The main aims of the programme are to:
- Provide an appropriate training for students preparing MPhil/PhD theses, or for students going on to employment involving the use of social science and policy research
- Provide training that fully integrates social science, policy modelling and computational methodologies to a high standard
- Provide training resulting in students with high quality analytic, methodological, computational and communication skills

Programme learning outcomes – the programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:
- Develop skills in tackling real world policy problems with creativity and sound methodological judgment
- Cover the principles of research design and strategy, including formulating research questions or hypotheses and translating these into practicable research designs and models
- Introduce students to the methodological and epistemological issues surrounding research in the social sciences in general and computational modelling in particular
- Develop skills in programming in NetLogo for the implementation of agent-based models for the modelling of social phenomena
- Develop skills in the acquisition and analysis of social science data
• Make students aware of the range of secondary data available and equip them to evaluate its utility for their research
• Develop skills in searching for and retrieving information, using library and Internet resources
• Develop skills in the use of SPSS, and in the main statistical techniques of data analysis, including multivariate analysis
• Develop skills in the use of CAQDAS software for the analysis of qualitative data
• Develop skills in writing, in the preparation of a research proposal, in the presentation of research results and in verbal communication
• Help students to prepare their research results for wider dissemination, in the form of seminar papers, conference presentations, reports and publications, in a form suitable for a range of audiences, including academics, stakeholders, policy makers, professionals, service users and the general public

Knowledge and understanding

Postgraduate Certificate in Social Science and Complexity
• Have intermediate knowledge of qualitative or quantitative and computational methodologies in the social science
• Show some knowledge of modelling methodologies, model construction and analysis
• Show understanding of the integration of the computational, quantitative and qualitative methods
• Understand how computational modelling relates to social science theory and data

Graduate Diploma in Social Science and Complexity
• Show advanced knowledge of qualitative, quantitative and computational methodologies in the social science
• Show advanced knowledge of modelling methodologies, model construction and analysis
• Show critical understanding of methodological and epistemological challenges of social science and computer modelling
• Show critical awareness and understanding of the methodological implications of a range of sociological theories and approaches
• Show understanding the use and value of a wide range of different research

MSc in Social Science and Complexity
• Show advanced knowledge of qualitative, quantitative and computational methodologies in the social science
• Show advanced knowledge of modelling methodologies, model construction and analysis
• Show critical understanding of methodological and epistemological challenges of social science and computer modelling
• Show critical awareness and understanding of the methodological implications of a range of sociological theories and approaches
• Show understanding the use and value of a wide range of different research approaches across the quantitative and qualitative spectra
• Show advanced knowledge in data collection, analysis and data driven modelling
• Show advanced knowledge of policy relevant social science research and modelling
• Show advanced understanding of the policy process and the role of social science and modelling therein or s
• Show advanced knowledge of statistical modelling

Intellectual / cognitive skills

Postgraduate Certificate in Social Science and Complexity
• Conceptual development of computational social science models
• Integration of qualitative, quantitative and computational data
• Some judgement of problem-methodology match
• Analyse qualitative or quantitative data drawn both from ‘real world’ and ‘virtual world’ environments, using basic and more advanced techniques, and draw warranted conclusions

Graduate Diploma in Social Science and Complexity

• Systematically formulate researchable problems; analyse and conceptualise issues; critically appreciate alternative approaches to research; report to a range of audiences
• Conceptual development of computational social science models to creatively enhance the understanding of social phenomena
• Integration of qualitative, quantitative and computational data
• Judgement of problem-methodology match
• Analyse qualitative and quantitative data drawn both from ‘real world’ and ‘virtual world’ environments, using basic and more advanced techniques, and draw warranted conclusions
• Develop original insights, questions, analyses and interpretations in respect of research questions
• Critically evaluate the range of approaches to research

MSc in Social Science and Complexity

• Systematically formulate researchable problems; analyse and conceptualise issues; critically appreciate alternative approaches to research; report to a range of audiences
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• Integration of qualitative, quantitative and computational data
• Judgement of problem-methodology match
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• Develop original insights, questions, analyses and interpretations in respect of research questions
• Critically evaluate the range of approaches to research

Professional practical skills

Postgraduate Certificate in Social Science and Complexity

• Use some of the traditional and computational techniques employed in social science research
• Ability to produce well founded, data driven and validated computational models
• Generate either quantitative and qualitative data through an array of techniques, and select techniques of data generation on appropriate methodological bases
• Employ a quantitative (SPSS) or qualitative software package to manage and analyse data
• Ability to communicate research findings and models
• Ability to coherently communicate complex problems and solution spaces

Graduate Diploma in Social Science and Complexity

• Use the range of traditional and computational techniques employed in sociological research
• Ability to produce well founded, data driven and validated computational models
• Generate both quantitative and qualitative data through an array of techniques, and select techniques of data generation on appropriate methodological bases
• Employ a quantitative (SPSS) and qualitative software package to manage and analyse data
• Ability to communicate research findings models in social science and policy relevant ways

MSc in Social Science and Complexity
Formulate, design, plan, carry out and report on a complete research project;
Use the range of traditional and computational techniques employed in sociological research
Ability to produce well founded, data driven and validated computational models
Generate both quantitative and qualitative data through an array of techniques, and select techniques of data generation on appropriate methodological bases
Employ a quantitative (SPSS) and qualitative software package to manage and analyse data
Plan, manage and execute research as part of a team and as a sole researcher
Ability to communicate research findings models in social science and policy relevant ways
Ability to manage independent research

Key / transferable skills

Postgraduate Certificate in Social Science and Complexity
- Apply computational modelling methodology to complex social issues in appropriate ways
- Show some creativity in approaching complex problems and the ability of communicating and justifying problem solutions
- Apply computing skills for computational modelling, research instrument design, data analysis, and report writing and presentation

Graduate Diploma in Social Science and Complexity
- Communicate complex ideas, principles and theories by oral, written and visual means
- Apply computational modelling methodology to complex social issues in appropriate ways
- Creativity in approaching complex problems and the ability of communicating and justifying problem solutions
- Apply computing skills for computational modelling, research instrument design, data analysis, and report writing and presentation
- Work to deadlines and within work schedules
- Work independently or as part of a team
- Demonstrate experience of a work environment

MSc in Social Science and Complexity
- Communicate complex ideas, principles and theories by oral, written and visual means
- Apply computational modelling methodology to complex social issues in appropriate ways
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- Work independently or as part of a team
- Demonstrate experience of a work environment

17. Programme structure – including the route / pathway / field requirements, levels modules, credits, awards and further information on the mode of study.

All programmes operate on a 15 credit modular structure over two semesters. All taught modules are semester based and are worth 15 credits, which is indicative of 150 hours of learning, comprised of student contact, private study and assessment. Project and dissertation modules can be either 15, 30, 45 or 60 credits and, additionally Master’s dissertations 90 credits.

Credits achieved from completing the dissertation / final project module cannot be attributed to a subsidiary award. Students are unable to submit their dissertation until they have successfully
completed their taught modules.

This programme is studied full-time over one academic year and part-time over two academic years. In order to achieve the principal award of an MSc a student must complete 180 credits, with a minimum of 150 credits at FHEQ level 7 and the remainder at FHEQ level 6. Students are also eligible to exit the programme with the following subsidiary awards:

- **PG Dip** – 120 credits with a minimum of 90 credits at FHEQ level 7 and the remainder at FHEQ level 6
- **PG Cert** – 60 credits with a minimum of 45 credits at FHEQ level 7 and the remainder at FHEQ level 6

In order for students to progress they must achieve a minimum average of 50%.

### Programme adjustments (if applicable)

N/A

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<tr>
<th>FHEQ Level (7): Potential awards – MSc / PG Cert / PG Dip</th>
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<tr>
<td><strong>Module code</strong></td>
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<td>SOCM010</td>
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<td>SOCM035</td>
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How many optional modules must a student choose in order to achieve the necessary amount of credits to achieve this level? One out of the three optional modules above.

18. Opportunities for placements / work-related learning / collaborative activity – please indicate if any of the following apply to your programme

| Associate Tutor(s)/Guest Speakers/Visiting Academics | Yes |
| Professional Training Year (PTY) | N/A |
| Placement(s) (study or work that are not part of the PTY or Erasmus Scheme) | Yes |
| Clinical Placement(s) (that are not part of the PTY Scheme) | N/A |
| ERASMUS Study (that is not taken during Level P) | N/A |
| Study exchange(s) (that are not part of the ERASMUS Scheme) | N/A |
| Dual degree | N/A |

19. Quality assurance

The Regulations and Codes of Practice for taught programmes can be found at: [http://www.surrey.ac.uk/quality_enhancement/index.htm](http://www.surrey.ac.uk/quality_enhancement/index.htm)