PROGRAMME SPECIFICATION – Undergraduate Courses

Programme Specification for BSc (Hons) Computing, BSc (Hons) Computer Games Design & Development, BSc (Hons) Web Development

1.	**Awarding institution/body**	University of Worcester
2.	**Teaching institution**	University of Worcester
3.	**Programme accredited by**	N/A
4.	**Final award**	BSc Hons
5.	**Programme title**	BSc (Hons) Computing BSc (Hons) Computer Games Design & Development BSc (Hons) Web Development
6.	**Pathways available**	**BSc. (Hons) Computing**. (Generic award). Available in Single, Major, Joint, Minor pathways and top-up. **Computing Specialist Awards**. Available in Single Honours: pathway only: BSc (Hons) Computer Games Design & Development BSc (Hons) Web Development
7.	**Mode and/or site of delivery**	Taught modules at the University of Worcester
8.	**Mode of attendance**	Full time, part time
9.	**UCAS Code**	BSc (Hons) Computing – G400 BSc (Hons) Computer Games Design & Development – G451 BSc (Hons) Web Development – G452
10.	**Subject Benchmark statement and/or professional body statement**	Computing Benchmark Statement 2007, QAA.
11.	**Date of Programme Specification preparation/ revision**	February 2013, revised March 2013 Amendment for Joint Hons April 2014; August and October 2014 – amendment to regulations. June 2015. Updated 15 July 2015. September 2015 - Updated to include the new Taught Courses Regulatory Framework. October 2015 – minor amendment to award map.

12. Educational aims of the programme

This programme aims to develop learners' appreciation of Computing as an integral part of commercial and industrial activities and also as a pervasive part of everyday life in this fast-changing field. It aims to meet Computing Curriculum recommendations and aims developed by two professional bodies (IEEE and ACM)[1]. It seeks to develop skills appropriate, but not restricted to, graduate careers in computing and business with the potential for management positions and general employability, including self-

[1] Association for Computing Machinery & IEEE Computer Society, Computer Science Curriculum 2008: An Interim Revision of CS 2001, Report from the Interim Review Task Force, December 2008, http://www.computer.org/portal/web/education/Curricula;jsessionid=d1a6005da0be07c12560e4eb298e

employment. The programme uses a variety of methods to prepare students for various employment opportunities by developing work-related skills such as computing competencies, project management, and team work. Students have the option to do a work-placement with a local or national firm, or engage in a work-based learning module which allows students to apply knowledge they have gained in their academic setting to a work environment. The programme offers a variety of unique opportunities to develop skills including classroom skills development, study-abroad opportunities, work-placement with local and national firms, and work-based learning modules,

Our aims are:

1. Prepare, develop and enhance lifelong learning skills to support employability career aspirations and effective contribution to a diverse and multi-cultured society
2. Develop a better understanding of technical decisions involving commercial Computing and increase the awareness of various types of technologies to better enhance business decision making.
3. Increase student awareness of the impact, challenges presented, and the increasing pervasiveness and ubiquity of computing in our contemporary world.
4. Develop students who can systematically and critically analyse and discriminate between options for various computer-based problems and devise appropriate solutions in both individual and team environments
5. To develop an appreciation of professional, sustainable and ethical issues involved and a sensitivity to changes in computing and information technology and the skills to enable them to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy.
6. Provide opportunities for students to engage in work-based experiential learning as an integral part of the programme

13. Intended learning outcomes and learning, teaching and assessment methods

Our students are expected to develop a spectrum of skills and abilities, grounded in intellectual tasks (SB 3.1). These can be categorized as (i) knowledge and understanding (ii) cognitive abilities and skills related to intellectual tasks, (iii) practical skills related to the discipline of Computing, (iv) transferable skills which may be learned within the context of Computing, but which may be deployed in other contexts.

Knowledge and understanding:	***Examples of learning, teaching and assessment methods used:***
1. Appreciation of the Concepts of Computing and their relevance to everyday life 2. Demonstration of knowledge and understanding of theories, concepts, principles and facts relating to computing and computer applications 3. Knowledge of core disciplines of computing including: programming, games, web, and databases 4. An understanding of the practical requirements for computer-based systems including the recognition and analysis of criteria and models leading to specifications used in the solution of specific problems. 5. An understanding of key technology changes affecting the running of computer operations	• All programmes contain varied approaches to learning, teaching and assessment designed to encourage student to progress as individuals within their capabilities, and to achieve a qualification. • Assessment is by a variety of means including essays, oral presentations, group work, research-driven tasks and open and closed-book examinations. • Tutor support is deployed at all levels to assist students' progression towards achieving a broad but deep understanding of the field of Computing, to motivate students and to provide different learning approaches.. • Formal lectures which encourage student interaction and discussion. • Inter-active materials available on VLE. • Use electronic feedback and where possible, electronic submission for easier student access. • Using recent news articles and case studies

within organisations and how this could affect their future software implementations.	on how changes with technology (such as cloud computing) can have positive and negative effects on business issues (such as sustainability), and develop alternative strategies that businesses could implement (COMP3381).
Cognitive and intellectual skills: 1. Appreciation of the role of evaluation and testing in ensuring that computer-based systems meet the criteria for their defined use and future developments 2. Understanding of methods, tools and approaches to specify, design, implement and evaluate computer systems 3. Reflection on and communication of Computing principles, orally, textually or using electronic media, including an assessment of the impact of new technologies 4. Recognition of the professional, economic, social, environmental, moral and ethical issues involved in the sustainable deployment of computing 5. Problem solving in dealing with complex issues of systems development and design.	***Examples of learning, teaching and assessment methods used:*** • Student activities including individual and group exercises, the use of guided worksheets and direct input into sessions. These may be paper-based or computer-based. • Research-based workshop activities, following which students may be invited to contribute to a "plenary discussion" (COMP3008). • Students are encouraged to engage in peer-support, through both informal contacts (email and direct), but also through the use of discussion groups (supported by the VLE • Tutors and students are encouraged to make use of the VLE to incorporate electronically mediated group work and collaborative learning (SB 5.9). This has been informed by expertise within the department and institution, and includes support for both tutors and students. • Assessment guides learning (SB 5.4). Modules typically include a strong element of formative assessment. This is achieved through (i) in-session discussions and exercises, (ii) on-line tests and presentations. Also, many modules employ a dual-assignment assessment, where the first assignment provides formative as well as summative feedback to the students. • It is the norm for modules to assess theory and practice in some combination (SB 5.5) through the implicit dual assignment assessment procedure. • Inclusion of peer-assessment in formative feedback to encourage students to review each others work before the final submission (COMP3302). • Students are encouraged to reflect on how social and technical changes can have ethical, sustainability and moral impact on themselves, society and business (COMP3381)
Practical skills relevant to employment: 1. Initiation and implementation of projects 2. The operation, specification, design, construction and documentation of computer-based	***Examples of learning, teaching and assessment methods used:*** • Operation of computer applications is found in most modules. Specific examples include the use of CASE tools (COMP2311), project management tools (COMP2311) and Immersive Environment development tools

systems and applications 3. The evaluation of systems in terms of quality and trade-offs 4. The recognition of risks, safety, accessibility or legal aspects associated with various computer-based systems 5. Understanding of practical requirements for computer-based systems including the recognition and analysis of criteria leading to specification used in the solution of specific problems.	(COMP1331, 2351, 3351) see SB 5.6. • The risks and safety aspects within computing applications and approaches are discussed within COMP3371. • Some modules will also provide basic preparation for professional examinations such as CISCO and CITP (COMP2322). • Understanding of how Computing and ICT can be used to solve sustainability issues in society and business and how they can be implemented (COMP2381, COMP3381). • Encourage students to gain practical skills by engaging in work placement or work-based learning modules (BUSM3000, BUSM3069, BUSM2069) or developing an actual computing artifact (such as a web site) for a client (COMP3008).
Transferable skills: 1. Information-retrieval skills such as the use of browsers and search engines 2. Numeracy and literacy in both understanding and presenting cases of both a qualitative and a quantitative nature 3. The ability to work as a member of a team, recognizing different roles within the team, and various ways of organizing teams 4. Management of individual learning and development, including organization and time-management development and lifelong learning 5. Research skills such as planning research, gathering and analysis of primary data. 6. Future generators of sustainable values.	***Examples of learning, teaching and assessment methods used:*** • The opportunity to learn a variety of methods for online retrieval and research from Internet sources, online libraries and other methods and to incorporate this directly into assignments. • Several modules involve formal group work including assessment (e.g. the mandatory module COMP2311). • Written assessments in a variety of formats (essay, report, learning journal) are used to develop numeracy and literacy skills. • Management of individual learning is achieved through structured tutor support in learning activities, through meeting assignment deadlines and through the planning and production of the Computing Project. • Personal development is introduced in the induction period, and developed through the mandatory modules COMP1812, COMP1347, COMP1341, COMP2311 and COMP3008. • The Induction process aims to introduce students into several aspects of learning and study: (i) Time Management related to assignment hand-in dates, (ii) The nature of learning, including concepts of multiple intelligences, levels of learning, experiential and collaborative learning approaches. • Explicit attention has been given to the plagiarism issue. • The skills of researching, synthesising and citing sources of information are highlighted within the mandatory modules: COMP2311, COMP3008. • Secondary research is a part of most module assignments. Specific research skills are developed and applied in the Computing

	Project module COMP3008. • Project management and the ability to work at various team levels is an important part of running a development project, so this skill set has been incorporated into the programme (COMP2311).

Students taking the generic BSc. (Hons) Computing degree will have the opportunity to explore a range of specific aspects within the field of Computing. They may also choose to focus their study around one area of specialism.

Students who take the Specialist Awards (Web Development and Computer Games Design & Development) will develop a deeper level of knowledge and understanding of a specialism within the field of Computing. The Specialist Awards are distinct in their subject content supporting individual student interest and progression into distinct career opportunities (see Section 15).

A matrix mapping the Learning Outcomes Developed and Assessed by each Module is contained within the Course Handbook. The Handbook also contains an overview of learning and teaching methods, integration of practice and theory, integration of research into the modules, Project overview, and sustainability overview.

The Programme has a software mapping strategy. The use of software encompasses an integrated scheme to promote active learning as well as prepare students for employability in various computing fields. Further details of this strategy can be found in the Course Handbook.

- Software use is aligned with employability required by industry.
- The software chosen is used to promote active and hands-on learning in seminar sessions. This software is installed at City Campus and available for student use 24x7.
- When possible, we attend to utilise software that the students can freely access and download to their home computers. However, due to the nature of vendor agreements, this is not always possible to provide ‘free’ software.
- Use of OpenSource software and ‘free trials’ in modules where appropriate. Students have access to ‘Software Webstore’ where software form vendors such as Microsoft may be available for free or purchase at discount rates.

14. Assessment Strategy

The Assessment strategy has been designed to provide students with a variety of challenges appropriate to students on a programme which is both academic and vocational (SB 5.3). The programme’s assessment strategy has been considered within the context of UW’s Learning, Teaching and Assessment Strategy and Assessment Policy (UW Grade descriptors). Assessment criteria and grade descriptors are provided for each assessment.

The range of assessment specified in the module outlines have been developed in order to support the pedagogical approaches employed and which are appropriate for the nature of the Computing discipline topic covered. Assessments for the individual modules have been designed to enable students to demonstrate that they successfully met the learning outcomes. Each module outline contains an assessment strategy outlining the nature of the assessment exercises it employs and the respective weighting of each assessment item, as well as a sample assessment. Emphasis on assessments is placed on development of analytical skills and combining theory and practice. The styles of each assessment is determined by the module leader and takes into account a myriad of factors, including learning outcomes, content of the module and teaching and learning

styles. For example, modules in programming lend themselves to more practical-based project assessments compared to a case-study assessment.

Because of the unique nature of Computing, emphasis is placed on practice, project-based learning and assessment and work-based learning. The use of formative assessment is especially important and practical projects are incorporated in the programme. Other areas of emphasis include:

1. Support formative assessment through on-line exercises, multiple choice questions
2. Facilitate discussions and provide a forum for on line tutor-to-student and peer-to-peer support
3. An approach of some module assignments, where the first assignment typically has a theoretical context, while the second may be grounded in practice.
4. Develop learning skills and confidence through multiple learning assessment approaches where students have the opportunity to maximize and develop a range of skills. For example, the portfolio assignment for COMP1812 consists of a portfolio, software project and quizzes.
5. Offer enhanced challenges and opportunities to students with advanced topic skills
6. Detailed assessment grading criteria and matrices which helps clarify goals and expected standards.
7. An appropriate balance for scheduling summative assessments during the year. One approach in several modules is the use of multiple learning assessment opportunities where several portions of the assignment is phased during the assessment period. This allows students to balance their work-loads and receive feedback during each assessment opportunity.
8. The inclusion of summative assessments in most modules where students have the opportunity to receive formal feedback on assignment drafts.

A grid showing assessment methods and weightings mapped to modules at each level, together with an assessment calendar of submission dates is included in the course handbook.

The programme has also been designed to align with the University's Curriculum Design Policy. That "reflect the institution's values, goals and mission, that provide an excellent experience for students to learn, discover and fulfil their academic potential, and offer opportunities for students to be 'co-creators' in the learning experience, whilst also securing appropriate academic standards."

1	be specified in terms of **clear aims and learning outcomes** with explicitly aligned learning, teaching and assessment strategies, taking account of good practice in curriculum design	The programme was developed in conjunction with UW's Learning, Teaching and Assessment Strategy and Assessment Policy (UW Grade descriptors).
2	be consistent with national and institutional **credit frameworks** and the expectations of the **UK Quality Code for Higher Education** and, where appropriate, the requirements of PSRBs and employers, in defining the **level** of the qualification and the intended learning outcomes, and in **promoting progression** so that the demands on the learner in intellectual challenge, skills, knowledge, conceptualisation and learning autonomy increase as students move through a programme of study.	The UW Undergraduate Regulatory Framework (replaced by the Taught Courses Regulatory Framework from the 1st September 2015) and URF Generic Grade Descriptors were used to define the level qualification and develop a conceptualized model of learning. Also, frameworks from two professional bodies (ACM and IEEE) were used to develop appropriate learning outcomes for the course (see section 13 – Intended Learning Outcomes).
3	be informed by relevant and current research, scholarship and professional	Modules are developed with research-based activities to promote understanding

	practice, and promote student understanding of, and engagement with, the research process and its application	of the Computing area. For example: the Computing Project module (COMP3008) requires a heavy component of research-based activity leading to a Literature Review section in their project documentation. Module tutors develop and teach the modules to integrate current research findings and up-to-date content into the modules.
4	promote in students **enquiry-based learning and critical thinking** related to their field of study which is up-to-date and based on academic research methodologies	Higher order critical skills (eg the ability to evaluate evidence, arguments and assumptions to reach sound judgements) are encouraged not only at level 6, but also at levels 4 and 5 (with additional tutor support in line with UW's Curriculum Design Policy). By explicit assessment approaches e.g., the use of "Learning Journals" in COMP3302 where students are encouraged to write in a critical, evaluative and reflective way, and also to reflect on their learning processes,
5	take account of the previous likely **educational backgrounds of potential students** and legislation and institutional policy on equality and diversity	UW teaching and learning strategies for inclusivity are incorporated into the development and implementation of the curriculum for inclusive teaching. For example, tutors work closely with the Disabilities Group to ensure they accommodate and meet the needs of those students with a range of learning needs, such as providing 'sensitive marking' or arrangements for students with classroom helpers.
6	prepare students for their next step including the world of work by developing their **employability**, cultivating work-related and transferable skills, and offering opportunities for students to participate in **work-based learning, work placement or other work-related learning**.	The curriculum encourages students to gain practical skills by engaging in work placement or work-based learning modules (BUSM3000, BUSM3069, BUSM2069) or developing an actual computing artifact (such as a web site) for a client (COMP3008). The School has a Director of Business and Professional Development in order to promote closer links with employers. This role is supported by a newly appointed Business Development Consultant and the generation of a contact database (see section 22 – Graduate Destinations)
7	embed a structured programme of **personal academic tutoring**, promoting professional behaviours and attitudes	Each student has a nominated Personal Academic Tutor to provide academic advice and guidance, personal development planning and pastoral support as appropriate. (see Section 17.3)
8	offer students opportunities to engage in **personal development planning** processes and build a record of their	Personal development is introduced in the induction period, and developed through the mandatory modules COMP1812,

	learning achievements	COMP1347, COMP1341, COMP2311 and COMP3008. It is encouraged throughout the course via the personal academic tutor support system, online resources for PDP and employability, opportunities for work based learning, overseas exchange and Elective module choices at Levels 4 and 5.
9	promote ethical and environmental responsibility, including an understanding of sustainability in its widest definition	Students are encouraged to reflect on how social and technical changes can have ethical, sustainability and moral impact on themselves, society and business (COMP2311, COMP3381)
10	develop international understanding and cultural awareness to enable students to be inclusive in their actions and value diversity	A specialist exchange tutor to advise students regarding module choices and other arrangements through the University's International Office for an exchange semester overseas.

15. Programme structures and requirements

15.1 Overview of the 3 Courses

The individual courses should be viewed as components of a larger scheme presenting an integrated platform designed to cater for mainstream (BSc Computing) and specialist routes in BSc Web Development and BSc Computer Games Design & Development. The modules (and their content) have been chosen to allow an efficient integration, to support the three courses. For example, in the Computer Games Design & Development course, level 5 and 6 modules have been crafted to be mutually supportive: Both the mandatory programming and the games development modules share an object-oriented approach; also the mandatory programming and games modules share a common event-driven approach. Students in the BSc Computing degree are able to select more module options in order to allow better tailoring of interests to meet their career objectives. Students in BSc Web Development and BSc Computer Games Design & Development take a more structured set of modules which serves a strong preparation for employment in various industry positions within these fields. A Computing Platform Policy can be referenced in the Course Handbook.

15.2 BSc (Hons) Generic Computing Award

This award allows flexibility to study a broad range of aspects of modern-day computing. Year one provides essential Computing knowledge and skills, creating a solid foundation for future academic study and employment. Years two and three provide the opportunity to specialise in particular areas of interest. Graduates have a variety of career opportunities including: website design, systems analysis, database design, software development, security analysis, mobile technologies, and IT services.

This is available in full-time or part-time mode and may be taken as a Single, Major, Joint, Minor, or top-up pathway. Joint degrees options in Computing include:

- Animation
- Business Management
- Education Studies
- Environmental Management

- Graphic Design and Multimedia
- Mathematics

Single Honours students only may also take the course in sandwich mode with an optional one year placement between levels 5 and 6.

15.3 BSc (Hons) Computing Specialist Awards

BSc (Hons) Web Development

This degree explores aspects of the Web arena including the aesthetics of design, the underlying technical knowledge required and the importance of a sound user-focused systems approach. Year one provides essential Computing knowledge and skills, creating a solid foundation for future studies and employment. Years two and three allow the student to specialise in areas of Web Development. Career options include: Web design and development, systems analysis, e-business development, e-marketing, web architecture, software development, mobile development and IT services. These are available as Single Honours only.

They may be taken in full-time, part-time mode or sandwich mode with an optional one year placement between levels 5 and 6.

BSc (Hons) Computer Games Design & Development

This degree aims at providing a balanced education across the domains of game design and development, developing both domain-specific and transversal skills aimed at enhancing employability and self-employment opportunities in the Games Industry, the Interactive Media industry, and related domains of IT and software development.
This degree relies on a robust three-year software development and engineering trail of modules, which further enhances cross-domain employability and self-employment opportunities. Focusing on the Games Industry, based on the job profiles defined in Skillset 2009 the team emphasizes that our students would be prepared for the following roles: game designer; scripter; content programmer; games tester; general programmer; quality assessor. It is focused on the software development and game design branches of the computer games domain, with a 50% - 50% balance.

These are available as Single Honours only. They may be taken in full-time, part-time mode or sandwich mode with an optional one year placement between levels 5 and 6.

See end of document for level 4, 5 and 6 Award Maps.
See Course Handbook for excluded combinations and joint modules.

16. QAA and Professional Academic Standards and Quality

The 2007 QAA Subject Benchmark statements for Computing[2] bachelor's degrees with honours articulate the knowledge, skills and categories of achievement to be expected of successful honours graduates in the field. These have been used to craft module learning outcomes and content as well as learning, teaching and assessment strategies of all modules, including core modules as a discrete subset in their own right.

[2] Available from the QAA Website at
http://www.qaa.ac.uk/academicinfrastructure/benchmark/statements/computing07.pdf
3 Association for Computing Machinery & IEEE Computer Society, Computer Science Curriculum 2008: An Interim Revision of CS 2001, Report from the Interim Review Task Force, December 2008,
http://www.computer.org/portal/web/education/Curricula;jsessionid=d1a6005da0be07c12560e4eb298e

The QAA Code of Practice for the assurance of academic quality and standards in higher education has informed the writing of this programme, in particular with reference to Section 6 'Assessment of Students' and Section 9 'Work-based and placement learning'.

The programme conforms to the requirements of the Framework for Higher Education Qualifications (FHEQ), and thus aims to support Honours graduates to:

- Develop an understanding of a complex body of knowledge, some of it at the current boundaries of an academic discipline
- Develop analytical techniques and problem-solving skills that can be applied in many types of employment
- Evaluate evidence, arguments and assumptions, to reach sound judgements, and to communicate effectively
- Develop the qualities needed for employment including the exercise of personal responsibility and decision-making in complex and unpredictable circumstances.
- The programme aims to meet Computing Curriculum recommendations and aims developed by two professional bodies (IEEE and ACM) [3] A reference mapping of the industry educational domains against module content can be found in the Course Handbook.
- The BSc Computer Games Design & Development module content is based on the skills, qualifications and experience required to work in Interactive Media and Computer Games as defined in the "2009 National Occupational Standards for Games and Interactive Media" [4] defined by the Sector Skill Council for Creative Media (SkillSet 2009, for brevity), and based on the "2008 IGDA Curriculum Framework" defined by the International Game Developer Association Education Committee. It fully or partially fulfils all the learning outcomes, course, resources and teaching requirements and quality criteria specified for the following Skillset 2009 modules: "Programming and mathematics for computer games"; "High Level Games Programming"; "Game Creation Process." A reference mapping can be found in the Course

This award is located at level 6 of the FHEQ.

17. Support for students

17.1 General Approaches to Support

Our fundamental approach to student support is centred on the need to motivate and inspire our students (SB 5.11). We acknowledge that students learn in different ways and also have different expectations of their learning experience. Some respond best to a 'traditional' lecturing approach; others are motivated by learning and teaching contextualised in an industrial or an academic context. Others respond to an academic research approach. Our modules provide a spectrum of approaches designed to engage with a wide range of student abilities. Yet we highlight the need for *active learning* where students are invited to participate in learning activities, and also to reflect (at a meta-cognitive level) on their learning process.

17.2 Student Induction

Our induction process within Computing consists of a week of activities designed to inform students what is expected of them in a Higher Education setting (SB 5.13, 5.14). Discussions of essay and report writing, working with others while avoiding plagiarism, and how to strive to achieve excellence are vital components of our induction process. Important here is Time Management, where we encourage students to organize their

4 National Occupational Standards for Interactive Media and Computer Games
http://www.skillset.org/standards/standards/IM/

studies to meet the assessment deadlines which may tend to be clustered in time. Students meet WBS tutors and representatives from Registry, ILS, Student Services and the Students' Union and are provided with information on course structure and content, resources and student support.

The following are activities that have been put in place for new students entering WBS. These activities provide a range of activities where students develop relationships with their peers and tutors, learn about university services and engage in team building activities.

- Review of Computing pathways and overall Computing course structure
- Meet Student Liaison and student representatives (StARS)
- Talks on Employability, placements,, international study-abroad options
- Team building activities
- Visit to HIVE
- Meet with module leaders, tutors and Academic Advisors
- Hands-on sessions on UoW computer systems, library, software
- Student Union activities
- Talks by Registry, ILS, librarians, student services

Induction for Level 4 students is week long and we have extended induction for Levels 5, 6, top-ups and returning students from placement.

17.3 Personal Academic Tutoring

Each student has a nominated Personal Academic Tutor to provide academic advice and guidance, personal development planning and pastoral support as appropriate. The Personal Academic Tutor plays a significant role in enhancing the student's academic and personal experience of studying and key aspects of the role include:

- Assisting students to make the transition to studying in higher education
- Helping students to understand the requirements of their course
- Supporting students to take responsibility for their own learning
- Helping students to make the most of learning resources and other forms of support available
- Supporting students in academic, professional and career related planning and development
- Advising and guiding students on issues or problems that arise while they are at University
- Supporting students for whom there may be particular challenges
- Meeting students on a regularly scheduled basis. Individual meeting will be held throughout the academic year, and the Personal Academic Tutor will provide group meeting times during Worcester and/or Induction Weeks
- Tutors will advise students on individual course options, module selection and academic planning.

17.4 Student Support

The following activities and documents have been put in place to provide support for undergraduate students within Computing at the Worcester Business School.

- Induction programme including inputs from Student Services
- Module outlines include module code, module title, level, planned teaching activities, attendance requirements, assessment brief, assessment criteria and reading lists

- Learning and study guides, including guides for the Computing Project and for Direct Entrant students
- Library, IT, Media and Print support is provided by Information Learning Services (ILS) staff through an Information Desk and Study Guides
- Student representation on Course Management Committee to address course-wide
- A nominated Personal Academic Tutor to provide pastoral support, academic advice and guidance, and Personal Development Planning, as appropriate
- Via Registry Services, students can obtain details of module availability, registration and results via the student online learning environment (SOLE page)
- A range of support services, including finance and accommodation advice
- Student and academic support, representation and social networking via the Students' Union
- *Student Services (http://www.worcester.ac.uk/student-services/index.htm) and the Disability and Dyslexia Service* (*http://www.worcester.ac.uk/student-services/disability-and-dyslexia.htm*)
- Specialist exchange tutors to advise students regarding module choices and other arrangements through the University's International Office for an exchange semester overseas.
- Career Services offer one-to-one drop-in advice and information and publishes career events, activities and job opportunities. Worcester Business School also has its own intranet which advertises placement and career opportunities specifically for Computing and Business Management students
- A Virtual Learning Environment – VLE to provide module-specific material, documents, activities and networking, as well as a more general announcements and updates.

17.5 Future Weeks

The following are activities that have been put in place for Future Weeks (previously Employability and Achievement Weeks). Refer to the Course Handbook for detailed information on Future Weeks.

- Level 4 – Introduction to Work Placements
- Presentation skills
- Searching for vacancies
- CV clinic
- Graduate Internships
- Bright Futures Employers Panel & Networking
- Mock assessment centre
- Careers in Computing
- Preparing to leave options
- Self employment – starting your own business
- Volunteering opportunities
- Computing Portfolios
- Investor pitches workshops

18. Admissions

Admissions Policy

The University aims to be accessible; it is committed to widening participation and encouraging diversity in the student population. Worcester Business School works closely with central student support services including the Admissions Office, the Disability and Dyslexia Service and the International Centre to support students from a variety of different backgrounds. We actively encourage and welcome people from the

widest range of economic and cultural backgrounds and value the contribution of mature learners.

Entry requirements

The University's standard entry requirements apply: 4 GCSEs at Grade C or above plus a minimum of 2 and maximum of 3½ A Levels or equivalent Level 3 qualifications. The current UCAS Tariff requirements for entry to the course are published in the prospectus.

Recognition of Prior Learning

Details of acceptable level 3 qualifications, policy in relation to mature students or applicants with few or no formal qualifications can be found in the prospectus or on the University webpages. Information on eligibility for recognition of prior learning for the purposes of entry or advanced standing is also available from the University webpages or from the Registry Admissions Office (01905 855111).

Further information on Recognition of Prior Learning can be found at http://www.worcester.ac.uk/registryservices/941.htm

University of Worcester welcomes applications from mature students. Mature students, who fulfil the standard entry requirements as detailed above, apply through UCAS. Students with few or no formal qualifications are asked to contact the Admissions Office with details of the work they have undertaken, including caring or organised voluntary work, and any other relevant experience and/or qualifications gained since leaving school. An advisory interview will be arranged to discuss possible options. These options include an Access course or Foundation Year at a local Further Education College or an Exploratory Essay and interview, where appropriate.

Admissions procedures

The University encourages applicants to attend visit days and also a selection interview is normally required.

Full-time applicants apply through UCAS:
Part-time applicants apply directly to University of Worcester (UW)

Admissions/selection criteria

Applicants will be selected according to their qualifications (actual or predicted) at A levels or equivalent. Applicants will be invited to day-long Applicant Day where they can receive a taste of university life and meet the tutors.

19. Methods for evaluating and improving the quality and standards of teaching and learning

Mechanisms for review and evaluation of teaching, learning and assessment, the curriculum and outcome standards include

- Module feedback
- Annual Course Evaluation Report completed by Course Leader
- Periodic Review including external scrutiny
- Peer teaching observation
- External Examiners' Reports
- Academic staff annual appraisal
- Staff Development Away Days and other events

- WBS Policy on Validation (Module Outlines and Assignment Briefs) and Moderation of Student Work

Committees with responsibility for monitoring and evaluating quality and standards:
- School Departmental Quality Assurance Committee
- School Learning, Teaching & Student Experience Committee
- School Board
- School Post Results Moderation Group
- Computing Course Management Committee
- Academic Standards & Quality Enhancement Committee
- Ethics Committee

Mechanisms for gaining student feedback on the quality of teaching and their learning experience:
- Course Management Committee
- Module feedback, including module feedback questionnaires
- Computing Course Committee
- Meetings with module tutors and personal tutor
- National Students Survey
- Induction, exit and other ad hoc surveys
- StARs (Student Academic Representatives)

Feedback to students concerning decisions, changes and action points will be provided by direct feedback from the student representatives, the minutes of the Course Management Committee meeting and the Annual Evaluation Report.

20. Regulation of assessment

The course operates under the University's Taught Courses Regulatory Framework.

Requirements to pass modules
- Modules are assessed using a variety of assessment activities which are detailed in the module specifications.
- The minimum pass mark is D- for each module.
- Students are required to submit all items of assessment in order to pass a module, and in some modules, a pass mark in each item of assessment may be required.
- Full details of the assessment requirements for a module, including the assessment criteria, are published in the module outline.

Submission of assessment items
- Students who submit course work late but within 5 days of the due date will have work marked, but the grade will be capped at D- unless an application for mitigating circumstances is accepted.
- Students who submit work later than 5 days but within 14 days of the due date will not have work marked unless they have submitted a valid claim of mitigating circumstances.
- For full details of submission regulations see Taught Courses Regulatory Framework.

Retrieval of failure
- Students are entitled to resit failed assessment items for any module that is awarded a fail grade, unless the failure was due to non-attendance.
- Reassessment items that are passed are graded at D-.
- If a student is unsuccessful in the reassessment, they have the right to retake the module (or, in some circumstances, take an alternative module).

Requirements for Progression

- Students at Level 4 may be permitted to progress to Level 5 when they have passed at least 90 credits at Level 4.
- Students at Level 5 may be permitted to progress to Level 6 when they have passed at least 90 credits at Level 5.
- A student who fails 90 credits or more due to non-submission will be required to withdraw from the University.
- Students who pass less that 90 credits but have submitted all items of assessment will be required to retake modules.

Requirements for Awards

Award	Requirement
CertHE	Passed 120 credits at Level 4 or higher
DipHE	Passed a minimum of 240 credits with at least 90 credits at Level 5 or higher
Degree (non-honours)	Passed a minimum of 300 credits with at least 90 credits at Level 5 or higher and a minimum of 60 credits at Level 6
Degree with honours	Passed a minimum of 360 credits with at least 90 credits at Level 5 or higher and a minimum of 120 credits at Level 6

Classification

The honours classification will be determined by whichever of the following two methods results in the higher classification:

Classification determined on the profile of the best grades from 60 credits attained at Level 5 and the best grades from 120 credits at Level 6. Level 5 and Level 6 grades count equally in the profile.

Classification determined on the profile of the best grades from 120 credits attained at Level 6 only.

For further information on honours degree classification, see the Taught Courses Regulatory Framework.

21. Indicators of quality and standards

- The University underwent a QAA Institutional Audit in March 2011. The audit confirmed that confidence can be placed in the soundness of the institution's current and likely future management of the academic standards of its awards and the quality of the learning opportunities available to students. The audit team highlighted several aspects of good practice, including the student academic representative (StARs) initiative, the proactive approach which supports the student experience for disabled students, the comprehensiveness of the student online environment (SOLE), the wide range of opportunities afforded to students to enhance their employability, the institution's commitment to enhancement, and the inclusive approach to working with its collaborative partners.
- Annual External Examiners' reports have been extremely supportive and complimentary particularly with respect to the mix of assessments and responsive and proactive approach to continuously improving the curriculum. They have applauded our innovative approaches to course structure and module content.

- Many members of staff engaged in developing the programme are actively engaged in relevant research, consultancy and professional practice in the disciplines of business management.
- The University of Worcester was successful in retaining IiP recognition in 1999, 2002, 2005 and again in 2008 - organisations must be reviewed by an external, independent Assessor once every three years to ensure that the IiP standard is being maintained and that practices are being evaluated and improved.
- Successful completion of a Computing Revalidation in May 2011 to significantly enhance the programme quality and offerings.
- Positive feedback and satisfaction from students in module evaluations, with an average of 85% positive satisfaction rate.

22. Graduate destinations, employability and links with employers

Graduate destinations

Graduate employment for all BSc Computing students has increased. The Computing pathway went from 61% (2011/12) graduate employment to 77.8% (2012/13). These figures show that the market for computing graduates is improving and more students are gaining employment in the area of study. More Games pathway students are self-employed, which could be due to the nature of self-employed consultancy employment in this arena. Most of the Computing graduates work in Wholesale/Retail and Manufacturing industries.

Student employability

- The optional placement year, available to Single Honours students taking either the generic or Specialist Awards in Computing, is an opportunity for students and staff to further engage with the real world of work.
- Short-term work placement and job opportunities are advertised in WBS's VLE site for existing students.
- Employability events and activities are available to students each academic year (Future Weeks – see Section 17)
- The subject area positively supports and engages in the Enterprise events and summer schools in which students have the opportunity to meet, work with, and be assessed by employers and entrepreneurs.
- Care has been taken to integrate the University's Academic Standards and Quality Enhancement Committee's ***"****Developing a Strategic Approach to Student Employability Support Statement", "*We will promote the use of the University's newly accredited work-based learning framework, and build upon its existing placement and work-based learning opportunities. All undergraduate courses will include either a mandatory work-based learning module or have learning from work as part of their programmes. Learning from work modules may be adopted, or elements of learning from work incorporated, into programmes. These could include experience in work, volunteering or enterprise activity."
- All full-time Single Honours students have the opportunity to take a 4-year sandwich degree with a **placement year**, normally in the third year of the programme. Students can apply for opportunities in the UK at a large number of well-known organisations across a wide range of industry sectors who offer placements annually, including IBM, Marks and Spencer, Intel, The Audit Commission, Microsoft, Kraft, The House of Commons, NHS, Lidl, Waitrose, Atman Strategy, Resource Group, Graffica, Bosch, Shared Police and Higher Education Enterprise (SPHERE) with West Mercia Police, Hewlett Packard and many others.

- Students at Levels 5 and 6 may choose to take a **Work Based Learning module** worth 30 credits which aims to develop employability and key skills via paid or voluntary work experience alongside studies.
- **Short-term work placement and job opportunities** are also advertised via the School's intranet for existing students. Students have worked on short-term web development projects for local firms such as Artwork Creative and Pepperneck.
- **Career guidance** is available through University of Worcester Career Advisory Service and periodic Career Fairs are organised by Student Services.

Links with employers

- Worcester Business School aims to promote closer **links with employers** through the work of its Business and Professional Development Team. The team is currently working with key decision makers in a variety of private, public and third sector organisations, and is supported by the School's Employers' Advisory Group, which meets on a regular basis.
- The School works closely with **professional organisations** including the British Computing Society.
- The School has worked with a number of **business clients** in developing and delivering its programmes. These include – The NHS (a range of Primary Care and Acute Trusts); Local Government (a range of County, District and Unitary Authorities); West Mercia, Warwickshire, Gloucestershire and Staffordshire Constabularies; Ministry of Defence and The Royal Air Force; Her Majesty's Prison Service; Royal Mail; Financial Services Organisations (e.g. Lloyds TSB, HBOS Plc, Clerical Medical, NFU Mutual and Virgin Money); Housing Associations, Southco Allpay Limited, G4S Secure Solutions, Hereford & Worcester Fire and Rescue Service, Hitachi Capital, and Malvern Instruments.
- The School has well-developed working relations with the **local business community** many of whom contribute to undergraduate programmes to give a real-world insight into the future world of work.
- These professional and business networks also involve **external events**, many of which are open to students, as well as employers.
- The Business School's specialist **research centre**, CPW (Centre for People at Work), has a wide range of contract-funded consultancy and research projects and provides further opportunities for students to link with employers.
- The School has, for a number of years, been an important focus for **projects linked with the West Mercia Constabulary** through the Shared Police and Higher Education Research and Enterprise (SPHERE) partnership, which enables the force to utilise academic expertise to enhance its policing activities e.g. through undergraduate students' final year projects.
- The School's Media Lab has a dedicated purposefully-equipped space to provide students with the experience of working on 'live' projects with clients from the local business community. Examples of projects include: mobile applications, games, website and software development.

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module outlines and the course handbook provided to all students at the start of the course. The accuracy of the information contained in this document is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

APPENDIX: AWARD MAPS

Course Title: Computing	Year of entry: 2013 onwards

Level 4

Module Code	Module Title	Credits (Number)	Status (Mandatory (M) or Optional (O) or (D) Designated)		Pre-requisites (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	Exclusions (Code in brackets indicates earlier modules which would also be excluded)
			Single Hons	Joint Hons		
COMP1321	Digital Infrastructures	30	O	-	None	None
COMP1331	Introduction to Game Design & Development	30	O	-	None	(COMP1251)
COMP1341	Introduction to Web & Database Development	30	M	M	None	(COMP1241 and COMP1212)
COMP1342	Creative Computing	30	O	-	None	(COMP1242 and COMP1243)
COMP1347	Programming: Concepts to Construction	30	O	O	None	(COMP1231 and COMP1345 and COMP1812)
COMP1812	Programming and Scripting	30	O	O	None	(COMP1231 and COMP1345 and COMP1347)
COMP1381	Introduction to Information Systems	30	O	-	None	None

Single Honours Requirements at Level 4
Single Honours students must take 120 credits in total, at least 60 of which must be drawn from the table above to include COMP1341, **PLUS** a choice of either COMP1812 or COMP1347

Single Honours students may also choose to take elective modules to the value of 30 credits from the listing of elective modules provided for undergraduate degree programmes, or take additional modules from the table above to the value of 30 credits.

Joint Honours Requirements at Level 4
Joint Honours students must take 60 credits from the table above to include COMP1341 and a choice of either COMP1812 or COMP1347.

Level 5									
Module Code	**Module Title**	**Credits** (Number)	**Status** (Mandatory (M) or Optional (O))				**Pre-requisites** (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	**Co-requisites**	**Exclusions** (Code in brackets indicates earlier modules which would also be excluded)
			SH	**Maj**	**JH**	**Min**			
COMP2303	Computer Science: Embedded Systems	15	O	O	O	O	None	None	None
COMP2311	Systems Analysis & Design	30	M	M	M	O	None		(COMP2211 and COMP2213)
COMP2322	Networks in Organisations	15	O	O	O	O	None	None	COMP2221
COMP2331	Object Oriented Design & Development	30	O	O	O	O	**COMP1345** (or COMP1231)		(COMP2231 and COMP3231)
COMP2341	Web Applications Development	30	O	O	O	O	**COMP1341** (or COMP1241)		(COMP2241 and COMP2242)
COMP2351	Game Design & Engineering	30	O	O	O	O	**COMP1331 and COMP1345** (Or COMP1231 and COMP1251)	COMP2331	(COMP2251 and COMP2253
COMP2361	Mobile Applications Development	30	O	O	O	O	**COMP1341 or COMP1345** (or COMP1241 or COMP1231)		**COMP3361**
COMP2381	E-business	30	O	O	O	O	None		**COMP3381** (and COMP3242 and COMP3271
BUSM2069	Work Based Learning	30	O	O	O	O	None		BUSM3069
BUSM2089	Preparing for Placement	15	O	O	O	O	None	None	UMSC2010, UMSC3010
BUSM2388	Social Media	15	O	O	O	O	None	None	None
BUSM2429	Contemporary Marketing Communications	30	O	O	O	O	**BUSM1039** (or BUSM1041 or BUSM1401)		(BUSM2042 and BUSM2043)

Single Honours Requirements at Level 5
Single Honours students must take 120 credits in total, at least 90 of which must be drawn from the table above to include COMP2311 **PLUS** 60 credits from (COMP2331, COMP2341, COMP2351, COMP2361, COMP2381, BUSM2069, BUSM2419, BUSM2089, COMP2322, BUSM2388, COMP2303)
Single Honours students may also choose to take elective modules to the value of 30 credits from the listing of elective modules provided for undergraduate degree programmes, or take additional modules from the table above to the value of 30 credits.

Joint, Major and Minor Honours Requirements at Level 5
Students following Joint Honours pathways can adjust their studies at level 5 to take more modules in one subject or can maintain an equally balanced programme of modules in each subject. The precise award title (Joint Hons or Major/Minor Hons) depends on the total number of credit achieved in each subject at levels 5 and 6 – for further information see SOLE.

Major Pathway Requirements at Level 5
Major Pathway students must take at least 60 and no more than 90 credits from the table above to include COMP2311 **PLUS** 60 credits from: COMP2331, COMP2341, COMP2351, COMP2361, COMP2381, BUSM2089, COMP2322, BUSM2388, COMP2303, BUSM2069.

Joint Pathway Requirements at Level 5
Joint Pathway students must take 60 credits from the table above to include COMP2311 **PLUS** a choice of 30 credits from: COMP2331, COMP2341, COMP2351, COMP2361, COMP2381, BUSM2089, COMP2322, BUSM2388, COMP2303, BUSM2069.

Minor Pathway Requirements at Level 5
Minor Pathway students must take at least 30 credits and no more than 60 credits from the table above to include a choice from: COMP2311, COMP2331, COMP2341, COMP2351, COMP2361, COMP2381, BUSM2089, COMP2322, BUSM2388, COMP2303, BUSM2069.

Level 6								
Module Code	**Module Title**	**Credits** (Number)	**Status** (Mandatory (M) or Optional (O))				**Pre-requisites** (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	**Exclusions** (Code in brackets indicates earlier modules which would also be excluded)
			SH	**Maj**	**JH**	**Min**		
COMP3008	Computing Project	30	M	M	O	O	None	(COMP3003 and COMP3004 and COMP3005 and COMP3006 and COMP3007**)**
COMP3302	Nature of Computing	15	O	O	O	O	None	(COMP3202)
COMP3303	Elements of Computer Science	15	O	O	O	O	None	(COMP3104)
COMP3321	Distributed Application Development	15	O	O	O	O	**COMP1345** (or COMP1231)	(COMP3241)
COMP3341	Advanced Web Applications	30	O	O	O	O	**COMP1341** (or COMP1241)	(COMP3243)

	Development							
COMP3351	Advanced Game Design & Engineering	30	O	O	O	O	**COMP2351** (or COMP2253)	(COMP3251 and COMP3253)
COMP3352	Modelling and Simulation	15	O	O	O	O	**None**	(COMP2252 and COMP3252)
COMP3361	Mobile Application Development	30	O	O	O	O	**COMP1341 or COMP1345** (or COMP1241 or COMP1231)	**COMP2361**
COMP3371	CyberSecurity	15	O	O	O	O	**COMP1345** (or COMP1231)	(COMP3221)
COMP3381	E-business	30	O	O	O	O	None	**COMP2381** (and COMP3242 and COMP3271)
COMP3391	Practical Database Applications	15	O	O	O	O	**COMP1341** (or COMP1212)	COMP2212
UMSC3001/2	Independent Project	30			O		None	(COMP3001 and COMP3002 and COMP3003 and COMP3004 and COMP3005 and COMP3006 and COMP3007 and COMP3008**)**
Work Placement Option								
BUSM3000	Work Placement	NA	O	O			Prep workshop	None

Single Honours Requirements at Level 6
Single Honours students must take 120 credits from the table above to include (COMP3008) **PLUS** a choice of 90 credits (COMP3302, COMP3303, COMP3321, COMP3341, COMP3351, COMP3352, COMP3361, COMP3371, COMP3381, COMP3391, BUSM3029)

Joint, Major and Minor Honours Requirements at Level 6
Students following pathways in two subjects can adjust their studies at level 6 to take more modules in one subject or can maintain an equally balanced programme of modules in each subject. The precise award title (Joint Hons or Major/Minor Hons) depends on the total number of credit achieved in each subject at levels 5 and 6 – for further information see SOLE

Major Pathway Requirements at Level 6
Major Pathway students must take either 75 or 90 credits from the table above to include (COMP3008) **PLUS** a choice of 75 credits (COMP3302, COMP3303, COMP3321, COMP3341, COMP3351, COMP3352, COMP3361, COMP3371, COMP3381, COMP3391)

Joint Pathway Requirements at Level 6
Joint Pathway students must take either 60 or 75 credits from the table above to include (COMP3008, COMP3302, COMP3303 COMP3321, COMP3341, COMP3351, COMP3352, COMP3361, COMP3371, COMP3381, COMP3391, UMSC3001/'2)

Minor Pathway Requirements at Level 6

Minor pathway students must take either 30 or 45 credits from the table above to include (COMP3302, COMP3303, COMP3321, COMP3341, COMP3351, COMP3352, COMP3361, COMP3371, COMP3381, COMP3391)

Course Title: Computer Games Design & Development	Year of entry:2013

Level 4					
Module Code	**Module Title**	**Credits** (Number)	**Status** (Mandatory (M) or Optional (O) or (D) Designated)	**Pre-requisites** (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	**Exclusions** (Code in brackets indicates earlier modules which would also be excluded)
COMP1321	Digital Infrastructures	30	O	None	None
COMP1331	Introduction to Game Design & Development	30	D	None	(COMP1251)
COMP1341	Introduction to Web & Database Development	30	M	None	(COMP1241 and COMP1212)
COMP1342	Creative Computing	30	O	None	(COMP1242 and COMP1243)
COMP1347	Programming: Concepts to Construction	30	M	None	(COMP1231 and COMP1345 and COMP1812)
COMP1381	Introduction to Information Systems	30	O	None	None

Single Honours Requirements at Level 4
Single Honours students must take 120 credits in total, at least 90 of which must be drawn from the table above to include COMP1331, COMP1341 and COMP1347.

Single Honours students may also choose to take elective modules to the value of 30 credits from the listing of elective modules provided for undergraduate degree programmes, or take additional modules from the table above to the value of 30 credits.

Level 5						
Module Code	**Module Title**	**Credits** (Number)	**Status** (Mandatory (M) or Optional (O))	**Pre-requisites** (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	**Co-requisites**	**Exclusions** (Code in brackets indicates earlier modules which would also be excluded)
COMP2303	Computer Science: Embedded Systems	15	O	None	None	None
COMP2311	Systems Analysis & Design	30	M	None		(COMP2211 and COMP2213)
COMP2322	Networks in Organisations	15	O	None	None	COMP2221
COMP2331	Object Oriented Design & Development	30	M	**COMP1345** (or COMP1231)		(COMP2231 and COMP3231)
COMP2341	Web Applications Development	30	O	**COMP1341** (or COMP1241)		(COMP2241 and COMP2242)
COMP2351	Game Design & Engineering	30	M	**COMP1331 and COMP1345** (Or COMP1231 and COMP1251)	COMP2331	(COMP2251 and COMP2253
COMP2361	Mobile Applications Development	30	O	**COMP1341 or COMP1345** (or COMP1241 or COMP1231)		**COMP3361**
COMP2381	E-business	30	O	None		**COMP3381** (and COMP3242 and COMP3271
BUSM2069	Work Based Learning	30	O	None		BUSM3069
BUSM2089	Preparing for Placement	15	O	None	None	UMSC2010, UMSC3010
BUSM2388	Social Media	15	O	None	None	None
BUSM2429	Contemporary Marketing Communications	30	O	**BUSM1039** (or BUSM1041 or BUSM1401)		(BUSM2042 and BUSM2043)

Single Honours Requirements at Level 5
Single Honours students must take 120 credits in total, at least 90 of which must be drawn from the table above to include: COMP2311, COMP2331 and COMP2351

Single Honours students may also choose to take elective modules to the value of 30 credits from the listing of elective modules provided for undergraduate degree programmes, or take additional modules from the table above to the value of 30 credits.

Level 6					
Module Code	**Module Title**	**Credits** (Number)	**Status** (Mandatory (M) or Optional (O))	**Pre-requisites** (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	**Exclusions** (Code in brackets indicates earlier modules which would also be excluded)
COMP3004	Games Development Project	30	M	None	(COMP3003 and COMP3005 and COMP3006 and COMP3007 and COMP3008 **)**
COMP3302	Nature of Computing	15	O	None	(COMP3202)
COMP3303	Elements of Computer Science	15	O	None	(COMP3104)
COMP3321	Distributed Application Development	15	O	**COMP1345** (or COMP1231)	(COMP3241)
COMP3341	Advanced Web Applications Development	30	O	**COMP1341** (or COMP1241)	(COMP3243)
COMP3351	Advanced Game Design & Engineering	30	M	**COMP2351** (or COMP2253)	(COMP3251 and COMP3253)
COMP3352	Modelling and Simulation	15	O	None	(COMP2252 and COMP3252)
COMP3361	Mobile Application Development	30	O	**COMP1341 or COMP1345** (or COMP1241 or COMP1231)	**COMP2361**
COMP3371	CyberSecurity	15	O	**COMP1345** (or COMP1231)	(COMP3221)
COMP3381	E-business	30	O	None	**COMP2381** (and COMP3242 and COMP3271)
COMP3391	Practical Database Applications	15	O	**COMP1341** (or COMP1212)	COMP2212
Work Placement Option					
BUSM3000	Work Placement	NA	O	Prep Workshops	None

Single Honours Requirements at Level 6

Single Honours students must take 60 credits from the table above to include: COMP3351, COMP3004 **PLUS** a choice of 60 credits from: COMP3302, COMP3303, COMP3321, COMP3341, COMP3352, COMP3361, COMP3371, COMP3381, COMP3391.

Course Title: Web Development	Year of entry:2013

Level 4					
Module Code	**Module Title**	**Credits** (Number)	**Status** (Mandatory (M) or Optional (O) or (D) Designated)	**Pre-requisites** (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	**Exclusions** (Code in brackets indicates earlier modules which would also be excluded)
COMP1321	Digital Infrastructures	30	O	None	None
COMP1331	Introduction to Game Design & Development	30	O	None	(COMP1251)
COMP1341	Introduction to Web & Database Development	30	M	None	(COMP1241 and COMP1212)
COMP1342	Creative Computing	30	O	None	(COMP1242 and COMP1243)
COMP1347	Programming: Concepts to Construction	30	O	None	(COMP1345 and COMP1231 and COMP1812)
COMP1381	Introduction to Information Systems	30	O	None	None
COMP1812	Programming and Scripting	30	O	None	(COMP1231 and COMP1345 and COMP1347)

Single Honours Requirements at Level 4
Single Honours students must take 120 credits in total, at least 60 of which must be drawn from the table above to include COMP1341, **PLUS** a choice of either COMP1812 or COMP1347.

Single Honours students may also choose to take elective modules to the value of 30 credits from the listing of elective modules provided for undergraduate degree programmes, or take additional modules from the table above to the value of 30 credits.

Level 5						
Module Code	**Module Title**	**Credits** (Number)	**Status** (Mandatory (M) or Optional (O))	**Pre-requisites** (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	**Co-requisites**	**Exclusions** (Code in brackets indicates earlier modules which would also be excluded)
COMP2303	Computer Science: Embedded Systems	15	O	None	None	None
COMP2311	Systems Analysis & Design	30	M	None		(COMP2211 and COMP2213)
COMP2322	Networks in Organisations	15	O	None	None	COMP2221
COMP2331	Object Oriented Design & Development	30	O	**COMP1345** (or COMP1231)		(COMP2231 and COMP3231)
COMP2341	Web Applications Development	30	M	**COMP1341** (or COMP1241)		(COMP2241 and COMP2242)
COMP2351	Game Design & Engineering	30	O	**COMP1331 and COMP1345** (Or COMP1231 and COMP1251)	COMP2331	(COMP2251 and COMP2253)
COMP2361	Mobile Applications Development	30	O	**COMP1341 or COMP1345** (or COMP1241 or COMP1231)		**COMP3361**
COMP2381	E-business	30	M	None		**COMP3381** (and COMP3242 and COMP3271
BUSM2069	Work Based Learning	30	O	None		BUSM3069
BUSM2089	Preparing for Placement	15	O	None	None	UMSC2010, UMSC3010
BUSM2388	Social Media	15	O	None	None	None
BUSM2429	Contemporary Marketing Communications	30	O	**BUSM1039** (or BUSM1041 or BUSM1401)		(BUSM2042 and BUSM2043)

Single Honours Requirements at Level 5
Single Honours students must take 120 credits in total, at least 90 of which must be drawn from the table above to include: COMP2311, COMP2341 and COMP2381

Single Honours students may also choose to take elective modules to the value of 30 credits from the listing of elective modules provided for undergraduate degree programmes, or take additional modules from the table above to the value of 30 credits.

Level 6					
Module Code	**Module Title**	**Credits** (Number)	**Status** (Mandatory (M) or Optional (O))	**Pre-requisites** (Code in brackets indicates earlier modules, which would be accepted as alternative pre-requisites)	**Exclusions** (Code in brackets indicates earlier modules which would also be excluded)
COMP3003	Web Development Project	30	M	None	(COMP3004 and COMP3005 and COMP3006 and COMP3007 and COMP3008 **)**
COMP3302	Nature of Computing	15	O	None	(COMP3202)
COMP3303	Elements of Computer Science	15	O	None	(COMP3104)
COMP3321	Distributed Application Development	15	O	**COMP1345** (or COMP1231)	(COMP3241)
COMP3341	Advanced Web Applications Development	30	M	**COMP1341** (or COMP1241)	(COMP3243)
COMP3351	Advanced Game Design & Engineering	30	O	**COMP2351** (or COMP2253)	(COMP3251 and COMP3253)
COMP3352	Modelling and Simulation	15	O	None	(COMP2252 and COMP3252)
COMP3361	Mobile Application Development	30	O	**COMP1341 or COMP1345** (or COMP1241 or COMP1231)	**COMP2361**
COMP3371	CyberSecurity	15	O	**COMP1345** (or COMP1231)	(COMP3221)
COMP3391	Practical Database Applications	15	O	**COMP1341** (or COMP1212)	COMP2212
Work Placement Option					
BUSM3000	Work Placement	NA	O	Prep Workshops	None

Single Honours Requirements at Level 6

Single Honours students must take 60 credits from the table above to include COMP3341, COMP3003 **PLUS** a choice of 60 credits from: COMP3302, COMP3303, COMP3321, COMP3351, COMP3352, COMP3361, COMP3371, COMP3381, COMP3391.