



Proposal for New Degree Programme

Stage 1

Contents

1 OVERVIEW OF PROGRAMME

1.1 ABOUT THE PROGRAMME

2 BUSINESS CASE

2.1 STRATEGIC PLANNING, RECRUITMENT & COMPETITOR ANALYSIS

2.2 FEES AND COSTING

2.3 ANTICIPATED AND PROJECTED ENROLMENTS

2.4 PLANNING AND RESOURCES

2.5 COLLABORATIVE PROGRAMMES

3 CONSULTATION AND APPROVAL

3.1 CONSULTATION

3.2 SCHOOL BOARD OF STUDIES REVIEW AND APPROVAL

3.3 HEAD OF SCHOOL REVIEW AND APPROVAL

3.4 COLLEGE CURRICULUM APPROVAL BOARD REVIEW AND OUTCOME

Key Contacts

Should you require any assistance please contact:

DeanQA@ed.ac.uk

1 OVERVIEW OF PROGRAMME

Grey text has been added to provide guidance. Please delete as you add your own text, remove italics, and change the font colour to black.

1.1 ABOUT THE PROGRAMME

Title of programme	MSc in Advanced Artificial Intelligence	
Intended Award	MSc (240 points)	
Alternative awards	MSc (180 points), PGCert, PGDip	
School	Informatics	
Programme Director	Stuart Anderson	
Programme start dates	September 2020	
SCQF level of highest award	11	
Total credit value of programme <i>(for highest award)</i>	240 points	
Partner institution(s) if any	None	
Mode of delivery <i>(Please ✓ those which apply to this programme)</i>	On campus	Second year the programme is undertaken on campus
	Online	First year the programme is undertaken online, distance
	Blended learning	
	FT	Second year the programme is only available full-time, First year the programme is available full time.

	PT	First year the programme is available part-time over two years
	Intermittent	
Expected length of programme	FT	Two years
	PT	Two years in first year, one year in second year
	Intermittent	
Description of the programme and its structure (maximum 150 words)		
<p>This programme offers an advanced postgraduate qualification in Artificial Intelligence. The first year is undertaken via online distance education and provides a solid foundation in modern artificial intelligence. This ensures candidates have the necessary skills and abilities in Mathematics, programming and Informatics to undertake further study on-campus in the second year where students will study advanced courses in the first semester of year two and will undertake a research project in semester two of year two. Students can also exit after one year of study by completing an online distance project.</p>		
Career, employability, and opportunities for continuing professional development.		
<p>Demand for Artificial Intelligence professionals has tripled in the UK over the last three years. In that time supply of people with AI skills has doubled but there is still a significant skills gap in AI. Average advertised salaries in AI roles is over £54,000. The number of roles is still growing and plans to deploy AI in both the public and private sectors in the UK continue apace. This programme is oriented to people who are prepared to commit full-time to at least the second year of study.</p>		

2 BUSINESS CASE

This section should be used to outline the business case for the proposed programme. Before completing this section market research should have been undertaken.

2.1 STRATEGIC PLANNING, RECRUITMENT & COMPETITOR ANALYSIS

Programme Title	MSc in Advanced Artificial Intelligence
Programme Proposer	Stuart Anderson
Strategic Planning	<ul style="list-style-type: none"> • School of Informatics is facing unprecedented demand for our Masters programmes in AI and Data Science. This year we have seen around 3700 applications for our Masters programmes with around 1300 applications for our MSc in AI. We believe the approach of having a two-year distance/present hybrid will allow us to scale the distance component to better match demand. • Scaling will be achieved by admitting a higher proportion of applicants into the first year of the programme. Capacity to provide good quality tutorials will be ensured by employing tutors from the second year, on-campus, part of the programme. This will use students who have performed well in particular courses they completed in their first year of study. This both provides a scalable approach and provides good teaching experience to the second-year students. • We will have a progression board between first and second year that will enable us to admit a manageable cohort into the second year of the programme. This will improve the balance between demand for supervision and MSc student numbers. • This approach will improve student experience in the first and second years of the programme. First year students will experience well-resourced courses with knowledgeable and motivated tutors. Second year students will study advanced courses with well-managed student numbers. • The first-year distance programme offers the capacity to provide a flexible platform for study in second year. For example, we could provide some first-year courses that ease the transfer of students from other numerate disciplines into Informatics. Or, by including more advanced courses we could target highly qualified Informaticians with a view to offering more research-oriented activities in the second year. • We believe this programme offers an attractive alternative to our current one-year offering: <ul style="list-style-type: none"> ○ We envisage running this programme concurrently with our one-year programme. ○ If we restrict numbers on the one-year programme we can see if the new programme is seen as a viable alternative. ○ If this is a popular approach, we would envisage closing our one-year programmes in the longer term. • In funding terms, we believe by charging fees of around £15K for first year and £24K for second year this would cost little more than our current one-year programme that requires students to be resident in Edinburgh for almost a full year while his proposal would require students to be resident for two semesters.
Recruitment	<ul style="list-style-type: none"> • There is very high demand for students with this qualification. The number of jobs in this area in the UK market has tripled over the past three years while the available supply of AI specialists has doubled. A recent Forbes article estimated there are around 300,000 AI specialists worldwide but there are several million posts demanding this expertise.

<p><i>Please provide a detailed commentary on your marketing and recruitment strategy.</i></p>	<ul style="list-style-type: none"> • Our approach will be to exploit the “bystander effect” by placing this programme as an alternative to our current programmes that have high demand. This programme will be tagged as an Advanced AI programme that provides students with a wider choice of possible employment. • We are targeting our existing pool of applicants for our AI and Data Science degrees. We believe we reject many candidates who could succeed in our programmes. By offering a scalable online option for the first year this means we can offer a high-quality distance experience to a wider intake. A significant proportion of students would not progress to the second year they would graduate with a Masters by completing a distance project after completing their programme of taught courses. • Our goal is to improve the staff and student experience in Teaching and Learning on our MSc programmes in a situation of unprecedented demand. We believe this degree will reduce demand for our single year AI programme enabling us to deliver more effectively to a smaller on-campus cohort. • MSc in AI and MSc in Data Science – both of these programmes are heavily oversubscribed at the moment. Our strategy in introducing this programme would be to further restrict admissions to these one-year programmes provided this redirects students to the new two-year programme. • At the moment the range of AI roles in the public, private and third sectors is growing rapidly. Graduating with this qualification will allow students to contribute effectively in these roles. 																				
<p>Competitor Analysis</p> <p><i>A competitor analysis report provides a better understanding of the marketplace and competition, from the going rate for tuition fees to the unique selling points and marketing strategies of competitor programmes.</i></p>	<ul style="list-style-type: none"> • There is only a small number of 2-year MSc courses currently running in the UK. The largest concentration of AI courses in Europe are in the UK and Ireland. School of Informatics already competes very effectively with the wide UK range of MSc courses in AI. Here we have included two programmes as examples of competitor programmes. • The Heriot-Watt course is a genuine two-year degree. This has a 240-point taught component plus a 60-point dissertation component. The fees are significantly lower than those proposed for this programme. However, the range and depth of courses available on the programme is more restricted than those we offer in Edinburgh. Edinburgh also has a very high reputation in AI. • The Imperial course is a standard 180-point one-year course. This has slightly higher fees than our one-year course and would be seen as a competitor to our one-year programme. At the moment we see very healthy demand for our AI programme despite prestigious competition from leading UK institutions. This demand is what we seek to tap with a first-year online offering. 																				
<p>Competitor Fees</p> <p><i>Provide the fee structure (£) of three competitors, preferably those mentioned in the competitor analysis. These may be UK or overseas competitors.</i></p>	<table border="1"> <thead> <tr> <th data-bbox="584 986 1055 1145" rowspan="2">Institution</th> <th data-bbox="1055 986 1451 1145" rowspan="2">Programme</th> <th colspan="2" data-bbox="1451 986 2107 1066">Fees</th> </tr> <tr> <th data-bbox="1451 1066 1792 1145">Home</th> <th data-bbox="1792 1066 2107 1145">Overseas</th> </tr> </thead> <tbody> <tr> <td data-bbox="584 1145 1055 1246">Heriot-Watt University</td> <td data-bbox="1055 1145 1451 1246">MSc Artificial Intelligence (2 years)</td> <td data-bbox="1451 1145 1792 1246">£5,360 + £5,360</td> <td data-bbox="1792 1145 2107 1246">£12,800 + £18,120</td> </tr> <tr> <td data-bbox="584 1246 1055 1347">Imperial College</td> <td data-bbox="1055 1246 1451 1347">MSc Artificial Intelligence</td> <td data-bbox="1451 1246 1792 1347">£14,750</td> <td data-bbox="1792 1246 2107 1347">£32,000</td> </tr> <tr> <td data-bbox="584 1347 1055 1417"></td> <td data-bbox="1055 1347 1451 1417"></td> <td data-bbox="1451 1347 1792 1417"></td> <td data-bbox="1792 1347 2107 1417"></td> </tr> </tbody> </table>	Institution	Programme	Fees		Home	Overseas	Heriot-Watt University	MSc Artificial Intelligence (2 years)	£5,360 + £5,360	£12,800 + £18,120	Imperial College	MSc Artificial Intelligence	£14,750	£32,000						
Institution	Programme			Fees																	
		Home	Overseas																		
Heriot-Watt University	MSc Artificial Intelligence (2 years)	£5,360 + £5,360	£12,800 + £18,120																		
Imperial College	MSc Artificial Intelligence	£14,750	£32,000																		

--	--	--	--	--

2.2 FEES AND COSTING

Programme fees <i>Fees are expressed per academic year in British pounds (£). For PGT programmes, a Programme Costing Template will also be required for Fee Strategy Group.</i>	Home-Scotland / EU	£6,000 + £9,000
	Home-RUK	
	Overseas	£15,000 + £24,000

Fees for each new PGT programme are sent by College to the Fee Strategy Group (FSG) for review and approval. The FSG has developed a Programme Costing Template to give FSG insight into the anticipated profitability of a programme and where it sits within its market. The Fees Costings template, and guidance from FSG on filling out the template, is included in the spreadsheet attached to the right.



Additional Programme Costs (PGR only)

Additional costs to the student should be noted and justified in the table below. These should consist of items that are over and above the basic provision that should be available to all students and should reflect the special additional costs associated with the specific programme of study. Individual items over £200 should be noted on a separate row.

Item	Cost	% of Total
<i>Add rows as necessary</i>		
Total:		100%

2.3 ANTICIPATED AND PROJECTED ENROLMENTS

What are the anticipated and projected enrolments over the next three years?

	Year 1	Year 2	Year 3				
Home	SEE BELOW						
RUK (UG only)							
Overseas							
Supporting Research What market research has been planned or completed to support the predicted student numbers?	Intake Year	1	2	3	4	5	6
	FT Home	4	6	8	10	12	14
	FT OS	20	30	40	50	60	70
	PT Home	6	8	10	12	14	16
	PT OS	40	80	120	160	180	220
	On Course						
	Year 1 FT Home	4	6	8	10	12	14
	Year 1 PT Home	6	10	14	18	22	26
	Year 1 FT OS	20	30	40	50	60	70
	Year 1 PT OS	40	120	200	280	340	400
	Year 2 FT Home	0	4	12	18	24	30
	Year 2 FT OS	0	20	70	160	250	340
	Min Leaving with 180-point		0	0	0	54	150
Because we have a two year programme where we envisage a significant number will want to undertake the first year of the programme on a part-time basis we have constructed the above that makes relatively modest predictions of intake numbers both full- and part-time.							
<ul style="list-style-type: none"> The goal is to run this programme concurrently with our 180-point Masters and market it as a more advanced qualification because it allows students to do more courses and potentially take a little longer over the project. 							

	<ul style="list-style-type: none"> • We aim to recruit from our existing high applicant numbers to the 180-point courses. All the courses on this programme will be closely related to on-campus courses we already present. This will take a significant investment to develop online materials as the programme is established. These resources will be available both for on-campus and distance programmes. If this proposal fails it will still provide us with high quality resources for blended learning and could contribute to the DSTI programme. • At the moment, given levels of demand in this area and the School's reputation we believe this will be viable for at least a decade. • We are confident this programme will appeal to our existing applicants and we will organise focus groups amongst existing students to gauge potential demand from our current student population.
--	--

2.4 PLANNING AND RESOURCES

New Courses	<ul style="list-style-type: none"> • All the courses envisaged on the new programme are in the first-year distance component of the programme. They will all be online distance variants of existing courses in our AI programme. We may also consider cooperating with School of Mathematics and EPCC in offering additional courses in the first year of the programme.
Facilities and Equipment	<ul style="list-style-type: none"> • The goal is to reduce the number of on-campus MSc students, so we believe there are no estates issues. • We aim to develop high-quality online resources. This means we will need to have access to good production facilities. If these are not available, we believe we could develop these within the School at relatively modest cost. • Resources and other materials are similar to those on on-campus course. We do not envisage any new resource needs. • Students will require access to our computing infrastructure, but we believe this can be arranged.
Staff	<ul style="list-style-type: none"> • Staffing issues: <ul style="list-style-type: none"> ○ We will require additional administrators to manage this course because some aspects will run to a slightly different timetable and there is a need to manage large numbers of part-time students. ○ As the programme grows, we will hire additional University Teachers, Learning Technologists and Course Developers to assist in the creation and update of materials. ○ We believe this structure provides a scalable model for the provision of tutors and demonstrators because we will be able to recruit second year students on the programme to tutor first year distance students. • This programme is directly related to one of the main areas of work in the School. We will always prioritise academic recruitment to maintain the capacity to research and teach in this area.
Resource Sharing	<ul style="list-style-type: none"> • All the courses in this programme are already present in other programmes presented by the School or are online versions of these courses.

2.5 COLLABORATIVE PROGRAMMES

Additional information is required for new collaborative programmes, including jointly awarded taught and research degrees, and those involving supervision provided by an Associated Institution. All collaborative programmes require the development and approval of a Memorandum of Agreement (MoA).

Overseas partnerships must have a Memorandum of Understanding (MoU) in place before Stage 1 approval can be granted by the College.

All proposals for new collaborative programmes submitted for Stage 2 approval will require a draft MoA as part of the submission.

Separate guidance is available for the development of collaborative programmes: <http://www.ed.ac.uk/governance-strategic-planning/collaborative-activity/guidance-templates>

The Associated Institutions Policy is available here: <https://www.wiki.ed.ac.uk/display/GPAPFCA/Associated+Institutions>

N/A

3 CONSULTATION AND APPROVAL

Programme Title:	MSc in Advanced Artificial Intelligence
Programme Proposer:	

3.1 CONSULTATION

Please confirm consultation with relevant stakeholders has taken place.

Consultation is an essential part of the Programme Approval process and is in line with the new Quality Code, 'Expectations for Quality'.

Stakeholder	Yes	N/A
School Director of Professional Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>
School Director of Teaching/Head of Graduate School	<input checked="" type="checkbox"/>	<input type="checkbox"/>
School Teaching Organisation/Graduate School staff	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Information and Support Services (including Academic Support Librarians)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Students (SSLC/student representatives)	<input type="checkbox"/>	<input type="checkbox"/>
Partner School staff (e.g. joint programmes/shared courses etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Employers (and/or Careers Service)	<input type="checkbox"/>	<input type="checkbox"/>
Industry and Professional Bodies	<input type="checkbox"/>	<input type="checkbox"/>
External consultation (e.g. External Examiners for related programmes)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Please note any other consultation		

Please comment briefly on any outcomes from the internal consultation process, including consultation with students:

Please comment briefly on the outcomes of any external consultation undertaken:

3.2 SCHOOL BOARD OF STUDIES REVIEW AND APPROVAL

Confirmation of approval of the proposal at the School Board of Studies should be entered below.

Date of BoS:
Convener Name:
Comment and Approval (BoS Minute): <i>Please provide either a link to the minutes of the Board or a copy of the relevant text from the minutes.</i>

3.3 HEAD OF SCHOOL REVIEW AND APPROVAL

Head of School: <i>Please print name</i>
Comment and Approval:
Signature:

3.4 COLLEGE CURRICULUM APPROVAL BOARD REVIEW AND OUTCOME

Date of CCAB:	
Convener Name:	
Stage 1 Outcome (please select as appropriate)	
Permission to proceed to Stage 2	<input type="checkbox"/>
Permission to proceed to Stage 2 with conditions	<input type="checkbox"/>
Proposal rejected with recommendations	<input type="checkbox"/>

Proposal rejected	<input type="checkbox"/>
Comment:	

Document Control

Date approved: Start date:	Amendments:	Date for next review: April 2019
Contact name & role: Matt Elliot	Department: College Academic Affairs	Email: Matt.Elliot@ed.ac.uk
If you require this document in an alternative format please email: DeanQA@ed.ac.uk		