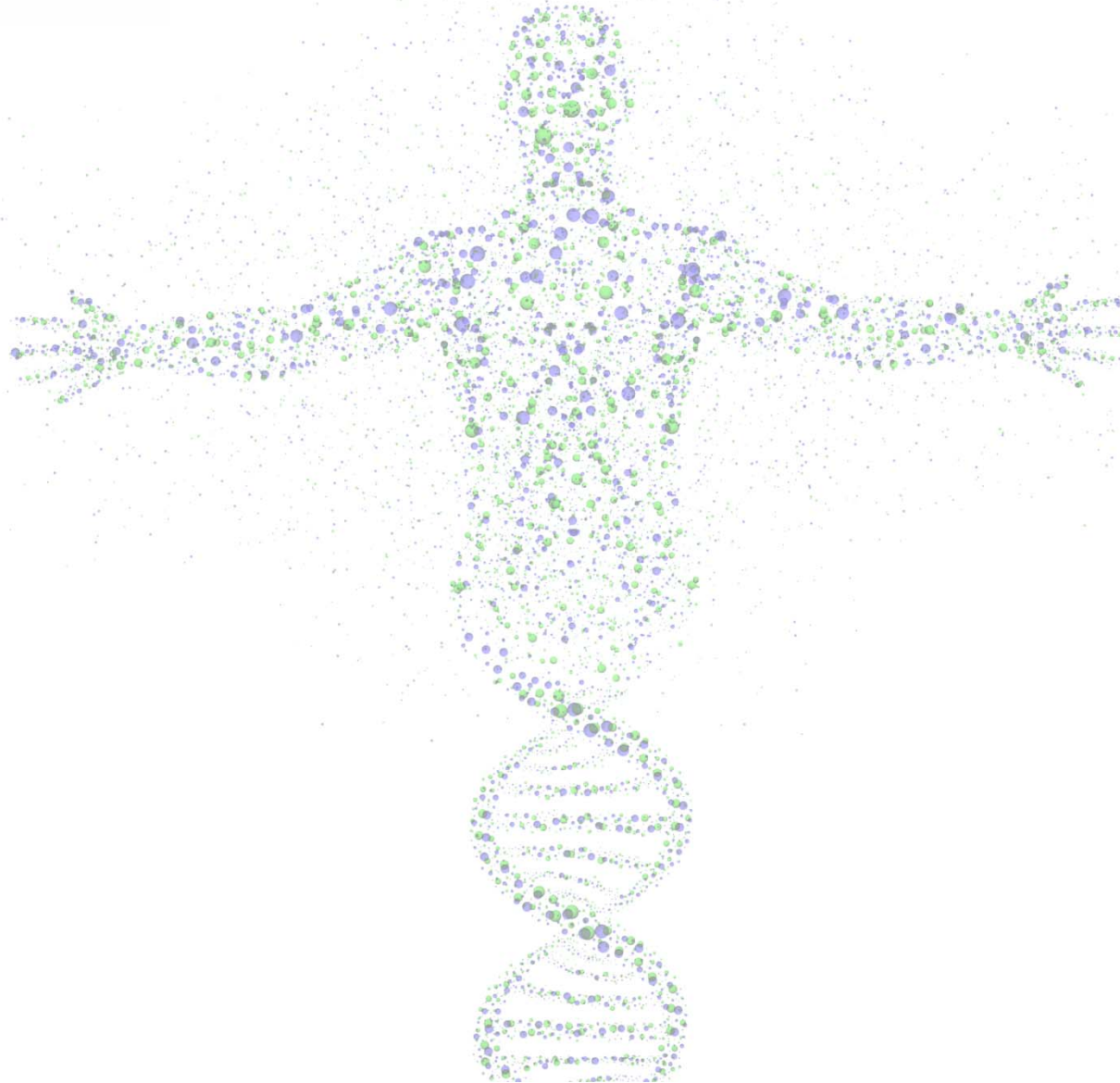




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Master of Data Science





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Overview



- Master of Data Science and Graduate Diploma in Data Science – Course Structure
 - Course Planning Information
- Meet the Course Coordinators
 - Howard Bondell
 - Trevor Cohn
- Questions



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Course Structure – Statistics Entry



Sample course plan for students who satisfy the *statistics* prerequisites

Year 1	S1	COMP90041 Programming and Software Development	COMP90038 Algorithms and Complexity	MAST90082 Mathematical Statistics	MAST90084 Statistical Modelling
	S2	COMP90049 Knowledge Technologies	INFO90002 Database Systems and Information Modelling	MAST90083 Computational Statistics and Data Mining	MAST90085 Multivariate Statistical Techniques
Year 2	S1	COMP90042 Web Search and Text Analysis	COMP90050 Advanced Database Systems	COMP90024 Cluster and Cloud Computing	MAST90106 Data Science Project Part 1
	S2	COMP90051 Statistical Machine Learning	MAST90110 Analysis of High Dimensional Data	MAST90111 Advanced Statistical Modelling	MAST90107 Data Science Project Part 2

	Core Subjects (Statistics)
	Core Subjects (Computer Science)
	Prerequisite package (Computer Science)
	Electives (sample Mathematics & Statistics electives)
	Capstone (25 points)

Course Structure – Comp Science Entry



Sample course plan for students who satisfy the *computer science* prerequisites

Year 1	S1	COMP90042 Web Search and Text Analysis	COMP90050 Advanced Database Systems	MAST90105 Methods of Mathematical Statistics (25 points)	
	S2	COMP90051 Statistical Machine Learning	Elective	MAST90104 A First Course in Statistical Learning (25 Points)	
Year 2	S1	MAST90106 Data Science Project Part 1	COMP90024 Cluster and Cloud Computing	MAST90082 Mathematical Statistics	MAST90084 Statistical Modelling
	S2	MAST90107 Data Science Project Part 2	Elective	MAST90083 Computational Statistics and Data Mining	MAST90085 Multivariate Statistical Techniques

	Core Subjects (Statistics)
	Core Subjects (Computer Science)
	Prerequisite package (Statistics)
	Capstone (2 x 12.5 points)
	Electives



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Course Structure – Data Science Entry



Sample course plan for students who satisfy *both* the statistics and computer science prerequisites

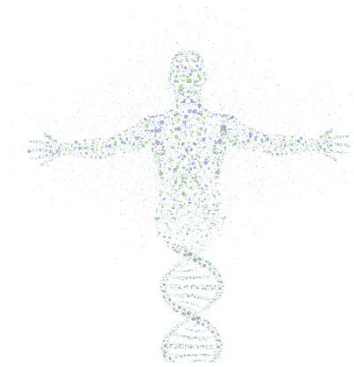
Year 1	S1	COMP90042 Web Search and Text Analysis	COMP90050 Advanced Database Systems	MAST90082 Mathematical Statistics	MAST90084 Statistical Modelling
	S2	COMP90051 Statistical Machine Learning	Elective	MAST90083 Computational Statistics and Data Mining	MAST90085 Multivariate Statistical Techniques
Year 2	S1	MAST90106 Data Science Project Part 1	COMP90024 Cluster and Cloud Computing	Elective	Elective
	S2	MAST90107 Data Science Project Part 2	Elective	Elective	Elective

	Core Subjects (Statistics)
	Core Subjects (Computer Science)
	Capstone (2 x 12.5 points)
	Research Project (25 points taken over 2 semesters)
	Electives



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Electives



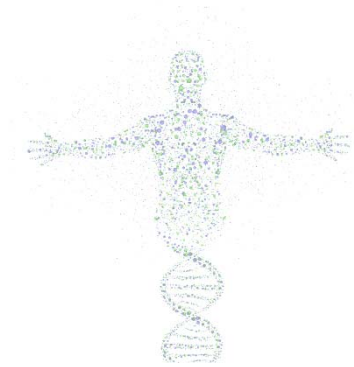
Discipline Elective Subjects

GEOM90008 Foundations of Spatial Information	GEOM90018 Spatial Databases	GEOM90006 Spatial Analysis	GEOM90007 Spatial Visualisation
MAST90110 Analysis of High Dimensional Data	MAST90051 Mathematics of Risk	MAST90014 Optimisation for Industry	MAST90027 The Practice of Statistics
MAST90111 Advanced Statistical Modelling	MAST90059 Stochastic Calculus with Applications	MAST90081 Advanced Probability	MAST90019 Random Processes
COMP90054 AI Planning for Autonomy	COMP90057 Advanced Theoretical Computer Science	COMP90014 Algorithms for Functional Genomics	COMP90016 Computational Genomics
COMP90043 Cryptography and Security	COMP90048 Declarative Programming	COMP90020 Distributed Algorithms	COMP90015 Distributed Systems
COMP90007 Internet Technologies	COMP90018 Mobile Computing Systems Programming	COMP90025 Parallel and Multicore Computing	COMP90045 Programming Language Implementation
COMP90042 Web Search and Text Analysis	ISYS90035 Knowledge Management Systems	ISYS90086 Data Warehousing	



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Electives



Professional Skills Subjects

SCIE90012 Science Communication	SCIE90013 Communication for Research Scientists	EDUC90839 Science in Schools	SCIE90017 Science and Technology Internship
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Data Science Research Project

Students who maintain a sufficiently high WAM will be eligible to undertake a 25 point individual research project in Data Science

MAST90108 Data Science Research Project Part 1	MAST90109 Data Science Research Project Part 2
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Diploma is based around the following standard list of subjects:

- COMP90038 Algorithms and Complexity (12.5 points)
- COMP90041 Programming and Software Development (12.5 points)
- INFO90002 Database Systems & Information Modelling (12.5 points)
- COMP90049 Knowledge Technologies (12.5 points)
- MAST90105 Methods of Mathematical statistics (25 points)
- MAST90104 A First Course In Statistical Learning (25 points)

Computer Science Stream (for students with some 2nd year CS subjects)

- COMP90007 Internet Technologies
- COMP90049 Knowledge Technologies (12.5 points)
- MAST90105 Methods of Mathematical statistics (25 points)
- MAST90104 A First Course In Statistical Learning (25 points), and
- INFO90002 Database Systems & Information Modelling (12.5 points) *or* COMP90050 Advanced Database Systems (12.5 points)
- COMP90038 Algorithms and Complexity (12.5 points) *or* COMP30026 Models of Computation (12.5 points)

Statistics Stream (for students with some 2nd year Probability or Statistics, but little or no Computer Science)

- COMP90059 Introduction to Python (12.5 points)
- COMP90038 Algorithms and Complexity (12.5 points)
- COMP90041 Programming and Software Development (12.5 points)
- INFO90002 Database Systems & Information Modelling (12.5 points)
- MAST90104 A First Course In Statistical Learning (25 points)
- *And two of:*
- MAST30020 Probability for Inference
- MAST30001 Stochastic Modelling
- MAST30033 Statistical Genomics



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Course Coordinators

Howard Bondell
Mathematics and Statistics

Trevor Cohn
Computing and Information Systems



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Questions

