### Programme Specification ARO 034a

**MSc DATA SCIENCE FOR BUSINESS – INTERNATIONAL PROGRAMME SPECIFICATION**

#### 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</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>Core (UAE) - T.B.A. Amity (Singapore) – T.B.A.</td>
</tr>
<tr>
<td>Mode of Study</td>
<td>Full Time ☑</td>
</tr>
<tr>
<td>Location/Method of Study</td>
<td>International ☑ Where: Amity – Singapore Core – UAE</td>
</tr>
<tr>
<td>Admission Points</td>
<td>Amity (Singapore) - September ☑  February ☑  Core (UAE) - September ☑</td>
</tr>
<tr>
<td>Length of Programme</td>
<td>12 months</td>
</tr>
<tr>
<td><strong>SCQF Level</strong></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 <a href="#">QAA Subject Benchmark</a></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>
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<tr>
<td>Programme Approved</td>
<td>25/01/2016</td>
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<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 students 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
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/

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/

WHAT WILL I STUDY?

Year 1

SEPTEMBER INTAKE – CORE & AMITY

Total year 1 credit value = 180
Compulsory credits = 180
Option credits = 0
Compulsory Modules

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
</tr>
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<tbody>
<tr>
<td>PPD for Data Science</td>
<td>BUSP01</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>
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<tr>
<td>Understanding and Using Statistics</td>
<td>MRMP003</td>
<td>20</td>
<td>Autumn</td>
<td>11</td>
</tr>
<tr>
<td>Business Consulting Group Project</td>
<td>MANP005</td>
<td>20</td>
<td>Spring</td>
<td>11</td>
</tr>
<tr>
<td>Strategic Management</td>
<td>BUSP010</td>
<td>10</td>
<td>Spring</td>
<td>11</td>
</tr>
<tr>
<td>Data Analytics</td>
<td>ITNPBD6</td>
<td>20</td>
<td>Spring</td>
<td>11</td>
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</tbody>
</table>

**EITHER**

- Dissertation MANP099 60 Spring / Summer 11

**OR**

- Consultancy Project MANP098 60 Spring / Summer 11

**FEBRUARY INTAKE – AMITY ONLY**

Total year 1 credit value = 180
Compulsory credits = 180
Option credits = 0

Compulsory Modules

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**EITHER**

- Dissertation MANP099 60 Summer / Autumn 11

**OR**

- Consultancy Project MANP098 60 Summer / Autumn 11

**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

### 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

BUSP010 – Strategic Management

MRMP003-Understanding and Using Statistics

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

MANP099 – Dissertation & MANP098 – Consultancy Project

Section 3 Student Support [PLEASE UPDATE AS NEEDED FOR THE STUDENT COHORT]

SUPPORT FOR STUDENT LEARNING

At an overseas partner institution, you will have access to some of the on-line support materials (such as Study Skills Support) as well as access to our library resources as well as being given generic pastoral support from your local partner institution.
In addition, Stirling Management School have appointed International Directors for each partner, and an Associate Dean for Internationalisation, who visit the partners at least annually, and are available to provide support to you on these visits if you request it.

**Induction**

Students attending Stirling Management School programmes at overseas partner institutions will be inducted in three complementary ways:

Firstly, you will be able to use the online discovery process to create your own ‘Stirling’ information system and student identity. This provides you with an email address, access to online systems (such as the library and the virtual learning environment (VLE)) and enables you to confirm your registration for the programme.

Secondly, a Stirling staff member along with local partner colleagues will welcome you at a series of events in the first week of study. During these induction events, the programme team will explain the operation of the Stirling programme in detail, covering topics such as the programme schedule, Stirling Student services, the online learning environment and how studying at an international centre will be similar or different to studying in Scotland. You will be able to ask as many questions as you like about your Stirling programme, or more generally the University of Stirling during the live induction events. This will enable you, with direct support from Stirling and local members of staff, to become familiar with the ‘Stirling’ approach to teaching, the style of materials and the virtual learning environment.

Thirdly, colleagues from Amity Singapore will introduce you to their facilities, ensuring that you fully understand the local regulations, infrastructure and operational approach.

General Support: Local partner institutions will provide you with further information about general support and guidance available in country.

**Study Skills Support**

Student Learning Services 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 with the University and for you to become an independent, successful learner during your time with the University. As you will study for your degree at a partner institution, you will have access to the on-line study skills support tools available via the VLE, Canvas.

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/)

**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/](http://www.stir.ac.uk/campus-life/learning-support/)

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**Section 4 Programme Evaluation and Enhancement**

**METHODS FOR EVALUATING AND IMPROVING THE QUALITY AND STANDARDS OF TEACHING AND LEARNING**

**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/](http://www.stir.ac.uk/registry/studentinformation/moduleevaluation/)

**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/](http://www.stir.ac.uk/academicpolicy/handbook/review-and-monitoring/)

**External Examiner(s) (To be added following Stage 2 approval)**
Name of External Examiner: **TO BE ADVISED**
Institution:

### SECTION 5 MY FUTURE

**WHAT KIND OF CAREER MIGHT I GO ON TO?**

What career avenues does this qualification open up to the student?

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

**WHAT STUDY ABROAD OPPORTUNITIES ARE AVAILABLE?**
None

**WHAT PLACEMENT OPPORTUNITIES ARE AVAILABLE?**
None

**WHAT FURTHER STUDY OPTIONS ARE AVAILABLE TO ME?**
What programmes of study could the student go on to after successfully completing this one?
You may study for professional examinations, or you might register for a Research masters, proceeding to doctoral level study.

**WHAT OTHER INFORMATION DO I NEED TO KNOW?**
Information that should be displayed at module registration and/or on the Degree Programme Table webpages to help students understand any programme specific requirements or agreed exceptions to regulations. This could also include useful information that will enable a student to decide to take this programme, prepare for the programme, or that will be useful to them on completion of the programme e.g. professional recognition/accreditations etc.

Not applicable
## HOW DO I ENTER THE PROGRAMME?

### Admissions Criteria

General university entry criteria (including the necessary English language standard) for Year 2 entry. High school leaving Mathematics (e.g. A level) Mathematics is preferred.

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.

If you don’t meet the required criteria for this course, you can complete the Graduate Diploma in Business, Finance and Sport to gain a guaranteed entry onto this Master’s degree.

### 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