FACULTY OF ENGINEERING COMPUTING

ENGINEERING MANAGEMENT
ELECTRONIC ENGINEERING
MECHANICAL ENGINEERING
MECHATRONICS
COMPUTER SCIENCE (INTELLIGENT SYSTEMS)
INFORMATION SYSTEMS IN BUSINESS MANAGEMENT
INFORMATION TECHNOLOGY
NETWORKING & SECURITY
SOFTWARE ENGINEERING
ABOUT FIRST CITY UNIVERSITY COLLEGE

First City University College has an excellent track record of producing highly employable graduates, entrepreneurs and award-winners. First City UC offers external recognition with its collaborative international partners, in addition to its own Honours Degree, Diploma and Foundation programmes.

In view of its expanding student population and in-line with its aspiration to provide the best teaching and learning experience within a conducive campus, First City UC added a new Student Affairs and Services Centre, lecture and seminar rooms, laboratories, studios and workshops, a spacious IT Centre and library, Centre for Postgraduate Studies, two indoor sports halls, a dance studio, a food court and 500 covered carparks in its recently completed new building under Phase 2 of its campus expansion programme. To address students’ need for accommodation, First City UC added a new 514 bed on-campus air-conditioned hostel with en-suite bathroom.

To meet the needs of industry for employable graduates, First City UC’s programmes are:

• Approved by the Malaysian Qualifications Agency (MQA) and relevant professional bodies such as the Board of Engineers Malaysia (BEM).

• Relevant to the needs of industry, as they are specially crafted to enhance the employability of graduates.

• Delivered by a qualified team of dedicated lecturers who are equipped with a range of teaching and industry experience.
WHY STUDY ENGINEERING & COMPUTING PROGRAMMES AT FIRST CITY UC?

Industry-relevant programmes.

Strong collaborations with the IT and electronics industry.

Students are taught critical thinking and problem-solving skills.

Use of advanced software tools such as Mainframe Computing Technology and Mentor Graphics of Electronic Design Automation (EDA).

Annual Innovation Day for final year students to showcase their projects to prospective employers.

Industry linkages to strengthen our graduates’ employability, eg. IBM, Intel.

Engineering and computing laboratories equipped with industry-relevant hardware and software tools.

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The Faculty incorporates the use of advanced tools and software where students can experiment and develop their practical skills in Engineering and Computing in order to produce industry-ready graduates.
PROGRAMME PATHWAYS

SPM/ UEC/ GCE O Level or Equivalent

DIPLOMA IN ELECTRONIC ENGINEERING
R2/523/4/0133(A5493)04/24
(2 1/3 years)
Advanced standing to Year 2 of Degree programmes

DIPLOMA IN MECHATRONICS
R2/523/4/0132(A5495)04/24
(2 1/3 years)
Advanced standing to Year 2 of Degree programmes

DIPLOMA IN INFORMATION TECHNOLOGY
R2/481/4/0266(A4920)02/24
(2 years)
Advanced standing to Year 2 of Degree programmes

FOUNDATION IN ENGINEERING, SCIENCE & TECHNOLOGY
R2/010/3/0080(A9287)10/23
(1 year)
Enter into Year 1 of Engineering & Computing Degree programmes

STPM / UEC / GCE A–Levels or Equivalent
BACHELOR OF ELECTRONIC ENGINEERING WITH HONOURS
N/523/6/0273(MQA/PA7197)11/20
(4 years)

BACHELOR OF MECHANICAL ENGINEERING WITH HONOURS
N/521/6/0176(MQA/PA9439)01/23
(4 years)

BACHELOR OF SOFTWARE ENGINEERING (HONS)**
N/481/6/0690(MQA/PA6200)09/20
(3 years)

BACHELOR OF COMPUTER SCIENCE (INTELLIGENT SYSTEMS) (HONS)**
N/481/6/0751(MQA/PA8101)03/21
(3 years)

BACHELOR OF INFORMATION SYSTEMS (HONOURS) IN BUSINESS MANAGEMENT**
N/482/6/0122(MQA/PA8226)09/21
(3 years)

BACHELOR OF INFORMATION TECHNOLOGY (NETWORKING AND SECURITY) (HONS)**
N/482/6/0139(MQA/PA8882)03/22
(3 years)

MASTER OF SOFTWARE ENGINEERING
N/481/7/0807(MQA/PA9799)05/23
Full Time: 1 year
Part Time: 2 years

MASTER OF ENGINEERING MANAGEMENT
N/345/7/1081(MQA/PA9798)08/23
Full Time: 1 year
Part Time: 2 years

**These programmes are validated and recognised by:
FOUNDATION IN ENGINEERING, SCIENCE & TECHNOLOGY

Foundation in Engineering, Science & Technology prepares students for two major degree pathways offered by the Faculty of Engineering and Computing, which are Engineering and Computing. Students will be equipped with elementary to intermediate level of knowledge on the respective pathway after the completion of this foundation programme.

DURATION
1 year (3 semesters)

INTAKES
January, April and July

ENTRY REQUIREMENTS

**SPM:**
- Minimum 5 credits (including English and Mathematics) and including Physics for progression to Engineering Degrees
- Minimum 5 credits (including English and Mathematics) and including credit in Additional Mathematics or credit in Mathematics & Science/Technology/Engineering subjects for progression to Software Engineering or Computer Science Degrees
- Minimum 5 credits (including English and Mathematics) for progression to Information Systems or Information Technology Degrees

**UEC:** Minimum 4Bs (including English and Mathematics)

**GCE O Level:** Minimum 5 credits (including English and Mathematics)

Other equivalent qualifications which are recognized by the Malaysian government

LEARNING OUTCOME

The programme encourages students to participate in problem-solving activities in order to develop their creative, intellectual and critical awareness. Students will be able to foster and develop ability to observe, select and interpret visual forms in a man-made or natural environment.
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<tr>
<th>SEMESTER 1</th>
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<tr>
<td><strong>MODULE CONTENT</strong></td>
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</tr>
<tr>
<td>• Analytical Mathematics</td>
<td>• Analytical Mathematics</td>
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<tr>
<td>• Communication and Study Skills</td>
<td>• Communication and Study Skills</td>
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<tr>
<td>• Computer Technology</td>
<td>• Computer Technology</td>
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<td>• Personal and Professional Development</td>
<td>• Personal and Professional Development</td>
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<td>• Advance Office Software</td>
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<th>SEMESTER 2</th>
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<tr>
<td><strong>MODULE CONTENT</strong></td>
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<tr>
<td>• Calculus Mathematics</td>
<td>• Calculus Mathematics</td>
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<tr>
<td>• Mechanics</td>
<td>• Software Design Techniques</td>
</tr>
<tr>
<td>• Instrumentation and Measurements</td>
<td>• Web Design</td>
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<tr>
<td>• Fundamental Electrical and Electronic Engineering</td>
<td>• Structured Programming</td>
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<th>SEMESTER 3</th>
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<tr>
<td><strong>MODULE CONTENT</strong></td>
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<tr>
<td>• Group Project</td>
<td>• Group Project</td>
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<tr>
<td>• Engineering Mathematics</td>
<td>• Database</td>
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<tr>
<td>• Applied Physics</td>
<td>• Object-Oriented Programming</td>
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<tr>
<td>• Materials Science</td>
<td>• Systems Analysis and Design</td>
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</table>
DIPLOMA IN ELECTRONIC ENGINEERING

Diploma in Electronic Engineering equips students with knowledge and skills to further study or work in the field of electronics. The programme focuses on electronic technical such as fundamentals of circuits, electronic devices and circuits, Integrated Circuit (IC) Technology, signals and systems, microcontroller programming and interfacing.

DURATION
2 1/3 years (7 semesters)

INTAKES
January, April, May and October

ENTRY REQUIREMENTS
SPM: Minimum 3Cs (including Mathematics and 1 Science subject and at least a pass in English)
UEC: Minimum 3Bs (including Mathematics and 1 Science subject and at least a pass in English)
GCE O Level: Minimum 3Cs (including Mathematics and 1 Science subject and at least a pass in English)
Other equivalent qualifications which are recognized by the Malaysian government

MPU COMPULSORY SUBJECTS
All Malaysian and International students are required to take 4 MPU compulsory subjects

CAREER OPPORTUNITY
• Electronic Engineering Technician • Maintenance Technician • Assistant Project Engineer
• Assistant Process Engineer • Engineering Test Technician
<table>
<thead>
<tr>
<th>SEMESTER 1 MODULE CONTENT</th>
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<tbody>
<tr>
<td>• Materials Science</td>
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<tr>
<td>• Basic Circuit Theory</td>
</tr>
<tr>
<td>• Communication Skills</td>
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<tr>
<td>• Programming Language</td>
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<tr>
<td>• Digital Electronics I</td>
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<tr>
<th>SEMESTER 2 MODULE CONTENT</th>
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<tbody>
<tr>
<td>• Basic Electronics</td>
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<tr>
<td>• Algebra</td>
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<tr>
<td>• Calculus</td>
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<tr>
<td>• Microcontroller Principles</td>
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<tr>
<th>SEMESTER 3 MODULE CONTENT</th>
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<tbody>
<tr>
<td>• Analogue Electronics I</td>
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<tr>
<td>• Engineering Mathematics</td>
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<tr>
<th>SEMESTER 4 MODULE CONTENT</th>
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<tbody>
<tr>
<td>• Computer Interfacing Techniques</td>
</tr>
<tr>
<td>• Microcontroller Programming and Interfacing</td>
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<tr>
<td>• Project Management</td>
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</tbody>
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<tr>
<th>SEMESTER 5 MODULE CONTENT</th>
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<tbody>
<tr>
<td>• Analogue Electronics II</td>
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<tr>
<td>• Digital Electronics II</td>
</tr>
<tr>
<td>• Signals and Systems</td>
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</table>

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<tr>
<th>SEMESTER 6 MODULE CONTENT</th>
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</thead>
<tbody>
<tr>
<td>• Industrial Training</td>
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<tr>
<th>SEMESTER 7 MODULE CONTENT</th>
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</thead>
<tbody>
<tr>
<td>• Basic Communication Systems</td>
</tr>
<tr>
<td>• Project</td>
</tr>
<tr>
<td>• Elective I</td>
</tr>
<tr>
<td>• Elective II</td>
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</tbody>
</table>

Elective Modules:
• IC Technology
• Electronic Design Automation
• Advanced Analogue and Digital Electronics
• Electronic Circuit Modelling and Simulation
DIPLOMA IN MECHATRONICS

Dipoma in Mechatronics is an introductory engineering programme that prepares students for real life working environment or Bachelor degree programme. Students will be exposed to mechanical and electronic technical subjects such as thermofluid dynamics, hydraulics and pneumatics, applied mechanics, and microcontroller principles.

DURATION
2 1/3 years (7 semesters)

INTAKES
January, April, May and October

ENTRY REQUIREMENTS
SPM: Minimum 3Cs (including Mathematics and 1 Science subject and at least a pass in English)
UEC: Minimum 3Bs (including Mathematics and 1 Science subject and at least a pass in English)
GCE O Level: Minimum 3Cs (including Mathematics and 1 Science subject and at least a pass in English)
Other equivalent qualifications which are recognized by the Malaysian government

MPU COMPULSORY SUBJECTS
All Malaysian and International students are required to take 4 MPU compulsory subjects

CAREER OPPORTUNITY
- Test Technician
- Research and Development Assistant
- Design Technician
- Technical Representative
- Engineering Site Technician
- Junior Engineer
- Production Technician
SEMESTER 1
MODULE CONTENT
• Materials Science
• Basic Circuit Theory
• Communication Skills
• Programming Language
• Digital Electronics I

SEMESTER 2
MODULE CONTENT
• Basic Electronics
• Algebra
• Calculus
• Microcontroller Principles

SEMESTER 3
MODULE CONTENT
• Analogue Electronics I
• Applied Mechanics I
• Engineering Mathematics

SEMESTER 4
MODULE CONTENT
• Computer Interfacing Techniques
• Manufacturing Process
• Project Management

SEMESTER 5
MODULE CONTENT
• Thermofluid Dynamics
• Applied Mechanics II
• Engineering Design

SEMESTER 6
MODULE CONTENT
• Industrial Training

SEMESTER 7
MODULE CONTENT
• Project
• Elective I
• Elective II

Elective Modules:
• Programmable Logic Controller
• Hydraulics and Pneumatics
• Computer Aided Design / Computer Aided Engineering
• Measurement and Industrial Control
BACHELOR OF ELECTRONIC ENGINEERING WITH HONOURS

Bachelor of Electronic Engineering with Honours is an academic and industry driven programme with emphasis on excellent achievement in students’ academic performance. It is aimed to produce graduates with vast and in-depth knowledge in the field of electronic engineering who are ready as industry work force, or further study at postgraduate levels.

DURATION
4 years (8 semesters)

INTAKES
January, May & September

ENTRY REQUIREMENTS
STPM: Minimum 2Cs (including Mathematics and Physics)
UEC: Minimum 5Bs (including Mathematics and Physics)
GCE A Level: Minimum 2Cs (including Mathematics and Physics)
FOUNDATION/MATRICULATION: Pass with minimum CGPA 2.0
DIPLOMA: Pass with minimum CGPA 2.0/Diploma (Level 4, MQF) in the related field
Other equivalent qualifications which are recognized by the Malaysian government

MPU COMPULSORY SUBJECTS
All Malaysian and International students are required to take 5 MPU compulsory subjects.

CAREER OPPORTUNITY
- Integrated Circuit Design Engineers
- Software Engineers
- Telecommunications Engineers
- Embedded Systems / Firmware Engineers
# SEMESTER 1
**MODULE CONTENT**
- Engineering Practice and Communication Skills
- Engineering Mathematics I
- Circuit Analysis I
- Digital Electronics
- Computer Applications for Engineers

# SEMESTER 2
**MODULE CONTENT**
- Engineering Mathematics II
- Electromagnetic Field Theory
- Electronic Devices and Circuits
- Introduction to Electrical Power Technology

# SEMESTER 3
**MODULE CONTENT**
- Engineering Mathematics III
- Analogue Integrated Circuits Applications
- Introduction to Communication Engineering
- Programming for Engineers
- Circuit Analysis II

# SEMESTER 4
**MODULE CONTENT**
- Digital Communications
- Digital Circuits and Design
- Instrumentation and Measurement
- Microprocessor and Microcontroller Systems
- Engineering Drawing

# SEMESTER 5
**MODULE CONTENT**
- Signals and Systems
- Analogue Systems Design
- Power Electronics
- Digital Systems Design
- Integrated Design Project

# SEMESTER 6
**MODULE CONTENT**
- Control Systems
- Numerical Analysis and Statistics
- Embedded System Applications
- Technology and Society
- Computer Architecture and Organization
- Integrated Design Project

# INDUSTRIAL TRAINING
- Upon completion of Year 3, students are required to undergo 12 weeks of industrial training.

# SEMESTER 7
**MODULE CONTENT**
- Final Year Project
- Digital IC Design
- Digital Signal Processing
- Project Management
- Elective I

# SEMESTER 8
**MODULE CONTENT**
- Final Year Project
- Mobile Communications
- Digital Control Systems
- Elective II
- Elective III

# ELECTIVE MODULES
Elective I: • Microwave Engineering  • Communication Systems and Networks
Elective II: • Digital Image Processing  • Optical Communications
Elective III: • Systems on Silicon  • Analogue Integrated Circuits Design
Bachelor of Mechanical Engineering with Honours emphasizes in developing students with broad range of skills and knowledge to fulfill the requirements of a mechanical engineer. It ranges from materials, solid and fluid mechanics, thermodynamics, heat transfer, control, instrumentation, design, manufacturing and other specialize areas. It also emphasizes on strengthening students’ analytical and problem solving skills. Many of the modules in this programme will include mini-projects and students will work in groups to produce a solution to a complex engineering problem.

DURATION
4 years (8 semesters)

INTAKES
January, May & September

ENTRY REQUIREMENTS
STPM: Minimum 2Cs (including Mathematics and Physics)
UEC: Minimum 5Bs (including Mathematics and Physics)
GCE A Level: Minimum 2Cs (including Mathematics and Physics)
FOUNDATION/MATRICULATION: Pass with minimum CGPA 2.0
DIPLOMA: Pass with minimum CGPA 2.0/Diploma (Level 4, MQF) in the related field
Other equivalent qualifications which are recognized by the Malaysian government

MPU COMPULSORY SUBJECTS
All Malaysian and International students are required to take 5 MPU compulsory subjects.

CAREER OPPORTUNITY
• Mechanical / Manufacturing Engineer • Design Engineer • Technical Support Engineer
• Project / Site Engineer • Test Engineer • Research Engineer
<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Module Content</th>
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</table>
| • Engineering Mathematics I  
  • Engineering Statics  
  • Introduction to Electrical and Electronic Engineering  
  • Engineering Drawing |

<table>
<thead>
<tr>
<th>Semester 2</th>
<th>Module Content</th>
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</thead>
</table>
| • Engineering Mathematics II  
  • Engineering Materials I  
  • Engineering Dynamics  
  • Machine Drawing  
  • Engineering Practice and Communication Skills |

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<thead>
<tr>
<th>Semester 3</th>
<th>Module Content</th>
</tr>
</thead>
</table>
| • Engineering Mathematics III  
  • C Programming Techniques  
  • Fluid Mechanics I  
  • Thermodynamics I  
  • Solid Mechanics I |

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<tr>
<th>Semester 4</th>
<th>Module Content</th>
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</table>
| • Solid Mechanics II  
  • Thermodynamics II  
  • Fluid Mechanics II  
  • Introduction to Microprocessor  
  • Instrumentation and Measurement |

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<tr>
<th>Semester 5</th>
<th>Module Content</th>
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</table>
| • Mechanical Engineering Design I  
  • Heat Transfer  
  • Engineering Materials II  
  • Manufacturing Processes  
  • Engineering Economics  
  • Integrated Design Project |

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<thead>
<tr>
<th>Semester 6</th>
<th>Module Content</th>
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</table>
| • Mechanical Engineering Design II  
  • Control Systems  
  • Numerical Analysis and Statistics  
  • Electrical Power and Machines  
  • Integrated Design Project |

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<thead>
<tr>
<th>Semester 7</th>
<th>Module Content</th>
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</thead>
</table>
| • Final Year Project  
  • Operations and Quality Management  
  • Sustainable Energy Systems  
  • Mechanical Vibration  
  • Elective I |

<table>
<thead>
<tr>
<th>Semester 8</th>
<th>Module Content</th>
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</thead>
</table>
| • Final Year Project  
  • Professional Practice  
  • Project management and Product Development  
  • Entrepreneurship  
  • Elective II |

**INDUSTRIAL TRAINING**

- Upon completion of Year 3, students are required to undergo 12 weeks of industrial training.

**ELECTIVE MODULES**

- Finite Element Method  
  - Hydraulics and Pneumatics  
  - Ergonomics  
  - Air Conditioning and Refrigeration  
  - Manufacturing Systems  
  - Engineering Tribology
Diploma in Information Technology aims at providing a strong foundation in the Information Technology field. The contents of each module are constantly updated following the current trend in this area. Students will develop skills in developing different types of applications, from stand-alone multimedia applications to internet-based systems. The industrial training placement will also help in preparing students to face the real world challenges.

**DURATION**
2 years (6 semesters)

**INTAKES**
January, April, May and October

**ENTRY REQUIREMENTS**
- **SPM**: Minimum 3Cs (including Mathematics and at least a pass in English)
- **UEC**: Minimum 3Bs (including Mathematics and at least a pass in English)
- **GCE O Level**: Minimum 3Cs (including Mathematics and at least a pass in English)
- Other equivalent qualifications which are recognized by the Malaysian government

**MPU COMPULSORY SUBJECTS**
All Malaysian and International students are required to take 4 MPU compulsory subjects

**CAREER OPPORTUNITY**
- E-Commerce Developer
- Software Developer
- System Support
- System Analyst
- Database Administrator
- Web Programmer
- Multimedia Application Developer
- Mobile Application Developer
SEMESTER 1
MODULE CONTENT
• English for Communication
• Mathematics for Computing
• Computer Applications
• Introduction to ICT
• Multimedia Technology

SEMESTER 2
MODULE CONTENT
• Business Communication
• Database Management Systems
• Discrete Mathematics
• Introduction to Programming
• Basic Web Development

SEMESTER 3
MODULE CONTENT
• Operating Systems
• Information Systems
• E-Commerce

SEMESTER 4
MODULE CONTENT
• Systems Methodologies
• Human Computer Interaction
• Internet Technology
• Elective I
• Elective II

SEMESTER 5
MODULE CONTENT
• Final Project
• Visual Programming
• Advanced Web Development
• Data Communication and Networks
• Elective III

SEMESTER 6
MODULE CONTENT
• Industrial Training

ELECTIVE MODULES
• Elective I & II
  • Cyber Marketing  • Business Organisation  • Fundamentals of Mobile Computing
• Elective III
  • Multimedia Development  • Object-Oriented Development with Java
BACHELOR OF SOFTWARE ENGINEERING (HONS)

Bachelor of Software Engineering (Hons) equips students with a strong foundation in software engineering using a combination of classroom and laboratory learning environment, with application of analysis and design techniques and software development tools.

The programme offers students the opportunity to develop strong problem-solving and communication skills, along with the development of skills for teamwork. Students will also be exposed to industry-relevant technologies for developing mobile applications, web applications, and software for embedded systems.

DURATION
3 years (6 semesters)

INTAKES
January, May & September

ENTRY REQUIREMENTS
STPM: Minimum 2Cs with credit in Additional Mathematics or credit in Mathematics & Science/Technology/Engineering subjects in SPM or its equivalent
UEC: Minimum 5Bs (including English and Mathematics)
GCE A Level: Minimum 2Es with 5 credits in GCE O LEVEL/SPM (including English and Mathematics)
FOUNDATION/MATRICULATION: Pass with minimum CGPA 2.0 with credit in Additional Mathematics in SPM
DIPLOMA: Pass with minimum CGPA 2.5 with a credit in Additional Mathematics in SPM or its equivalent
Other equivalent qualifications which are recognized by the Malaysian government

MPU COMPULSORY SUBJECTS
All Malaysian and International students are required to take 5 MPU compulsory subjects

CAREER OPPORTUNITY
• Software Engineer • Database Administrator • Systems Engineer / Analyst • Web Developer
• Web Designer • Network Integrator • Mobile Application Developer

Validated and recognised by:
### SEMESTER 1
**MODULE CONTENT**
- Basic Computing Principles
- Systems Analysis and Design
- Programming Methods
- Mathematics in Computing
- Database Systems
- Internet Design Principles

### SEMESTER 2
**MODULE CONTENT**
- Computer Architecture
- Computer Ethics and Cyber Law
- Structured Programming
- Internet Programming & Applications
- Discrete Mathematics
- Software Requirements Engineering

### SEMESTER 3
**MODULE CONTENT**
- Software Project Management I
- Generic Programming
- Visual Programming
- Software Testing and Quality Assurance
- Operating Systems
- Database Management Systems

### INDUSTRIAL TRAINING
- Upon completion of Year 2, students are required to undergo 12 weeks of industrial training.

### SEMESTER 4
**MODULE CONTENT**
- Software Project Management II
- Object-oriented Programming
- Software Engineering Principles
- Data Structures and Algorithms
- Software Verification and Validation
- Computer Networks

### SEMESTER 5
**MODULE CONTENT**
- Project
- Human Computer Interaction
- Object-oriented Analysis and Design
- Research Methodology
- Elective I
- Elective II

### ELECTIVE MODULES
- Elective I & II: Large-scale Computing, Artificial Intelligence, Mobile Platform Programming
- Elective III & IV: Cloud Computing, Distributed Systems, Natural Language Processing

### SEMESTER 6
**MODULE CONTENT**
- Project
- Project management
- Formal Methods
- Real-time Analysis and Design
- Elective III
- Elective IV
Bachelor of Computer Science (Intelligent Systems) (Hons) offers a programme that equips students with knowledge, skills and techniques that enable students to analyze, design and develop complex cognitive systems. With the fast evolution of technology and the emergence of creative and innovative machine and software, the programme provides skills and knowledge to students to perceive the environment and react accordingly in an intelligent manner. With the trending technologies of cloud computing, big data analytics and Internet of Things, the programme will produce students with the ability to learn and to thereby adapt to complex and changing environments, requirements and users.

**DURATION**
3 years (6 semesters)

**INTAKES**
January, May & September

**ENTRY REQUIREMENTS**
- **STPM:** Minimum 2Cs with credit in Additional Mathematics or credit in Mathematics & Science/Technology/Engineering subjects in SPM or its equivalent
- **UEC:** Minimum 5Bs (including English and Mathematics)
- **GCE A Level:** Minimum 2Es with 5 credits in GCE O LEVEL/SPM (including English and Mathematics)
- **FOUNDATION/MATRICULATION:** Pass with minimum CGPA 2.0 with credit in Additional Mathematics in SPM or its equivalent
- **DIPLOMA:** Pass with minimum CGPA 2.5 with a credit in Additional Mathematics in SPM or its equivalent
- Other equivalent qualifications which are recognized by the Malaysian government

**MPU COMPULSORY SUBJECTS**
All Malaysian and International students are required to take 5 MPU compulsory subjects

**CAREER OPPORTUNITY**
- Software Developer
- Business Analyst
- Mobile Application Developer
- Information Analyst
- Systems Engineer
**SEMESTER 1**  
**MODULE CONTENT**  
- Mathematics in Computing  
- Basic Computing Principles  
- Programming Methods  
- System Analysis and Design  
- Computer Ethics and Cyber Law  
- Digital Electronics

**SEMESTER 2**  
**MODULE CONTENT**  
- Discrete Mathematics  
- Introduction to Intelligent Systems  
- Computer Architecture  
- Database Systems  
- Structured Programming

**SEMESTER 3**  
**MODULE CONTENT**  
- Software Project Management I  
- Business Intelligence  
- Database Management Systems  
- Generic Programming  
- Operating Systems  
- Visual Programming

**SEMESTER 4**  
**MODULE CONTENT**  
- Software Project Management II  
- Embedded Systems  
- Computer Networks  
- Multimedia Systems  
- Object Oriented Programming  
- Data Structures and Algorithms

**SEMESTER 5**  
**ELECTIVE MODULES**  
- Project  
- Human Computer Interaction  
- Artificial Intelligence  
- Mobile Platform Programming  
- Elective I  
- Elective II

- Upon completion of Year 3, students are required to undergo 12 weeks of industrial training.

**SEMESTER 6**  
**MODULE CONTENT**  
- Project  
- IOT and Intelligent Systems Integration  
- Machine Learning  
- Real-Time Analysis and Design  
- Natural Language Processing  
- Elective III  
- Elective IV

**ELECTIVE MODULES**  
- Data Science and Big Data Analytics  
- Large-Scale Computing  
- 3D Modelling  
- Cloud Computing  
- Distributed Systems  
- Rich Media Technology

**INDUSTRIAL TRAINING**

- Upon completion of Year 3, students are required to undergo 12 weeks of industrial training.
BACHELOR OF INFORMATION SYSTEMS (HONOURS) IN BUSINESS MANAGEMENT

Bachelor of Information Systems (Honours) in Business Management aims to prepare graduates who would possess fundamental knowledge, principles and skills including analysis, design, implementation and management in Business Information Systems, recognise the impact of computing on individuals, organisations and society, and examine the role of new and emerging technologies.

It is specially crafted to meet the demands of businesses to create value, to provide solutions to business problems, to use technology to innovate and to create new business opportunities.

DURATION
3 years (6 semesters)

INTAKES
January, May & September

ENTRY REQUIREMENTS
STPM: Minimum 2Cs with credit in Mathematics in SPM or its equivalent
UEC: Minimum 5Bs (including English and Mathematics)
GCE A Level: Minimum 2Es with 5 credits in GCE O LEVEL/SPM (including English and Mathematics)
FOUNDATION/MATRICULATION: Pass with minimum CGPA 2.0 with credit in Mathematics in SPM or its equivalent
DIPLOMA: Pass with minimum CGPA 2.5 with a credit in Mathematics in SPM or its equivalent
Other equivalent qualifications which are recognized by the Malaysian government

MPU COMPULSORY SUBJECTS
All Malaysian and International students are required to take 5 MPU compulsory subjects

CAREER OPPORTUNITY
• Computer Systems Analyst • Business Analyst • IT Systems Developer / Analyst
• IT Network Manager • Data Analyst
<table>
<thead>
<tr>
<th>SEMESTER 1</th>
<th>MODULE CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Basic Computing Principles</td>
</tr>
<tr>
<td></td>
<td>• Systems Analysis and Design</td>
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<tr>
<td></td>
<td>• Programming Methods</td>
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<tr>
<td></td>
<td>• Computer Ethics and Cyber Law</td>
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<td></td>
<td>• Internet Design Principles</td>
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<thead>
<tr>
<th>SEMESTER 2</th>
<th>MODULE CONTENT</th>
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<tbody>
<tr>
<td></td>
<td>• Database Systems</td>
</tr>
<tr>
<td></td>
<td>• Structured Programming</td>
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<tr>
<td></td>
<td>• Internet Programming &amp; Applications</td>
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<tr>
<td></td>
<td>• Principles of Management</td>
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<td></td>
<td>• Principles of Marketing</td>
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<table>
<thead>
<tr>
<th>SEMESTER 3</th>
<th>MODULE CONTENT</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Software Project Management I</td>
</tr>
<tr>
<td></td>
<td>• Database Management Systems</td>
</tr>
<tr>
<td></td>
<td>• Business Intelligence</td>
</tr>
<tr>
<td></td>
<td>• Entrepreneurship and Enterprise Management</td>
</tr>
<tr>
<td></td>
<td>• Management Information System</td>
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<tr>
<td></td>
<td>• Managing People and Organisation</td>
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<table>
<thead>
<tr>
<th>SEMESTER 4</th>
<th>MODULE CONTENT</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Software Project Management II</td>
</tr>
<tr>
<td></td>
<td>• E-Commerce Infrastructure and Technologies</td>
</tr>
<tr>
<td></td>
<td>• Multimedia Systems</td>
</tr>
<tr>
<td></td>
<td>• Business Research Methods</td>
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<td></td>
<td>• Social Media Marketing</td>
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<thead>
<tr>
<th>SEMESTER 5</th>
<th>MODULE CONTENT</th>
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<tbody>
<tr>
<td></td>
<td>• Project I</td>
</tr>
<tr>
<td></td>
<td>• Data Science and Big Data Analytics</td>
</tr>
<tr>
<td></td>
<td>• Mobile Platform Programming</td>
</tr>
<tr>
<td></td>
<td>• Supply Chain Management</td>
</tr>
<tr>
<td></td>
<td>• Elective I</td>
</tr>
<tr>
<td></td>
<td>• Elective II</td>
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</table>

<table>
<thead>
<tr>
<th>ELECTIVE MODULES</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Elective I &amp; II :</td>
<td>• Risk Management</td>
</tr>
<tr>
<td>Elective III &amp; IV :</td>
<td>• Human Computer Interaction</td>
</tr>
<tr>
<td></td>
<td>• Large-Scale Computing</td>
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<tr>
<td></td>
<td>• Organisational Development Management</td>
</tr>
<tr>
<td></td>
<td>• Cloud Computing</td>
</tr>
<tr>
<td></td>
<td>• Distributed System</td>
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<thead>
<tr>
<th>INDUSTRIAL TRAINING</th>
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<tbody>
<tr>
<td>• Upon completion of Year 3, students are required to undergo 12 weeks of industrial training.</td>
</tr>
</tbody>
</table>
Bachelor of Information Technology (Networking & Security) (Hons) covers key body of knowledge which includes Information Assurance and Security, Information Management, Networking and Programming Fundamentals. Graduates who possess skills and knowledge in these areas are very much in demand. This programme will equip students with knowledge and skills in network design, management, security, and systems development and administration.

IoT involves the increasing widespread of objects and entities which have the ability to share and transfer data over a network. As smart products increase rapidly, risks of attack also increases with the new connectivity. Through this programme, First City UC hopes to address the potential challenges in IoT especially in networking and security to make IoT secure.

**DURATION**
3 years (6 semesters)

**INTAKES**
January, May & September

**ENTRY REQUIREMENTS**
STPM: Minimum 2Cs with credit in Mathematics in SPM or its equivalent
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Other equivalent qualifications which are recognized by the Malaysian government

**MPU COMPULSORY SUBJECTS**
All Malaysian and International students are required to take 5 MPU compulsory subjects

**CAREER OPPORTUNITY**
- Network Engineer
- Network Administrator
- Network Technician
- Computer Security Engineer
- Computer Engineer
- Database Administrator
- Web Master
- Computer-Operations Researcher
- Computer Repair Specialist
- System Analyst
- Network Architect
- Network and Security Policy Manager
- Security Analyst

Validated and recognised by: Teesside University
SEMESTER 1

MODULE CONTENT

• Basic Computing Principles
• Systems Analysis and Design
• Programming Methods
• Computer Ethics and Cyber Law
• Web Design Principles
• Mathematics for Computing

SEMESTER 2

MODULE CONTENT

• Computer Architecture
• Database Systems
• Structured Programming
• Internet Programming & Applications
• Discrete Mathematics
• Fundamentals of Network Security

SEMESTER 3

MODULE CONTENT

• IT Project Management
• Statistics
• Operating Systems
• Web Administration
• Computer Networks
• Introduction to Computer Forensics

SEMESTER 4

MODULE CONTENT

• Software Development
• Object-oriented Programming
• Data Structures and Algorithms
• Wireless and Mobile Network Security
• Biometric Technology

INDUSTRIAL TRAINING

• Upon completion of Year 2, students are required to undergo 12 weeks of industrial training.

SEMESTER 5

MODULE CONTENT

• Project 1
• Ethical Hacking
• Wireless and Mobile Communications
• Large-Scale Computing
• Elective I
• Elective II

ELECTIVE MODULES

Elective I & II :  • Research Methodology  • Artificial Intelligence  • Mobile Platform Programming
• Mandarin Language (Basic)

Elective III & IV :  • Real-time Analysis and Design  • Natural Language Processing
• Mandarin (Higher Basic)

SEMESTER 6

MODULE CONTENT

• Project 2
• Internet of Things for Mobile Computing
• Distributed Systems
• Cloud Computing
• Elective III
• Elective IV
INNOVATION DAY BEST PROJECTS

The annual Innovation Day was started in 2012, where final year students from the Faculty showcase their best engineering and computing projects. It is looked forward to every year as it opens up opportunities for them to connect with the industry, and to demonstrate their skills and innovative projects to prospective employers.

Prizes are awarded to best projects from both Engineering and Computing programmes. Winners are selected through a combination of professional assessment and voting process.

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Engineering</td>
<td>1st Prize: Modelling and Simulation of (OWC): Vertical Links</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>1st Prize: Commercial AI</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>2nd Prize: Design of A Climbing Robot</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>2nd Prize: Image Processing by using Power Spectral Density (PSD) model (through Fast Fourier Transform algorithm) to extract out the fractal dimension</td>
</tr>
<tr>
<td>2018</td>
<td>Engineering</td>
<td>1st Prize: Automated Farming Eco-system Controller</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>1st Prize: OOTD-Social Fashion Platform with Augmented Reality</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>2nd Prize: Indoor Positioning System using Wi-Fi Localization Technique</td>
</tr>
<tr>
<td>2017</td>
<td>Engineering</td>
<td>1st Prize: Automated Farming Eco-system Controller</td>
</tr>
<tr>
<td></td>
<td>Engineering</td>
<td>2nd Prize: The Design of a HDL Based Configurable Booth Multiplier</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>1st Prize: AR Application using Fiducial Marker</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>2nd Prize: 3D-Stereoscopic Pre-Historic Animal Museum</td>
</tr>
<tr>
<td>2016</td>
<td>Engineering</td>
<td>1st Prize: Autonomous Granting Visitation Permission Using Android-Based Smartphone Entering Offices in a Building</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>1st Prize: Right-Brain Development Tool for Toddlers</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>2nd Prize: Intelligence Decision Support System for Depressed Individual</td>
</tr>
<tr>
<td>2015</td>
<td>Engineering</td>
<td>1st Prize: 3-Axis Accelerometer Based Motorised Wheelchair Motion Controller</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>1st Prize: Smart Baker with Speech Recognition</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>2nd Prize: Pre-Consultation Chatbot for Public Hospitals</td>
</tr>
<tr>
<td>2014</td>
<td>Engineering</td>
<td>1st Prize: Focus Drive: Fatigue Alert System</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>Sign Language Learning Kit</td>
</tr>
<tr>
<td>2013</td>
<td>Engineering</td>
<td>1st Prize: 3-Axis Accelerometer Based Motorised Wheelchair Motion Controller</td>
</tr>
<tr>
<td></td>
<td>Computing</td>
<td>An Augmented Reality Mobile Classifieds (iOS)</td>
</tr>
</tbody>
</table>
STUDENTS’ PROJECTS

Informative Parking System

Metal Detecting Robotic Vehicle

Image Processing by using Power Spectral Density (PSD) model (through Fast Fourier Transform algorithm) to extract out the fractal dimension

Automated Hydrofarm System

Solar Powered LED Street Lighting System with Auto Intensity Control

Automated Farming Eco-system Controller

The annual Innovation Day was started in 2012, where final year students from the Faculty showcase their best engineering and computing projects. It is looked forward to every year as it opens up opportunities for them to connect with the industry, and to demonstrate their skills and innovative projects to prospective employers.

Prizes are awarded to best projects from both Engineering and Computing programmes. Winners are selected through a combination of professional assessment and voting process.
INDUSTRY PARTNERS / EMPLOYERS

First City UC has an excellent track record on graduate employability. Our graduates are employed across all sectors in various positions and have served in these organisations:

- Accenture
- AEX System Holdings Pty. Ltd, Australia
- Affin Bank
- Alliance Bank Malaysia Berhad
- Bursa Malaysia
- CIMB Bank
- Datasonic Smart Solutions Sdn. Bhd.
- DDMAn Sdn. Bhd.
- Deloitte SEA Services Sdn. Bhd.
- Dimension Data (M) Sdn. Bhd.
- DMC Solution Groups
- Fujitsu (M) Sdn. Bhd.
- IBM Malaysia Sdn. Bhd.
- Ingram Micro Malaysia Sdn. Bhd.
- Intel (M) Sdn. Bhd.
- IRIS Corporation Berhad
- I Transcend (M) Sdn. Bhd.
- Joandale Enterprise, Brunei
- JF Technology Berhad
- Pay-point (M) Sdn. Bhd.
- RHB Bank
- SDP Manufacturing Sdn. Bhd.
- Silverlake Group
- Standard Chartered
- Trinerva Technology Sdn. Bhd.
- Uetex Microelectronics Co. Ltd, China
SUCCESSFUL GRADUATES

CHEN WENG KIN - President, Product Design and Development Consulting Company, China
BEng (Hons) Electrical and Electronic Engineering

DR. TAN YEOW KEE - Founder & CEO, Home Monitoring System
BTEC HND in Computer Studies

CHRIS LEONG - Director of Strategy, A Fintech start-up
BEng (Hons) Electronics & Computing

VINCE TAN - Founder, Oxwhite, Shock Media Studio, eduPOW
BSc (Hons) Computer Studies

MICHAEL YONG - Chief Operating Officer, Security Systems Solution Company
BEng (Hons) Electrical and Electronic Engineering

GANESAN PERIAKARRUPPAN - Consulting Manager, Management Consulting Firm
BEng (Hons) Electronics and Computing

ENG LIAN XUN - Co-Founder, Software Specialist, Lava X
BSc (Hons) Software Engineering

KUSALA CHARITH SAMARASINGHE - Business and Technology Consultant, License Plate Recognition Systems Solution Company, Australia
BSc (Hons) Software Engineering

FIRST CITY UNIVERSITY COLLEGE has made every effort to ensure that information presented in this brochure is as accurate as possible at the time of printing but does not accept liability for any error or omission. FIRST CITY UNIVERSITY COLLEGE reserves the right not to conduct a programme/course/option/subject/module if there is insufficient demand.
AWARDS & RECOGNITION

E-Genting Bug Hunt 2018 Competition - Distinction Award

E-Genting Bug Hunt 2018 Competition - Merit Award

IEEE Malaysia Best FYP Telecommunication Track 2018 - 1st Runner-Up

In 2018, First City UC signed a MoU with Iconix Consulting, an Arm University Program (AUP) Alliance Partner and Training Provider.

Winners at the 2019 Innovation Day. Best projects from both Engineering and Computing programmes are awarded prizes to boost students’ creativity and innovation skills.
AWARDS & RECOGNITION

Students from the BSc (Hons) Software Engineering won First Prize Award and Merit Award at the E-Genting Bug Hunt 2017 Competition.

Students from the BSc (Hons) Software Engineering, Year 2 won First Prize Award and Merit Award at the E-Genting Bug Hunt 2016 Competition.

AppAsia Mobile Challenge 2015 winners. The challenge was organised in collaboration with AppAsia Bhd. as an initiative to promote mobile development initiatives and creativity among students.

First City UC students emerged as Winners of The IBM Bluemix Appnovator Challenge 2014.

First City University College signed a MoU with NEM.io on 2019.

In 2018, First City UC signed a MoU with Iconix Consulting, an Arm University Program (AUP) Alliance Partner and Training Provider.
Teesside University is located in the North East of England, UK. We offer an outstanding student and learning experience and have an established international reputation for academic excellence and for the global impact of our research.

For over 85 years, we have fostered creativity, enterprise and innovation, shaping the lives of students from over 100 countries worldwide.

We generate and apply knowledge that contributes to the economic, social and cultural success of students, partners and the communities we serve. Through education enriched by research, innovation, and engagement with business and the professions, we transform lives and economies.

We have recently invested over £270m in our award-winning campus, and have a further £300m of development planned.

- Over 85 years of teaching and learning – we were officially opened in 1930 as Constantine Technical College to support Middlesbrough’s booming engineering and shipping industries
- Teesside University is ranked 15th in the UK out of 126 universities in the university of the year category, in the The Whatuni Student Choice Awards 2018
- Teesside University is ranked in the 151-200 band of 250 global universities aged 50 years or under in the Times Higher Education Young University Rankings*
- Teesside University is ranked joint 34th out of 116 UK universities for student experience (Times Higher Education student experience survey 2018)
- Teesside University is ranked number one of 120 world universities for overall average satisfaction (International Student Barometer 2017)*
- Ranked joint 39th in the country for graduate prospects (The Times and Sunday Times Good University Guide 2018)
- Teesside University received a silver rating for the University in the Government’s 2017 Teaching Excellence Framework.
- Listed in the Times Higher Education World University Rankings for the year 2019
- Teesside University is ranked in the top 20 list of international animation schools (Animation Career Review 2018, 100 international animation schools included in the ranking)

* Based on the views of 409 students.

More info at tees.ac.uk/source
ENQUIRING MINDS
ACQUIRE SUCCESS

“Quality Education. 1 Ideal Location.”