HIGHER NITEC IN BROADCAST & MEDIA TECHNOLOGY

COURSE SYNOPSIS

On completion of the course, students should be able to

- Handle incoming materials for broadcast.
- Maintain media assets library.
- Manage play-out system and operations.
- Manage master control room functions.
- Support broadcasting technical infrastructure.
- Performing editing on broadcast-quality media.

JOB OPPORTUNITIES

Higher Nitec in Broadcast & Media Technology graduates are employed by the major broadcasting organizations, content aggregators and post-production companies. Some of the job titles held by graduates include Broadcast and Media Technical Specialist, Broadcast Operation Executive/ Specialist, Media Ingestion/Contents Operator, Master Control Operators and Network Transmission Assistant.

CERTIFICATION

Credits required for certification:

Core Modules	:	50
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	66

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Broadcast Media Ingestion	7
Media Assets Management	7
Media Processing and Application	7
Broadcast Distribution Services	7
Digital Media Technology	7
Broadcast Systems Technology	7
Industry Attachment	8
ELECTIVES (COURSE SPECIFIC)	
Apple OS Administration	2
Apple Hardware Repair	2
Digital Media Marketing	2
ELECTIVES (INTER-DISCIPLINARY)	
Project Management	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Broadcast Media Ingestion
On completion of the module, students should be able to ingest media materials complying with video compression standards for broadcast and media distribution. This module covers the principles of television, fundamentals of digital signal processing, analogue-to-digital conversion and video compression standards.

Media Assets Management
On completion of the module, students should be able to maintain media assets library and support file-based workflow through storage, retrieval and cataloguing of shared media resources. This module covers information technology, server fundamentals and media assets management tools.

Media Processing and Application
On completion of the module, students should be able to edit broadcast-quality media and convert it to various file formats for multi-platform delivery. This module covers audio and video processing techniques and conversion of contents into multi- formats.

Broadcast Distribution Services
On completion of the module, students should be able to support play-out system operations in monitoring scheduled programmes and handling live feeds. This module covers the broadcast distribution services, standards and components of digital video broadcasting system and automatic play-out system.

Digital Media Technology
On completion of the module, students should be able to implement various file-based workflows from acquisition stage, archive and retrieval to multi-platform delivery. This module covers the development of digital transmission and distribution system, automatic quality control (QC) of media asset and distribution of digital media contents via the Internet.

Broadcast Systems Technology
On completion of the module, students should be able to operate and configure broadcast ancillary equipment. They should also be able to perform preventive maintenance of broadcast equipment and its supporting systems.

Industry Attachment
On completion of the module, students should be able to apply and integrate the skills and knowledge that they have acquired at ITE College and develop competencies in other areas not covered in the curriculum, at the workplace.

Electives (Course Specific)

Apple OS Administration
On completion of the module, students should be able to perform software maintenance and troubleshooting on Macintosh Operating Systems.

Apple Hardware Repair
On completion of the module, students should be able to troubleshoot and rectify Apple computer hardware.

Digital Media Marketing
On completion of the module, students should be able to develop the necessary technical competencies to develop digital assets to support marketing and branding initiatives.

Electives (Inter-disciplinary)

Project Management
On completion of the module, students should be able to plan, track and monitor projects using project management software.

Electives (General)

As reflected on pages 272-274.

Life Skills Modules

As reflected on page 278.

HIGHER NITEC IN BUSINESS INFORMATION SYSTEMS

COURSE SYNOPSIS

On completion of the course, students should be able to

- Set up and maintain IT infrastructure.
- Maintain wired and wireless local area networks.
- Administer and integrate IT systems.
- Maintain business applications.
- Support business reporting.
- Perform database backups and versioning.

JOB OPPORTUNITIES

Higher Nitec in Business Information Systems graduates may be employed by government departments, private sector companies and Independent Software Vendors (ISVs). There are opportunities for career advancement to supervisory positions and beyond. Graduates with good grades may progress to the diploma courses being offered in local polytechnics. Some of the job titles held by graduates include Business Information Systems Specialist, IT Technical Support Specialist and ERP Support Executive.

CERTIFICATION

Credits required for certification:

Core Modules	:	53
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	69

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Computer Maintenance and Operating Systems	7
Networking Technology	7
System Administration	7
Enterprise Networking	7
Database Administration	7
Business Applications Development	7
ERP and Business Processes	7
Industry Attachment	4
ELECTIVES (INTER-DISCIPLINARY)	
Internet and Network Security	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Essentials of Java Programming	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Computer Maintenance and Operating Systems
On completion of the module, students should be able to perform installation and configuration of operating system and application software on computers and tablet services. In addition, they should be able to install and configure peripherals, perform PC maintenance and troubleshooting of hardware and software problems.

Networking Technology
On completion of the module, students should be able to apply the fundamentals of networking in relation to the OSI model. They will be trained to set up and configure wired and wireless local area network (LAN) including IP address calculation, switching, routing, routing protocols and VLANs.

System Administration
On completion of the module, students should be able to install and setup server operating systems and perform system administration tasks such as user management, resource sharing, security management, preventive maintenance, and performance tuning on these systems. Student will then proceed to perform value-added features such as implementing server security and high-availability systems.

Enterprise Networking
On completion of this module, students should be able to set up wireless local area network (LAN) and wide area network (WAN). They should also be able to configure advanced routing, switching and IP services. They will also be able to implement network access control, troubleshoot common network issues and problems as well as monitor network performance.

Database Administration
On completion of the module, students should be able to understand a relational database architecture and the interactions among its components. Students are trained to create an operational database and manage the various structures including performance monitoring, database security, user management and backup/recovery techniques. They will also be taught to use Structured Query Language (SQL) to manipulate and retrieve data for business applications reporting.

Business Applications Development
On completion of the module, students should be able to develop, test and debug applications including software authentication and authorization and database connections. Students will also be taught to develop web services for application integration.

ERP and Business Processes
On completion of the module, students should be able to understand the organizational structure and processes in a typical business environment with emphasis on accounting. Students will then be taught to configure and maintain Business Information Systems in support of the business processes.

Industry Attachment
Students are required to undertake industry attachment in this module. Students are provided with the opportunity to experience the work environment in the industry. Alternatively, they could take on a project which allows them to learn the Project Development Life Cycle, project documentation and presentation.

Electives (Inter-disciplinary)

Internet and Network Security
On completion of the module, students should be able to identify network and internet security risks and to advise users on counter-measures or preventive actions. They should also be able to participate in a Security Life Cycle project discussion.

Electives (Joint ITE-Industry)

Essentials of Java Programming
On completion of the module, students should be able to understand Java Technology, the Java Programming Language and Product Life Cycle.

Electives (General)

As reflected on pages 272-274.

Life Skills Modules

As reflected on page 278.

HIGHER NITEC IN CYBER & NETWORK SECURITY

COURSE SYNOPSIS

On completion of the course, students should be able to

- Manage end-user computer systems and devices.
- Support office network and devices.
- Support network server and services.
- Administer server storage system.
- Support network security operation.
- Manage cloud infrastructure.

JOB OPPORTUNITIES

Higher Nitec in Cyber & Network Security graduates are employed in all public and private sector organisations to provide technical support for networks, systems and storage with an emphasis on IT security for business continuity in an enterprise IT cloud environment. Some of the job titles held by the graduates include IT Specialist (Network Security), Associate Security Administrator, Associate Security Engineer, Information Security Analyst, Information Security Associate, Information Security Officer and IT Security Specialist.

There are excellent opportunities for career advancement to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their technical skills and knowledge by taking up higher-level courses and professional IT certifications.

CERTIFICATION

Credits required for certification:

Core Modules	:	53
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	69

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Computer Maintenance and Operating Systems	7
Networking Technology	7
System Administration	7
Enterprise Networking	7
IT Security and Digital Forensics	7
Storage Networking	7
Cloud Infrastructure and Security	7
Industry Attachment	4
ELECTIVES (COURSE SPECIFIC)	
Windows 7 installation and Configuration	2
Green IT Fundamentals	2
Linux Essentials	2
Essentials of Cyber Defence	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Essentials of Java Programming	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Computer Maintenance and Operating Systems
On completion of the module, students should be able to perform installation and configuration of operating system and application software on computers and tablet services. In addition, they should be able to install and configure peripherals, perform PC maintenance and troubleshooting of hardware and software problems.

Networking Technology
On completion of the module, students should be able to apply the fundamentals of networking in relation to the OSI model. They will be trained to set up and configure wired and wireless local area network (LAN) including IP address calculation, switching, routing, routing protocols and VLANs.

System Administration
On completion of the module, students should be able to install and setup server operating systems and perform system administration tasks such as user management, resource sharing, security management, preventive maintenance, and performance tuning on these systems. Student will then proceed to perform value-added features such as implementing server security and high-availability systems.

Enterprise Networking
On completion of the module, students should be able to set up wireless local area network (LAN) and wide area network (WAN). They should also be able to configure advanced routing, switching and IP services. They will also be able to implement network access control, troubleshoot common network issues and problems as well as monitor network performance.

IT Security and Digital Forensics
On completion of the module, students should be able to carry out network intrusion detection, prevention and mitigation through the implementation of intrusion detection system (IDS), firewalls, application gateways, and data encryption technologies. They should also be able to implement appropriate technologies to protect against security attacks such as spams, spyware, worms/viruses, phishing and address spoofing. As part of their training, they will also learn the methodology to perform an IT security audit and basic digital forensic skills.

Storage Networking
On completion of the module, students should be able to support storage architectures, including the Network Attached Storage (NAS) and Storage Area Network (SAN). They should also be able to identify and support emerging storage technologies like internet Small Computer System Interface (iSCSI), Fibre Channel over Ethernet (FCoE) and Fibre Channel (FC), backup and recovery, replication, storage security. They will also learn to identify the physical and logical components of a storage infrastructure and components of a data center.

Cloud Infrastructure and Security
On completion of the module, students should be able to use cloud software to deliver infrastructure as a service in a private enterprise cloud environment. Students should be able to create and deliver IT resources in a private cloud environment for consumption by users, and also extract the usage statistics for charge back. They will also be able to identify the major security threats in a cloud environment and implement hardening to mitigate the risks.

Industry Attachment
Students are exposed to actual work conditions and environment in specific disciplines in networks and systems with security focus. This will allow them to experience actual applications of skills and knowledge acquired during the course.

Electives (Course Specific)

Windows 7 Installation and Configuration
On completion of the module, students should be able to install, upgrade and migrate to Windows 7 client. Students will then proceed to configure Windows client for network connectivity, security, maintenance and mobile computing.

Green IT Fundamentals
On completion of the module, students should be able to explain basic issues around green information technology (IT) and demonstrate ways and tools to find more efficient and environmentally responsible ways to meet IT business goals and to leverage IT to move entire organization to greener direction.

Linux Essentials
On completion of the module, students should be able to install, upgrade and migrate to Linux client. Students will then proceed to configure Linux as a client or server.

Essentials of Cyber Defence

On completion of the module, students should be able to carry out a comprehensive security assessment of a typical SME IT environment, testing for OS vulnerabilities, weaknesses in network & web services. Students will learn the Computer Misuse & Cybersecurity Act (2013) Chapter 50A, how to prepare for a penetration test, reconnaissance & enumeration, and vulnerability assessment. Students will also be taught the necessary countermeasures to mitigate risks of exploitation.

Electives (Joint ITE-Industry)

Essentials of Java Programming

On completion of the module, students should be able to understand Java Technology, the Java Programming Language and Product Life Cycle.

Electives (General)

As reflected on pages 272-274.

Life Skills Modules

As reflected on page 278.

HIGHER NITEC IN e-BUSINESS PROGRAMMING

COURSE SYNOPSIS

On completion of the course, students should be able to

- Develop e-Commerce/e-Business applications.
- Create and maintain e-Commerce/e-Business content.
- Support business applications.
- Support IT systems.
- Support IT project management and quality control.

JOB OPPORTUNITIES

Higher Nitec in e-Business Programming graduates will be able to take on jobs related to Web and Mobile application testing and development. Some of the job titles held by graduates include Application Programmer, Rich Internet Application (RIA) Developer, Application Support Analyst, Web Commerce Applications Developer, UI Programmer, IT Specialist (Mobile Programmer), Mobile Applications Developer Support, Web Developer Support and Test Engineer.

CERTIFICATION

Credits required for certification:

Core Modules	:	50
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	66

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Operating System Administration	7
Internet and Database Essentials	7
User Interface and Graphics Design	7
Programming Fundamentals	6
e-Business Essentials	7
e-Business on Devices	6
Web Applications Development	6
Industry Attachment	4
ELECTIVES (COURSE SPECIFIC)	
Essentials in Android Applications Development	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Essentials of Java Programming	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the7 training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Operating System Administration
On completion of the module, students should be able to install and set up operating systems such as Windows 7 and OS X Lion to support web applications development. Students will learn to configure the operating systems for network connectivity, mobility and security. They will also learn to manage file systems, including backup data, directory ownership and permissions.

Internet and Database Essentials
On completion of the module, students should be able to install and manage web servers such as Apache or IIS and database servers such as MySQL or MS SQL Server. Students will learn basic concepts about internet such as hypertext, IP addressing and security. Students will also learn to create data tables, set user roles, access rights and use of SQL statements such as select, insert, update and delete.

User Interface and Graphics Design
On completion of the module, students should be able to design, develop and maintain user-centric interfaces that are easy and friendly to use. Students will learn techniques for good usability design in mobile and web interfaces and perform usability testing. They will also be able to create/edit web graphics and develop effective web pages in HTML/CSS3 using ready-built templates and visual tools such as Adobe Dreamweaver and Photoshop.

Programming Fundamentals
On completion of the module, students should be able to develop simple applications with a fundamental understanding of Object Oriented Programming (OOP) concepts, including the more traditional concepts such as variables, loops, and conditional statements. Concepts like class, object, method, inheritance and polymorphism shall be covered using programming language such as Java or Objective-C. They should also be able to articulate and understand typical software development life cycle (SDLC) such as rapid prototyping in industrial projects.

e-Business Essentials
On completion of the module, students should be able to apply knowledge and skills acquired to identify a business opportunity and deploy off-the-shelf e-business solutions on open source platforms. Students will also learn various business models, marketing and advertising on e-business websites and the components in e-business such as online catalogs, shopping carts and payment mechanisms.

e-Business on Devices
On completion of the module, students should be able to apply online business value proposition to develop applications on devices running on OS such as Android or IOS. Students should be able to incorporate sensors such as camera, gyroscope, near field communication (NFC) radio global positioning sensor (GPS) in their application development. They should also be able to test and debug applications involving online payment.

Web Applications Development
On completion of the module, students should be able to develop and deploy interactive web applications using platform such as Java or PHP server-side scripting to access MySQL database or platform such as .NET to access MS SQL Server database. Students will be able to publish web applications on web servers such as Apache or IIS Server.

Industry Attachment
In this module, students are exposed to actual work conditions and environment in specific disciplines in software development. This will allow them to experience actual applications of knowledge and skills acquired during the course.

Electives (Course Specific)

Essentials in Android Applications Development
On completion of the module, students should be able to develop Android applications for mobile devices.

Electives (Inter-disciplinary)

Essentials of Java Programming
On completion of the module, students should be able to understand Java Technology, the Java Programming Language and Product Life Cycle.

Electives (General)

As reflected on pages 272-274.

Life Skills Modules

As reflected on page 278.

HIGHER NITEC IN ELECTRONICS ENGINEERING

COURSE SYNOPSIS

On completion of the course, students should be able to

- Repair, troubleshoot, test and maintain common analogue and digital electronics equipment.
- Use and maintain common electronic measuring instruments and equipment.
- Analyse and interpret electronic schematic and assembly drawings.
- Use computer-aided printed circuit board (PCB) design tools.
- Write and execute application programs for microprocessor-based systems.

JOB OPPORTUNITIES

Higher Nitec in Electronics Engineering graduates are employed by organisations and companies in the electronics industry, such as those that:

- Manufacture or assemble electronic equipment and components.
- Design and construct special electronics projects.

Higher Nitec in Electronics Engineering graduates are also employed by other manufacturing sectors that use electronically-controlled production machines. Some of the job titles held by graduates include Computer Systems Technician, Communication Equipment Technician, Electronics Engineering Technician, Engineering Assistant, Production Supervisor and Telecommunications Technician. There are excellent opportunities for career advancement to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their technical skills and knowledge by taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	27
Specialisation Modules	:	23
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	66

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Analogue Principles and Applications	7
Digital Principles and Applications	7
Communication and Networking	7
Microcontroller Applications	6
SPECIALISATION MODULES	
Group A (Computer and Communications)	
CAD and Prototyping	6
Industry Attachment	4
Computer Peripherals and Applications	6
Data Communication and Applications	7
OR	
Group B (Wireless Communications)	
CAD and Prototyping	6
Industry Attachment	4
Wireless Networks	7
Mobile Communication Systems	6
OR	
Group C (Audio Visual Entertainment)	
CAD and Prototyping	6
Industry Attachment	4
Audio Visual System	7
Audio Visual Control and Networking	6
OR	
Group D (Marine Electronics)	
Marine Automation System	5
Marine Communication System	5
Marine Navigation System	5
Industry Attachment	8

COURSE STRUCTURE

Module Title	Credits
ELECTIVES (COURSE SPECIFIC)	
Fundamentals of Industrial Automation	2
Electrotechnology	2
ELECTIVES (INTER-DISCIPLINARY)	
Sensor Technology	6
Apple OS Administration	4
Apple Hardware Repair	6
ELECTIVES (JOINT ITE-INDUSTRY)	
Robot Palletizing Operations and Programming	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Analogue Principles and Applications
On completion of the module, students should be able to interpret, construct, test and analyse various analogue circuits and devices.

Digital Principles and Applications
On completion of the module, students should be able to interpret, design, construct, test and troubleshoot electronic circuits and digital devices.

Communication and Networking
On completion of the module, students should be able to set up and maintain radio communication systems and Local Area Network (LAN) systems. They should be able to perform troubleshooting on LAN systems.

Microcontroller Applications
On completion of the module, students should be able to interpret system requirements, create algorithms, develop program for microcontroller-based systems connected to sensors, switches, LEDs and motors. The students will also develop a mini-project, such as traffic light control, lift control and their equivalent.

Specialisation Modules

Group A - Computer and Communications

CAD and Prototyping
On completion of the module, students should be able to construct electronic prototypes using computer aided design (CAD) software and soldering (through hole and surface mount components) techniques.

Industry Attachment
On completion of the module, students should be able to integrate and apply a cluster of key technical, social and methodological competencies related to their field of study.

Computer Peripherals and Applications
On completion of the module, students should be to apply the concepts and techniques used in various computer peripherals and applications.

Data Communication and Applications
On completion of the module, students should be able to apply the knowledge, techniques and skills to develop Machine-to-Machine (M2M) communication applications involving life-style and automation.

Group B - Wireless Communications

CAD and Prototyping
On completion of the module, students should be able to construct electronic prototypes using computer aided design (CAD) software and soldering (through hole and surface mount components) techniques.

Industry Attachment
On completion of the module, students should be able to integrate and apply a cluster of key technical, social and methodological competencies related to their field of study.

Wireless Networks
On completion of the module, students should be able to set up, configure, and troubleshoot Wireless Local Area Networks (WLANs). They should be able to manage a secure wireless networking environment by implementing appropriate authentication and encryption technologies.

Mobile Communication Systems
On the completion of this module, students should be able to apply the principles and techniques of cellular networks of different generations and perform signal measuring and assessing the coverage of a mobile radio network.

Group C - Audio Visual Entertainment
CAD and Prototyping
On completion of the module, students should be able to construct electronic prototypes using computer aided design (CAD) software and soldering (through hole and surface mount components) techniques.

Industry Attachment
On completion of the module, students should be able to integrate and apply a cluster of key technical, social and methodological competencies related to their field of study.

Audio Visual System
On completion of the module, students should be able to set up, integrate, maintain and troubleshoot audio and video systems.

Audio Visual Control and Networking
On completion of the module, students should be able to configure network devices and audio visual systems. In addition, they should be able to apply the concepts of software programming used in the control of AV system.

Group D – Marine Electronics
Marine Automation System
On completion of the module, students should be able to set up, configure and troubleshoot marine automated system.

Marine Communication System
On completion of the module, students should be able to set up marine communication systems in voice, data and radio media. In addition, students should be able to test and service radio and data systems.

Marine Navigation System
On completion of the module, students should be able to set up, commission, service and rectify faults in marine navigation system with integration of the essential modules.

Industry Attachment
On completion of the module, students should be able to integrate and apply a cluster of key technical, social and methodological competencies related to their field of study.

Electives (Course Specific)
Fundamentals of Industrial Automation
On completion of the module, students should be able to use electro-mechanical control systems, including common input/output devices.

Electrotechnology
On completion of the module, students should be able to understand basic electrical machines, which include magnetism, transformers, AC single-phase circuits and DC motors.

Electives (Inter-disciplinary)
Sensor Technology
On completion of the module, students should be able to understand the principles of operation, characteristics and applications of various sensors in industrial and electrical engineering works.

Apple OS Administration
On completion of the module, students should be able to perform software, maintenance and troubleshooting on Macintosh Operating Systems.

Apple Hardware Repair
On completion of the module, students should be able to troubleshoot and rectify Apple computer hardware.

Electives (Joint ITE-Industry)
Robot Palletizing Operations and Programming
On completion of the module, students should be able to operate the palletizing robot system, including editing and modifying programs for different palletizing operations.

Electives (General)
As reflected on pages 272-274.

Life Skills Modules
As reflected on page 278.

HIGHER NITEC IN GAMES ART & DESIGN

COURSE SYNOPSIS

On completion of the course, students should be able to

- Create art assets.
- Animate art assets.
- Participate in the game design process.
- Support game packaging.
- Prepare game design documentation.

JOB OPPORTUNITIES

Graduates of the *Higher Nitec* in Games Art & Design can be employed by companies as Design Conceptual Artist, Character Designer and Game Level Designer.

CERTIFICATION

Credits required for certification:

Core Modules	:	51
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	67

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Games Design Principles	7
Drawing Fundamentals	6
2D Games Asset Creation	7
3D Modeling and Texturing for Games	6
Games Level Design	7
3D Rigging and Animation for Games	7
Games Portfolio Development	7
Industry Attachment	4
ELECTIVES (COURSE SPECIFIC)	
Special Effects for Games	2
Web Games Production	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the electives they intend to pursue.

MODULE OBJECTIVES

Core Modules

Games Design Principles
On completion of the module, students should be able to create a complete game design or a technical design document following the industry requirements. He/she should also be able to manage the game development process from conceptualisation to the final release of the game.

Drawing Fundamentals
On completion of the module, students should be able to grasp the fundamentals skills of drawing, applying the concepts of composition and geometrical forms in still life, perspective and human drawings.

2D Games Asset Creation
On completion of the module, students should be able to illustrate game play elements, process digital imaging and basic multimedia using 2D graphics technologies for developing casual computer games.

3D Modeling and Texturing for Games
On completion of the module, students should be able to develop a thorough understanding of the 3D workflow, learning how to create, edit, and refine polygon models, add textures and apply UV maps across complex, inorganic environment models and organic game character models.

Games Level Design
On completion of the module, students should be able to design and edit game levels of different game genres for playability.

3D Rigging and Animation for Games
On completion of the module, students should be able to create rigs for game models and then animate game models in seamless looping cycles based on the various game states of the 3D models.

Games Portfolio Development
On completion of the module, students should be able to apply design principles to develop a basic portfolio package comprising of resume, name card, portfolio pieces and portfolio demo reel for the various tracks in the game industry.

Industry Attachment
Students are provided with the opportunity to work in actual games design and development environment.

Electives (Course Specific)

Special Effects for Games
On completion of the module, students should be able to create various special effects used in games development using procedural generation technique. This module also equips students with the skills and knowledge to create, modify and apply special effects in games development in accordance to the game specifications.

Web Games Production
On completion of the module, students should be able to create and publish 2D games in web platform.

Electives (General)

As reflected on pages 272-274.

Life Skills Modules

As reflected on page 278.

HIGHER NITEC IN GAMES PROGRAMMING & DEVELOPMENT

COURSE SYNOPSIS

On completion of the course, students should be able to

- Develop game program codes, related tools and utilities.
- Perform game integration and testing.
- Participate in the game design process.
- Evaluate game development tools and engines.
- Prepare technical documentation.

JOB OPPORTUNITIES

Graduates of the *Higher Nitec* in Games Programming & Development course can be employed as Game Tester, Game Programmer, Games Content Developer and Games Software Engineer.

CERTIFICATION

Credits required for certification:

Core Modules	:	51
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	67

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Games Design Principles	7
Programming Fundamentals	7
Games Programming	7
Games Development Techniques	6
Mobile Games Development	7
Games Level Design	7
Games Integration and Testing	6
Industry Attachment	4
ELECTIVES (COURSE SPECIFIC)	
Special Effects for Games	2
Web Games Production	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the electives they intend to pursue.

MODULE OBJECTIVES

Core Modules

Games Design Principles
On completion of the module, students should be able to create a complete game design or a technical design document following the industry requirements. He/she should also be able to manage the game development process from conceptualisation to the final release of the game.

Programming Fundamentals
On completion of the module, students should be able to apply object-oriented concepts and modular techniques to develop programme for computer applications.

Games Programming
On completion of the module, students should be able to design and develop 2D and 3D games using game development engines.

Games Development Techniques
On completion of the module, students should be able to develop 2D games using 2D game development tools and techniques.

Mobile Games Development
On completion of the module, students should be able to design, develop and deploy mobile games for mobile devices.

Games Level Design
On completion of the module, students should be able to design and edit game levels of different game genres for playability.

Games Integration and Testing
On completion of the module, students should be able to use appropriate tools to integrate game programs, perform integration test, conduct user acceptance test and create technical documentation.

Industry Attachment
Students are provided with the opportunity to work in actual games design and development environment.

Electives (Course Specific)

Special Effects for Games
On completion of the module, students should be able to create various special effects used in games development using procedural generation technique. This module also equips students with the skills and knowledge to create, modify and apply special effects in games development in accordance to the game specifications.

Web Games Production
On completion of the module, students should be able to create and publish 2D games in web platform.

Electives (General)

As reflected on pages 272-274.

Life Skills Modules

As reflected on page 278.

HIGHER NITEC IN INFORMATION TECHNOLOGY

COURSE SYNOPSIS

On completion of the course, students should be able to

- Service computers and hand-held devices.
- Support computer network.
- Support corporate network servers.
- Set up network security.
- Publish digital content for the web.
- Develop rich interactive applications.
- Support software project development.
- Author motion graphics.

JOB OPPORTUNITIES

Higher Nitec in Information Technology graduates can be employed by IT-users and supplier organisations. The IT users are organisations (public, private, MNCs and SMEs) using computer systems (networked or stand-alone) in their business operations. The IT suppliers are companies providing computer hardware/software and IT services.

Some of the job titles that can be held by graduates are Network Support Technician, IT Technical Support Specialist., Web Developer, Mobile Applications Developer, Webmaster, Associate System Administrator, Desktop Support Engineer and Network Traffic Engineer.

There are excellent opportunities for career advancement to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their technical skills and knowledge by taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	39
Specialisation Modules	:	14
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	69

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Computer Maintenance and Operating Systems	7
Networking Technology	7
System Administration	7
Applications Development Essentials	7
Interactive Applications Development	7
Industry Attachment	4
SPECIALISATION MODULES	
Group A (Network Technology)	
Wireless and Network Security	7
Advanced Networking	7
OR	
Group B (Interactive Media Technology)	
User Interface Development	7
Web Solutions Development	7
OR	
Group C (Mobile Applications Programming)	
Mobile Applications Essentials	6
Mobile Solutions Development	4
ELECTIVES (COURSE SPECIFIC)	
Internet and Network Security	2
3D Modeling	2
Mobile Applications Programming	2
Digital Media Marketing	2
Apple OS Administration	2
Apple Hardware Repair	2
ELECTIVES (INTER-DISCIPLINARY)	
Green IT Fundamentals	2

COURSE STRUCTURE

Module Title	Credits
ELECTIVES (JOINT ITE-INDUSTRY)	
Virtual Desktop Infrastructure	2
Robot Palletizing Operations and Programming	2
Essentials of Java Programming	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Computer Maintenance and Operating Systems
On completion of the module, students should be able to perform installation and configuration of operating system and application software on computers and tablet devices. In addition, they should be able to install and configure peripherals, perform PC maintenance and troubleshooting of hardware and software problems.

Networking Technology
On completion of the module, students should be able to apply the fundamentals of computer networking in relation to the OSI model. They are trained to set up and configure wired and wireless local area network (LAN) including IP address calculation, switching, routing, routing protocols and VLANs.

System Administration
On completion of the module, students should be able to install and setup server operating systems and perform system administration tasks such as user management, resource sharing, security management, preventive maintenance, and performance tuning on these systems. Students should also be able to proceed to perform value-added features such as implementing server security and high-availability systems.

Applications Development Essentials
On completion of the module, students should be able to develop and deploy basic desktop application program using Visual C# programming language and object oriented technology.

Interactive Applications Development
On completion of the module, students should be able to apply the knowledge, techniques and skills to develop dynamic and interactive media applications to fulfil their roles as an interactive media developer.

Industry Attachment
Students are provided with the opportunity to experience the work environment in industry.

Specialisation Modules

Group A - Network Technology

Wireless and Network Security
On completion of the module, students should be able to setup, configure and troubleshoot Wireless Local Area Networks (WLANs). In addition, they should be able to implement and manage a secure wireless and wired networking environment through the use of intrusion detection systems (IDS), firewalls, application gateways, virtual private networks and data cryptography technologies. They should also be able to implement appropriate technologies to protect against security attacks such as spams, spyware, worms/viruses, plishing and address spoofing.

Advanced Networking
On completion of the module, students should be able to configure advanced routing, switching and IP services, set up WAN Links, implement network access control, monitor and administer a network, and troubleshoot network connectivity.

Group B - Interactive Media Technology

User Interface Development
On completion of the module, students should be able to design, develop and maintain mobile and web interfaces that are easy and friendly to use. They will also be able to create/edit web graphics and develop effective web pages.

Web Solutions Development
On completion of the module, students should be to develop and deploy interactive web applications using both client-side and server-side programming techniques with database integration.

Group C - Mobile Applications Programming

Mobile Applications Essentials
On completion of the module, students should be able to design, develop, debug and deploy simple mobile applications, using Xcode Integrated Development Environment (IDE) with Objective-C programming languages and Object-Oriented Programming fundamentals on iOS devices.

Mobile Solutions Development
On completion of the module, students should be to develop, debug and deploy mobile applications, with features such as location-based services, file storage, database management, sensor management, gestures recognition and web services, on iOS devices to support business and social purposes.

Electives (Course Specific)

Internet and Network Security
On completion of the module, students should be able to identify network and internet security risks and to advise users on counter-measures or preventive actions. They should also be able to participate in a Security Life Cycle project discussion.

3D Modeling
On completion of the module, students should be able to create 3D models and implement them with different applications.

Mobile Applications Programming
On completion of the module, students should be able to use a cross-platform Integrated Development Environment (IDE), understand mobile programming basics, and create a mobile phone application.

Digital Media Marketing
On completion of the module, students should be able to develop the necessary technical competencies to develop digital assets to support marketing and branding initiatives.

Apple OS Administration
On completion of the module, students should be able to perform software, maintenance and troubleshooting on Macintosh Operating Systems.

Apple Hardware Repair
On completion of the module, students should be able to troubleshoot and rectify Apple computer hardware.

Electives (Inter-disciplinary)

Green IT Fundamentals
On completion of the module, students should be able to explain basic issues around green information technology (IT) and demonstrate ways and tools to find more efficient and environmentally responsible ways to meet IT business goals and to leverage IT to move entire organization to greener direction.

Electives (Joint ITE-Industry)

Virtual Desktop Infrastructure
On completion of the module, students should be able to understand about Virtual Desktop Infrastructure and its essential concepts. They should be able to effectively setup and manage desktops using a centralized server and deliver them as a service to end users. The students should be able to carry out installation and configuration of hypervisor, create and manage virtual machines, install and configure the desktop virtualization software, and deploy the virtual desktops to the end users.

Robot Palletizing Operations and Programming
On completion of the module, students should be able to operate the palletizing robot system, including editing and modifying programs for different palletizing operations.

Essentials of Java Programming
On completion of the module, students should be able to understand Java Technology, the Java Programming Language and Product Life Cycle.

Electives (General)
As reflected on pages 272-274.

Life Skills Modules
As reflected on page 278.

HIGHER NITEC IN MOBILE UNIFIED COMMUNICATIONS

COURSE SYNOPSIS

On completion of the course, students should be able to

- Set up Local Area Network (LAN).
- Implement wireless solution.
- Create rich-media content for mobile applications.
- Develop and deploy applications for mobile devices and IP phone.
- Install IP telephony system.
- Install contact centre.
- Manage enterprise unified communications system.

JOB OPPORTUNITIES

Higher Nitec in Mobile Unified Communications graduates are employed by the computer & IT, mobile or telecommunication establishments such as mobile service providers, network solution integrators, mobile phone manufacturers; as well as business organizations. Some of the job titles held by graduates include Unified Network Support Associate, Unified Communications Support Associate, Network Support Specialist, Network Technician and Unified Communications Technology Specialist.

CERTIFICATION

Credits required for certification:

Core Modules	:	57
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	73

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Fundamentals of Unified Communications (UC) Network	7
Wireless Network	7
IP Telephony Network and Systems	7
Voice and UC Systems	7
Enterprise UC Services	7
Mobile Application Development	7
UC Applications	7
Project	8
ELECTIVES (COURSE SPECIFIC)	
XML Programming	2
Apple OS Administration	2
Apple Hardware Repair	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Essentials of Java Programming	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Fundamentals of Unified Communications (UC) Network
On completion of the module, students should be able to set up, maintain and test a unified communications infrastructure for voice, data, video, mobility, messaging, conferencing and call-center applications to support business and social purposes.

Wireless Network
On completion of the module, students should be able to set up, configure and test a WLAN and base stations of a mobile network including various protocols and fault analysis of wireless network.

IP Telephony Network and Systems
On completion of the module, students should be able to set up, configure and test and perform basic troubleshooting of an IP-based voice communications system. Students should also be able to develop XML applications for IP phone.

Voice and UC Systems
On completion of the module, students should be able to set up, configure and maintain communication and application servers for voice. Students should also be able to perform Virtual Private Network configuration for remote access.

Enterprise UC Services
On completion of the module, students should be able to set up, configure and maintain an enterprise network management system. Students should also be able perform server and client software installation, perform routine maintenance and troubleshoot client/server communications errors.

Mobile Application Development
On completion of the module, students should be able to develop and deploy applications for mobile devices with various development tools.

UC Applications
On completion of the module, students should be able to develop and deploy Session Initialization Protocol (SIP)-enabled applications on end-point devices to support different industries such as hospitality, retail, logistics and healthcare.

Project
On completion of the module, students should be able to integrate and apply technical skills and knowledge in carrying out a project. They should be able to gather project requirements, design and implement project, prepare report and present the project.

Electives (Course Specific)

XML Programming
On completion of the module, students should be able to create XML documents for internet and web-based applications as well as develop open interface applications deployable on a wide range/brand of IP phones.

Apple OS Administration
On completion of the module, students should be able to perform software maintenance and troubleshooting on Macintosh Operating Systems.

Apple Hardware Repair
On completion of the module, students should be able to troubleshoot and rectify Apple computer hardware.

Electives (Joint ITE-Industry)

Essentials of Java Programming
On completion of the module, students should be able to understand Java Technology, the Java Programming Language and Product Life Cycle.

Electives (General)

As reflected on pages 272-274.

Life Skills Modules

As reflected on page 278.

HIGHER NITEC IN SECURITY SYSTEM INTEGRATION

COURSE SYNOPSIS

On completion of the course, students should be able to

- Set up wired and wireless networks to accommodate IP-ready security systems.
- Set up backend security network to support security systems.
- Troubleshoot and maintain security systems.
- Design and implement security system solutions to meet client's requirements.
- Oversee security system installation projects.
- Integrate and implement centralised security management system.

JOB OPPORTUNITIES

With the strong support of the Security Systems Association of Singapore (SSAS) which represents more than 50 major security systems solution providers, *Higher Nitec* in Security System Integration graduates will be readily employed by SSAS members and security system integrators. Some of the job titles held by graduates include Technical Specialist, Security Systems Specialist and Senior Technician.

CERTIFICATION

Credits required for certification:

Core Modules	:	50
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	66

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
System Administration and Storage	7
Network Technology	7
Intrusion and Access Control	7
Video Surveillance	7
Project Management	7
Integrated Security System Design	7
Industry Attachment	8
ELECTIVES (COURSE SPECIFIC)	
Microcontroller Application Development-PSoC	2
ELECTIVES (GENERAL)	
Refer to pages 272-274	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

System Administration and Storage
On completion of the module, students should be able to install, configure and perform administration tasks on Windows-based operating systems and storage systems.

Network Technology
On completion of the module, students should be able to plan, install, configure and troubleshoot computer network system for the wired and wireless LAN environment.

Intrusion and Access Control
On completion of the module, students should be able to design, maintain and troubleshoot intrusion and access control systems in various security environments.

Video Surveillance
On completion of the module, students should be able to design, maintain and troubleshoot video surveillance system in various security environments.

Project Management
On completion of the module, students should be able to apply the tools and techniques to organise their work for effective implementation of project schedule.

Integrated Security System Design
On completion of the module, students should be able to design and integrate a security system solution to meet customers' needs and requirements.

Industry Attachment
On completion of the module, students should be able to apply and integrate the skills and knowledge that they have acquired at ITE College and develop competencies in other areas not covered in the curriculum, in the workplace.

Electives (Course Specific)

Microcontroller Application Development - PSoC
On completion of the module, students should be able to develop the mixed-signal microcontroller without the pre-requisite of learning a programming language and able to build fully functional PSoC based projects.

Electives (General)

As reflected on pages 272-274.

Life Skills Modules

As reflected on page 278.

NITEC IN DIGITAL AUDIO & VIDEO PRODUCTION

COURSE SYNOPSIS

On completion of the course, students should be able to

Pre-Production

- Prepare production work.
- Perform administrative duties.
- Carry out equipment maintenance.

Production

- Coordinate production work.
- Perform camera equipment operations.
- Manage lighting equipment.
- Record location audio.
- Record studio audio.
- Perform digital photography.

Post-Production

- Perform video non-linear editing.
- Perform audio post production.

JOB OPPORTUNITIES

Nitec in Digital Audio & Video Production graduates may be employed in the various fields of digital audio and video production work including production technical support, events management, sales and leasing of audio video equipment. Some of the job titles held by the graduates include Camera Assistant, Gaffer, Grip, Assistant Video Editor, Audio Editor, Playback Operator, Location Coordinator, Sound Recordist, Production Assistant and Sound Effects Designer. There are excellent opportunities for career development and advancements to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their technical and creative skills and knowledge by taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	55
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	71

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Digital Photography	7
Video Production I	7
Non-linear Editing	7
Video Production II	6
Studio Production	7
Digital Audio Production	7
Production Planning Process	8
Video Development Project	6
ELECTIVES (COURSE SPECIFIC)	
Understanding Storyboarding for Video Production	2
Motion Graphics	2
ELECTIVES (INTER-DISCIPLINARY)	
Lifestyle and Product Photography	2
ELECTIVES (GENERAL)	
Refer to pages 275-278	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Digital Photography
On completion of the module, students are equipped with skills and knowledge of technical and aesthetic aspects of still photography. They will have acquired technical handling skills of a digital still camera which includes camera exposure, aperture settings and composition techniques. This module exposes students to different genres of digital photography, namely portraits studio, landscape, micro, architecture and still life. They will also be taught the fundamentals of digital imaging.

Video Production I
On completion of the module, students should be able to apply fundamental camera skills for single-camera film-style video production. The module exposes students to theoretical and practical introduction to pre-production planning, single-camera operation, lighting, sound recording and video editing. At the end of the module, students will be able to get a better visual understanding of moving images combined with audio.

Non-linear Editing
On completion of the module, students should be able to explore non-linear editing for broadcast-quality video and editing methods to suit different genres of production content. Students will also be introduced to post-production principles of non-linear video editing.

Video Production II
On completion of the module, students should be able to apply advanced camera and production techniques which include camera mechanics, production equipment setup, lighting and cinematography. They will be equipped with the ability to handle production equipment such as dolly, tracks, jibs, steadycam and lighting which includes tungsten, daylight and balanced florescent lights for production shoots. At the end of the module, students will have the necessary expertise and be an asset to members of a production team.

Studio Production
On completion of the module, students should be able to acquire pre-production planning, multi-camera production techniques, technical operations and setup in a production studio environment. Students will be trained in studio lighting, vision mixing, audio and sound control, digital and chroma-key effects. They will also be given the opportunity to direct, block, visualize, rehearse and film.

Students will also be able to take on different production roles as a floor manager, camera man, lighting man, sound operator and studio director. These roles will give students the knowledge and skills to perform duties in various studio positions competently so as to execute live studio-based television programmes.

Digital Audio Production
On completion of the module, students should be able to apply knowledge and skills in digital audio production which includes technologies for sound processing, recording, special effects and mixing of audio tracks. The students should be able to apply the skills acquired to the various media industries such as television, video, film, radio and music.

Production Planning Process
On completion of the module, students should be able to acquire an in-depth view of the production planning procedures and processes as in budgeting, scheduling and writing production reports. The core of the module would be to familiarize students to undertake planning procedures of pre-production. Students will also take on the role of producer and go through the process in learning how to assess market potential for the production and present a complete production portfolio.

Video Development Project
On completion of the module, students should be able to produce a script, storyboard, budget for the production and bring the script to life. They will be taught how to manage the production by taking an active role by playing out a range of roles as a Producer, Director, Writer, Grip and Gaffer.

This module will also give students the independence and ownership to produce work that would reflect their knowledge gained through project work in: Music Television Video/ Documentary/10-15 minute Short Film. Broadly, the project module will cover Pre-Production [script development, budgeting, scheduling, casting, rehearsing, set construction and location scouting]; Production [video and audio shoots, lighting and in-camera special effects]; Post-Production [video and audio editing, visual and sound effects]; and Post-Mortem [video critique, marketing and packaging, report writing, distribution and exhibition].

Electives (Course Specific)

Understanding Storyboarding for Video Production

On completion of the module, students should be able to interpret the script and construct the story through basic drawings and photographic sequence, utilizing the skill sets learnt to pre-visualize a video.

Motion Graphics

On completion of the module, students should be able to apply their graphics practice to the dimension of time, animation, key framing and movement.

Electives (Inter-disciplinary)

Lifestyle and Product Photography

On completion of the module, students should be able to think, analyse, conceptualise and execute a lifestyle product photo shoot.

Electives (General)

As reflected on pages 275-278.

Life Skills Modules

As reflected on page 278.

NITEC IN ELECTRONICS, COMPUTER NETWORKING & COMMUNICATIONS

COURSE SYNOPSIS

On completion of the course, students should be able to

- Install, test, maintain and service electronic devices/systems
- Set up and test wired and wireless computer networking systems
- Write program to interface electronic devices (sensors and actuators) to controller
- Test and maintain analogue, digital and optical communication systems

JOB OPPORTUNITIES

Nitec in Electronics, Computer Networking & Communications graduates are employed by organizations and companies that manufacture electronic and computer equipment. Some of the job titles held by graduates include Electronics Technician, Electronics Production Technician, Communication Equipment Technician, Test and Measurement Technician, Engineering Assistant and Electronics Specialist.

There are excellent opportunities for career advancement to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their technical skills and knowledge by taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	51
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	67

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Electrical Principles and Measurement	7
Digital Electronics	7
Analogue Electronics	7
Computer Networking Principles	7
Electronic Control System	6
Electronic Communications System	7
Applied Electronics	6
Industry Attachment	4
ELECTIVES (COURSE SPECIFIC)	
C Programming	2
Fundamentals of Applied Statistics	2
Web Development	2
ELECTIVES (INTER-DISCIPLINARY)	
Sensor Technology	2
Apple OS Administration	2
Apple Hardware Repair	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Robot Palletizing Operations and Programming	2
ELECTIVES (GENERAL)	
Refer to pages 275-278	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Electronic Principles and Measurement
On completion of the module, students should be able to apply the basic principles of electrical and electronics to connect and test electrical circuits. They should also be able to construct prototype electronic project on printed board.

Digital Electronics
On completion of the module, students should be able to interpret, construct, test and troubleshoot basic digital electronic circuits. They should also be able to construct prototype digital electronic circuits.

Analogue Electronics
On completion of the module, students should be able to interpret, construct, test and troubleshoot analogue electronic circuits. They should be able to construct prototype analogue electronic projects.

Computer Networking Principles
On completion of the module, students should be able to set up and test wired and wireless Local Area Network for resources sharing. They should also be able to identify the various network topologies and protocol; and troubleshoot network connectivity faults.

Electronic Control System
On completion of the module, students should be able to implement various industrial electronic devices and systems, such as stepper and servo motors, sensors, actuators; and controllers such as microcontrollers and Programmable Logic Controllers.

Electronic Communications System
On completion of the module, students should be able to apply the knowledge and skills on information transmission and reception in analogue, digital and optical communication for system performance testing and maintenance.

Applied Electronics
On completion of the module, students should be able to apply and integrate the skills and knowledge acquired in the course to set up, integrate and maintain electronic systems.

Industry Attachment
Students will undergo a 3-month on-the-job programme with electronic company to reinforce the skills and knowledge acquired at the training institute and to develop competencies in other areas not covered in the curriculum.

Electives (Course Specific)

C Programming
On completion of the module, students should be able to apply the concepts of computer programming and write simple programs in 'C' language.

Fundamentals of Applied Statistics
On completion of the module, students should be able to employ the fundamental principles of applied statistics to draw inferences, justify conclusions and make decisions; and to improve various product qualities and process using quality control tools.

Web Development
On completion of the module, students should be able to develop World Wide Web applications or websites that are run over HTTP from a web server to a web browser.

Electives (Inter-disciplinary)

Sensor Technology
On completion of the module, students should be able to explain the principles of operation, characteristics and applications of various sensors in industrial and electrical engineering works.

Apple OS Administration
On completion of the module, students should be able to perform software, maintenance and troubleshooting on Macintosh Operating Systems.

Apple Hardware Repair
On completion of the module, students should be able to troubleshoot and rectify Apple computer hardware.

Electives (Joint ITE-Industry)

Robot Palletizing Operations and Programming
On completion of the module, students should be able to operate the palletizing robot system, including editing and modifying programs for different palletizing operations.

Electives (General)

As reflected on pages 275-278.

Life Skills Modules

As reflected on page 278.

NITEC IN INFO-COMMUNICATIONS TECHNOLOGY (CLOUD COMPUTING)

COURSE SYNOPSIS

On completion of the course, students should be able to

- Manage end-user computing system.
- Support office network and devices.
- Support application maintenance and deployment.
- Assist to manage data-centre infrastructure.
- Assist to manage virtualization and cloud infrastructure.
- Support business IT needs.

JOB OPPORTUNITIES

Nitec in Info-Communications Technology (Cloud Computing) graduates are employed by a wide range of private and public sector organisations in all industries, ranging from telecommunications, manufacturing, banking, retail, government, education and even health care and insurance. Some of the job titles held by graduates include IT Specialist, Technical Support Associate, Associate Systems Administrator and Datacenter Support. There are excellent opportunities for career advancement to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their technical skills and knowledge by taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	52
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	68

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
IT Essentials and PC Support	7
Internet Fundamentals and Applications	6
Network Essentials	7
Server Essentials	7
Virtualization Technology	7
Business Applications for Cloud Computing	6
Cloud Infrastructure and Operations	7
Cloud Computing Project	5
ELECTIVES (INTER-DISCIPLINARY)	
Fundamentals of HTML5	2
IT Technical Support and Operations	2
Green IT Fundamentals	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Essentials of Java Programming	2
ELECTIVES (GENERAL)	
Refer to pages 275-278	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

IT Essentials and PC Support
On completion of the module, students should be able to set up, install, maintain and troubleshoot computer hardware and software system.

Internet Fundamentals and Applications
On completion of the module, students should be able to install, configure and maintain web/media servers and browsers. They will learn to create HTML documents and design simple web pages using authoring tools. They should be able to develop simple internet application for web publishing or electronic-commerce application.

Network Essentials
On completion of the module, students should be able to set up, configure, maintain and troubleshoot network system, and build peer-to-peer and wireless network for small office environment. They should be able to provide network support and configure network devices such as switches, routers and wireless access points.

Server Essentials
On completion of the module, students should be able to install, configure and manage server operating systems.

Virtualization Technology
On completion of the module, students should be able to set up and manage virtual machines, server/desktop virtualization, as well as perform backup and recovery. They should also be able to monitor performance and track usage of resources for virtualization infrastructure and troubleshoot and report 1st level virtualization error.

Businesses Applications for Cloud Computing
On completion of the module, students should be able to identify client's business needs as well as troubleshoot and deploy cloud-based applications.

Cloud Infrastructure and Operations
On completion of the module, students should be able to maintain deployed server system and storage system, set up and maintain cloud layer, and set up automated self-service and catalogue service. They should also be able to configure security for cloud services and perform back-up/recovery, monitor performance and track usage of resources for cloud infrastructure, support business continuity plan and support IT service management.

Cloud Computing Project
On completion of the module, students should be able to implement an infocomm project based on cloud-based technology.

Electives (Inter-disciplinary)

Fundamentals of HTML5
On completion of the module, students should be able to create a website using HTML5 tags.

IT Technical Support and Operations
On completion of the module, students should be able to understand the operations and processes in an IT technical help desk environment. Students will learn to use contact centre equipment as well as perform basic contact centre call flow configuration. Students will also learn to use Customer Relationship Management software in supporting and escalation of customers.

Green IT Fundamentals
On completion of the module, students should be able to explain basic issues around green information technology (IT) and demonstrate ways and tools to find more efficient and environmentally responsible ways to meet IT business goals and to leverage IT to move entire organization to greener direction.

Electives (Joint ITE-Industry)

Essentials of Java Programming
On completion of the module, students should be able to understand Java Technology, the Java Programming Language and Product Life Circle.

Electives (General)

As reflected on pages 275-278.

Life Skills Modules

As reflected on page 278.

NITEC IN INFO-COMMUNICATIONS TECHNOLOGY (MOBILE NETWORKS & APPLICATIONS)

COURSE SYNOPSIS

On completion of the course, students should be able to

- Manage end-user computer systems and devices.
- Manage web-based applications.
- Set up broadband networks.
- Support unified communication infrastructure.
- Perform mobile device management.
- Manage servers.
- Set up Local Area Network (LAN) and Wide Area Network (WAN).
- Implement wireless solution.
- Manage network performance.
- Develop and test application modules for mobile devices.

JOB OPPORTUNITIES

Nitec in Info-Communications Technology (Mobile Networks & Applications) graduates are employed for a wide range of jobs in the Infocomm industries that include:

- IT Services: Database Management, Infrastructure Architecture, Technical Support, System Support and IT Outsourcing Management
- Network & Communication: Network Operations Management, Monitoring and Maintenance, Network Planning Design and Implementation
- Tele-communications: Network Operations and Maintenance, Network Planning & Design, Radio Access

Some of the job titles held by graduates include Mobile System Support Associate, Technical Support Officer, Testing Specialist, Technical Support Associate, and Technical Specialist. There are excellent opportunities for career advancement to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their technical skills and knowledge by taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	52
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	68

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
IT Essentials and PC Support	7
Internet Fundamentals and Applications	6
Network Essentials	7
Server Essentials	7
Mobile Applications	6
Mobile Broadband and Network Operations	7
Converged Networking	7
Mobile Technologies Project	5
ELECTIVES (COURSE SPECIFIC)	
IT Technical Support and Operations	2
ELECTIVES (INTER-DISCIPLINARY)	
Fundamentals of HTML5	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Database and SQL Essentials	2
Essentials of Java Programming	2
ELECTIVES (GENERAL)	
Refer to pages 275-278	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

IT Essentials and PC Support
On completion of the module, students should be able to set up, install, maintain and troubleshoot computer hardware and software system.

Internet Fundamentals and Applications
On completion of the module, students should be able install, configure and maintain web/media servers and browsers. They will learn to create web documents and design simple web pages using authoring tools. They should also be able to develop simple internet application for web publishing or electronic-commerce application.

Network Essentials
On completion of the module, students should be able to set up, configure, maintain and troubleshoot network system, and build peer-to-peer and wireless network for small office environment. They should be able to provide network support and configure network devices such as switches, routers and wireless access points.

Server Essentials
On completion of the module, students should be able to install, configure and manage server operating systems.

Mobile Applications
On completion of the module, students should be able to develop and deploy applications for mobile devices with various development platforms.

Mobile Broadband and Network Operations
On completion of the module, students should be able to set up and configure mobile broadband network for operation and security. They should also be able to configure network management system to monitor network performance and to perform Virtual Private Network (VPN) configuration.

Converged Networking
On completion of the module, students should be able to setup, configure and test Video, Data and Voice-over-Internet-Protocol (VoIP) network. They will also be able to troubleshoot VoIP network using diagnostic software.

Mobile Technologies Project
On completion of the module, students should be able to integrate and apply a cluster of key technical, social and methodological competencies in carrying out a project which is related to their field of study. They should be able to gather client's requirements, design, implement and deploy solution, give project presentation and write project report.

Electives (Course Specific)

IT Technical Support and Operations
On completion of the module, students should be able to understand the operations and processes in an IT technical help desk environment. Students will learn to use contact centre equipment as well as perform basic contact centre call flow configuration. Students will also learn to use Customer Relationship Management software in supporting and escalation of customers.

Electives (Inter-disciplinary)

Fundamentals of HTML5
On completion of the module, students should be able to create a website using HTML5 tags.

Electives (Joint ITE-Industry)

Database and SQL Essentials
On completion of the module, students should be able to write queries using SQL against single and multiple tables, manipulate data in tables, create database objects, and query metadata.

Essentials of Java Programming
On completion of the module, students should be able to understand Java Technology, the Java Programming Language and Product Life Circle.

Electives (General)

As reflected on pages 275-278.

Life Skills Modules

As reflected on page 278.

NITEC IN INFO-COMMUNICATIONS TECHNOLOGY (NETWORKING & SYSTEMS ADMINISTRATION)

COURSE SYNOPSIS

On completion of the course, students should be able to

- Manage end-user computer systems and devices.
- Support office network and devices.
- Support network server and services.
- Support application maintenance and deployment.

JOB OPPORTUNITIES

Nitec in Info-Communications Technology (Networking & Systems Administration) graduates are employed by a wide range of private and public sector organisations in all industries, ranging from telecommunications, manufacturing, banking, retail, government, education and even health care and insurance. Some of the job titles held by graduates include Info-Comms Technician, Technical Support Associate, Associate Systems Administrator and Computer Technician. There are excellent opportunities for career advancement to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their technical skills and knowledge by taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	52
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	68

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
IT Essentials and PC Support	7
Internet Fundamentals and Applications	6
Network Essentials	7
Server Essentials	7
Internetworking Technology	7
Software Applications Essentials	6
Server Administration	7
Infocomm Project	5
ELECTIVES (COURSE SPECIFIC)	
Fundamentals of HTML5	2
ELECTIVES (INTER-DISCIPLINARY)	
Green IT Fundamentals	2
Apple OS Administration	2
Apple Hardware Repair	2
IT Technical Support and Operations	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Oracle Database and SQL Technologies	2
Database and SQL Essentials	2
Essentials of Java Programming	2
ELECTIVES (GENERAL)	
Refer to pages 275-278	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

IT Essentials and PC Support
On completion of the module, students should be able to set up, install, maintain and trouble-shoot computer hardware and software system.

Internet Fundamentals and Applications
On completion of the module, students should be able to install, configure and maintain web/media servers and browsers, create web documents and design simple web pages using authoring tools. They should be able to develop simple internet application for web publishing or electronic-commerce application.

Network Essentials
On completion of the module, students should be able to set up, configure, maintain and troubleshoot network system, and build peer-to-peer and wireless network for small office environment. They should be able to provide network support and configure network devices such as switches, routers and wireless access points.

Server Essentials
On completion of the module, students should be able to install, configure and manage server operating systems.

Internetworking Technology
On completion of this module, students should be able to configure and implement routing protocols used in Local Area Network (LAN) and Wide Area Network (WAN) as well as troubleshoot basic routing issues.

Software Applications Essentials
On completion of the module, students should be able to provide application support including, software installation, creation, troubleshooting and monitoring of application programs.

Server Administration
On completion of the module, students should be able to manage server services and optimizing systems by understanding resources usage, monitoring of networks.

InfoComm Project
Students are trained to apply and integrate knowledge and skills acquired in the course to implement an infocomm project.

Electives (Course Specific)

Fundamentals of HTML5
On completion of the module, students should be able to create a website using HTML5 tags.

Electives (Inter-disciplinary)

Green IT Fundamentals
On completion of the module, students should be able to explain basic issues around green information technology (IT) and demonstrate ways and tools to find more efficient and environmentally responsible ways to meet IT business goals and to leverage IT to move entire organization to greener direction.

Apple OS Administration
On completion of the module, students should be able to perform software, maintenance and troubleshooting on Macintosh Operating Systems.

Apple Hardware Repair
On completion of the module, students should be able to troubleshoot and rectify Apple computer hardware.

IT Technical Support and Operations
On completion of the module, students should be able to understand the operations and processes in an IT technical help desk environment. Students will learn to use contact center equipment as well as perform basic contact centre call flow configuration. Students will also learn to use Customer Relationship Management software in supporting and escalation of customers.

Electives (Joint ITE-Industry)

Oracle Database and SQL Technologies

On completion of the module, students should be able to create indexes and constraints, altering existing schema objects. Students should also be able to create and query external tables and use the advanced features of SQL to query and manipulate data within the database. Students are also able to use the dictionary views to retrieve metadata and create reports about their schema objects.

Database and SQL Essentials

On completion of the module, students should be able to write queries using SQL against single and multiple tables, manipulate data in tables, create database objects, and query metadata.

Essentials of Java Programming

On completion of the module, students should be able to understand Java Technology, the Java Programming Language and Product Life Circle.

Electives (General)

As reflected on pages 275-278.

Life Skills Modules

As reflected on page 278.

NITEC IN MICROELECTRONICS

COURSE SYNOPSIS

On completion of the course, students should be able to

- Monitor wafer fabrication process performance.
- Collect, organize and interpret production and product performance data.
- Monitor and improve process capability and quality.
- Conduct process development and yield enhancement programmes.
- Summarise data and information in development programmes.
- Document process development programmes.
- Assist in failure analysis.

JOB OPPORTUNITIES

Nitec in Microelectronics graduates are employed by companies that manufacture micro-electronic components and integrated circuit chips. Some of the job titles held by graduates include Semiconductor Process Technician, Semiconductor Manufacturing Technician, Wafer Fabrication Process Technician and Wafer Fabrication Manufacturing Technician. There are excellent opportunities for career advancement to supervisory positions like Technical Specialist, Technologist and beyond. The challenge is for students to prepare themselves by upgrading their technical skills and knowledge by taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	51
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	67

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Electrical Principles and Measurement	7
Digital Electronics	7
Analogue Electronics	7
Computer Networking Principles	7
Semiconductor Fundamentals	6
Wafer Fabrication Processes	7
Applied Microelectronics	6
Industry Attachment	4
ELECTIVES (COURSE SPECIFIC)	
C Programming	2
Fundamentals of Applied Statistics	2
Web Development	2
ELECTIVES (INTER-DISCIPLINARY)	
Sensor Technology	2
Apple OS Administration	2
Apple Hardware Repair	2
ELECTIVES (JOINT ITE-INDUSTRY)	
Robot Palletizing Operations and Programming	2
ELECTIVES (GENERAL)	
Refer to pages 275-278	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Electrical Principles and Measurement
On completion of the module, students should be able to apply the basic principles of electrical and electronics to connect and test electrical circuits. They should also be able to construct prototype electronic project on printed board.

Digital Electronics
On completion of the module, students should be able to interpret, construct, test and troubleshoot basic digital electronic circuits. They should also be able to construct prototype digital electronic circuits.

Analogue Electronics
On completion of the module, students should be able to interpret, construct, test and troubleshoot analogue electronic circuits. They should be able to construct prototype analogue electronic projects.

Computer Networking Principles
On completion of the module, students should be able to set up and test wired and wireless Local Area Network for resources sharing. They should also be able to identify the various network topologies and protocol; and troubleshoot network connectivity faults.

Semiconductor Fundamentals
On completion of the module, students should be able to perform cleanroom and safety protocol, operate vacuum related equipment and prepare pass down documentation.

Wafer Fabrication Processes
On completion of the module, students should be able to perform automated wafer processes and rework for fabrication of integrated circuits used in electronic devices.

Applied Microelectronics
On completion of the module, students should be able to apply and integrate the skills and knowledge acquired in the course to set up, integrate and maintain microelectronic process or equipment systems to fabricate microelectronic devices.

Industry Attachment
Students will undergo a 3-month on-the-job programme with semiconductor industries to reinforce the skills and knowledge acquired at the training institute and to develop competencies in other areas not covered in the curriculum.

Electives (Course Specific)

C Programming
On completion of the module, students should be able to apply the concepts of computer programming and write simple programs in 'C' language.

Fundamentals of Applied Statistics
On completion of the module, students should be able to employ the fundamental principles of applied statistics to draw inferences, justify conclusions and make decisions; and to improve various product qualities and process using quality control tools.

Web Development
On completion of the module, students should be able to develop World Wide Web applications or websites that are run over HTTP from a web server to a web browser.

Electives (Inter-disciplinary)

Sensor Technology
On completion of the module, students should be able to explain the principles of operation, characteristics and applications of various sensors in industrial and electrical engineering works.

Apple OS Administration
On completion of the module, students should be able to perform software, maintenance and troubleshooting on Macintosh Operating Systems.

Apple Hardware Repair
On completion of the module, students should be able to troubleshoot and rectify Apple computer hardware.

Electives (Joint ITE-Industry)

Robot Palletizing Operations and Programming
On completion of the module, students should be able to operate the palletizing robot system, including editing and modifying programs for different palletizing operations.

Electives (General)

As reflected on pages 275-278.

Life Skills Modules

As reflected on page 278.

NITEC IN SECURITY TECHNOLOGY

COURSE SYNOPSIS

On completion of the course, students should be able to

- Install, upgrade, configure and maintain surveillance systems.
- Install, upgrade, configure and maintain intruder detectors and control panels.
- Install, upgrade, configure and maintain access control systems.
- Perform troubleshooting on security equipment.
- Install and test cabling systems.
- Set up and maintain computer system.
- Set up wired and wireless local area networks.

JOB OPPORTUNITIES

Nitec in Security Technology graduates are employed by companies that provide security systems solutions. Some of the job titles held by graduates include Security Systems Technician, Service Technician and Systems Technician. There are excellent opportunities for career advancement to supervisory positions and beyond. The challenge is for students to prepare themselves by upgrading their creative skills and knowledge by continual learning and taking up higher-level courses.

CERTIFICATION

Credits required for certification:

Core Modules	:	51
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	67

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Electronics Fundamentals	7
Computer Essentials	7
Cabling Technology	6
Wired and Wireless Network	7
Intrusion and Access Control Technology	7
Surveillance Technology	7
Computer Aided Design (CAD)	6
Industry Attachment	4
ELECTIVES (GENERAL)	
Refer to pages 275-278	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Electronics Fundamentals
On completion of the module, students should be able to explain basic principles of electricity and electronics, use electrical measuring instruments as well as to apply the operating principles of various electronics components to interpret the circuits used in security systems.

Computer Essentials
On completion of the module, students should be able to set up, install, maintain and troubleshoot computer and software system.

Cabling Technology
On completion of the module, students should be able to use cabling test equipment to perform testing and diagnosis and to certify the performance of network cables.

Wired and Wireless Network
On completion of the module, students should be able to install, configure and troubleshoot computer network system for the wired and wireless LAN environment.

Intrusion and Access Control Technology
On completion of the module, students should be able to design, maintain and troubleshoot intrusion and access control systems in various security environments.

Surveillance Technology
On completion of the module, students should be able to design, maintain and troubleshoot surveillance systems in various security environments.

Computer Aided Design (CAD)
On completion of the module, students should be able to create, update and interpret electrical and security installation drawings.

Industry Attachment
On completion of the module, students should be able to apply and integrate the skills and knowledge that they have acquired at ITE College and develop competencies in other areas not covered in the curriculum, at the workplace.

Electives (General)
As reflected on pages 275-278.

Life Skills Modules
As reflected on page 278.

NITEC IN SOCIAL MEDIA & WEB DEVELOPMENT

COURSE SYNOPSIS

On completion of the course, students should be able to

- Maintain content management systems.
- Develop and maintain rich interactive applications.
- Develop and maintain web applications.
- Support media content project development.
- Design UI/UX.

JOB OPPORTUNITIES

Nitec in Social Media & Web Development graduates are employed in information communication and digital media industry that create and use interactive web technology for customers, including design firms, advertising agencies, production companies, interactive developers, museums & galleries, government bodies, PR and marketing firms, financial and healthcare companies. Some of the job titles held by graduates include Web Developer, Web Programmer, Interactive Programmer and Flash/Flex Developer.

CERTIFICATION

Credits required for certification:

Core Modules	:	51
Life Skills Modules	:	12
Elective Modules	:	4
Total	:	67

COURSE STRUCTURE

Module Title	Credits
CORE MODULE	
Digital Media Fundamentals	7
Web Authoring	7
Content Management System	7
Software Development and Programming Fundamentals	7
Interactive Authoring	6
Web Applications	6
Mobile Web Development	6
Interactive Application Project	5
ELECTIVES (COURSE SPECIFIC)	
Social Media for Marketing	2
Digital Publishing	2
ELECTIVES (INTER-DISCIPLINARY)	
Audio Post-Production	2
Fundamentals of HTML5	2
Apple OS Administration	2
Apple Hardware Repair	2
ELECTIVES (GENERAL)	
Refer to pages 275-278	
LIFE SKILLS MODULES	
Refer to page 278	

Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.

MODULE OBJECTIVES

Core Modules

Digital Media Fundamentals
On completion of the module, students should be able to edit image and texture using media processing techniques.

Web Authoring
On completion of the module, students should be able to create HTML documents, design simple web pages using authoring tools and perform browser compatibility tests. Students should be able to verify the web contents that meet the technical protocols and standards (W3C).

Content Management System
On completion of the module, students should be able to identify content types and establish a workflow for editing and approving web content, design and implement a Content Management System (CMS), communicate effectively via the Internet and new media, and publish information content using plug-in modules to different end users platforms.

Software Development and Programming Fundamentals
On completion of the module, students should be able to analyse application requirements and develop programs for interactive and animated applications.

Interactive Authoring
On completion of the module, students should be able to develop interactive applications on different platforms.

Web Applications
On completion of the module, students should be able to develop web applications using server side scripting with database integration and develop and deploy data driven web applications.

Mobile Web Development
On completion of the module, students should be able to develop and deploy responsive interactive web applications.

Interactive Application Project
On completion of the module, students should be able to create, test and deploy interactive application project.

Electives (Course Specific)

Social Media for Marketing
On completion of the module, students should be able to conduct research for marketing campaign to identify target audience, develop an online marketing plan on social media platform and establish a marketing evaluation.

Digital Publishing
On completion of the module, students should be able to identify the best practices of an outstanding digital publication and the process of publishing digital content for mobile devices. Students should be able to design and create layout, user interface and interactivity for a cutting-edge digital publication.

Electives (Inter-disciplinary)

Audio Post-Production
On completion of the module, students should be able to apply the skills and knowledge to enhance audio and create surround sound for video using multi-track mixing techniques.

Fundamentals of HTML5
On completion of the module, students should be able to create a website using HTML5 tags.

Apple OS Administration
On completion of the module, students should be able to perform software, maintenance and troubleshooting on Macintosh Operating Systems.

Apple Hardware Repair
On completion of the module, students should be able to troubleshoot and rectify Apple computer hardware.

Electives (General)

As reflected on pages 275-278.

Life Skills Modules

As reflected on page 278.