

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 programme.

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

- [Actuarial Science](#)
- [Actuarial Science with an Industrial Placement](#)
- [Applied Actuarial Science \(MSc\)](#)
- [Applied Actuarial Science with an Industrial Placement](#)
- [Applied Actuarial Science \(International Masters\) – 360 Credit Version](#)
- [Applied Actuarial Science with an Industrial Placement \(International Masters\) – 510 Credit Version](#)
- [Statistical Data Science \(Formerly Statistics\)](#)
- [Statistical Data Science with an Industrial Placement \(Formerly Statistics with an Industrial Placement\)](#)
- [International Masters in Statistical Data Science \(Formerly International Masters in Statistics\)](#)

*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. **The University cannot guarantee whether all options will be available, or how they will be delivered, if Government Covid restrictions continue.***

ACTUARIAL SCIENCE**ACTSCI:MSC-T
PASC0001X2MS-F
ACTSCI-S:MSC-T
PASC0001P1MS-F****ACTUARIAL SCIENCE WITH AN INDUSTRIAL PLACEMENT****STAGE 1 - 180 credits** - credit imbalance permitted (up to 75 credits per term)**You must take at least 180 credits and no more than 210 credits from the following optional modules:**

At least 150 credits must be taken at Level 7.

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|----------------------|---------------------------|---------------------|-------------------|
| MACT7290 | Probability and Statistics for Actuarial Science | 30 | Autumn | 7 | MA729 |
| MACT7350 | Actuarial Mathematics | 30 | Autumn, Spring & Summer | 7 | MA735 |
| MACT7009 | Financial Mathematics | 15 | Autumn | 7 | MA7509 |
| MACT8190 | Business Economics | 15 | Spring | 7 | MA819 |
| MACT8250 | Survival Analysis | 15 | Autumn | 7 | MA825 |
| MACT8260 | Finance & Financial Reporting | 15 | Autumn & Spring | 7 | MA826 |
| MACT8350 | Financial Economics and Asset Liability Modelling | 15 | Autumn & Summer | 7 | MA835 |
| MACT8370 | Mathematics of Financial Derivatives | 15 | Spring & Summer | 7 | MA837 |
| MACT8400 | Financial Modelling | 15 | Spring or Spring & Summer | 7 | MA840 |
| MAST5010 | Statistics for Insurance | 15 | Spring | 5 | MA501 |
| MAST6390 | Time Series Modelling and Simulation | 15 | Spring | 6 | MA639 |
| MAST8360 | Stochastic Processes | 15 | Autumn | 7 | MA836 |

(Year 2)**ACTUARIAL SCIENCE WITH AN INDUSTRIAL PLACEMENT****ACTSCI-S:MSC-T
PASC0001P1MS-F****150 credits (12 months) – PLACEMENT MODULES****You must take the following compulsory modules (150 credits):**

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|---------------------------|--|----------------------|--------------------|---------------------|-------------------|
| MAST7801 | Industrial Placement Report and Presentation | 30 | Yearlong | 7 | MA976 |
| MAST7805 | Industrial Placement Experience (12 Months)* | 120 | Yearlong | 7 | MA991 |

*Module cannot be compensated or condoned

STAGE 1 - 180 credits – credit imbalance permitted (up to 112.5 credits per term)

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

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|----------------------------|-----------------------------|----------------------|--------------------|---------------------|-------------------|
| MACT9210 | Actuarial Risk Management 1 | 30 | Autumn | 7 | MA921 |
| MACT9220 | Actuarial Risk Management 2 | 30 | Autumn & Spring | 7 | MA922 |
| MACT9530 | Communications | 15 | Autumn & Spring | 7 | MA953 |

You must take 105 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|----------------------|--------------------------|---------------------|-------------------|
| MACT9090 | Enterprise Risk Management | 30 | Autumn & Spring | 7 | MA909 |
| MACT9120 | Life Insurance | 30 | Autumn & Spring | 7 | MA912 |
| MACT9150 | Finance and Investment | 30 | Autumn & Spring | 7 | MA915 |
| MACT9160 | Derivative Securities | 30 | Autumn & Spring | 7 | MA916 |
| MACT9170 | General Insurance Reserving and Capital Modelling | 30 | Autumn & Spring | 7 | MA917 |
| MACT9180 | General Insurance Pricing | 30 | Autumn & Spring | 7 | MA918 |
| MACT9230 | Introduction to Actuarial Research | 15 | Autumn & Spring | 7 | MA923 |
| MACT9240 | Short Project (Actuarial Science) | 15 | Spring & Summer | 7 | MA924 |
| MACT9500 | Prophet | 15 | Autumn, Spring or Summer | 7 | MA950 |
| MACT9510 | Prophet 2 | 15 | Autumn, Spring or Summer | 7 | MA951 |
| MACT9520 | Financial Modelling | 15 | Spring | 7 | MA952 |
| MAST9420 | Data Science with R | 15 | Autumn | 7 | MA942 |

STAGE 1 (Year 1) – 180 credits

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

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|---------------------|-----------------------------|---------------|-----------------|--------------|------------|
| MACT9210 | Actuarial Risk Management 1 | 30 | Autumn | 7 | MA921 |
| MACT9220 | Actuarial Risk Management 2 | 30 | Autumn & Spring | 7 | MA922 |
| MACT9530 | Communications | 15 | Autumn & Spring | 7 | MA953 |

You must take 105 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|-------------------|---|---------------|--------------------------|--------------|------------|
| MACT9090 | Enterprise Risk Management | 30 | Autumn & Spring | 7 | MA909 |
| MACT9120 | Life Insurance | 30 | Autumn & Spring | 7 | MA912 |
| MACT9150 | Finance and Investment | 30 | Autumn & Spring | 7 | MA915 |
| MACT9160 | Derivative Securities | 30 | Autumn & Spring | 7 | MA916 |
| MACT9170 | General Insurance Reserving and Capital Modelling | 30 | Autumn & Spring | 7 | MA917 |
| MACT9180 | General Insurance Pricing | 30 | Autumn & Spring | 7 | MA918 |
| MACT9230 | Introduction to Actuarial Research | 15 | Autumn & Spring | 7 | MA923 |
| MACT9240 | Short Project (Actuarial Research) | 15 | Spring & Summer | 7 | MA924 |
| MACT9500 | Prophet | 15 | Autumn, Spring or Summer | 7 | MA950 |
| MACT9510 | Prophet 2 | 15 | Autumn, Spring or Summer | 7 | MA951 |
| MACT9520 | Financial Modelling | 15 | Spring | 7 | MA952 |
| MAST9420 | Data Science with R | 15 | Autumn | 7 | MA942 |

(Year 2)

150 credits (12 months) – PLACEMENT MODULES

You must take the following compulsory modules (150 credits):

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------|--|---------------|-------------|--------------|------------|
| MAST7801 | Industrial Placement Report and Presentation | 30 | Yearlong | 7 | MA976 |
| MAST7805 | Industrial Placement Experience (12 Months)* | 120 | Yearlong | 7 | MA991 |

*Module cannot be compensated or condoned

APPLIED ACTUARIAL SCIENCE (INTERNATIONAL MASTERS) – 360 Credit Version
ACTSCIAP-I-360:MSC-T
PAAS0001Z3MS-F

STAGE 1 – 180-210 credits

You must take at least 180 credits and no more than 210 credits from the following optional modules:

At least 150 credits must be taken at Level 7.

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|----------------------|---------------------------|---------------------|-------------------|
| MACT7290 | Probability and Statistics for Actuarial Science | 30 | Autumn | 7 | MA729 |
| MACT7350 | Actuarial Mathematics | 30 | Autumn, Spring & Summer | 7 | MA735 |
| MACT7009 | Financial Mathematics | 15 | Autumn | 7 | MA7509 |
| MACT8190 | Business Economics | 15 | Spring | 7 | MA819 |
| MACT8250 | Survival Analysis | 15 | Autumn | 7 | MA825 |
| MACT8260 | Finance & Financial Reporting | 15 | Autumn & Spring | 7 | MA826 |
| MACT8350 | Financial Economics and Asset and Liability Modelling | 15 | Autumn & Summer | 7 | MA835 |
| MACT8370 | Mathematics of Financial Derivatives | 15 | Spring & Summer | 7 | MA837 |
| MACT8400 | Financial Modelling | 15 | Spring or Spring & Summer | 7 | MA840 |
| MAST5010 | Statistics for Insurance | 15 | Spring | 5 | MA501 |
| MAST6390 | Time Series Modelling and Simulation | 15 | Spring | 6 | MA639 |
| MAST8360 | Stochastic Processes | 15 | Autumn | 7 | MA836 |

STAGE 2 - 180 credits - credit imbalance permitted (up to 112.5 credits per term)

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

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|----------------------------|-----------------------------|----------------------|--------------------|---------------------|-------------------|
| MACT9210 | Actuarial Risk Management 1 | 30 | Autumn | 7 | MA921 |
| MACT9220 | Actuarial Risk Management 2 | 30 | Autumn & Spring | 7 | MA922 |
| MACT9530 | Communications | 15 | Autumn & Spring | 7 | MA953 |

You must take 105 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|----------------------|--------------------|---------------------|-------------------|
| MACT9090 | Enterprise Risk Management | 30 | Autumn & Spring | 7 | MA909 |
| MACT9120 | Life Insurance | 30 | Autumn & Spring | 7 | MA912 |
| MACT9150 | Finance and Investment | 30 | Autumn & Spring | 7 | MA915 |
| MACT9160 | Derivative Securities | 30 | Autumn & Spring | 7 | MA916 |
| MACT9170 | General Insurance Reserving and Capital Modelling | 30 | Autumn & Spring | 7 | MA917 |
| MACT9180 | General Insurance Pricing | 30 | Autumn & Spring | 7 | MA918 |

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|--------------------------|------------------------------------|----|--------------------------|---|--------------|
| MACT9230 | Introduction to Actuarial Research | 15 | Autumn & Spring | 7 | <i>MA923</i> |
| MACT9240 | Short Project (Actuarial Research) | 15 | Spring & Summer | 7 | <i>MA924</i> |
| MACT9500 | Prophet | 15 | Autumn, Spring or Summer | 7 | <i>MA950</i> |
| MACT9510 | Prophet 2 | 15 | Autumn, Spring or Summer | 7 | <i>MA951</i> |
| MACT9520 | Financial Modelling | 15 | Spring | 7 | <i>MA952</i> |
| MAST9420 | Data Science with R | 15 | Autumn | 7 | <i>MA942</i> |

APPLIED ACTUARIAL SCIENCE WITH AN INDUSTRIAL PLACEMENT (INTERNATIONAL MASTERS) – 510 CREDIT VERSION

**ACTSCIAP-S-510:MSC-T
PAAS0001P3MS-F**

STAGE 1 – 180-210 credits

You must take at least 180 credits and no more than 210 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|----------------------|---------------------------|---------------------|-------------------|
| MACT7290 | Probability and Statistics for Actuarial Science | 30 | Autumn | 7 | MA729 |
| MACT7350 | Actuarial Mathematics | 30 | Autumn, Spring & Summer | 7 | MA735 |
| MACT7009 | Financial Mathematics | 15 | Autumn | 7 | MA7509 |
| MACT8190 | Business Economics | 15 | Spring | 7 | MA819 |
| MACT8250 | Survival Analysis | 15 | Autumn | 7 | MA825 |
| MACT8260 | Finance & Financial Reporting | 15 | Autumn & Spring | 7 | MA826 |
| MACT8350 | Financial Economics and Asset and Liability Modelling | 15 | Autumn & Summer | 7 | MA835 |
| MACT8370 | Mathematics of Financial Derivatives | 15 | Spring & Summer | 7 | MA837 |
| MACT8400 | Financial Modelling | 15 | Spring or Spring & Summer | 7 | MA840 |
| MAST5010 | Statistics for Insurance | 15 | Spring | 5 | MA501 |
| MAST6390 | Time Series Modelling and Simulation | 15 | Spring | 6 | MA639 |
| MAST8360 | Stochastic Processes | 15 | Autumn | 7 | MA836 |

STAGE 2 - 180 credits - credit imbalance permitted (up to 112.5 credits per term)

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

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|----------------------------|-----------------------------|----------------------|--------------------|---------------------|-------------------|
| MACT9210 | Actuarial Risk Management 1 | 30 | Autumn | 7 | MA921 |
| MACT9220 | Actuarial Risk Management 2 | 30 | Autumn & Spring | 7 | MA922 |
| MACT9530 | Communications | 15 | Autumn & Spring | 7 | MA953 |

You must take 105 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|----------------------|--------------------|---------------------|-------------------|
| MACT9090 | Enterprise Risk Management | 30 | Autumn & Spring | 7 | MA909 |
| MACT9120 | Life Insurance | 30 | Autumn & Spring | 7 | MA912 |
| MACT9150 | Finance and Investment | 30 | Autumn & Spring | 7 | MA915 |
| MACT9160 | Derivative Securities | 30 | Autumn & Spring | 7 | MA916 |
| MACT9170 | General Insurance Reserving and Capital Modelling | 30 | Autumn & Spring | 7 | MA917 |
| MACT9180 | General Insurance Pricing | 30 | Autumn & Spring | 7 | MA918 |
| MACT9230 | Introduction to Actuarial Research | 15 | Autumn & Spring | 7 | MA923 |

| | | | | | |
|--------------------------|------------------------------------|----|--------------------------|---|--------------|
| MACT9240 | Short Project (Actuarial Research) | 15 | Spring & Summer | 7 | <i>MA924</i> |
| MACT9500 | Prophet | 15 | Autumn, Spring or Summer | 7 | <i>MA950</i> |
| MACT9510 | Prophet 2 | 15 | Autumn, Spring or Summer | 7 | <i>MA951</i> |
| MACT9520 | Financial Modelling | 15 | Spring | 7 | <i>MA952</i> |
| MAST9420 | Data Science with R | 15 | Autumn | 7 | <i>MA942</i> |

150 credits (12 months) – PLACEMENT MODULES

You must take the following compulsory modules (150 credits):

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|---------------------------|--|----------------------|--------------------|---------------------|-------------------|
| MAST7801 | Industrial Placement Report and Presentation | 30 | Yearlong | 7 | <i>MA976</i> |
| MAST7805 | Industrial Placement Experience (12 Months)* | 120 | Yearlong | 7 | <i>MA991</i> |

*Module cannot be compensated or condoned

STAGE 1 – 180 credits - credit imbalance permitted (up to 120 credits per term)

You must take the following compulsory modules (135 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|-------------------------------------|---------------|-------------|--------------|------------|
| MAST8670 | Project | 60 | Yearlong | 7 | MA867 |
| MAST8810 | Probability and Classical Inference | 15 | Autumn | 7 | MA881 |
| MAST8820 | Advanced Regression Modelling | 15 | Autumn | 7 | MA882 |
| MAST8830 | Bayesian Statistics | 15 | Autumn | 7 | MA883 |
| MAST8840 | Principles of Data Collection | 15 | Autumn | 7 | MA884 |
| MAST9420 | Data Science with R | 15 | Autumn | 7 | MA942 |

You must take 45 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|---------------|-----------------|--------------|------------|
| MAST7012 | Applied Statistical Modelling (Professional Skills for Statisticians) | 15 | Spring | 7 | MA7512 |
| MAST7029 | Statistical Learning | 15 | Spring | 7 | MA7529 |
| MAST8580 | Computational Statistics | 15 | Spring | 7 | MA858 |
| MAST8850 | Stochastic Processes and Time Series | 15 | Autumn & Spring | 7 | MA885 |

STATISTICAL DATA SCIENCE WITH AN INDUSTRIAL PLACEMENT STATDATASCI-S:MSC-T
 (Formerly Statistics with an Industrial Placement STATS-S:MSC-T) **PSDS0001P1MS-F**

STAGE 1 – 300 credits (12 months)

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

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|---------------------|-------------------------------------|---------------|-----------------|--------------|------------|
| MAST8810 | Probability and Classical Inference | 15 | Autumn | 7 | MA881 |
| MAST8820 | Advanced Regression Modelling | 15 | Autumn | 7 | MA882 |
| MAST8830 | Bayesian Statistics | 15 | Autumn | 7 | MA883 |
| MAST8840 | Principles of Data Collection | 15 | Autumn | 7 | MA884 |
| MAST9420 | Data Science with R | 15 | Autumn | 7 | MA942 |
| MAST9750 | Short Dissertation (Statistics) | 30 | Autumn & Summer | 7 | MA975 |

You must take 45 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|-------------------|---|---------------|-----------------|--------------|------------|
| MAST7012 | Applied Statistical Modelling (Professional Skills for Statisticians) | 15 | Spring | 7 | MA7512 |
| MAST7029 | Statistical Learning | 15 | Spring | 7 | MA7529 |
| MAST8580 | Computational Statistics | 15 | Spring | 7 | MA858 |
| MAST8850 | Stochastic Processes and Time Series | 15 | Autumn & Spring | 7 | MA885 |

(Year 2)

150 credits (12 months) – PLACEMENT MODULES

You must take the following compulsory modules (150 credits):

| Compulsory module: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------|--|---------------|-------------|--------------|------------|
| MAST7801 | Industrial Placement Report and Presentation | 30 | Yearlong | 7 | MA976 |
| MAST7805 | Industrial Placement Experience (12 Months)* | 120 | Yearlong | 7 | MA991 |

*Module cannot be compensated or condoned

STAGE 1 – 120 credits - credit imbalance permitted (up to 75 credits per term)

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

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|--------------------------------------|---------------|-------------|--------------|------------|
| MAST4004 | Linear Algebra | 15 | Spring | 4 | MA346 |
| MAST5013 | Real Analysis 2 | 15 | Autumn | 5 | MA5513 |
| MAST6007 | Mathematical Statistics | 15 | Autumn | 6 | MA6507 |
| MAST6008 | Applied Statistical Modelling 1 | 15 | Spring | 6 | MA6508 |
| MAST6020 | Project in Statistics or Probability | 15 | Autumn | 6 | MA602 |

You must take 45 credits from the following optional modules (15 credits in Autumn and 30 credits in Spring):

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|---------------|-----------------|--------------|------------|
| ENLA6001 | Advanced English for Academic Study in the Applied Sciences | 15 | Autumn & Spring | 6 | ENLA6001 |
| MAST5010 | Statistics for Insurance | 15 | Spring | 5 | MA501 |
| MAST6029 | Statistical Learning | 15 | Spring | 6 | MA6529 |
| MAST6360 | Stochastic Processes | 15 | Autumn | 6 | MA636 |
| MAST6390 | Time Series Modelling and Simulation | 15 | Spring | 6 | MA639 |

STAGE 2 – 180 credits – credit imbalance permitted (up to 120 credits per term)

You must take the following compulsory modules (135 credits):

| Compulsory modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|-------------------------------------|---------------|-------------|--------------|------------|
| MAST8670 | Project | 60 | Yearlong | 7 | MA867 |
| MAST8810 | Probability and Classical Inference | 15 | Autumn | 7 | MA881 |
| MAST8820 | Advanced Regression Modelling | 15 | Autumn | 7 | MA882 |
| MAST8830 | Bayesian Statistics | 15 | Autumn | 7 | MA883 |
| MAST8840 | Principles of Data Collection | 15 | Autumn | 7 | MA884 |
| MAST9420 | Data Science with R | 15 | Autumn | 7 | MA942 |

You must take 45 credits from the following optional modules:

| Optional modules: | MODULE TITLE | CREDIT AMOUNT | TERM TAUGHT | CREDIT LEVEL | OFFICE USE |
|--------------------------|---|---------------|-----------------|--------------|------------|
| MAST7012 | Applied Statistical Modelling (Professional Skills for Statisticians) | 15 | Spring | 7 | MA7512 |
| MAST7029 | Statistical Learning | 15 | Spring | 7 | MA7529 |
| MAST8580 | Computational Statistics | 15 | Spring | 7 | MA858 |
| MAST8850 | Stochastic Processes and Time Series | 15 | Autumn & Spring | 7 | MA885 |