UK Education

# BEng (Hons) Software Engineering

## University of Bolton


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# University of Bolton

By 2020, the University of Bolton will be teaching-Intensive, research-informed higher education institution, attracting applications from aroundthe world for its uniqe high-quality, student-centred undergraduate and postgraduate programmes.

It will provoide an exciting and challenging student experience with a high standard of proactive student support and excellent facillies to match its acadmeic quality. It will be a local resource, regional asset, umdergraduate and postgruate courses offered in Bolton and around the world. Where appropriate, our students will study in an environment that reflects as closely as possible the work environment into which they may enter. Using industry stnadard fixtures. All students receive work-based learning through an internship, practicum or “sandwich” gap year.

# Ranking and Qualification

UK Ranking

#38

The Guardian

The Guardian - The best UK universities 2023

WES WORLD EDUCATION SERVICES

WES Approved

TEF Silver Teaching Excellence Framework

ofqual

European Qualifications Framework

QAA

UK Quality Assured

REF 2021 Research Excellence Framework

CMI Chartered Management Institute

HE Partner

# BEng (Hons) Software Engineering

## Course Description

Software engineering is a truly global activity that concerns building and maintaining software systems and other computer-based solutions. Your previous studies in software engineering or a similar computing-related specialism will have prepared you to undertake advanced study in focused areas of software development and engineering. We'll support you in enhancing your existing foundation degree or HND-level knowledge and skills, ready to achieve the status of BEng (Hons) Software Engineering (top-up) graduate.

Our dedicated staff team offers a balance of academic rigour, industrial experience and advanced technical expertise. We'll support you in exploring the underlying principles of software engineering while helping you gain knowledge and practical experience with the latest technologies. You'll be encouraged to appreciate both the technical and human aspects involved in areas such as the lifecycle of software systems, software design, systems analysis, programming, database specification and design, and system security.

In addition to technical knowledge and expertise, you'll have opportunities to gain experience in teamwork, communication and presentation, problem-solving and time management. Our focus is on helping you develop industry-relevant knowledge and skills to prepare you for a career in software engineering.

## Course Content

- Undergraduate Project
- Agile Programming
- Enterprise Systems Development
- Machine Learning
- Software Quality Management

# Progression Pathways

University of Bolton

## BEng (Hons) Software Engineering (Top-up)

120 credits • Duration : 12 months

Completed

**ATHE Level 4 & 5**
**Diploma in Computing**

120 credits each level

**Case 1 :**

If you owned recognized professional qualification(s) plus at least 3 years of full-time work experience at senior level.

**Case 2 :**

Completed an Associate Degree or a Higher Diploma recognised by awarding institutions approved by University of Bolton.

**The shortest time to complete the course:**

**12 months**

(Completion time depends on student progress)

**120 credits required to complete the course**

# Programme Features

100% online learning, which can be accessed from your phone, pc or tablet at home or on the move. On successful completion of your studies, you'll be invited to attend a graduation ceremony on campus.

## Study Mode

Online and Part-time

## Duration of Program

This program can be completed in 1 year.

## Assessment

Performance of students are assessed on a continuous basis through assignments and class participation.

## Entry Requirements

Existing educational qualifications and work experience will be directly taken into programme and allowing for module exemptions, please email or whatsapp us for detail

## English Language Requirements

- IELTS 5.5; Reading and Writing must be at 5.5 or
- HKALE Use of English at Grade E or above, or HKDSE Examination English Language at Level 3 or above or
- Satisfy the examiners in UK EDUCATION qualifying examination, if required.

## Medium of Instruction

All modules will be taught in English.

# Programme Structure

This BEng course is divided into two parts, Postgraduate Diploma PLUS BEng Top Up.

part 01

Postgraduate Diploma (120 Credits)

## ATHE Level 4 Diploma in Computing

**Start Date:** Anytime
**Duration:** Anytime
**Mode of Study:** Distance Learning
**Structure:** 10 Mandatory with no exam

**Mandatory Units**

1. IT and Society
2. Computer Systems and Software
3. Computer Programming
4. Relational Database Systems
5. Software Engineering
6. Systems Analysis and Design
7. E-commerce Applications
8. Human Computer Interaction
9. Information Systems Theory and Practice
10. Management Information Systems

part 02

Postgraduate Diploma (120 Credits)

## ATHE Level 5 Diploma in Computing

**Start Date:** Anytime
**Duration:** Anytime
**Mode of Study:** Distance Learning
**Structure:** 10 Mandatory with no exam

**Mandatory Units**

1. Cyber Security
2. Database Design and Development
3. Web Based Development
4. Network Design
5. Ethical, Legal and Regulatory Issues and Professional Responsibilities in IT
6. Strategic Management Information Systems
7. Innovative Technologies in Computing
8. Computing Research Methods
9. Managing a Computing Project
10. Software Development Methodologies

# Programme Structure

part 03

BSc Top Up (120 Credits)

## University of Bolton
## BEng (Hons) Software Engineering Top-Up

**Start Date:** September / January

**Duration:** 12 months, course exemption will be provided base on experience

**Mode of Study:** Distance Learning

**Structure:**
- 1 Mandatory plus 2 electives with no exam

**Mandatory Units**

1. Undergraduate Project

**Optional Units**

1. Agile Programming
2. Enterprise Systems Development
3. Machine Learning
4. Software Quality Management

**Undergraduate Project**

This module provides students with the experience of demonstrating their ability to work independently on a significant, in-depth project requiring the coherent and critical application of Computer Science theory and skills. Students must initially produce a project proposal and related materials to frame the work, specifying clear, specific, academically justified, and appropriately scoped aims and objectives, as well as feasible means for fulfilling those aims and objectives.Students then work independently to fulfil those project goals. Through this process the students are expected to demonstrate the application of practical development and analytical skills, innovation and/or creativity, and the synthesis of information, ideas and practices to generate a coherent problem solution. Self-management and self-evaluation are key expectations of this process. Your project area should reflect your skills and future career objectives. The following GAME attributes are included in this module: Lifelong Learner, Adaptable.

**Software Quality Management**

This module explores characteristics of Quality from the context of Software Engineering and the risks which arise when insufficient focus is given to this area. A myriad of testing strategies based on given scenarios will be explored in practice to firmly ground capability in this area.

# Programme Structure

part 03

**Enterprise Systems Development**

The purpose of this module is to integrate your software development skills through the construction of enterprise-level systems to solve a business problem. Enterprise based Business applications are complex, distributed systems composed of distinct interacting components. They provide integrated support for key business processes, which allows an organisation to be more effective and responsive to changing needs than multiple standalone applications. The emphasis of this module is the development of enterprise software (design methods, technologies, standards and trends). To support communication and decision making during development and deployment, the commercial motivation and system management issues are considered. This module also reinforces the need for business systems to be constructed to solve business issues. The following GAME attributes are included in this module: Self Aware, Enterprising.

**Machine Learning**

The module introduces fundamentals of machine learning and principled application of machine learning techniques to extract information and insights from data. The module covers supervised and unsupervised learning methods. The primary aim is to provide students with knowledge and applied skills in machine learning tools and techniques which can be used to solve real-world data science problems. The following GAME attributes are included in this module: Self Aware, Confident.

**Agile Programming**

This module introduces software engineers and computer scientists to the agile methodology, related frameworks, management practices and testing strategies which are increasingly used in industry. The assessment approach targets authentic experiences through immersion in agile methodologies while developing a significant software artefact in groups. Critical and lateral thinking capabilities must be employed to independently formulate and justify approaches for management and testing. The following GAME attributes are included in this module: Effective Communicator, Collaborative.

# **ATHE Level 4 Diploma** in Computing Module Outline

## BUS 4.1
## IT and Society

Learners will understand ethical, legal and regulatory issues relating to IT. They will also understand the impact of IT on society.

**Learning Outcomes**

- Understand how IT has changed the way people live and work
- Understand IT issues in society
- Understand current legal, ethical and regulatory issues in IT

## BUS 4.2
## Computer Systems and Software

This unit will develop learners' understanding of the integration of hardware and software components. Learners will explore how hardware serves specific computer processing functions and investigate the use of various software applications.

**Learning Outcomes**

- Understand components of computer systems
- Understand computer software

## BUS 4.3
## Computer Programming

Learners will use different tools and techniques to design, implement and test programs, following the system life cycle. They will use an appropriate programming language and learn about the principles of good programming to enable them to create computer programs.

**Learning Outcomes**

- Understand principles of computer programming
- Be able to develop a computer program to a client brief
- Be able to evaluate a computer program

## BUS 4.4
## Relational Database Systems

This unit will develop learners' understanding of database systems and data analysis and modelling. They will understand how normalisation and functional dependency theory is used to design a relational database and how the client-server model is used.

**Learning Outcomes**

- Understand database management systems
- Understand database design
- Be able to design a database system

## BUS 4.5
## Software Engineering

Leaners will gain an understanding of the need for Software Engineering and the different methods and techniques.

**Learning Outcomes**

- Understand the software engineering approach to the design and development of software
- Understand key aspects of software engineering
- Be able to apply a software engineering approach to software and systems development

## BUS 4.6
## Systems Analysis and Design

Learners will be able to understand the systems development life cycle and the role of systems methodologies within the life cycle. Learners will be introduced to different fact finding and problem-solving techniques and they will use these to analyse an existing system. They will recommend improvements and plan to implement these improvements for a client.

**Learning Outcomes**

- Understand systems analysis and design
- Be able to use systems analysis and design techniques to recommend improvements to an existing system
- Be able to develop a solution to improve an existing system

## BUS 4.7
## E-commerce Applications

Learners will learn about different e-commerce models and applications and how they can be used to develop e-commerce in a small business. They will research the stages involved in setting up e-commerce and they will use e-commerce applications to meet a client brief.

**Learning Outcomes**

- Understand principles of e-commerce
- Understand why small businesses use e-commerce
- Understand e-commerce models used in small businesses
- Understand e-commerce applications
- Be able create an e-commerce site using e-commerce application

## BUS 4.8
## Human Computer Interaction

Learners will develop understanding of principles and models of Human Computer Interaction (HCI). They will evaluate existing HCI design and principles and use this to help them plan their own prototype user interface. They will formulate design documentation to plan an interface for a product. Learners will implement the plan to create a prototype. Learners will review and amend the prototype based on user feedback.

**Learning Outcomes**

- Understand principles of human computer interaction (HCI)
- Be able to plan an interface for a specified application
- Be able to create a prototype using HCI principles

## BUS 4.9
## Information Systems Theory and Practice

Learners will understand the benefits of using information systems to plan a project. They will use an information system to plan and implement an information systems project.

**Learning Outcomes**

- Understand information systems used in organisations
- Be able to plan the development of an information system
- Understand how to review the performance of an information system

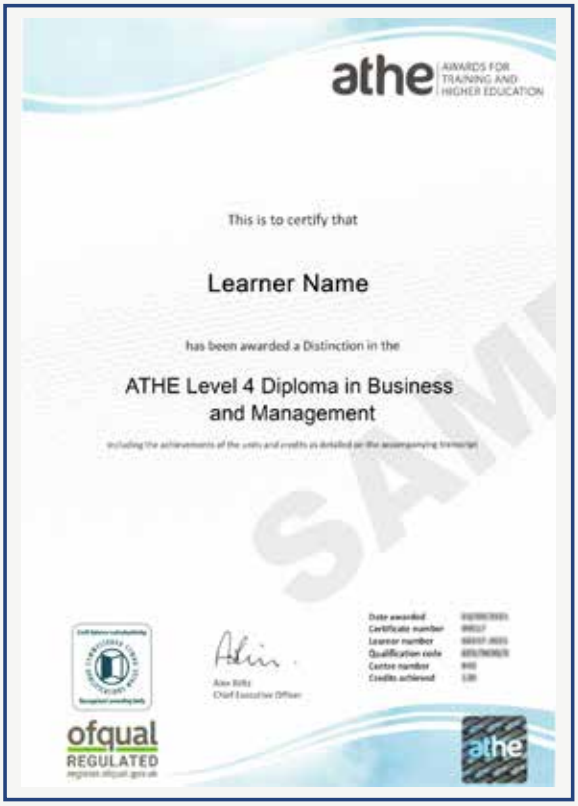
## BUS 4.10
## Management Information Systems

Learners will investigate different management information systems and evaluate the common features. They will analyse an existing information system in use by an organisation. They will review records, observe performance and understand the legal and organisational requirements that apply to an information system. They will use their findings to recommend improvements to a management information system and they will present their findings to a client.

**Learning Outcomes**

- Understand management information systems in organisations
- Be able to evaluate a management information system in an organisation
- Be able to plan improvements to a management information system

# Samples of Certificate & Transcript


athe
AWARDS FOR TRAINING AND HIGHER EDUCATION

This is to certify that

Learner Name

has been awarded a Distinction in the

ATHE Level 4 Diploma in Business and Management

including the achievements of the units and credits as detailed on the accompanying transcript

Date awarded
Certificate number
Learner number
Qualification code
Centre number
Credits achieved

Alex Kilby
Chief Executive Officer

ofqual REGULATED

athe

SAMPLE


athe
AWARDS FOR TRAINING AND HIGHER EDUCATION

Transcript for the learner Name which includes the units and credits as detailed below:

ATHE Level 4 Diploma in Business and Management

| Level | URN | Unit Title | Credits |
|---|---|---|---|
| Level 4 | [redacted] | The Business Environment | 10 |
| Level 4 | [redacted] | People in Organisations | 15 |
| Level 4 | [redacted] | Communication Skills for Business | 15 |
| Level 4 | [redacted] | Managing a Work-Based Team Project | 10 |

Please note that this transcript is part of a two-page document and can be verified by contacting Awards for Training and Higher Education at www.athe.co.uk

Company No: 07279412
ATHE is a company registered in England and Wales

SAMPLE


University of Bolton

[redacted]

has been admitted to the degree of

*Bachelor of Science*

*with First Class Honours*

having followed an approved Honours programme in

*Business Management*

September 2019

Professor G F Holmes DL
Vice Chancellor

SAMPLE

## About

# UK Education

"The UK Education" provides overseas study counseling services, focusing on assisting your overseas study journey. "The UK Education" has one of the most integrated British school networks among all the local overseas advanced study companies. Our professional counseling team provides one-stop services such as assisting in school applications, arranging interviews, etc. We help to assist students to analyze each school in details, and provide one-on-one consultation services for further studies.

## Our Missions

- Provides career path that support students who wish to develop their management skills, enterprise capabilities and opportunities in their chosen field
- Helps students to improve their understanding of any given business environments and organizations and how should they manage and develop in the given situation
- Helps students to develop skills and abilities, and support their professional development

## Accredited Partner Centre

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