Programme Specification

HNC in Computing and Systems Development with Cisco CCENT
Programme Specification

Title of Programme: HNC in Computing and Systems Development with Cisco CCENT

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.

1. Awarding Body
   Edexcel BTEC

2. Teaching location
   Blossomfield Campus, Solihull College

3. Accreditation details
   N/A

4. Final award
   Higher National Diploma

5. Name of award
   Higher National Certificate in Computing and Systems Development (QCF)

6. Codes
   a. UCAS code
      N/A
   b. Solihull Qualification Code
      IPHHA061BCF0
   c. Edexcel Programme Code (& approval dates)
      MN236

7. QAA Subject Benchmark or other external reference such as published by Edexcel if the course is a Higher National
   Computing

8. Date this specification applies from
   01.09.2015

Approved
Mohammed Maher
Head of School – Computing & ICT
9. **Educational Aims of the Programme**

The HND Computing is designed to meet the following aims:

- Equip individuals with knowledge, understanding and skills for success in employment in networking or systems support.
- Enable progression to an undergraduate degree or further professional qualification in computing or a related area.
- Provide opportunities for specialist study relevant to individual vocations and contexts.
- Support individuals employed or entering employment in the computing industry.
- Develop the individual’s ability in the computing industry through effective use and combination of the knowledge and skills gained in different parts of the programme.
- Develop a range of skills and techniques, personal qualities and attributes essential for successful performance in working life and thereby enabling learners to make an immediate contribution to employment.
- Provide flexibility, knowledge, skills and motivation as a basis for future studies and career development in computing.
10. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

Subject knowledge and critical understanding includes:

A sound basic knowledge and understanding that includes:

A1. Computer systems and network architecture and how they support software applications;
A2. Theory and practice of programming;
A3. Techniques available for evaluating, designing, and specifying information systems;
A4. Tools and techniques for the design and development of applications;
A5. Awareness of the impact of the new technologies and of professional considerations that inform the exploitation of computer technology.

Higher level academic / intellectual skills includes

The practical and professional skills to:

B1. Install and support computer systems on a stand-alone and network basis;
B2. Deploy appropriate tools, techniques and methods for the specification, design, implementation and evaluation of computer-based systems;
B3. Design and develop software solutions using appropriate programme languages and techniques;
B4. Ability to work effectively as a member of a development team;
B5. Use ICT equipment competently and safely.

Higher practical and professional skills includes:

The ability to:

C1. Understand and apply principles and concepts
C2. Present reasoned arguments and apply judgement;
C3. Analyse and evaluate practical problems and provide logical solutions.

Higher Level transferable skills development includes:

The ability to:

D1. Communicate ideas effectively both orally and in writing
D2. Apply numeracy
D3. Apply technology
D4. Manage tasks and solve problems
D5. Apply design and creativity.
Teaching and Learning Methods

The following learning opportunities are provided to enable learners to develop and demonstrate their achievement of learning outcomes:

- Acquisition of core knowledge is through a mixture of lecture/presentations/demonstrations, tutorials, group seminars and directed study;
- Analytic thinking skills are developed through discussion and debate in group and tutorial sessions;
- Practical work is an essential component of the programme and may involve presentations and demonstrations;
- Common skills such as oral and written communication will be developed in group and tutorial sessions, through assignments and particularly through project work;
- Additionality, including study towards CISCO CCENT, is included. See section 16 for further details.
- Global hours for this program is 250 hours including tutorials

Assessment methods

Assessment activities provide major opportunities for learning. Assessment criteria are linked to individual module outcomes.

Assessment methods include:

- Case studies
- Time constraint assessments
- Reports
- Individual / group presentations
- Practical assessments
- Individual / group project work
### Programme Structure

Student commences HE study at Level 4  
Programme code: MN236,  
Qualification and learning provision codes QBS5EZ01/BCF1 – linked to BSLZ05/IFY01

<table>
<thead>
<tr>
<th>Edexcel Reference</th>
<th>Unit Number</th>
<th>Module Title</th>
<th>Level</th>
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<tr>
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<td>M/601/1251</td>
<td>3</td>
<td>Employability and Professional Development</td>
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<td>Core</td>
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(5 must be studied for a full HNC award)

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<tbody>
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<td>L/601/0995</td>
<td>4</td>
<td>Project Design, Implementation and Evaluation</td>
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<td>D/601/1276</td>
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<td>Research Skills</td>
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<td>J/601/0302</td>
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<td>Management of Projects</td>
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<td>K/601/1281</td>
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<td>Systems Analysis and Design</td>
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<td>J/601/1286</td>
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<td>Website Design</td>
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<td>M/601/0472</td>
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<td>Networking Technologies</td>
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<td>Optional</td>
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<td>Y/601/0448</td>
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<td>Optional</td>
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<td>D/601/0998</td>
<td>50</td>
<td>Work-Based Experience</td>
<td>5</td>
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Notes:
- **Student commences HE study at Level 4.**  
- **Programme code: MN236**  
- **Qualification code IPHHA061BCF0**  
- All modules have a 15 credit rating, except for L/601/0995 - Project Design, Implementation and Evaluation, which has a 20 credit rating.  
- Students must achieve a minimum of 120 credits (8 modules passed) to achieve the HNC award, at level 4 or above.  
- The three core modules are mandatory.  
- The HNC offer consists of 9 formally taught modules (highlighted orange), selected from the core and optional modules listed above.  
- Alternative or Additional modules can be studied within each pathway subject to availability and agreement with the course tutor.  
- Unit 50 is assessed in the work place via an agreed portfolio.  
- Units designated at Level 5, require students to demonstrate their ability to apply their knowledge more widely and to use critical analysis where appropriate.  
- Further unit details are available at: [www.edexcel.com/quals/highernationals10/computing-sys-dev](http://www.edexcel.com/quals/highernationals10/computing-sys-dev)
Modules:

Unit 1 - Business Skills for e-Commerce (15 Credits – Level 4) – Core Unit

To enable learners to apply the business skills needed to design an e-Commerce solution for an organisation.

On successful completion of this unit a learner will:

- Understand the structure and aims of business organisations
- Understand the impact of e-Commerce
- Be able to design e-Commerce solutions

Unit 2 - Computer Systems (15 Credits – Level 4) – Core Unit

To enable learners to understand computer systems and apply theoretical knowledge to practical application when building, configuring and maintaining computer systems.

On successful completion of this unit a learner will:

- Understand the function of computer systems
- Be able to design computer systems
- Be able to build and configure computer systems
- Be able to undertake routine maintenance on computer systems.

Unit 3 - Employability and Professional Development (15 Credits – level 4) – Core Unit

To provide learners with the opportunity to acquire employability skills required for effective employment and to manage their own personal and professional development.

On successful completion of this unit a learner will:

- Be able to take responsibility for own personal and professional development
- Be able to demonstrate acquired interpersonal and transferable skills
- Understand the dynamics of working with others
- Be able to develop strategies for problem solving.

Unit 4 - Project Design, Implementation and Evaluation (20 Credits – level 5)

To develop learners’ skills of independent enquiry by undertaking a sustained investigation of direct relevance to their vocational, academic and professional development.

On successful completion of this unit a learner will:

- Be able to formulate a project
- Be able to implement the project within agreed procedures and to specification
- Be able to evaluate the project outcomes
- Be able to present the project outcomes

Unit 7 - Research Skills (15 Credits – Level 4)

To equip learners with the knowledge and research skills needed to select a research question, and design a research proposal for a chosen topic of interest.

On successful completion of this unit a learner will:

- Understand different research methodologies
- Know how to conduct a literature review
- Be able to present a research proposal
- Be able to contribute to a research seminar
Unit 8 - Management of Projects (15 Credits – Level 4)

This unit provides an understanding and experience of project management principles, methodologies, tools and techniques that may be used in industry and the public sector.

On successful completion of this unit a learner will:

- Understand the principles of project management
- Be able to plan a project in terms of organisation and people
- Be able to manage project processes and procedures.

Unit 9 - Systems Analysis and Design (15 Credits – Level 4)

To provide learners with the knowledge and skills needed to undertake a systems analysis investigation by following a recognised methodology. This will support unit 4 student project.

On successful completion of this unit a learner will:

- Understand different systems life cycles
- Understand the importance of a feasibility study
- Be able to perform a system investigation.

Unit 10 - Human Computer Interaction (15 Credits – Level 4)

To give learners an understanding of recent Human Computer Interaction (HCI) developments and will enable them to develop a human computer interface.

On successful completion of this unit a learner will:

- Understand recent human computer interaction related developments and their application
- Understand the issues related to a chosen human computer interface
- Be able to develop a human computer interface.

Unit 14 - Website Design (15 Credits – Level 4)

To enable learners to understand the concepts of website design and apply their own creativity in designing and developing interactive websites.

On successful completion of this unit a learner will:

- Understand website design concepts
- Be able to design interactive websites
- Be able to implement interactive websites
- Be able to test interactive websites.

Unit 24 - Networking Technologies (15 Credits – Level 4)

To enable learners to understand computer networking concepts, how they work, how they operate and the protocols, standards and the models associated with networking technology.

On successful completion of this unit a learner will:

- Understand networking principles
- Understand networking components
- Be able to design networked systems
- Be able to implement and support networked systems.
Unit 26 - Design a Small or Home Office (SOHO) Network (15 Credits – Level 4)

To provide learners with opportunities to design, implement, manage and support a small or home office network as a standalone system or as part of a larger remote infrastructure.

On successful completion of this unit a learner will:

- Understand the impact of small or home office networks
- Be able to design small or home office networks
- Be able to implement small or home office networks
- Be able to support small or home office networks.

Unit 50 - Work-Based Experience (15 Credits – Level 5)

This unit aims to enable learners to experience the scope and depth of learning which may take place in a work-based context by planning, monitoring and evaluating the work experience.

On successful completion of this unit a learner will:

- Be able to negotiate industry experience
- Understand the specific requirements of the placement
- Be able to undertake work experience as identified
- Be able to monitor and evaluate own performance and learning
12. Support for Students and Their Learning

Student progression on course is supported both by subject tutors and central College services and includes:

- An induction programme introducing new students to the subject of study, higher level skills that need to be developed, and the college facilities (including the library, IT facilities, staff and other students).
- College and course/ module handbooks available in print and electronic format on Moodle.
- Personal and academic support is integrated in teaching provided by supportive and accessible tutors and identified 1:1 support sessions are also available.
- A modern well-equipped library and Up-to-date ICT equipment.
- Study skills sessions integrated in programme.
- Personal development planning sessions integrated into programme via specific Personal Development Plan sessions and a Personal Skills Development module.
- Up-to-date Computer laboratories with specialist facilities for computer networking and multimedia computing.
- Access to counsellors and support for students with special needs.
- Written assignment / assessment feedback (normally provided with 2 weeks of assessment submission).
- Regular 1:1 and group tutorial support
- Access to regularly updated course section and college wide sections on the college’s intranet Moodle
- Dedicated HE area for taught sessions
13. **Criteria for Admission**

Normally, the course enrols students who are currently seeking employment, or already employed, in the IT sector and are looking to enhance their career prospects.

Students should have at least:

- A minimum of 120 UCAS tariff points
  
  [https://www.ucas.com/ucas/undergraduate/getting-started/entry-requirements/tariff/tariff-tables](https://www.ucas.com/ucas/undergraduate/getting-started/entry-requirements/tariff/tariff-tables)

- Examples include:

  - National Diploma with a minimum MP profile
  - Extended Diploma with a minimum PPP profile
  - 2 GCE “A” levels with a DD profile  
    
    *(at least one should be in a related subject).*

  - Pass in an Access course recognised by the College
    
    *(60 credits, 45 must be at level 3)*

Plus:

- GCSE’s in Maths and English ‘C’ Grade (or equivalent) as a minimum.

Mature students may present a more varied profile of achievement that is likely to include extensive work experience (paid and/or unpaid) and/or achievement of a range of professional qualifications in their work sector. This will be reviewed at interview.

All candidates must be successful at interview.
14. Progression

On completion of the Higher National Certificate programme at Solihull College the learner will have the opportunity to progress to a Higher National Diploma with a computer networking theme. The level at which the learner will be able to access the undergraduate degree program will depend on the HNC grades achieved and the type of course applied for.

To progress directly to stage 5 of the Higher National Diploma in Computing and Systems Development, a student must normally have gained a HNC in Computing and Systems Development including passing the HNC with an overall Merit grade.

Students who do not reach the standards described above but who have gained a HNC may normally join stage 4 of the corresponding Honours Degree course at many Universities.

The course offers the opportunity to work towards vendor specific qualifications within their program of study, such as Cisco which will greatly enhance their employability within the sector.
15. Evaluating the Quality of Teaching and Learning

The Quality of the Programme is monitored and assured by evaluation of the Standards of Teaching and Learning using the results of the following documents:

- Student feedback questionnaires, initial impressions and the spring survey
- Module review forms completed by students at the end of every module and summarised by the course leader.
- Student input to the Programme Quality Board held twice a year.
- Student representations made through the HE Student Council.
- Action areas fed by the above to the course based Self-Assessment Reviews, Annual Monitoring Report and Quality Improvement Plan.
- Findings of the teaching observation scheme and recommendations for improvement that are made.
- External Examiners report and audit of assessed work
- Annual Teaching Observation scheme, Annual Appraisal and Personal Development Log
- Internal Verification process within teaching team
- Regular team meetings
16. Regulation of Assessment

The programme is the subject of an Annual Monitoring Report (AMR) the last section of which is a Quality Improvement Plan (QIP), written by the course team, this is passed to the Head of School of Business for audit and from them to the quality unit for further audit and acceptance as part of the College plan.

Assessment and assessment vehicles are regulated by the internal verification system for each programme which is itself audited by the quality unit within the College and also by the External Examiner appointed by Edexcel.

Also the programme is the subject of periodic review by QAA, ensuring that national benchmarks are met throughout the programme.

Visiting Examiners are appointed by Edexcel. The role of visiting examiner is that of moderator. In order to do this they:

- Approve examination programmes;
- Review samples of assessed course work;
- Provide feedback to the Program Assessment Board

The graded section of the HNC is based on the learner’s best performance in units at level 4 or above of the qualification to the value of 75 credits.
17. **Enhancement**

Actions identified in the evaluation process are developed into the enhancement plan for the improvement of teaching and learning across the whole programme. An action plan is produced in each Annual Monitoring Report and this feeds to the programme Self-Assessment document which informs the Business Plan for the School.

Good practice in Teaching and Learning is developed through the regular staff development and staff meetings at programme and school level. It is further enhanced by the integration of lecturers on this programme teaching and assisting the learning of students on other programmes in the College, thus contributing to a sharing of best practice across different programmes. Lecturers also take part in Internal Verification of fellow lecturer’s assignments and assessment vehicles.

Development and enhancement of individual lecturers knowledge of up to date technical knowledge and of modern teaching practices is ensured through the annual appraisal scheme. Lecturers are encouraged to identify their own needs and to make their own arrangements with suitable companies to update their skills and knowledge.

Enhancement of the Student learning experience takes place via the arrangements of visits both academic and social, the introduction of speakers from outside the College, usually from a related industrial background; this increases the experience of the student, adds to their knowledge and improves understanding at a practical level.

This course also offers students are encouraged to work towards vendor specific qualifications within their program of study, such as the CISCO CCENT (Cisco Certified Entry) award. Access to vendor approved course materials are included in the program, as well as official course completion certificates however if the student requires external certification then these costs are not included in the HNC course fee.
18. Programme Resources

- Due to the nature of this programme access to networking and specialised facilities, including virtualisation techniques and access to Cisco based curricula are essential.
- Dedicated Higher Education teaching area.
- Dedicated Higher Education computing area.
- Vocationally relevant equipment
- Student resource facility for the loan of specialist equipment (e.g. lap top computers, digital cameras, video cameras etc.)
- Well stocked library with frequent review and update of books.
- E-library resources including access to online journals.
- A wide range of external links with the public sector for student trips or external specialist speakers.

Student Employability

This programme is part of Solihull College’s commitment to meeting the needs of local, national and international employers by delivering a diverse range of educational models including part-time and work-based study for learners drawn from non-traditional backgrounds in addition to internal progressions from FE vocational programmes.

As part of this commitment, the HN in Computing and Systems Development will:

1. Support students by providing professional, impartial advice and guidance to enable students to make considered career decisions before and during their studies to enable them to be prepared for their future employment and development by:
   1.1. Identifying the skills needed for progression into employment,
   1.2. Enhancing their existing employment prospects.
2. Provide subject-related resources and information on local, national and international labour markets;
3. Be responsive to the needs of employers in order to maximise students’ employability and career progression prospects;
4. Include study skills which will improve students’ academic writing and research capabilities to enable further study and facilitate career progression;
5. Support equality and diversity, and minimise barriers to learning, as described in the college’s Equality Policy which can be found on the website under Mission and Policies.
6. Ensure that employers play a key part in module content, course design and assessment criteria by formally seeking their views through employer questionnaires, work experience coordinators, meetings with industry groups, and the use of a specialist employer service researcher to help to ensure that the course content meets industry expectations and requirements.
7. Students are encouraged to work towards vendor specific Cisco and Microsoft certification and study towards these qualifications is supported within the curricula and the students personal development program.
8. Provide students with assistance in finding work placements which provide appropriate developmental opportunities and relate to current or intended career interests.
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 can be found in the programme handbook.

### Document History

2. 12/07/2012 Updated document format and content  
3. 12/6/2013 Updated document format and content and optional Work experience module.  
4. 12/7/2013 Updated document format and content and research skills module  
5. 22/8/2014 Updated Module content  
6. 13/3/2015 Revamped program structure to improve progression opportunities.  
7. 12/8/2015 Updated sections 10 and 16 to clarify vendor offer, section 11 updated for progression.

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<th>Martin Hemming</th>
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<td>Date checked against public information</td>
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<tr>
<td>Specification Author</td>
<td>Martin Hemming</td>
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