



1. Programme Title(s) and UCAS code(s):

BSc Computing with Management (G4N1)

BSc Computing with Management with a Year Abroad (G4NF)

BSc Computing with Management with a Year in Industry (G4NG)

2. Awarding body or institution:

University of Leicester

3. a) Mode of study:

Full-time

b) Type of study:

Campus-based

4. Registration periods:

The normal period of registration is three years (four years for the “Year Abroad” and “Year in Industry” variants).

The maximum period of registration is five years (six years for the “Year Abroad” and “Year in Industry” variants).

5. Typical entry requirements:

300 points normally including BBB from 6 or 12 unit awards.

6. Accreditation of Prior Learning:

APL is not permitted for these programmes.

7. Programme aims:

- You will acquire an education and training in computing and management that includes both fundamental concepts and state-of-the-art trends, and also provides you a good indication of the breadth of the subject.
- You will learn a wide range of skills pertaining to the analysis, design, specification, implementation, testing and documentation of computer software systems.
- To develop powers of critical analysis, skills in problem solving, written communication, and abilities in presentation.
- Provide students with experience of both team-based and individual project work.
- To develop skills that will enhance your employment prospects, especially in the IT industry or other numerate disciplines.
- Expose you to the realities of managerial experience, and develop your knowledge of the theories and practice of business and management.
- Develop skills that will allow you to interact with and fulfil roles of a more managerial nature within organisations.
- Raise your expertise and understanding to a point where you could embark upon postgraduate study in business studies, management and computing.

In addition to these aims, G4NF BSc Computing with Management with a Year Abroad aims to:

- Enable students to experience modern Computing from an international perspective.

- Develop students' working knowledge of a language other than English.
- Provide students with an environment that will encourage a thoughtful and mature approach to all aspects of study and life, creating graduates with broad experiences and horizons.

In addition to these aims, G4NG BSc Computing with Management with a Year in Industry aims to:

- Help place students on relevant industrial placements where they can gain first-hand experience of the requirements and opportunities of the computing industry in the UK.
- Enable students to use and develop the knowledge and skills gained during the first two years of the degree programme.

8. Reference points used to inform the programme specification:

- Accreditation reports from the British Computer Society.
- QAA Framework for Higher Education Qualifications in England Wales and Northern Ireland
- QAA Benchmarking for [Computing 2007](#) and [Business and Management \(2015\)](#)
- QAA Developmental Engagement.
- QAA Institutional Report.
- [University Learning Strategy](#).
- University Employability Strategy
- PDR report (January 2010) .
- NSS (2014)
- Student Feedback (2014).
- External Examiners' reports.

9. Programme Outcomes:

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(a) Discipline specific knowledge and competencies		
(i) Mastery of an appropriate body of knowledge		
1. Demonstrate both recollection and understanding of computing factual knowledge.	Lectures, surgeries, computer laboratories and problem classes. Also background reading and research.	Written examinations, assessed coursework, group and individual project presentations, individual project oral examinations and project reports.
2. Demonstrate recollection and understanding of engineering principles and mathematical theories in computing.	As above.	As above.
3. Demonstrate appropriate management techniques, together with a detailed knowledge of the concepts and principles of management.	Lectures and seminars. Group work in modules, group project work.	As above.
4. Demonstrate mastery of the core of an appropriate foreign language (G4NF)	Lectures, language laboratories and learning abroad.	University report.
5. Demonstrate understanding of the core elements of industrial practice and organization (G4NG).	Work placement.	Placement Report.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(ii) Understanding and application of key concepts and techniques		
<ol style="list-style-type: none"> 1. Demonstrate knowledge and understanding of computing at a mathematically abstract (conceptual) level, and to apply this to the design and modeling of computing systems. 2. Demonstrate and apply the concepts of structure and organization that pervade computing, and be able to generalize and specialize to achieve such structure. Apply these ideas in modeling and design. 3. Understand and apply the theoretical principles, practices and tools of software engineering, together with suitable processes and methodologies, to determine strategies for solution; and create requirements, specifications and designs. 4. Design and construct, test & verify, and deliver medium scale software systems. Maintain systems. Make appropriate use of tools for such tasks. 5. Undertake practical engineering style problem solving and some theoretical problem solving. 6. Demonstrate the ability to apply appropriate management concepts and techniques. 7. Demonstrate ability to communicate some aspects of Computing in a foreign language. (G4NF) 8. Work as a computing engineer in an industrial or commercial setting. (G4NG) 	<p>Lectures, surgeries, computer laboratories and problem classes, worksheets, project work.</p> <p>As above.</p> <p>As above, with emphasis on all forms of project work.</p> <p>Computer laboratories and project work.</p> <p>Lectures, surgeries, computer laboratories and problem classes, worksheets, project work.</p> <p>Lectures, seminars, project work.</p> <p>Lectures and language laboratories.</p> <p>Work placement.</p>	<p>Written examinations, assessed coursework, group and individual project presentations, individual project reports.</p> <p>As above.</p> <p>As above, with emphasis on project assessments.</p> <p>Assessed laboratory work, group and individual project presentations, individual project reports</p> <p>Written examinations, assessed coursework, group and individual project presentations, individual project reports.</p> <p>Written examinations and project work.</p> <p>University report.</p> <p>Placement report.</p>
(iii) Critical analysis of key issues		
<ol style="list-style-type: none"> 1. Analyze customer problems, requirements and criteria, and hence plan and select an appropriate solution strategy. 2. Understand customer needs, and budgets, undertaking suitable research. Ensure software solutions are fit-for-purpose. Be able to manage the complete engineering process and evaluate the end product, and to work with associated uncertainties. 3. Be able to recognize risks in the deployment and use of software systems. 	<p>Lectures, surgeries, problem classes, worksheets, group and individual project work.</p> <p>As above.</p> <p>As above.</p>	<p>Written examinations, assessed coursework, group and individual project presentations, group reports and individual project reports.</p> <p>As above.</p> <p>As above.</p>

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(iv) Clear and concise presentation of material		
<ol style="list-style-type: none"> 1. Write short accounts of computing knowledge 2. Produce written and visual information in a variety of forms, chosen to maximize reader/audience impact and understanding. 	<p>Worksheets, group and individual project work, private study.</p> <p>As above.</p>	<p>Written examinations, assessed coursework., group and individual project presentations, and project reports.</p> <p>As above</p>
(v) Critical appraisal of evidence with appropriate insight		
<ol style="list-style-type: none"> 1. Evaluate and appraise software systems, and the management of such systems, in terms of attributes and tradeoffs. Identify risks and safety concerns. 2. Perform software testing, and critically evaluate and analyze test results. Evaluate whether a system meets the requirements, for future and for current use. 3. Use relevant knowledge to appraise the commercial use and economic and long-term viability of computer systems. 	<p>Lectures, surgeries, computer laboratories and problem classes. Also background reading and research.</p> <p>Computer laboratories and project work.</p> <p>As above.</p>	<p>Written examination, assessed coursework, group and individual project presentations, individual project oral examinations and reports.</p> <p>Assessed laboratory work, group and individual project presentations, individual project reports</p> <p>As above.</p>
(vi) Other discipline specific competencies		
<ol style="list-style-type: none"> 1. Demonstrate knowledge and understanding of social, legal and ethical issues as required by computing professionals. Adopt and implement suitable professional and legal practice. 2. Demonstrate knowledge and understanding of financial and business computing. 	<p>Lectures, surgeries, problem classes, worksheets, group and individual project work.</p> <p>Lectures, surgeries, problem classes, worksheets</p>	<p>Written examination, assessed coursework, group project presentations and coursework.</p> <p>Written examination, assessed coursework.</p>
(b) Transferable skills		
(i) Oral communication		
<ol style="list-style-type: none"> 1. Respond to technical questions with accurate and concise answers. 2. Demonstrate fluent and sustained scientific, technical and business communication, supported by a variety of audio-visual aids. 3. Demonstrate core oral communication skills in a foreign language (G401). 	<p>Lectures and surgeries. Project supervision. Problem classes.</p> <p>Lectures and project supervision. Use of student learning center.</p> <p>Lectures and language laboratories.</p>	<p>Group and individual project presentations, individual project oral examinations.</p> <p>As above.</p> <p>University report.</p>

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(ii) Written communication		
<ol style="list-style-type: none"> 1. Demonstrate ability to write concise and accurate summaries of computing and scientific knowledge, and solutions to problems, in a variety of different formats. 2. Produce properly structured, clear, advanced technical reports or dissertations. 3. Demonstrate core written communication skills in a foreign language (G401). 	<p>Lectures, surgeries, computer laboratories and problem classes, worksheets, project work.</p> <p>Lectures and surgeries. Discussed in both group and individual project supervisions.</p> <p>Lectures, tutorials, language laboratory work.</p>	<p>Written examinations, assessed coursework.</p> <p>Group project assessed coursework and individual project reports.</p> <p>University report.</p>
(iii) Information technology		
<ol style="list-style-type: none"> 1. Use a very broad range of software and IT tools, and to choose these appropriately for retrieval and management of information. 2. Demonstrate a broad and deep understanding of many IT tools, and be able to adapt to new programming paradigms in the future. 	<p>Lectures, surgeries and laboratories.</p> <p>As above.</p>	<p>Assessed (laboratory) coursework.</p> <p>As above.</p>
(iv) Numeracy		
<ol style="list-style-type: none"> 1. Demonstrate understanding of the concept of number. 2. Use analytical, quantitative, and graphical methods, and deploy elementary statistics. 	<p>Lectures, surgeries, computer laboratories and problem classes, worksheets.</p> <p>As above, together with project work.</p>	<p>Written examinations, assessed coursework.</p> <p>As above, along with group and individual project presentations and reports.</p>
(v) Team working		
<ol style="list-style-type: none"> 1. Work effectively as part of a team, and demonstrate ability to organize roles and manage time, undertake assigned tasks, and ensure final completion of a team project. Identify strengths and weaknesses of team members. 	<p>Lectures and project supervision. Use of student learning center.</p>	<p>Group project assessed coursework and presentations. Mini projects.</p>
(vi) Problem solving		
<ol style="list-style-type: none"> 1. Solve a variety of short problems through the integration of knowledge of mathematics, logic, algorithms and basic computing. 2. Use systematic analysis and design methods, and appropriate algorithms, to solve medium scale problems. 3. Analyze large-scale problems to produce suitable solutions with sensible economic and commercial compromises. Apply management techniques to allocate resources to projects. 	<p>Lectures, surgeries and problem classes. Also covered in project supervisions.</p> <p>As above.</p> <p>As above.</p>	<p>Written examinations, assessed coursework, and project reports.</p> <p>As above.</p> <p>Group and individual project presentations and reports.</p>

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(vii) Information handling		
1. Conduct significant background research and literature surveys, and summarize content from information sources.	Taught in lectures. Also covered in project supervisions.	Individual project reports.
2. Demonstrate a broad understanding of problems and issues that arise in the location, organization, processing and evaluation of data.	As above.	Written examinations, assessed coursework, and project reports.
3. Recognize the need for information, and work with fuzzy, limited and possibly contradictory information.	As above.	
(viii) Skills for lifelong learning		
1. Demonstrate knowledge and understanding of professional and ethical issues, and aspects of the law, in the context of Computing Professionals.	Lectures, surgeries and problem classes. Also covered in project supervisions.	Written examinations, assessed coursework, and project reports.
2. Demonstrate independence and time management skills.	Project supervisions and research project work. Meeting coursework deadlines.	Project reports.
3. Design a personal work plan and be able to improve performance with a clear view of long-term professional development.	Project supervisions and research project work.	As above.

10. Progression points:

This programme follows the standard scheme of award and classification set out in [Senate Regulation 5](#).

British Computer Society Accreditation requires that individual projects be passed at the first attempt.

Students on with Industry degrees

- Should normally pass the first year at the first attempt, otherwise they will be transferred to the equivalent three year degree; and
- Should normally pass the second year at first sitting in January/June. A student who does not have a placement arranged by June, and who has to take resit exams will be transferred to the equivalent three year degree.

Degree classification is formally based on performance in years two and four only, but you will need to satisfy the requirements described in the Industrial Placement Folder to be awarded the degree.

11. Scheme of Assessment

The programme follows the standard Scheme of award and classification set out in [Senate Regulation 5](#).

If regulation 5.14(c) applies in relation to any of the modules CO1003, CO1005, CO1019 then failed marks must be no lower than 35% (rather than the normal 30%) in order for students to

proceed and re-sit.

Regulation 5.10 applies absolutely to CO2015 Software Engineering Project.

12. Special features:

Emphasis on blending long-term foundational knowledge with state-of-the-art technologies and current programming languages; Group Projects involving an external client wherever possible; Individual Projects with a number of structured milestones.

13. Indications of programme quality

British Computer Society Accreditation requires that individual projects are passed at the first attempt.

14. External Examiners

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports can be found [here](#).

Appendix 1: Programme structure (programme regulations) (overleaf)

Appendix 2: Module specifications

See module specification database <http://www.le.ac.uk/sas/courses/documentation>

Appendix 3: Skills matrix

BSc COMPUTING WITH MANAGEMENT

FIRST YEAR MODULES		SEMESTER 1	
Core Modules			Credits
CO1003	PROGRAM DESIGN		20
CO1008	REQUIREMENTS ENGINEERING AND PROFESSIONAL PRACTICE		10
CO1012	DISCRETE STRUCTURES		10
MN1000	FOUNDATIONS OF MANAGEMENT		20
		Semester Total	60

		SEMESTER 2	
Core Modules			Credits
CO1005	DATA STRUCTURES AND DEVELOPMENT ENVIRONMENTS		20
CO1019	DATABASES AND WEB APPLICATIONS		20
MN1002	INTRODUCTION TO MARKETING		20
		Semester Total	60

SECOND YEAR MODULES		SEMESTER 1	
Core Modules			Credits
CO2001	USER INTERFACES AND HCI		10
CO2006	SOFTWARE ENGINEERING AND SYSTEM DEVELOPMENT		20
CO2012	SOFTWARE PROJECT MANAGEMENT AND PROFESSIONALISM		10
MN2104	ORGANISATIONAL BEHAVIOUR		20
		Semester Total	60

		SEMESTER 2	
Core Modules			Credits
CO2015	SOFTWARE ENGINEERING PROJECT		20
CO2017	OPERATING SYSTEMS, NETWORKS AND DISTRIBUTED SYSTEMS		20
Optional Modules			
Either			
CO1909	BUSINESS AND FINANCIAL COMPUTING		10
Or			
CO2016	MULTIMEDIA AND COMPUTER GRAPHICS		10
And			
10 credits of optional modules selected from:			
MN2112	INTERNATIONAL MARKETING COMMUNICATIONS		10
MN2116	CORPORATE SOCIAL RESPONSIBILITY: THEORY AND PRACTICE		10
MN2117	STOCK MARKET ANALYSIS AND EQUITY VALUATION		10
		Semester Total	60

THIRD YEAR MODULES		SEMESTER 1	
Core Modules			Credits
CO3120	COMPUTING WITH MANAGEMENT PROJECT (PART 1)*		20
MN3100	STRATEGY		20
Optional Modules			
20 credits of optional modules selected from:			
CO3091	COMPUTATIONAL INTELLIGENCE		20
CO3105	C++		20
CO3095	SOFTWARE MEASUREMENT AND QUALITY ASSURANCE		20

CO3098	WEB TECHNOLOGIES	20
		Semester Total
		60
SEMESTER		
2		
Core Modules		Credits
CO3120	COMPUTING WITH MANAGEMENT PROJECT (PART 2)*	20
Optional Modules		
	20 Credits of optional modules selected from:	
CO3002	ANALYSIS AND DESIGN OF ALGORITHMS	20
CO3090	DISTRIBUTED SYSTEMS AND APPLICATIONS	20
CO3093	BIG DATA AND PREDICTIVE ANALYSIS	20
CO3099	CRYPTOGTAPHY AND INTERNET SECURITY	20
And		
	20 Credits of optional modules selected from:	
MN3102	CRITICAL ANALYSIS FOR MANAGEMENT	10
MN3104	INTERNATIONAL BUSINESS	20
MN3107	CORPORATE FINANCE	10
MN3110	MANAGING KNOWLEDGE IN ORGANISATIONS	10
		Semester Total
		60

*TAKEN OVER TWO SEMESTERS, TOTAL CREDITS = 40

BSc COMPUTING WITH MANAGEMENT WITH A YEAR ABROAD

First and Second Year Modules

As for the first- and second-year of the BSc degree in Computing with Management.

Third Year Modules

The third year will be spent abroad taking approved courses either in an institution associated with the Computer Science Department via an ERASMUS bilateral agreement or in a university that has a Study Abroad exchange partnership agreement with the University of Leicester. Students will normally be required to complete the year and to reach a pass level of attainment in 60 credits of Computing/Management modules. Failure to do so will result in the student reverting to the three year BSc Computing with Management degree. The marks awarded during the year abroad do not contribute to the final degree classification.

Note: Transfer will be confirmed only after successful completion of the first year.

Fourth Year Modules

As for the third-year of the BSc. Degree in Computing with Management.

BSc COMPUTING WITH MANAGEMENT WITH A YEAR IN INDUSTRY

First and Second Year Modules

As for the first- and second-year of the BSc degree in Computing with Management

Third Year Modules

1. Students will work within a sponsoring company for one year between 1 July of the second year of the course and the start of the following year.
2. During their one-year placement students will undertake a programme of training and work experience which will be agreed by the sponsoring company and the University.
3. Students will be expected to keep a logbook recording their training and experience that is to be presented for approval to the sponsoring company and the University.
4. Students will be issued with a *Certificate of Industrial Studies* indicating successful completion of their placement. Students who do not satisfactorily complete their industrial placement will be transferred to the B.Sc. Computing degree.

The Year in Industry does not contribute to the final degree classification

Fourth Year Modules

As for the third-year of the BSc degree in Computing with Management.