST5012 | Ordinary Differential Equations | 15 | Spring | 5 |
| MAST5014 | Rings and Fields | 15 | Spring | 5 |
| MAST5660 | Number Theory | 15 | Spring | 5 |

Students on a Year in Industry will also take the following non-contributory compulsory module. This can also be taken by students who are not on the Year in Industry version as an optional, non-contributory module:

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH010 | SMSAS Industrial Practice Stage 2 | 0 | Autumn & Spring | W |

| | |
|---|-----------------------|
| MATHEMATICS WITH A YEAR IN INDUSTRY MATHS-S:BSC1 | UMTH0001P1BS-F |
| MATHEMATICS WITH A YEAR IN INDUSTRY (5 year programme) MATHS-S:MMATH1 | UMTH0001P1MM-F |
| MATHEMATICS WITH A FOUNDATION YEAR AND A YEAR IN INDUSTRY MATHS-F-S-5:BSC1X | UMTH0001F2BS-F |

STAGE S – 120 credits

You must take the following compulsory modules (120 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|--|---------------|-------------|--------------|
| MAST5801* | Industrial Placement Experience | 90 | Year-long | 5 |
| MAST5802* | Industrial Placement (Report and Presentation) | 30 | Year-long | 5 |

*Module cannot be compensated, trailed or condoned

| | |
|---|-----------------------|
| MATHEMATICS MATHS:BSC1 | UMTH0001X1BS-F |
| MATHEMATICS WITH A FOUNDATION YEAR MATHS-F-4:BSC1 | UMTH0001F1BS-F |
| MATHEMATICS WITH A YEAR IN INDUSTRY MATHS-S:BSC1 | UMTH0001P1BS-F |
| MATHEMATICS (4 year programme) MATHS-4:MMATH1 | UMTH0001X1MM-F |
| MATHEMATICS WITH A YEAR IN INDUSTRY (5 year programme) MATHS-S:MMATH1 | UMTH0001P1MM-F |
| MATHEMATICS WITH A FOUNDATION YEAR AND A YEAR IN INDUSTRY MATHS-F-S-5:BSC1X | UMTH0001F2BS-F |

Single Honours

STAGE 3 – 120 credits

Across Stages 3 & 4 you may select up to 60 credits in total from the Statistics optional modules. Those available in Stage 3 are:

| Statistics optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|------------------------------|---|---------------|-------------|--------------|
| MAST6011 | Bayesian Statistics with Stan and Python | 15 | Spring | 6 |
| MAST6012 | Statistical Consultancy and Data Presentation | 15 | Spring | 6 |
| MAST6015 | Data Collection and Analytics | 15 | Autumn | 6 |
| MAST6053 | Statistical Learning for Data Scientists | 15 | Spring | 6 |
| MAST6360 | Stochastic Processes | 15 | Autumn | 6 |
| MAST6390 | Time Series Modelling and Simulation | 15 | Spring | 6 |

The remaining credits should be chosen from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|------------------------------|--|---------------|-----------------|--------------|
| MAST5740 | Polynomials in Several Variables | 15 | Autumn | 6 |
| MAST5870 | Numerical Solution of Differential Equations | 15 | Autumn | 6 |
| MAST5950 | Graphs and Combinatorics | 15 | Spring | 6 |
| MAST6002 | Linear and Nonlinear Waves | 15 | Autumn | 6 |
| MAST6003 | Groups and Representations | 15 | Autumn | 6 |
| MAST6005 | Operators and Matrices | 15 | Spring | 6 |
| MAST6017 | Functions of a Complex Variable | 15 | Autumn | 6 |
| MAST6018 | Games and Strategy | 15 | Spring | 6 |
| MAST6022 | Integrable Systems | 15 | Spring | 6 |
| MAST6091 | Mathematics in the World of Finance | 15 | Autumn | 6 |
| MAST6703 † | Communicating Mathematics | 15 | Autumn | 6 |
| MAST6704 * † | Discovering and Communicating Mathematics | 30 | Autumn & Spring | 6 |

† Only one of these modules may be taken.

*Available to only the BSC courses (not to MMATH)

All students, whether they are on a Year in Industry course or not, can choose to take the following non-contributory optional module:

| Optional module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH011 | SMSAS Industrial Practice Stage 3 | 0 | Autumn & Spring | W |

MATHEMATICS (4 year programme)

UMTH0001X1MM-F

MATHS-4:MMATH1

MATHEMATICS WITH A YEAR IN INDUSTRY (5 year programme)

UMTH0001P1MM-F

MATHS-S:MMATH1

Single Honours

STAGE 4 – 120 credits

You must take the following compulsory module (45 credits):

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------|------------------------------------|---------------|-----------------|--------------|
| MAST7020 | Dissertation for MMath Mathematics | 45 | Autumn & Spring | 7 |

Across Stages 3 & 4 you may select up to 60 credits in total from the Statistics optional modules. Those available in Stage 4 are:

| Statistics optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|------------------------------|---|---------------|-------------|--------------|
| MAST7011 | Bayesian Statistics with Stan and Python | 15 | Spring | 7 |
| MAST7012 | Statistical Consultancy and Data Presentation | 15 | Spring | 7 |
| MAST7053 | Statistical Learning for Data Scientists | 15 | Spring | 7 |
| MAST9420 | Data Science with R | 15 | Autumn | 7 |

Please note: you cannot take the Level 7 version of a module that you took at Level 6.

The remaining credits should be chosen from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|----------------------------------|---------------|-------------|--------------|
| MAST7002 | Linear and Nonlinear Waves | 15 | Autumn | 7 |
| MAST7003 | Groups and Representations | 15 | Autumn | 7 |
| MAST7005 | Operators and Matrices | 15 | Spring | 7 |
| MAST7022 | Integrable Systems | 15 | Spring | 7 |
| MAST7027 | Polynomials in Several Variables | 15 | Autumn | 7 |
| MAST7703 ‡ | Communicating Mathematics | 15 | Autumn | 7 |
| MAST9950 | Graphs and Combinatorics | 15 | Spring | 7 |

‡ This module **must** be taken in Stage 4 if MAST6703 not taken in Stage 3

MATHEMATICS AND ACCOUNTING & FINANCE

MATHS-ACCF:BA

UMTHACF2X1BA-F

MATHEMATICS AND ACCOUNTING & FINANCE

MATHS-ACCF:BSC

UMTHACF2X1BS-F

MATHEMATICS AND ACCOUNTING & FINANCE WITH A YEAR IN INDUSTRY

MATHS-ACCF-S:BSC

UMTHACF2P1BS-F

Single Honours

STAGE 2 – 120 credits – 60 in each term

You must take the following compulsory modules (60 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|---------------------------------------|---------------|-------------|--------------|
| ACCT3050 | Principles of Management Accounting | 15 | Spring | 4 |
| ACCT5260 | International Financial Reporting | 15 | Autumn | 5 |
| BUSN3014 | Financial Markets and Institutions | 15 | Spring | 4 |
| MAST5005 | Linear Partial Differential Equations | 15 | Autumn | 5 |

PLUS 60 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|---|---------------|-------------|--------------|
| MAST5001 | Applied Statistical Modelling | 15 | Spring | 5 |
| MAST5007 | Mathematical Statistics | 15 | Autumn | 5 |
| MAST5009 | Numerical Methods | 15 | Spring | 5 |
| MAST5010 | Statistics for Insurance | 15 | Spring | 5 |
| MAST5011 | Optimisations with Financial Applications | 15 | Autumn | 5 |
| MAST5012 | Ordinary Differential Equations | 15 | Spring | 5 |
| MAST5660 | Number Theory | 15 | Spring | 5 |

Students on a Year in Industry will also take the following non-contributory compulsory module. This can also be taken by students who are not on the Year in Industry version as an optional, non-contributory module:

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH010 | SMSAS Industrial Practice Stage 2 | 0 | Autumn & Spring | W |

MATHEMATICS AND ACCOUNTING & FINANCE

MATHS-ACCF:BA

UMTHACF2X1BA-F

MATHEMATICS AND ACCOUNTING & FINANCE

MATHS-ACCF:BSC

UMTHACF2X1BS-F

MATHEMATICS AND ACCOUNTING & FINANCE WITH A YEAR IN INDUSTRY

MATHS-ACCF-S:BSC

UMTHACF2P1BS-F

Single Honours

STAGE 3 – 120 credits – 60 in each term

You must take 60 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|--------------------------------------|---------------|-----------------|--------------|
| ACCT5020 | Corporate Finance and Investment | 30 | Autumn & Spring | 6 |
| ACCT5040 | Auditing | 30 | Autumn & Spring | 6 |
| ACCT5220 | Advanced Financial Accounting | 30 | Autumn & Spring | 6 |
| BUSN6001 | Fixed Income Markets and Instruments | 15 | Autumn | 6 |
| BUSN6002 | Finance with Excel | 15 | Spring | 6 |
| BUSN7690* | Risk Management | 15 | Spring | 6 |

*This module is taught at Medway

PLUS 60 credits should be taken from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|--|---------------|-------------|--------------|
| MAST5870 | Numerical Solution of Differential Equations | 15 | Autumn | 6 |
| MAST5950 | Graphs and Combinatorics | 15 | Spring | 6 |
| MAST6002 | Linear and Nonlinear Waves | 15 | Autumn | 6 |
| MAST6011 | Bayesian Statistics with Stan and Python | 15 | Spring | 6 |
| MAST6015 | Data Collection and Analytics | 15 | Autumn | 6 |
| MAST6018 | Games and Strategy | 15 | Spring | 6 |
| MAST6053 | Statistical Learning for Data Scientists | 15 | Spring | 6 |
| MAST6360 | Stochastic Processes | 15 | Autumn | 6 |
| MAST6390 | Time Series Modelling and Simulation | 15 | Spring | 6 |
| MAST6703 | Communicating Mathematics | 15 | Autumn | 6 |

All students, whether they are on a Year in Industry course or not, can choose to take the following non-contributory optional module:

| Optional module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH011 | SMSAS Industrial Practice Stage 3 | 0 | Autumn & Spring | W |

MATHEMATICS AND STATISTICS
MATHS-STATS:BSC
MATHEMATICS AND STATISTICS WITH A YEAR IN INDUSTRY
MATHS-STATS-S:BSC

UMAS0001X1BS-F

UMAS0001P1BS-F

Single Honours

STAGE 2 – 120 credits – 60 in each term

You must take the following compulsory modules (75 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|----------------------------|---------------------------------------|----------------------|--------------------|---------------------|
| MAST5001 | Applied Statistical Modelling | 15 | Spring | 5 |
| MAST5003 | Groups and Symmetries | 15 | Autumn | 5 |
| MAST5005 | Linear Partial Differential Equations | 15 | Autumn | 5 |
| MAST5007 | Mathematical Statistics | 15 | Autumn | 5 |
| MAST5013 | Real Analysis 2 | 15 | Autumn | 5 |

PLUS 45 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|--------------------------|---------------------------------|----------------------|--------------------|---------------------|
| MAST5010 | Statistics for Insurance | 15 | Spring | 5 |
| MAST5012 | Ordinary Differential Equations | 15 | Spring | 5 |
| MAST5014 | Rings and Fields | 15 | Spring | 5 |
| MAST5660 | Number Theory | 15 | Spring | 5 |

Students on a Year in Industry will also take the following non-contributory compulsory module. This can also be taken by students who are not on the Year in Industry version as an optional, non-contributory module:

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------------|-----------------------------------|----------------------|--------------------|---------------------|
| WMATH010 | SMSAS Industrial Practice Stage 2 | 0 | Autumn & Spring | W |

MATHEMATICS AND STATISTICS WITH A YEAR IN INDUSTRY
MATHS-STATS-S:BSC

UMAS0001P1BS-F

STAGE S – 120 credits

You must take the following compulsory modules (120 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|----------------------------|--|----------------------|--------------------|---------------------|
| MAST5801* | Industrial Placement Experience | 90 | Year-long | 5 |
| MAST5802* | Industrial Placement (Report and Presentation) | 30 | Year-long | 5 |

*Module cannot be compensated, trailed or condoned

MATHEMATICS AND STATISTICS

MATHS-STATS:BSC

MATHEMATICS AND STATISTICS WITH A YEAR IN INDUSTRY

MATHS-STATS-S:BSC

UMAS0001X1BS-F

UMAS0001P1BS-F

Single Honours

STAGE 3 – 120 credits – 60 in each term

You must take the following compulsory modules (30 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|---|---------------|-------------|--------------|
| MAST6012 | Statistical Consultancy and Data Presentation | 15 | Spring | 6 |
| MAST6015 | Data Collection and Analytics | 15 | Autumn | 6 |

PLUS you must take a minimum of 30 credits and maximum of 60 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|--|---------------|-------------|--------------|
| MAST6011 | Bayesian Statistics with Stan and Python | 15 | Spring | 6 |
| MAST6053 | Statistical Learning for Data Scientists | 15 | Spring | 6 |
| MAST6360 | Stochastic Processes | 15 | Autumn | 6 |
| MAST6390 | Time Series Modelling and Simulation | 15 | Spring | 6 |

Any remaining credits can be taken from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|---|---------------|-----------------|--------------|
| MAST5740 | Polynomials in Several Variables | 15 | Autumn | 6 |
| MAST5950 | Graphs and Combinatorics | 15 | Spring | 6 |
| MAST6002 | Linear and Nonlinear Waves | 15 | Autumn | 6 |
| MAST6003 | Groups and Representations | 15 | Autumn | 6 |
| MAST6017 | Functions of a Complex Variable | 15 | Autumn | 6 |
| MAST6018 | Games and Strategy | 15 | Spring | 6 |
| MAST6022 | Integrable Systems | 15 | Spring | 6 |
| MAST6091 | Mathematics in the World of Finance | 15 | Autumn | 6 |
| MAST6703 † | Communicating Mathematics | 15 | Autumn | 6 |
| MAST6704 † | Discovering and Communicating Mathematics | 30 | Autumn & Spring | 6 |

† Only one of these modules may be taken

All students, whether they are on a Year in Industry course or not, can choose to take the following non-contributory optional module:

| Optional module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|------------------|-----------------------------------|---------------|-----------------|--------------|
| WMATH011 | SMSAS Industrial Practice Stage 3 | 0 | Autumn & Spring | W |

MATHEMATICS WITH SECONDARY EDUCATION
MATHS-EDU:BSC

UMTS0001X1BS-F

Single Honours

STAGE 2 – 120 credits – up to 70 credits in a term

You must take the following compulsory modules (60 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|--|---------------|-------------|--------------|
| MAED1001 | Mathematics Learner and Teacher | 20 | Autumn | 5 |
| MAED1002 | Introduction to Professional Placement | 10 | Year-long | 5 |
| MAST5001 | Applied Statistical Modelling | 15 | Spring | 5 |
| MAST5003 | Groups and Symmetries | 15 | Autumn | 5 |

PLUS 60 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|-------------------|--|---------------|-------------|--------------|
| MAST5005 | Linear Partial Differential Equations | 15 | Autumn | 5 |
| MAST5007 | Mathematical Statistics | 15 | Autumn | 5 |
| MAST5009 | Numerical Methods | 15 | Spring | 5 |
| MAST5011 | Optimisation with Financial Applications | 15 | Autumn | 5 |
| MAST5012 | Ordinary Differential Equations | 15 | Spring | 5 |
| MAST5014 | Rings and Fields | 15 | Spring | 5 |
| MAST5660 | Number Theory | 15 | Spring | 5 |

MATHEMATICS WITH SECONDARY EDUCATION
MATHS-EDU:BSC

UMTS0001X1BS-F

Single Honours

STAGE 3 – 120 credits – 55 Autumn, 65 Spring

You must take the following compulsory modules (120 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL |
|---------------------|---|---------------|-----------------|--------------|
| MAED1011 | Subject Pedagogy 1 (Mathematics) | 20 | Autumn | 6 |
| MAED1012 | Subject Pedagogy 2 (Mathematics) | 20 | Autumn | 6 |
| MAED1021 | Professional Placement | 20 | Spring | 6 |
| MAED1031 | Preparing for Qualified Teacher Status | 10 | Spring | 6 |
| MAED1041 | Research and Enquiry in Education (Mathematics) | 20 | Spring | 6 |
| MAST6010 | Individual Project in Mathematics | 30 | Autumn & Spring | 6 |