## Section 1 Key Facts

<table>
<thead>
<tr>
<th>Awarding Body</th>
<th>University of Stirling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner Institution</td>
<td>Amity – Singapore; Core – UAE (see International Programme Specification for details)</td>
</tr>
<tr>
<td>Programme Name</td>
<td>MSc Data Science for Business</td>
</tr>
<tr>
<td>Award e.g. BSc (Hons), MA etc.</td>
<td>MSc</td>
</tr>
<tr>
<td>Faculty</td>
<td>Stirling Management School</td>
</tr>
<tr>
<td>Division (if applicable)</td>
<td>Management, Work &amp; Organisation</td>
</tr>
<tr>
<td>UCAS Code (UG only)</td>
<td>n/a</td>
</tr>
<tr>
<td>Programme Code</td>
<td>TXX44-DSB</td>
</tr>
<tr>
<td>Mode of Study</td>
<td>Full Time</td>
</tr>
<tr>
<td>Location/Method of Study</td>
<td>UK</td>
</tr>
<tr>
<td>Admission Points</td>
<td>Stirling - September</td>
</tr>
<tr>
<td>Length of Programme</td>
<td>12 months</td>
</tr>
<tr>
<td>SCQF Level</td>
<td>11</td>
</tr>
<tr>
<td>Total Credit Value</td>
<td>180</td>
</tr>
<tr>
<td>ECTS Credit Value</td>
<td>90</td>
</tr>
<tr>
<td>Relevant QAA Subject Benchmark</td>
<td>Business and Management (2015)</td>
</tr>
<tr>
<td>Professional Body Accreditation</td>
<td>n/a</td>
</tr>
<tr>
<td>Programme Director</td>
<td>Dr Kepa Mendibil</td>
</tr>
<tr>
<td>Advisor of Studies</td>
<td>Dr Kepa Mendibil</td>
</tr>
<tr>
<td>Programme Approved</td>
<td>25/01/2016</td>
</tr>
<tr>
<td>Last Updated</td>
<td>June 2017</td>
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</table>
Section 2 Overview

PROGRAMME SUMMARY

This course has been developed with industry leaders in the field of business analytics including SAS, HSBC and The Datalab, to produce graduates with the skills that industry needs.

The course addresses the acknowledged shortage of business leaders and managers with a detailed working knowledge of data analytics. The course gives you the opportunity to develop specialist skills by choosing elective modules from finance, computing science and management. You'll work on real life consultancy-style projects alongside industry leaders in data analytics. Our extensive network of external organisations across all sectors provides opportunities to build your knowledge, skills and experience for a successful career in business analytics roles.

The Data Lab

We work closely with The Data Lab, an internationally leading research and innovation centre in data science. Established with an £11.3 million grant from the Scottish Funding Council, The Data Lab will enable industry, public sector and world-class university researchers to innovate and develop new data science capabilities in a collaborative environment. Its core mission is to generate significant economic, social and scientific value from data.

Key Features of the Programme (including what makes it distinctive)

1. Industry partnership and Action Learning – though consulting projects with industry
2. Endorsed by The Data Lab — one of Scotland’s innovation centres that helps universities develop new data science capabilities in a collaborative environment.

PROGRAMME AIMS

This course aims to provide you with a deep understanding of the industrial and scientific relevance of advanced analytics and their application in strategic and operational decision-making. In doing so, it develops graduates with a highly sought-after blend of data analytics, business acumen and advanced management skills.

WHAT WILL I BE EXPECTED TO ACHIEVE?

On successful completion of this programme, you should have:

Knowledge and Understanding:
1. Acquired knowledge, skills and experience for a successful career in data science and business.
2. Developed an understanding of the diversity of organisations, their process, systems and opportunities for the application of data science.
3. Developed an understanding of the application and implications of data analytics in organisations across different sectors.
4. Developed knowledge and skills of data analytics tools and techniques for business decision making.
5. Developed an ability to design and apply business research methods.

Intellectual, Practical and Transferable Skills and other graduate attributes:
1. The ability to understand the impact of global environmental forces on organisations, including: legal and political systems; demographics; ethical, social, and technological change issues on data driven organisation.
2. Developed consultancy skills and apply them in projects with external organisations.
3. Developed an understanding and appreciation of the complexity of managing change.
4. Developed and enhance personal, critical, analytical, interpersonal, leadership and entrepreneurial skills.

Values and Attitudes:
1. The ability to understand the impact of sustainability, ethics and risk management on business
decisions and performance.

2. Developed and enhance capabilities and confidence for championing data analytics projects across all type of organisations.

**HOW WILL I LEARN?**

This is a one-year full-time course of two semesters, followed by a three-month independent study period on a dissertation or consultancy case study.

You will be taught in lectures, seminars, workshops, presentations and through practical case study exercises.

**WHAT TYPES OF ASSESSMENT AND FEEDBACK CAN I EXPECT?**

*Assessment and Assessment Criteria*

The course uses a variety of assessment methods ranging from individual assignments, group assignments, business reports, class tests, examinations, individual and group presentations and research design.

Assignments and essays are used to test research skills with a strong emphasis on critical analysis and reflective insights. The assignments also provide the opportunity to develop and assess your problem definition and management communication skills, and capability with key software packages; presentations provide a test of oral communication skills, as well as providing another mechanism for assessing case study analysis.

*Feedback on Assessment*

You will receive feedback on coursework within 3 weeks of completion of the assessment. Feedback is usually provided electronically on formal coursework. Feedback and Guidance sessions with teaching staff are available on all modules. These provide regular opportunities to discuss feedback further. More information about feedback on assessment can be found here; [http://www.stir.ac.uk/academicpolicy/handbook/assessment/](http://www.stir.ac.uk/academicpolicy/handbook/assessment/)

*Assessment Regulations*

*Highlight any exceptions to the assessment regulations for this programme*

n/a

If you would like to know more about the way in which assessment works at the University of Stirling, please see the full version of the assessment regulations at: [https://www.stir.ac.uk/regulations/postgraduate/assessmentandawardofcredit/](https://www.stir.ac.uk/regulations/postgraduate/assessmentandawardofcredit/)

**WHAT WILL I STUDY?**

**SEPTEMBER INTAKE – Stirling**

Total year 1 credit value = 180
Compulsory credits = 160
Option credits = 20

Compulsory Modules

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPD for Data Science</td>
<td>BUSPD01</td>
<td>10</td>
<td>Autumn</td>
<td>11</td>
</tr>
<tr>
<td>Commercial and Scientific Applications</td>
<td>ITNPBD4</td>
<td>20</td>
<td>Autumn</td>
<td>11</td>
</tr>
<tr>
<td>Business Analytics</td>
<td>MANP001</td>
<td>20</td>
<td>Autumn</td>
<td>11</td>
</tr>
</tbody>
</table>

ARO 034a August 2017 v1.4
Option Modules – 20 credits from:

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Analytics</td>
<td>ITNPBD6</td>
<td>20</td>
<td>Spring</td>
<td>11</td>
</tr>
<tr>
<td>Risk Management in Banking</td>
<td>BFIP0RB</td>
<td>20</td>
<td>Spring</td>
<td>11</td>
</tr>
<tr>
<td>Project Management</td>
<td>BUSP012</td>
<td>10</td>
<td>Spring</td>
<td>11</td>
</tr>
<tr>
<td>Innovation Management</td>
<td>BUSP016</td>
<td>10</td>
<td>Spring</td>
<td>11</td>
</tr>
</tbody>
</table>

For International Programmes, please refer to the International Programme Specification Form.

**READING LIST**

**BUSPD01 Personal and Professional Development**

*The following resources are intended to inform and support the completion of the PPD module:*

**Assertiveness**

**Facilitation Skills**

**Personal Development**
  - complexworld.pbworks.com/f/PDP+AND+SELF-REGULATION.doc

**Reflective Practice**

**Self-Awareness**

• Team Working

**ITNPBD4 Commercial and Scientific Applications**

*Due to the nature of this module, there is no compulsory course text book. Each lecture will indicate its specific sources. Below is a list of useful material:*

• Doing Data Science, Straight talk from the Frontline, by Cathy O’Neil and Raachel Schutt, O’Reilly 2013.
• Machine Learning: Website by the Royal Society
• Machine Learning: Full Report by the Royal Society
• What is Big Data?, by Villanova University
• The World of Big Data, by Oracle

**MANP001 - Business Analytics**

• Quantitative methods for business decisions, 7th edition (2013) [also an electronic resource], Jon Curwin, Roger Slater & David Eadson, Cengage Learning

*Other quantitative analysis books which may be found useful are -*

• Quantitative approaches in business studies 8th Ed (2012), Clare Morris, Pearson Education.

**MRMP003 – Understanding and Using Statistics**

The recommended textbooks for this module are:

• Other useful books:

**MANP005 - Business Consulting Group Project**


**BUP010 – Strategic Management**  

**MRMP003-Understanding and Using Statistics**  

**ITNPBD6 – Data Analytics**  
Please refer to module outline for core text book.

**MANP099 – Dissertation & MANP098 – Consultancy Project**  

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**Section 3 Student Support**

**SUPPORT FOR STUDENT LEARNING**

**Induction**  
You will receive an induction during the first days of your programme. This includes a range of social events, information sessions and activities to help you orientate yourself at Stirling and access the services available to you. These are opportunities to meet staff and other students from across the university, in the Faculty and on the programme.

**Flying Start Leadership Programme**  
The programme takes part in the wider SMS Flying Start Leadership programme. It’s exclusively for new students about to start one of our postgraduate courses. You take part in a wide range of group and individual activities, workshops and information sessions to help you prepare for the year ahead, and make the most of your time at the University of Stirling Management School.

The programme ensures that you:  
- Discover more about the exciting period of learning ahead;  
- Understand what is expected of you in your course;  
- Get to know the teaching and support staff;  
- Learn more about a diverse range of approaches to learning;  
- Work as part of a successful team;  
- Develop your personal goals for the year ahead;  
- Activities range from practical skills – such as effective public speaking – to developing ways to work in groups with other students.

**Study Skills Support**  
Student Learning Services (SLS) are committed to providing comprehensive guidance on all aspects of effective and efficient learning. The ultimate aim of the service is to enable you to make the most of your academic studies at the University and for you to become an independent, successful learner during your time at the University of Stirling. This is facilitated through collaborative work with experienced tutors and by offering a variety of courses, workshops and tutorials.
All students, whatever stage of their academic studies, are welcome to use Student Learning Services. However the service may be particularly beneficial:

- In your first two years of study.
- If you are making the transition from college to Higher Education.
- If you have been out of education for some time.

**What SLS are able to do:**

- Advise you on academic skills relevant to your studies at University.
- Help you consolidate your previous learning and develop new learning strategies.
- Advise on action-plans to potentially improve grades.
- Suggest practical solutions if you feel overwhelmed by assignment work.
- Help you gain confidence in the transition to Higher Education.

More information can be found here: [http://www.stir.ac.uk/campus-life/learning-support/student-learning-services/](http://www.stir.ac.uk/campus-life/learning-support/student-learning-services/)

**STEER**

STEER is a University-wide peer support scheme linking in returning student "Captains" with new undergraduate or taught post-graduate "Crew" during their first year at Stirling.

The scheme aims to help you make the most of your time at the University, help new students - the Crew - settle in and realise the opportunities available to them. You can find out more information here: [https://www.stirlingstudentsunion.com/representation/studentsupport/steer/](https://www.stirlingstudentsunion.com/representation/studentsupport/steer/)

**Stirling Graduate School**

For Research Postgraduate Students the Stirling Graduate School as well as your own faculty will provide support. More information can be found here: [http://www.stir.ac.uk/graduateschool/current-pg-students/skills-development/](http://www.stir.ac.uk/graduateschool/current-pg-students/skills-development/)

**Academic and Pastoral Support**

**Adviser of Studies:** Advisers have an important role to play in enhancing your academic and personal development and are essential to ensuring you make the most of your time at university. Advisers provide a personalised point of contact for you to discuss academic concerns or queries within the academic community. The general purpose of the role is to provide more in-depth advice on the academic options available to you and on the academic policies and regulations within the University. More information can be found here: [http://www.stir.ac.uk/registry/advisers/](http://www.stir.ac.uk/registry/advisers/)

**Personal Tutor:** The role of a personal tutor is to help you feel part of the University community. They are a specific and consistent source of guidance, information and support for you throughout your studies. The tutor should be the your first formal point of contact for general academic guidance and pastoral support. More information can be found here: [http://www.stir.ac.uk/tse/personal-tutor/](http://www.stir.ac.uk/tse/personal-tutor/)

**Support and Wellbeing:** At university you may face non-academic issues where you need some expert help or guidance. There are lots of ways we can help you in your day-to-day life at University. Student Support Services provide a range of high-quality services to assist you during the course of your studies, help prepare you for life after graduation. We aim to enhance the student experience and help you to get the most out of your time at University. More information can be found here: [http://www.stir.ac.uk/campus-life/support-and-wellbeing/](http://www.stir.ac.uk/campus-life/support-and-wellbeing/)

**Student Union:** you can also access support through the Students’ Union, more information can be found here: [https://www.stirlingstudentsunion.com/representation/studentsupport/](https://www.stirlingstudentsunion.com/representation/studentsupport/)

**Accessibility and Inclusion (A&I)**

A&I are committed to offering a service which is welcoming and supportive of the needs of all students. Our service takes into account the full range of needs you may have, in a wide variety of circumstances including - physical and mobility difficulties, sensory impairments, specific learning difficulties including...
dyslexia and autistic spectrum disorder as well as medical conditions and mental health difficulties. A&I can also support you if you have short-term, temporary impairments or other difficulties as a result of an accident, injury, illness or surgery. More information can be found here: http://www.stir.ac.uk/student-support/accessibility-&-inclusion-service/

Learning Resources
You can find out more about the resources available to support your learning here: http://www.stir.ac.uk/campus-life/learning-support/

Section 4 Programme Evaluation and Enhancement

<table>
<thead>
<tr>
<th>METHODS FOR EVALUATING AND IMPROVING THE QUALITY AND STANDARDS OF TEACHING AND LEARNING</th>
</tr>
</thead>
</table>

Module Evaluation
Module evaluations are carried out each year and are an important way of getting student feedback on the modules we teach. We aim to evaluate every module we teach in every semester. You can find out more here: http://www.stir.ac.uk/registry/studentinformation/moduleevaluation/

Student/Staff Consultative Committees (SSCC)
Student/Staff Consultative Committees will meet twice per semester, and shall routinely address issues arising from student feedback on modules, the programme, as well as broader issues on academic policy.

Module Review
At the end of each semester, each Module Co-ordinator will complete a Module Review Form, which will highlight issue, how these were resolved, and areas of good practice.

Annual Programme Monitoring Review
Annual Programme Monitoring Review Forms will be completed at the end of each academic cycle. This is an opportunity for the Programme Director and the wider teaching team to review the programme. This includes a review of SSCCs minutes; feedback from the External Examiner; a review of all modules (strengths and areas of good practice, issues, responses); the range of assessment in the programme; the continuing appropriateness of the curriculum; adequacy of learning resources; quantity and quality of professional placements (if applicable); professional accreditation (if applicable); the effectiveness of changes implemented since the previous report; and outline any proposed changes for future cohorts.

Programme Review
Programmes are reviewed annually and on a 5 yearly cycle. You can get involved in a variety of different ways; by completing module evaluations, becoming a course representative and attending Student Staff Consultative Committees, or participating in the review process itself. You can find out more here: http://www.stir.ac.uk/academicpolicy/handbook/review-and-monitoring/

External Examiner(s) (To be added following Stage 2 approval)
Name of External Examiner: Dr Zenon Michaelides
Institution: University of Liverpool

SECTION 5 MY FUTURE

<table>
<thead>
<tr>
<th>WHAT KIND OF CAREER MIGHT I GO ON TO?</th>
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</table>

Demand for people with data analytics skills is projected to grow rapidly. Average salaries are higher in data analytics jobs than the IT average and the skills shortage will make that gap bigger. The Stirling MSc Data Science for Business is run in partnership with industry and is designed to produce graduates with the skills that companies need.
How does this programme facilitate your development of the Graduate Attributes?

**Connected**
Being part of the Stirling data science alumni will connect you with graduates globally

**Innovative**
Through opportunities to work in life data consultancy projects with real clients throughout your studies

**Transformative**
Developing detailed knowledge on a field that can transform your future career opportunities

<table>
<thead>
<tr>
<th>WHAT STUDY ABROAD OPPORTUNITIES ARE AVAILABLE?</th>
</tr>
</thead>
<tbody>
<tr>
<td>None.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHAT PLACEMENT OPPORTUNITIES ARE AVAILABLE?</th>
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<tbody>
<tr>
<td>None.</td>
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</table>

<table>
<thead>
<tr>
<th>WHAT FURTHER STUDY OPTIONS ARE AVAILABLE TO ME?</th>
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</thead>
<tbody>
<tr>
<td>You may study for professional examinations, or you might register for a Research masters, proceeding to doctoral level study.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>WHAT OTHER INFORMATION DO I NEED TO KNOW?</th>
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<tbody>
<tr>
<td>Not applicable.</td>
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### Section 6 Admissions

<table>
<thead>
<tr>
<th>HOW DO I ENTER THE PROGRAMME?</th>
</tr>
</thead>
<tbody>
<tr>
<td>You’ll need a minimum of a second-class Honours degree in any subject, or an equivalent qualification. However, if you don’t have these formal qualifications, but bring significant work experience in a relevant area, you can still apply.</td>
</tr>
</tbody>
</table>

**English language requirements**
If English is not your first language, you must have one of the following qualifications as evidence of your English language skills:

- IELTS: 6.0 with 5.5 minimum in each skill
- Cambridge Certificate of Proficiency in English (CPE): Grade C or above
- Cambridge Certificate of Advanced English (CAE): Grade C or above
- Pearson Test of English (Academic): 54 with 51 in each component
- IBT TOEFL: 90 with no subtest less than 17