

BSc/BSc (Hons) Computer Games (Design)

UCAS code: GWK2

Entry requirements: Higher: ABB (one sitting); ABBB (two sittings),
A-Level: BB, **ILC:** BBB
UCAS Tariff: 200 UCAS points

Essential subjects: Computing/Information Systems (H) and Maths (H) – with at least one of these at grade A.

FE college students: Contact us for a copy of our FE Supplement.

Work placement: The programme features an optional one-year sandwich placement which can be undertaken after completion of Year 3.

Assessment: Assessment methods used to demonstrate achievement of learning outcomes include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.

Mode of study: Full-time and part-time.

Contact: Admissions Officer
E: SECcourses@gcal.ac.uk
T: +44 (0)141 331 3277
www.gcal.ac.uk/sec

What you'll learn: **Year 1:** Computer Systems Development, Database Development, Games Design, Web Development, Programming, Media Content Creation, Integrated Project 1, Computer Systems and Network Technology, Mathematics for Computer Games 1. **Year 2:** Interactive Storytelling, Games Design 1, Software Modelling, Analysis and Design 1, Multimedia Authoring, Interaction Design, Integrated Project 2. **Year 3:** Games Design 2, Psychology of Design, Graphic Design for Interactive Multimedia, Sequential Imagery Development, New Venture Creation, Integrated Project 3. **Year 4:** Honours Project and Research Methods, Games Design 3, Honours Project, Reflective Practice for Personal Development, Serious Game Design.

Career opportunities: Graduates will enjoy excellent employment opportunities as the computer games industry continues to grow and can expect to find work as both game designers and programmers. The games and creative media industries are areas of significant growth within the Scottish Economy. The industry has identified the role of game designers as a pivotal one and their recruitment and educational background as an ongoing problem for the industry. Thus, the aim of the BSc/BSc (Hons) Computer Games (Design), is to meet the employer led requirements for the job role of game design.

Note: All students entering first year on the suite of computing based programmes (BSc Computer Games, BSc Computing, BSc Information Technology Management for Business and BSc Networking and Systems Support) follow a common first year. This commonality provides a taster in a variety of subject areas to help students confirm their choice of specialist programme for Year 2 onwards.



The video games industry continues to grow every year with constant advances made in the field of Video Games Technology. Subsequently, the software is always evolving in order to push the limits of this technology and produce more and more advanced computer gaming experiences for the increasingly sophisticated gamer.

The BSc/BSc (Hons) Computer Games programme suite aims to meet these continuing and development needs of the computer games industry.

Why Caledonian?

This programme is designed to provide graduates with the right mix of skills and knowledge needed to become a Game Designer. Game Design embraces a broad area of concerns encompassing elements of both software development and computer arts. This is reflected in the programme which embraces both the Software Engineering (usability/HCI) elements of Game play, Game level design, and key elements of Game Narrative and Story Telling which forms a critical element in the successful development of modern and complex computer games. The Design stream also provides coverage of computer arts, ie specialist media design and creation and game asset integration requirements for the game designer.

An optional feature of this programme is the one-year sandwich placement. This can be undertaken after completing the BSc 3rd year. The placement consists of a year of practical paid work experience in a suitable company position. The different types of posts undertaken can be of quite a diverse range but will always relate to your area of study. Recently students have been placed with companies such as IBM, Dell Corporation, National Australia Group, The Royal Bank of Scotland, Strathclyde Police among others. Undertaking the placement can provide valuable experience to enhance your career prospects following your graduation.

“ Game Design embraces a broad area of concerns encompassing elements of both software development and computer arts. ”

BSc/BSc (Hons) Computer Games (Software Development)

UCAS code: W280

Entry requirements: Higher: ABB (one sitting); ABBB (two sittings),
A-Level: BB, **ILC:** BBB
UCAS Tariff: 200 UCAS points

Essential subjects: Computing/Information Systems (H) and Maths (H) – with one of these at grade A.

FE college students: Contact us for a copy of our FE Supplement.

Work placement: The programme features an optional one-year sandwich placement which can be undertaken after completion of Year 3.

Assessment: Assessment methods used to demonstrate achievement of learning outcomes include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.

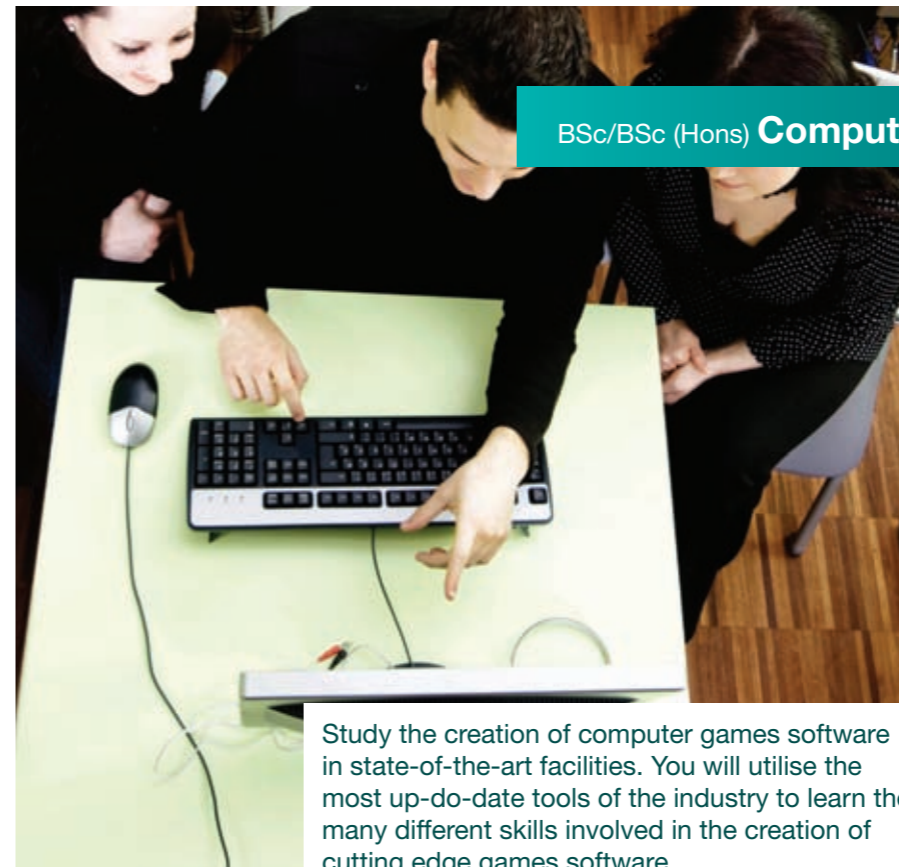
Mode of study: Full-time and part-time.

Contact: Admissions Officer
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What you'll learn: **Year 1:** Computer Systems Development, Database Development, Games Design, Web Development, Programming, Media Content Creation, Integrated Project 1, Computer Systems and Network Technology, Mathematics for Computer Games 1. **Year 2:** Games Design 1, Object Oriented Software Development, Software Modelling, Analysis and Design 1, Games Programming 1, Interaction Design, Integrated Project 2. **Year 3:** Mathematics for Computer Games 2, Console Programming, Software Processes and Practices, Games Programming 2, Game Artificial Intelligence, Integrated Project 3. **Year 4:** Honours Project and Research Methods, Games Programming 3, Honours Project, Reflective Practice for Personal Development, Rich Internet Applications.

Career opportunities: Graduates will enjoy excellent employment opportunities as the computer games industry continues to grow and can expect to find work as both game designers and programmers. The games and creative media industries are areas of significant growth within the Scottish economy. The industry has identified the role of game designers as a pivotal one and their recruitment and educational background as an ongoing problem for the industry. Thus, the aim of the BSc/BSc (Hons) Computer Games (Design), is to meet the employer led requirements for the job role of game design.

Note: All students entering first year on the suite of computing based programmes (BSc Computer Games, BSc Computing, BSc Information Technology Management for Business and BSc Networking and Systems Support) follow a common first year. This commonality provides a taster in a variety of subject areas to help students confirm their choice of specialist programme for Year 2 onwards.



Study the creation of computer games software in state-of-the-art facilities. You will utilise the most up-to-date tools of the industry to learn the many different skills involved in the creation of cutting edge games software.

Why Caledonian?

The BSc/BSc (Hons) Computer Games (Software Development) programme stream will emphasise the technical programming requirements (including the mathematics and implementation of physical mechanics), but would also share an appreciation of the core elements of Game Design.

Your studies will include the creation of 2D and 3D graphics, the incorporation of 3D animation in games, the creation of ‘thinking’ creatures, new product development and professional issues involved in the development of software. This learning is underpinned by the teaching of the basic concepts required to master the design process of computer games.

Students will develop games for the current game industry platforms such as Xbox 360, Playstation and Nintendo.

An optional feature of this programme is the one-year sandwich placement. This can be undertaken after completing the BSc third year. The placement consists of a year of practical paid work experience in a suitable company position. The different types of posts undertaken can be of quite a diverse range but will always relate to your area of study. Recently students have been placed with companies such as IBM, Dell Corporation, National Australia Group, The Royal Bank of Scotland and Strathclyde Police among others. Undertaking the placement can provide valuable experience to enhance your career prospects following your graduation.

“ Studying Games Software Development at Glasgow Caledonian will help place you at the forefront of this cutting edge industry. ”

BSc/BSc (Hons) Computing (Information Systems Development)

UCAS code: G500

Entry requirements: Higher: BBB, A-Level: BC, ILC: BBB
UCAS Tariff: 180 UCAS points

Recommended subjects: Computing (H).

FE college students: Contact us for a copy of our FE Supplement.

Work placement: The programme features an optional one-year sandwich placement which can be undertaken after completion of Year 3.

Assessment: Assessment methods used to demonstrate achievement of learning outcomes include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.

Exchanges: There are numerous opportunities to study a semester at a partner institution. Please see p118 for more details.

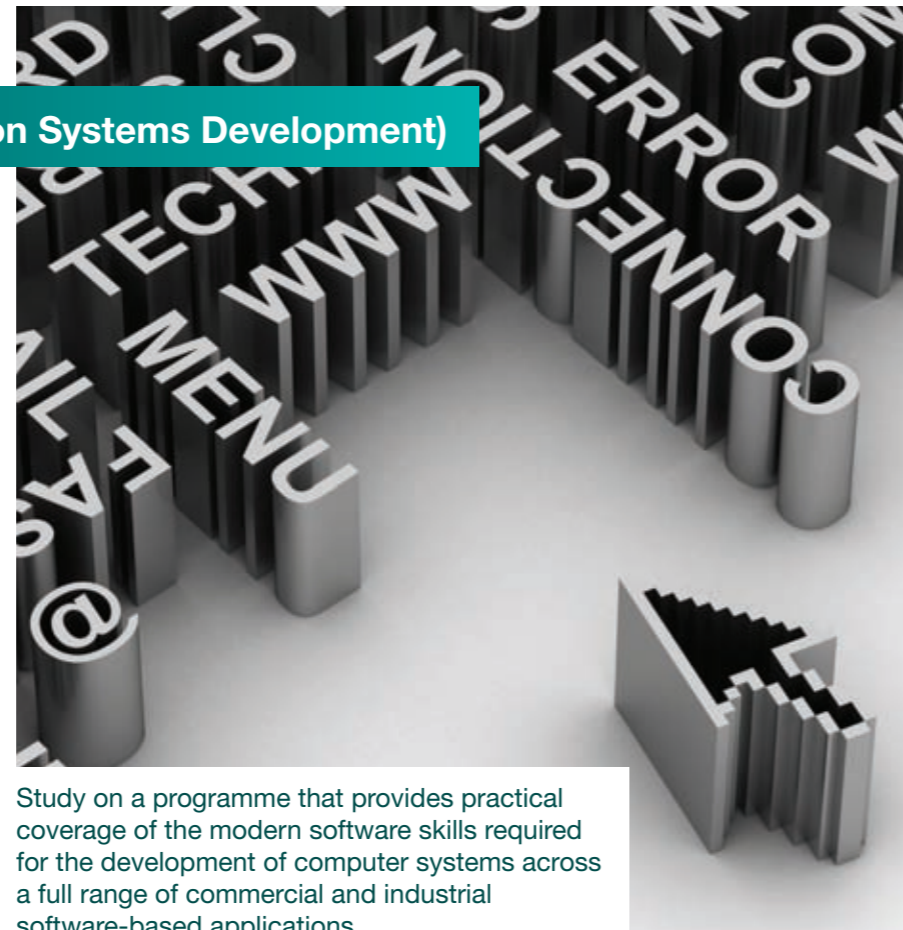
Mode of study: Full-time and part-time.

Contact: Admissions Officer
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What you'll learn: **Year 1:** Computer Systems Development, Database Development, Games Design, Web Development, Programming, Media Content Creation, Integrated Project 1, Computer Systems and Network Technology, Business Data Analysis Techniques for Decision Making. **Year 2:** Visual Software Development, Web Programming 1, Software Modelling, Analysis and Design 1, Systems Engineering Principles 1, Interaction Design, Integrated Project 2. **Year 3:** IT Project Management 1, Database Systems Development 1, Software Processes and Practices, Software Modelling, Analysis & Design 2, Information Systems Security, Integrated Project 3. **Year 4:** Honours Project and Research Methods, IT Project Management 2, Professional Issues, Database Systems Development 2.

Career opportunities: Careers in computing or IT are varied as most organisations now require computing professionals to work within their structure – regardless of whether their sector is IT related. Graduates from this programme embark on careers as computing professionals in the analysis, design and development of software and information systems in a wide variety of application areas. Our record of graduate employment is excellent, particularly as a wider range of computing areas open up.

Note: All Year 1 students on the suite of computing based programmes (BSc Computer Games, BSc Computing, BSc Information Technology Management for Business and BSc Networking and Systems Support) follow a common first year. This provides a taster in a variety of subject areas to help students confirm their choice of specialist programme for Year 2 onwards.



Study on a programme that provides practical coverage of the modern software skills required for the development of computer systems across a full range of commercial and industrial software-based applications.

The need for computing professionals continues to grow, with demand for problem solving knowledge and expertise affording graduates excellent career opportunities.

Why Caledonian?

The BSc/BSc (Hons) Computing (Information Systems Development) programme is concerned with the software engineering and development of the 'core' business-based information systems upon which the vast majority of business and organisational functions depend. These would tend to be large scale data base centred systems, many of which would be web-enabled. This programme, therefore, has a significant emphasis on key information systems skills, such as systems analysis, design and data modelling.

An optional feature of this programme is the one-year sandwich placement. This can be undertaken after completing the BSc 3rd year. The placement consists of a year of practical paid work experience in a suitable company position. The different types of posts undertaken can be of quite a diverse range but will always relate to your area of study. Recently students have been placed with companies such as IBM, Dell Corporation, National Australia Group, The Royal Bank of Scotland, Strathclyde Police among others. Undertaking the placement can provide valuable experience to enhance your career prospects following your graduation.

“ This programme places significant emphasis on key information systems skills, such as systems analysis, design and data modelling. ”

BSc/BSc (Hons) Computing (Web Systems Development)

UCAS code: G400

Entry requirements: Higher: BBB, A-Level: BC, ILC: BBB
UCAS Tariff: 180 UCAS points

Recommended subject: Computing (H).

FE college students: Contact us for a copy of our FE Supplement.

Work placement: The programme features an optional one-year sandwich placement which can be undertaken after completion of Year 3.

Assessment: Assessment methods used to demonstrate achievement of learning outcomes include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.

Exchanges: There are numerous opportunities to study a semester at a partner institution. Please see p118 for more details.

Mode of study: Full-time and part-time.

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What you'll learn: **Year 1:** Computer Systems Development, Database Development, Games Design, Web Development, Programming, Media Content Creation, Integrated Project 1, Computer Systems and Network Technology, Business Data Analysis Techniques for Decision Making. **Year 2:** Web Programming 1, Object Oriented Software Development, Software Modelling, Analysis and Design 1, Multimedia Authoring, Interaction **Year 3:** Web Programming 2, Database Systems Development 1, Software Processes & Practices, Software Modelling, Analysis and Design 2, Information Systems Security, Integrated Project 3. **Year 4:** Honours Project and Research Methods, Web Programming 3, Professional Issues, Rich Internet Applications.

Career opportunities: Careers in computing or IT are varied as most organisations now require computing professionals to work within their structure – regardless of whether their sector is IT related. Graduates of the BSc/BSc (Hons) Computing (Web Systems Development) could enter positions such as web designer, web programmer and web systems developer. Graduates from this programme embark on careers as computing professionals in the analysis, design and development of software and information systems in a wide variety of application areas. Our record of graduate employment is excellent, particularly as a wider range of computing areas open up.

Note: All Year 1 students on the suite of computing based programmes (BSc Computer Games, BSc Computing, BSc Information Technology Management for Business and BSc Networking and Systems Support) follow a common first year. This provides a taster in a variety of subject areas to help students confirm their choice of specialist programme for Year 2 onwards.



Study on a programme that provides practical coverage of the modern software skills required for the development of computer systems across a full range of commercial and industrial software-based applications.

The need for computing professionals continues to grow, with demand for problem solving knowledge and expertise affording graduates excellent career opportunities.

Why Caledonian?

The BSc/BSc (Hons) Computing (Web Systems Development) programme is concerned with the software engineering and development of internet enabled software applications. These systems would be used in a wide variety of application domains. Many may be information and transaction centred, but many will be involved in multimedia centred applications and as 'free-standing' products. This programme, therefore, incorporates elements of the information systems branch of the computing discipline family, but also combines this with up-to-date web based software development technologies along with an appreciation of media design and creation.

An optional feature of this programme is the one-year sandwich placement. This can be undertaken after completing the BSc 3rd year. The placement consists of a year of practical paid work experience in a suitable company position. The different types of posts undertaken can be of quite a diverse range but will always relate to your area of study. Recently students have been placed with companies such as IBM, Dell Corporation, National Australia Group, The Royal Bank of Scotland and Strathclyde Police among others. Undertaking the placement can provide valuable experience to enhance your career prospects following your graduation.

“ The need for computing professionals continues to grow, with demand for problem solving knowledge and expertise affording graduates excellent career opportunities. ”

BSc/BSc (Hons) Digital Forensics and e-Discovery (subject to validation)

UCAS code: G550

Entry requirements: Higher: ABB, A-Level: CDD, ILC: BBB
UCAS Tariff Equivalent: 200 UCAS points

Recommended subjects: Mathematics (H), English (H), Computing (H).

FE college students: Contact us for a copy of our FE Supplement.

Additional requirements for entry: Due to the nature of the programme, applicants will be interviewed prior to an offer being made.

Work placement: The programme features an optional one-year sandwich placement which can be undertaken after completion of Year 3.

Assessment: Assessment methods used to demonstrate achievement of learning outcomes include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Professional accreditations: To ensure graduates have excellent employment opportunities, the course has been designed with reference to accreditation criteria set by the British Computer Society (BCS), but may also look towards other professional bodies such as the Forensic Science Society. It is envisaged that the degree will be put forward for accreditation when the first cohort graduates in 2013.

Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.


Mode of study: Full-time.

Contact: Admissions Officer
E: SECcourses@gcal.ac.uk
T: +44 (0)141 331 3277
www.gcal.ac.uk/sec

What you'll learn: **Year 1:** Computer Systems Development, Programming, Database Development, Computer Systems and Network Technology, Digital Security Practises, e-Discovery, Data Analysis Techniques, Integrated project. **Year 2:** Digital Forensics 1, Security Fundamentals, Ethical and Legal Aspects of Computing, Cybercrime, Forensic Investigation, Integrated Project. **Year 3:** Digital Forensics 2, Law of Evidence, Ethical Hacking, Computer Law and Digital Investigations, Security Principles, Integrated Project. **Year 4:** Project Methods and Honours Research, Professional Issues, Digital Forensics 3, Advanced Security Concepts and an elective.

Career opportunities: As the industry continues to grow rapidly, graduates with skills in digital security will be at the forefront of the new developments and will therefore enjoy excellent wide and varied employment opportunities. We would expect graduates to embark on a range of career pathways including government agencies, law enforcement or associated private sector agencies, supporting specialist roles such as forensic practitioners, and security and forensic consultants, network administrators and computer systems management.

“ Digital forensics is a rapidly advancing discipline in the area of digital technology. ”



Digital forensics is the analysis of data contained within and created with digital systems and embedded devices (iPods, Phones, GPSs, PDAs, etc.), typically in the interest of figuring out what happened, when it happened, how it happened and who was involved.

This can be for the purpose of establishing the root cause or to find out who is responsible for misuse of digital systems, or perhaps who committed a crime.

Why Caledonian?

Digital forensics is a rapidly advancing discipline in the area of digital technology. The aim of this new degree programme is to offer an industrial and business-related curriculum geared towards producing graduates with technical, analytical and evaluative skills, as well as expertise in digital data recovery, preservation, analysis and the provision of evidence for legal or commercial use. During this course students will explore the nature of digital evidence, learn what is acceptable in law, and what is not, and focus on the special issues surrounding computer crime.

This multidisciplinary degree programme combines core technological concepts with the subject of forensics, developing an understanding of core concepts with special emphasis on the principles, techniques, theory and applications central to the fascinating subject of digital forensics. Upon completion of this degree, students will be competent in all areas of digital forensic investigations, audit network and system security, detect intrusions, ethical and privacy considerations and legal requirements. Students will also learn how to plan and implement security strategies, respond to incidents and recover lost data. The programme equips graduates with the transferable skills required for future academic and personal development.

BSc/BSc (Hons) Digital Security and Ethical Hacking (subject to validation)

UCAS code: G551

Entry requirements: Higher: BBB, A-Level: CDD, ILC: BBB
UCAS Tariff: 200 UCAS points

Recommended subjects: Mathematics (H), Computing (H).

Additional requirements for entry: Due to the nature of the programme, applicants will be interviewed prior to an offer being made.

FE college students: Contact us for a copy of our FE Supplement.

Work placement: The programme features an optional one-year sandwich placement which can be undertaken after completion of Year 3.

Assessment: Assessment methods used to demonstrate achievement of learning outcomes include examinations, coursework, class tests, presentations, computer-based exercises and written reports.


Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.

Mode of study: Full-time and part-time.

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T: +44 (0)141 331 3277
www.gcal.ac.uk/sec

What you'll learn: **Year 1:** Computer Systems Development, Programming, Database Development, Computer Systems and Network Technology, Digital Security Practises, e-Discovery, Data Analysis Techniques, Integrated Project. **Year 2:** Digital Forensics 1, Security Fundamentals, Ethical and Legal Aspects of Computing, Cybercrime, Forensic Investigation, Integrated Project. **Year 3:** Ethical Hacking, Network Investigation Principles, Security Principles, Cyberlaw, Integrated Project. **Year 4:** Honours Project, Honours Research and Project Methods, Professional Issues, Advanced Ethical Hacking & Penetration Testing, Advanced Security Concepts and an Elective.

Career opportunities: A qualification in digital security will provide graduates with attractive career prospects in the interesting field of attack and defence scenarios. A potentially large job market is emerging for graduates in this area. We would expect graduates to embark on a range of career pathways including infrastructure management and security consultants (systems penetration testers).



Whether it be high-profile hacking incidents, controversies surrounding lost data, identity-theft or insecure systems, it is impossible to ignore the importance of digital security. Ethical hacking uses a combination of processes as pre-emptive measures against malicious attacks by attacking the system.

Ethical hackers work within the law to penetrate computer and network systems employing the same methods as a Hacker, to locate weaknesses and then design countermeasures through the design of secure systems.

Why Caledonian?

The philosophy of this new programme is to combine core information technology concepts with specialised knowledge and skills in the distinctive discipline of digital security. The aim is to teach students the theory and practical skills of how illegal computer attacks are performed and the methods employed to counteract them.

On this programme, students will learn about computer architecture, operating systems, programming and networks. In addition, students will also be taught about the legal framework surrounding the use of computers, particularly with regard to privacy, freedom of information and powers of investigation.

Students will specialise in all aspects of digital security including ethical hacking, intrusion detection, digital analysis, data recovery and security systems design. They will learn about the methods that hackers employ in going about their criminal activities, but with an ethical approach so that it is of use to the protectors rather than the attackers. The programme equips graduates with the transferable skills required for future academic and personal development.

“ This new programme combines core information technology concepts with specialised knowledge and skills in the distinctive discipline of digital security. ”

BEng/BEng (Hons) Electrical Power Engineering

UCAS code: H630

Entry requirements: Higher: BBBC, A-Level: BC, ILC: BBBC
UCAS Tariff: 230 UCAS points

Essential subjects: Maths (H) and Physics (H) or Technological Studies (H).

Recommended subjects: Chemistry (H), English (H).

FE college students: Contact us for a copy of our FE Supplement.

Assessment: Assessment methods used to demonstrate achievement of learning outcomes include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Professional accreditations: Accredited by the Institution of Engineering & Technology (IET formerly IEE) and contributes to the academic registration as a Chartered Engineer.

Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.

Exchanges: The School of Engineering and Computing has numerous European Exchange agreements through which opportunities are available to study a semester at a partner institution.

Mode of study: Full-time and part-time.

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What you'll learn: **Year 1:** Engineering Computing 1, Electronic and Electrical Principles, Technology Management 1, Mechanical Principles A, Engineering Materials, Mathematics 1, Mechanical Principles B, Engineering Applications. **Year 2:** Electronic Engineering 2, Engineering Design and Analysis, Mathematics 2, Engineering Computing 2, Control Engineering 2, Manufacture & Materials 2, Project Methodology. **Year 3:** Control Engineering 3, Integrated Studies 3, Plant and Electrical Distribution, Quality Assurance, Power Electronic Systems 3, Communications Engineering, Technology Management 3. **Year 4:** Project, Power Plant Engineering, Digital Signal Processing, High Voltage Engineering, Condition Monitoring, Control Engineering 4.

Career opportunities: Chartered Electronic Engineers are creative individuals responsible for leading the development of sophisticated electronic technologies into innovative products. The global nature of the electronics industry ensures there are many career opportunities in Europe and beyond. We have links with blue chip companies such as IBM, Texas Instruments and NEC. The close relationship between electronics and telecommunications makes it possible for Electronic Engineering graduates to pursue a career in the telecommunications field.



The production of Electrical Power and its management and control is at the heart of an infrastructure, provided by engineers, on which so much of our modern society depends.

Electrical Power Engineering encompasses the fields of power generation, transmission, distribution and utilisation, and is also concerned with energy conversion and the design of systems based upon electric motors and electronic drive technologies.

Why Caledonian?

The pace of technological innovation has significantly weakened the boundaries between the traditional engineering disciplines, with employers expecting engineers to function over a wide range of possible solutions to an engineering task. The Electronic Engineering and the Electrical Power Engineering degrees at Glasgow Caledonian University have been designed to enable the graduate to work in such a challenging environment and be able to adapt and change as circumstances dictate.

This innovative degree is designed to produce highly skilled Electrical Power Engineers who have expertise ranging from engineering system design to communication systems and management. It is a broad-based programme, underpinned by two foundation years giving you a grounding in mathematics and the disciplines of mechanical, electronic and electrical engineering. Consequently on completion of Year 2 it is possible to transfer to Year 3 of either the Electronic Engineering, Electrical Power Engineering, Manufacturing Systems Engineering or Mechanical Electronic Systems Engineering programmes.

“ This degree gives graduates an excellent education in the design of systems for the distribution, management and conversion of electrical energy in a global industry. ”

BEng (Hons) Electronic Product Engineering (subject to validation)

UCAS code: H690

Entry requirements: Higher: BBBC, A-Level: BC, ILC: BBBC
UCAS Tariff: 230 UCAS points

Essential subjects: Maths with Calculus (H); Physics (H); English (S/O).

Recommended subjects: Chemistry (H); Technological Studies (H).

Additional requirements for entry: SQA Modules in Pure & Applied Sciences; Engineering; Maths; Statistics and Communication.

FE college students: Contact us for a copy of our FE Supplement.

Work placement: The programme features an optional one-year sandwich placement which can be undertaken after completion of Year 3.

Assessment: Assessment methods include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Professional accreditation: Designed to meet the needs of industry and the practicing Chartered Engineer, the course addresses accreditation criteria set by the Institution of Engineering and Technology (IET).

Language option: This programme can be combined with a language. Please see p119 for more details.

Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.

Exchanges: There are numerous opportunities to study a semester at a partner institution. Please see p118 for more details.

Mode of study: Full-time and part-time.

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What you'll learn: **Year 1:** Modules include: Electronics; Computer Systems and Network Technologies; Engineering Mathematics; Digital and Programmable Systems; Integrated Design Project. **Year 2:** Modules include: Digital, Programmable and Analogue Electronics; Principles of Programming; Materials and Mechanical Principles; Business and Profession Studies; Engineering Mathematics. **Year 3:** Modules include: Digital and Analogue Systems; Interactive Systems; Mobile and Digital Communications; Electronic Product Development; Professional Practice. **Year 4:** Modules include: Electronic Design Project; Digital Signal Processing; Industrial Design.

Career opportunities: Employment opportunities exist in a wide range of industrial sectors where electronic design and mobile communications form the basis of their products. We expect graduates to lead or significantly contribute to the design and development of the next generation of electronic and computer related products. Sectors such as health care, transport, business, travel and tourism and interactive entertainment are also growing areas of interest.



Do you get excited by the ground breaking design of the new 'iPhone 3G'? How often do you reach for the Nintendo 'DS Lite' for entertainment? Where would we be without that new GPS navigator in the family car?

So many of the wide range of electronic gadgets we see around us today seem essential to the way we work and play. So, if you sometimes say to yourself 'I see myself a part of the design team' or 'I could design that better!' then Electronic Product Engineering is for you.

Why Caledonian?

Many individuals and companies have built reputations and wealth on innovation and the development of new product ideas. Yet so much more remains to be done in the invention and design of new products, in the use of new technologies, and through enhancing the performance or function of exciting products many of which contain embedded programmable microelectronic devices.

Our Electronic Product Engineering programme prepares you for a rewarding career in electronics design, combining a knowledge of both current and exciting new technologies, the application of cutting edge product design and the management of an increasing global supply chain.

The School of Engineering and Computing has well-equipped design studios to encourage and explore design ideas and electronic laboratories giving students access to leading edge implementation technologies. In the first year you will have the opportunity to explore specialisms within the general theme of Computer and Electronic Product Engineering. Professional practice is offered to equip students with the skills and experience that immediately enhance their employability prospects in this area.

“ This degree gives graduates an excellent education in the design of systems for the distribution, management and conversion of electrical energy in a global industry. ”

BA/BA (Hons) Graphic Design for Digital Media (subject to validation)

UCAS code: W290

Entry requirements: Higher: BBC, A-Level: CC, ILC: BBC
UCAS Tariff: 180 points

Essential subjects:
Art & Design (H) and English (H), or Art (A-level) and English (GCSE).

Additional requirements for entry: Interview with portfolio.

FE college students: Contact us for a copy of our FE Supplement.

Work experience: Industrial Project in Year 4.

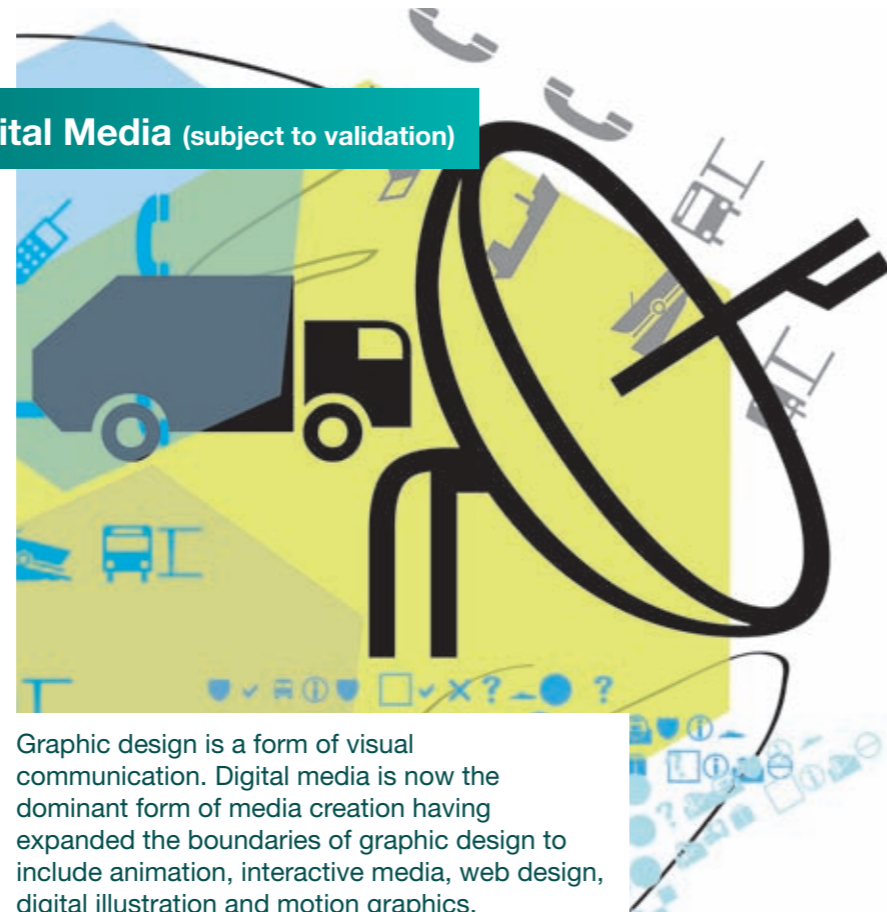
Assessment: Assessment methods used to demonstrate achievement of learning outcomes include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Mode of study: Full-time.

Contact: Admissions Officer
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What you'll learn: **Year 1:** You will explore and experience the design process providing the basis for further study. Through the study of design history and design in context, you will consider the historical significance of design and its influence on society. Creative and technical drawing techniques and skills will be introduced and practised using a variety of media. **Year 2:** You will focus on the fundamentals of graphic design including an introduction to digital media and the web. You will learn about the importance of the user and develop professional skills including portfolio development and presentation techniques. **Year 3:** You will concentrate on studio projects that engage with more advanced digital media including motion graphics, animation and web design. Professional skills are further enhanced, aligning projects with professional practice. **Year 4:** In addition to an Honours project, you will be given the opportunity to choose an area of specialism – marketing, animation, interactive media or video. An industrial project will provide you with the opportunity to put professional skills into practice.

Career opportunities:
Graduates from this programme will leave with the creative and professional skills required to become successful digital media designers. With these skills, graduates will be prepared to work in a wide range of industries including in-house design teams, design studios, television, animation, exhibitions, media and publishing.



Graphic design is a form of visual communication. Digital media is now the dominant form of media creation having expanded the boundaries of graphic design to include animation, interactive media, web design, digital illustration and motion graphics.

The new BA/BA (Hons) Graphic Design for Digital Media programme prepares graduates to design effectively using industry standard technologies.

Why Caledonian?

Today's successful graphic designers combine a highly developed creative design process with accomplished digital media skills. Unlike the traditional art school approach, this new four-year programme addresses both of these areas by emphasising not just the process of design but also the technical skills needed to create your work digitally. Through studio-based design projects, you will learn how to design using software from the latest Adobe Creative Suite (Photoshop, Illustrator, Flash, Premiere, Dreamweaver, After Effects and InDesign). This software will be supported and taught in technical modules equipping you with the necessary skills to create state of the art graphics of a professional standard.

In your first year, you will explore the creative process through a variety of imaginative projects placed within the context of design culture. Year 2 builds on this foundation by introducing the core elements of graphic design. By Year 3 you will begin to establish your individual style as a graphic designer through intense projects and advanced software. This prepares you for a final year full of independent projects and the opportunity to specialise in a specific area of your choice.

Illustration by:
Calum Loudon
1st year student

“ This new programme prepares graduates to design effectively using industry standard technologies. ”



BSc/BSc (Hons) Information Technology Management for Business

UCAS code: GN52

Entry requirements: Higher: BBB, A-Level: DDD, ILC: BBB
UCAS Tariff: 180 UCAS points

Essential subjects: Mathematics (H); Physics (H).

Recommended subjects: English (H) and one from Physics (H), Engineering Science (H), or Technological Studies (H).

FE college students: Contact us for a copy of our FE Supplement.

Work placement: The programme features an optional one-year sandwich placement which can be undertaken after completion of Year 3.

Assessment: Assessment methods include examinations, coursework, class tests, presentations, computer-based exercises and written reports.

Professional accreditations: The course has been designed with reference to accreditation criteria set by the Institution of Engineering and Technology (IET). It is planned that the degree will be put forward for IET accreditation.

Language option: This programme can be combined with a language. Please see p119 for more details.

Summer School: If required, Summer School is available for Mathematics. Please see p125 for more details.

Exchanges: There are opportunities to study a semester at a partner institution. Please see p118 for details.

Mode of study: Full-time.

Contact: Admissions Officer
E: SECcourses@gcal.ac.uk
T: +44 (0)141 331 3277
www.gcal.ac.uk/sec

What you'll learn: **Year 1:** Modules include: Electronics; Programming; Computer Systems Development; Internetworking and Network Technologies; Digital and Programmable Systems; Project. **Year 2:** Modules include: Digital, Programmable and Analogue Electronics; Systems Engineering; Business and Profession Studies; Engineering Mathematics; Project. **Year 3:** Modules include: Digital Signal Processing; Project Management; Wireless & Pervasive Communications; Network Security, Professional Practice; Project. **Year 4:** Honours Project, Project Methods and Honours Research, Pervasive Grids and Wireless Services; Networked Products; Industrial Design.

Career opportunities: The growing demand for internet-enabled mobile communication networks and wireless devices means the demand for trained engineers remains very high from both network providers and companies involved in developing products and services that use wireless communications.

Note: All Year 1 students share a common first year with students taking programmes related to Computer, Telecommunications and Electronics Systems Engineering.

This programme reflects the distinctive specialist requirements of an applied IT based programme relating to supporting the development of information systems for the needs of business applications and organisations.

The central theme of this programme is the application of IT to business, but with an appropriate combination of information systems skills, to enable the support for the engineering development, and use of the information centred systems upon which the vast majority of business functions depend.

Why Caledonian?

This programme is particularly targeted at meeting the key requirements business have for IT and business aware graduates, who also have a distinct awareness of project and 'people' management skills.

The framework for this programme has been specifically developed by e-skills through direct consultation with large scale industry 'players' including BA, BT, Ford, Fujitsu, HP, IBM, Lehman Brothers, Morgan Stanley, Norwich Union and Unilever.

The programme aims to provide students with an understanding of the IT needs for the deployment of business-centred systems, as well as the necessary understanding of the business models, needs and organisational structures which these systems support.

An optional feature of this programme is the one-year sandwich placement. This can be undertaken after completing the BSc third year. The placement consists of a year of practical paid work experience in a suitable company position. The different types of posts undertaken can be of quite a diverse range but will always relate to your area of study. Recently students have been placed with companies such as IBM, Dell Corporation, National Australia Group, The Royal Bank of Scotland and Strathclyde Police among others. Undertaking the placement can provide valuable experience and enhance your career prospects following your graduation. Graduates will be well placed to undertake additional assessment and professional certification such as Cisco Certification.

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