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Sheffield.

Programme Specification A statement of the knowledge, understanding and skills that underpin a taught programme of study leading to an award from The University of Sheffield

1. Programme Title(s) Economics and Mathematics		2. Programme Code(s) ECNU16	3. JACS Code(s) L100
5a.	Final Qualification	Bachelor of Science (BSc)	
5b	QAA FHEQ Level	Honours	
6.	Intermediate Qualification(s)	None	
7.	Teaching Institution (if not Sheffield)	Not applicable	
8.	Faculty	Social Sciences	
9.	Co-ordinating Department	Economics	
10.	Other Department(s) involved in teaching in the subject	None	
11.	Mode(s) of Attendance	Full-time	
12.	Duration of the Programme(s)	3 years	
13.	Accrediting Professional or Statutory Body	None	
14.	Date of production/revision	November 2019, April 2021	

Dual Degrees

The University of Sheffield defines a dual degree as the independent study of two parallel subjects. Dual degrees offer students the flexibility to choose a programme of study that reflects their interests and gives the opportunity to develop detailed knowledge and key skills in two major subjects. Whilst the two subjects may be taught independently, they will complement, inform and illuminate one another. Where there are two programme specifications for dual degrees, one for each half of the programme, students should refer to both documents for a full description of the whole programme. Where there are clear links between the two subjects, details will be included in Sections 15 and 20 of the programme specifications.

15. Background to the programme and subject area

This programme involves the study of Economics in tandem with Mathematics. This offers the learner a programme allowing the acquisition of knowledge in each subject plus the opportunity to see the contrast and comparison between the disciplines.

Economics is a social science that concerns itself with the production, distribution, and consumption of goods and services.

Economics graduates are equipped with numerical, analytical and reasoning skills that enable them to pursue a wide range of careers. The economics curriculum at Sheffield is organised around three strands: microeconomics, macroeconomics and quantitative modules. Teaching is designed to provide a challenging learning environment with an emphasis on the expertise and research interests of staff. Researchers in the department engage in applied empirical and theoretical research on a range of microeconomic and macroeconomic questions, and this variety of interests is reflected in our teaching.

The curriculum is designed to provide students with a good grasp of modern economic theory, the issues underlying current debates on economic policy, and the quantitative techniques essential for consuming and producing economic research. There is a strong emphasis on research-led teaching, especially at Level 3, where students take specialist modules and engage with the frontiers of the discipline. Level 3 students can also take an active role in the research process through dissertation work. As a consequence, the department's graduates are well

equipped for employment in a wide range of fields in both the public and private sectors, or for continuing into postgraduate study in economics as well as in other related fields.

Further information on programmes can be found on the Department's website at http://www.shef.ac.uk/economics.

16. Programme aims

Our BSc Economics and Mathematics programme aims at providing students with broad and rigorous exposure to the core principles and methods of economics as well as opportunities to extend this to specialist areas. Students develop understanding of the value of economics in individual, firm and policy decision-making in the context of limited resources, trade-offs, and uncertainty. Students will recognise economics as a major social science and will appreciate the scope for interactions with other disciplines. Our BSc Economics and Mathematics degree programme has a particular focus on quantitative methods, mathematical and statistical, including advanced methods, and incorporates opportunities to apply these methods to a variety of economic problems.

As we are a research-oriented department in a research-intensive university, our teaching has a particular research-led focus, both in terms of exposure to state-of-the-art academic and policy research, but also in terms of training in rigorous research methods. Students will have the opportunity to undertake a variety of research-related activities throughout their degrees. With the training received in the programmes, students will develop the key intellectual abilities characterising good economists, namely: i. Abstraction and simplification; ii. Rigorous analysis and reasoning, iii. Application of knowledge to specific problems, iv. Critical thinking and v. Effective communication skills. Developing these skills will thoroughly prepare students for the graduate job market.

Our programme aims at encouraging independent learning, self-reflection and resilience, while providing appropriate academic support and constructive feedback. Ours is an inclusive environment, where students and staff come with different backgrounds and experiences. We value this diversity and expect our students to be able to work effectively in partnership with others. This will only enrich their possibilities as future professional economists.

17. Programme learning outcomes

Our programmes are designed with a set of programme level learning outcomes in mind to facilitate the achievement of the above aims and to produce highly employable graduates. These programme level outcomes are classified under four themes (discipline-based knowledge, scholarship, application of knowledge, and development), and are aligned with the Sheffield Graduate Attributes and the Quality Assurance Agency for Higher Education (QAA) Benchmark Statement for Economics. The complete list of Programme Learning Outcomes is presented next.

At the end of the BSc Economics and Mathematics degree programme, graduates should be able to:

DISCIPLINE-BASED KNOWLEDGE

- 1. Explain the core principles and methods of Economics and apply them in specialist areas of the discipline, with a special emphasis on quantitative methods and techniques.
- 2. Select and apply appropriate economic theories as tools to analyse real world issues.
- 3. Analyse data and solve problems by applying a wide range of appropriate mathematical and/or statistical methods, including advanced methods.
- 4. Consider ethical dimensions in the application of economic thinking to real world problems.

SCHOLARSHIP

- 1. Independently formulate economic arguments and provide evidence to support those arguments.
- 2. Assess economic theories and the assumptions on which they are based through analytical reasoning and a judicious use of evidence.
- 3. Independently apply quantitative techniques to the analysis of real data using appropriate statistical software and interpret the results showing awareness of the limitations of the analysis.
- 4. Define and solve economic problems that have clear solutions using relevant methods and propose solutions for problems which do not have clear answers, indicating under which conditions there may be viable solutions.
- 5. Research and synthesize economic information from a variety of different sources, and present it in a coherent manner.

APPLICATION OF KNOWLEDGE

- 1. Apply economic analysis to everyday and business problems, specific policy proposals and other issues at the local, national and international level.
- 2. Evaluate arguments that have different conclusions to a specific issue or economic problem.
- 3. Consider that the same specific issue or problem may admit several solutions.
- 4. Critically assess others' arguments relating to economic phenomena, including discussions in the policy arena, academia and the media.

DEVELOPMENT

- 1. Express thoughts, articulate opinions, and communicate ideas clearly, accurately and persuasively both orally and in writing to a variety of audiences in multiple contexts.
- 2. Work independently and manage time constraints.
- 3. Work effectively with others as part of a team.

18. Teaching, learning and assessment

Development of the learning outcomes is promoted through the following teaching and learning methods:

The programme is structured so that it enables students to gradually develop the knowledge and skills embedded in the above programme learning outcomes. In their first year, all students take a course in basic economic principles (and a course in mathematics taught by the School of Mathematics and Statistics). This ensures that students enter the second year from a strong common base. The second year builds on this foundation with the provision of courses in intermediate macroeconomics and microeconomics, as well as introductory econometrics. Having a solid grounding in key economic principles and techniques, in their third year students study advanced econometrics and choose at least one additional module from a range of more advanced methodological modules, and another two modules from a range of applied and methodological modules. This structure ensures that students receive solid methodological training over the course of three years, and have the opportunity to gradually build up knowledge and skills.

We work towards achieving the programme level outcomes through a variety of teaching and learning environments, including lectures, workshops, small group interactions in tutorials, and coursework. Independent study is essential to successful completion of the programme. Module outlines clearly indicate the required level of independent study for each module, and the programme is structured to require more independent study at higher levels. Primary elements of independent study are assimilation and extension of material acquired in lectures; preparation for tutorials and workshops; coursework; and reflection on generic and individual feedback. Lecturers on each module are available during consultation and feedback times for one-on-one discussion of academic questions and problems, additional feedback, discussion of reading and so on. Students are also allocated to a personal tutor with whom they can discuss their progress, their plans, and any obstacles they may be facing.

Assessment is a crucial part of the learning process (see below), and students are provided with both individual and generic feedback, through written comments on submitted work, feedback workshops, and the possibility of further feedback in consultation and feedback hours.

Mid-semester student evaluation of modules enables staff to obtain real-time data on students' difficulties with specific parts of the module or delivery, allowing for better communication and, where necessary, modifications such that the learning outcomes can be achieved. Student evaluations of modules at the end of the module further inform us of where and how to redesign module content and delivery. Programme level questionnaires help to ensure that the degree structure is working as intended.

At level 1 explicit guidance on use of ICT, library skills, time management, and use of feedback is developed through study skills sessions at several points in the year, and expanded further by provision of website material on key skills. Later this is progressively integrated into the objectives of individual modules.

Opportunities to demonstrate achievement of the learning outcomes are provided through the following assessment methods:

Outcomes are assessed using a variety of methods appropriate to the module and level in which it is taught. Most modules at Levels 1 and 2 involve both coursework or class tests, and unseen examinations. The statistics and econometrics module involves assessments that ask students to demonstrate familiarity with statistical and econometric software. Many modules contain formative assessments (which do not count towards the final mark) that allow students to test their understanding of the module and to receive feedback while the module is ongoing.

19. Reference points

The learning outcomes have been developed to reflect the following points of reference:

Internal:

Feedback from students through questionnaires, focus groups and the student-staff forum.

University Vision https://www.sheffield.ac.uk/vision

Learning and Teaching Strategy (2016-21) https://www.sheffield.ac.uk/polopoly_fs/1.661828!/file/FinalStrategy.pdf

External:

Feedback from external examiners.

Feedback from an external advisory board, consisting of economists employed by public and private sector organisations, as well as a teacher of A level Economics at a local secondary school.

Feedback from an external advisor.

Subject Benchmark Statements

https://www.qaa.ac.uk/quality-code/subject-benchmark-statements

Framework for Higher Education Qualifications (2014) https://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf

20. Programme structure and regulations

The dual degree programmes are composed of two distinct components, each of which constitute approximately half of the credit weighting.

This dual degree programmes require students to take a 40-credit core economics module at level 1. In level 2, students take modules in intermediate microeconomics, intermediate macroeconomics, and introductory econometrics. In level 3, students take a course in advanced econometrics, choose one other methodological module from the range of modules on offer, and choose another two modules from the range of applied and methodological modules on offer.

Detailed information about the structure of programmes, regulations concerning assessment and progression and descriptions of individual modules are published in the University Calendar available on-line at http://www.shef.ac.uk/calendar/regs.

21. Student development over the course of study

The curriculum enables students to develop both broad-based knowledge and more specialised engagement with specific topics. It is designed to progressively promote the depth of understanding over the three years of undergraduate study.

Level 1 develops a general understanding of the economist's approach to problem-solving and to the key issues in Economics, with a blend of theory, policy and mathematical analysis.

Level 2 extends understanding of theory and policy issues with an intensive training in macroeconomics, microeconomics, and econometrics, allowing students to extend their knowledge and skills base.

Level 3 enables students to accumulate in-depth knowledge in particular areas and to extend their experience of key skills for employability. Students are required to take two advanced methodological modules, one of which has to be in advanced econometrics, and to choose two further modules from the applied and methodological modules on offer.

The curriculum has been designed so that students' depth and breadth of understanding increases at every stage of their studies.

22. Criteria for admission to the programme(s)

Detailed information regarding admission to the programme is available at <u>http://www.shef.ac.uk/prospective/</u>.

All enquiries should be made in the first instance to the Departmental Admissions Officer at economics-admissions@sheffield.ac.uk or Tel: +44 (0) 114 222 3399.

23. Additional information

Students may convert to a four-year programme if they obtain a year-long placement between years two and three of this programme. A student completing the four-year programme will graduate with the degree BSc in Economics and Mathematics with Employment Experience. Similarly, students may convert to a four-year programme and graduate with the degree BSc in Economics and Mathematics with International Experience by studying and/or working abroad for a year between years two and three of this programme.

The work placement or study place must be obtained on merit by the student and approved by the Department. Appropriate guidance is offered on finding placements and successfully accomplishing the extra requirements such work imposes.

This specification represents a concise statement about the main features of the programme and should be considered alongside other sources of information provided by the teaching department(s) and the University. In addition to programme specific information, further information about studying at The University of Sheffield can be accessed via our Student Services web site at <u>http://www.shef.ac.uk/ssid</u>.