

"Walsall College is uniquely and proudly vocational. Our greatest passion is unleashing the potential of individuals, communities and businesses; our greatest legacy is the talent of our learners: *skilled, professional and enterprising.*"

Amarjit Basi, Principal and Chief Executive



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## Higher National Diploma Computing UCAS Code 204G



### Course Level

Level 5  
This HND is accredited at Level 5 of the Qualifications Credit Framework (QCF), and will consist of units totalling 240 credits.

### Course Length

2 years, or 1 year following the successful completion of the HNC Computing.

### Attendance

Full time.

### Entry Requirements

By interview and initial assessment plus either HNC Computing, National Certificate or Diploma in an appropriate subject or one pass at GCE or VCE A Level in an appropriate subject or Advanced GNVQ or VCE Double Award in an appropriate subject, or other relevant qualifications. All applicants will take a computing skills test upon entry to the course.

Mature students without any formal qualifications will be considered with relevant experience subject to interview and initial assessment.

### Awarding Body

Edexcel

### Location

Wisemore Campus

### Course Overview

The HND Computing aims to prepare you to enter the computing profession and to provide the flexibility, knowledge, skills and motivation as a solid basis for future studies and career development in computing. It involves sixteen units in both hardware and software related subjects. Additionally, you will have the opportunity to undertake a Microsoft qualification at an appropriate level to enhance your studies. The HND Computing will provide you with a good grounding in software packages popular in industry for developing spreadsheets, databases and presentations together with a thorough understanding of basic hardware components and computer principles.

Students are introduced to an object oriented programming language giving you the skills required for the production of software that is reliable, maintainable and of minimal complexity. You will also learn about end user techniques for a desktop support role (linked with the Microsoft Certification route).

A final project provides the opportunity to apply the various elements of the course, with those who are in employment being encouraged to choose a topic related to their day to day work.

### Course Content

This course equips you with the skills and knowledge required for developing computer programs in a commercial environment. For example, you will be able to demonstrate problem solving techniques relevant to computer systems, project management, analyse and solve typical creative and logistic problems suitable for computer projects and to originate and develop ideas to meet specific client briefs. You will be provided with a thorough grounding for you to achieve this. The HND Computing is a nationally recognised qualification for those wishing to become computer professionals.

Homework or private study is required.

Bringing talent to life...

**Please note: The units below are currently under review by Edexcel and therefore maybe subject to change.**

The course consists of 16 mandatory units in Computing.

### **Mandatory Units:**

#### **Year 1**

##### **Computer Platforms**

This unit will give you an understanding of the various hardware architectures that exist within the computer system.

##### **Systems Analysis**

You will gain the fundamental knowledge in problem solving and creating solutions to a given organisational problem, using a structured methodology.

##### **Programming Concepts**

This unit will assist you with the underpinning knowledge in programming. This will then be beneficial for later units.

##### **Database Design Concepts**

This unit will give you the fundamental knowledge in databases design and its construction; this also links with the Systems Analysis unit.

##### **Personal Skills Development**

Throughout the course, you will be personally developing your skills within the computing sector. This unit will assist with your professional development so that all these quality attributes are collected and attained by the end of the course.

##### **Information Systems Project**

This unit will provide you with a good overview of a range of applications software, its function and uses within an IT context. You will be expected to design, use and test applications software to meet a specified user requirement.

##### **Information Systems**

You will gain an understanding of the ways in which data can be processed and the applications that support organisations. You will also be asked to evaluate the capacity of an information system to satisfy the needs of the user.

##### **Human Computer Interface**

This unit aims to give you a full understanding of the human computer interface (HCI) and the part it plays in the construction of

software that is usable, attractive, efficient and effective. You are encouraged to explore how well software interacts with the user, fulfils the user's needs and makes allowances for different users. You should develop a critical appreciation of the advantages and disadvantages of various interfaces currently available and experience the production of a prototype.

##### **Project Management**

The aim of this unit is to provide a basic knowledge of project management principles, methodologies, tools and techniques that may be used in any industry, the professions and the public sector. Organisational and human resource factors are also included.

##### **Visual Programming**

The aim of this unit is to enable you to develop these graphical interfaces in the form of visual applications. You will learn how to develop a user interface and then build code into that environment to create an application.

#### **Year 2**

##### **Networking Concepts**

The importance of networked solutions in the business world grows year on year. The increasingly sophisticated technologies and widening user base mean a fundamental understanding of networks is essential for many. The aim of this unit is to provide a rigorous introduction to networks, and practical experience in installing users and software on a network. This unit will clarify the issues associated with network use and how this has developed. It will identify the architectural concepts behind networking and help develop the preliminary skills necessary to install and manage networks.

##### **Quality Systems**

This unit will enable you to learn about the quality process as applied to IT related systems development. Quality control and assurance relies on the establishment of standards by which projects can be measured. This is carried out through reviews, tests and inspections to ensure that the end product meets requirements.

##### **End User Support**

Users need training in the systems they use and since problems always occur, they also need support from knowledgeable and sympathetic staff within a formal framework of systems support. A major element of support is the provision of a service to install the hardware and software to satisfy changed requirements. This unit

supplies the framework for developing the knowledge and skills needed by those who aim to provide this important service.

##### **Microsoft Office Solution Development (linked to MS Professional Framework)**

This unit focuses on the use of Visual Basic for Applications to extend the capability of Microsoft Office in the development of solutions that automate business processes access data and publish information to an intranet or the internet. The unit develops Visual Basic skills for use in Office and looks at building solutions in Excel, Word, PowerPoint, Access and Outlook. The unit also looks at the use of FrontPage 2000 to design, create and publish Office solutions to the internet and intranets. The unit requires a thorough knowledge of the Microsoft Office suite together with an intermediate level of skills in using Visual Basic such as gained from studying the Programming Concepts unit.

##### **Website Design**

This unit will facilitate the development of an awareness and understanding of the technical and creative skills required to design, construct and manage an effective e-business website interface. You will evaluate existing e-business sites, in the context of cross-platforms and a range of browsers, and analyse a range of commercially available web authoring software and be required to create a viable, interactive website interface, which meets contemporary web design principles.

##### **e-Business Strategy**

This unit starts by considering customers' expectations of e-business, because these dictate implementation priorities. It is first necessary to assess the status of the business information and logistics systems, because they will provide the foundation for e-business. Preparations will be necessary to meet the standards of support that e-customers expect. Marketing, promotion and supply chain management must be considered, alongside the website, when developing the implementation strategy. Protecting the intellectual property of the business and maintaining the integrity of its website require considerations of risk and appropriate security precautions. Finally, future developments in e-business are examined to help maintain a competitive edge.

### **Assessment Methods**

Assessment is continuous and is based on assignments, projects, group projects, lectures, workshops, 'live' client briefs, presentations and formative tasks.

Throughout the course you are encouraged to undertake independent study both to supplement and consolidate what is being taught/learned and to broaden your individual knowledge and understanding of the subject.

You are encouraged to practice and evaluate practical knowledge imparted in lessons with your self-directed study time.

You will be given a "toolkit" of computing skills which combined with a working knowledge of the underlying theories and principals should enable you to apply creative solutions to project briefs.

Your practical skills are assessed through workshop activities, coursework assessments and final portfolio. Both written and verbal feedback is given.

### **Field Trips**

Visits to local companies that use ICT in order to operate successfully.

### **Progression**

The HND Computing can allow progression to the second or third year of a degree or honours degree as part of Walsall College's Progression Agreement with several local and regional universities, depending on the match of the HND units to the degree programme in question.

Employment or self employment.

### **Career Opportunities**

Successful students can lay claim to careers in the computing profession at technician / management level which may include system support, database design, website design, software development and testing, computer systems analysis or computer information systems manager.

### **Fees**

On application