NorthTec

TAI TOKERAU WĀNANGA

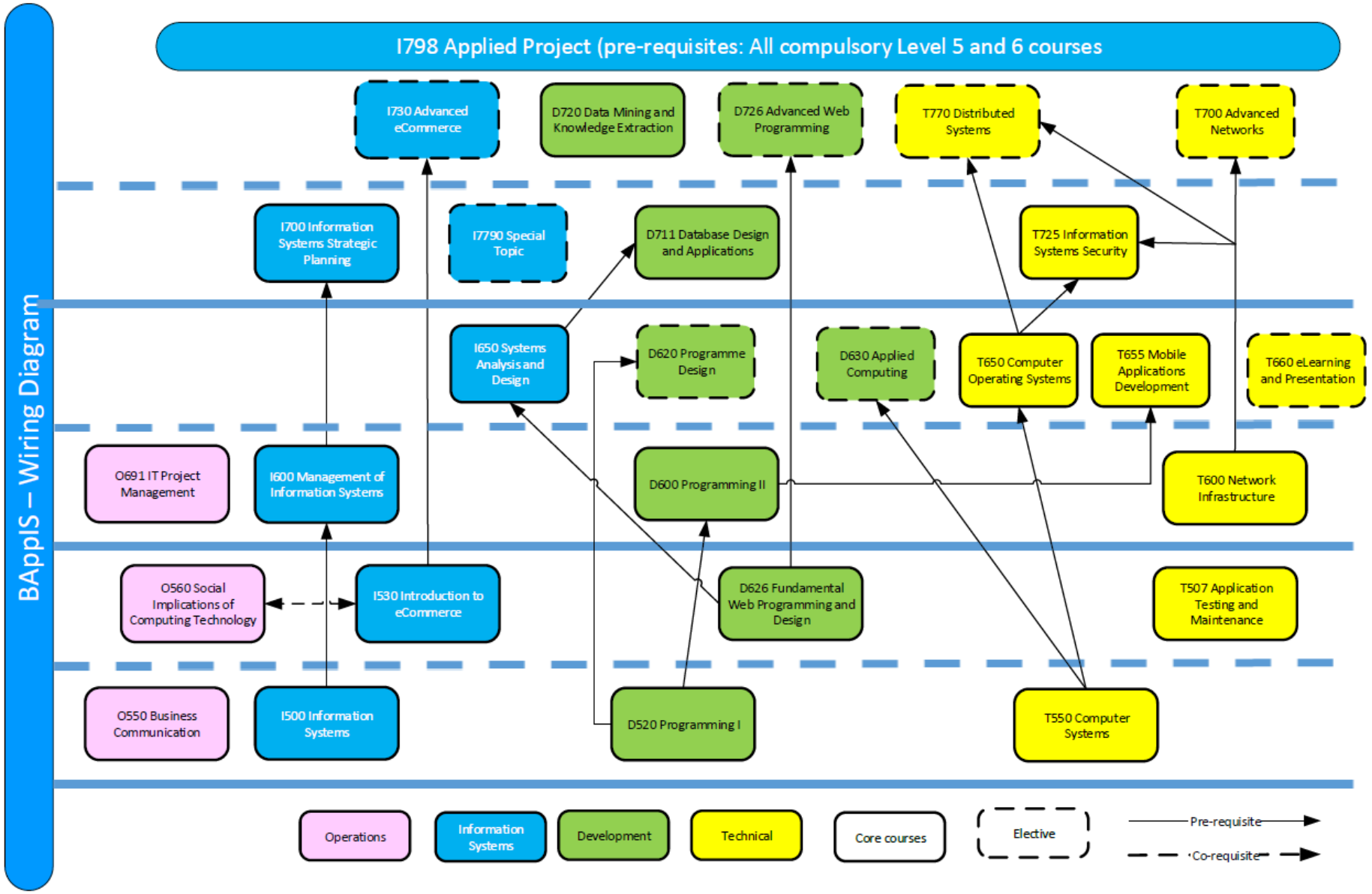
Bachelor of Applied Information Systems

Programme Structure and Course Descriptors 2019

Course Code	Course Title	Compulsory or Elective	Pre-requisites	Co-requisites	Credit	Level	Tutor Directed Hours	Self-Directed Hours	Total Hours	Teaching weeks per course	Funding Category	Funding Classific.	EFTS	NZSCED	Internet Based Learning	Literacy Numeracy Component Yes/No
704.5I500	Information Systems	C	Nil	Nil	15	5	60	90	150	8/17	J2	04	0.1250	020199	3	No
704.5T550	Computer Systems	C	Nil	Nil	15	5	60	90	150	8/17	B2	06	0.1250	020117	3	No
704.5D520	Programming I	C	Nil	Nil	15	5	60	90	150	8/17	B2	06	0.1250	020103	3	No
704.5O550	Business Communication	C	Nil	Nil	15	5	60	90	150	8/17	J2	04	0.1250	080305	3	No
704.5I530	Introduction to e-Commerce	C	Nil	Nil	15	5	60	90	150	8/17	J2	04	0.1250	020399	3	No
704.6D626	Fundamental Web Programming and Design	C	Nil	O560	15	6	50	100	150	8/17	B2	06	0.1250	020103	3	No
704.O560	Social Implications of Computing Technology	C	Nil	6D626	15	5	60	90	150	8/17	B2	06	0.1250	029999	3	No
704.5T507	Application Testing and Maintenance	C	Nil	Nil	15	5	60	90	150	8/17	B2	06	0.1250		3	No
			Total required for year 1		**120**		**470**	**730**	**1200**				**1.000**			
704.6D600	Programming II	C	5D520	Nil	15	6	50	100	150	8/17	B2	06	0.1250	020103	3	No
704.6T600	Network Infrastructure	C	Nil	Nil	15	6	50	100	150	8/17	B2	06	0.1250	020113	3	No
704.6I650	Systems Analysis and Design	C	6D626	Nil	15	6	50	100	150	8/17	B2	06	0.1250	020199	3	No
704.6I600	Management of Information Systems	C	5I500	Nil	15	6	50	100	150	8/17	J2	04	0.1250	020199	3	No
704.6O691	IT Project Management	C	Nil	Nil	15	6	50	100	150	8/17	J2	04	0.1250	080315	3	No
704.6T650	Computer Operating Systems	C	5T550	Nil	15	6	50	100	150	8/17	B2	06	0.1250	020117	3	No
704.T655	Mobile Applications Development	C	6D600	Nil	15	6	50	100	150	8/17	B2	06	0.1250	020117	3	No
	One Elective @ Level 6	E	Elective pre-requisite/s to be met	Nil	15	6	50	100	150	8/17	B2	06	0.1250		3	No
			Total required for year 2		**120**		**400**	**800**	**1200**				**1.000**			
704.D720	Data Mining and Knowledge Extraction	C	Nil	Nil	15	7	40	110	150	8/17	B2	06	0.1250	020111	3	No
704.7I700	Information Systems Strategic Planning	C	6I600	Nil	15	7	40	110	150	8/17	J2	04	0.1250	020307	3	No
704.T725	Information Systems Security	C	6T600 & 6T650	Nil	15	7	40	110	150	8/17	B2	06	0.1250	020113	3	No
704.7I798	Applied Project	C	All compulsory level 5 and level 6 courses	Nil	45	7	100	350	450	17	B2	06	0.375	020307	3	No
704.7D711	Database Design and Applications	C	6I650	Nil	15	7	40	110	150	8/17	B2	06	0.1250	020111	3	No
	One Elective @ Level 6 or 7	E	Elective pre-requisite/s to be met	Nil	15	7	40	110	150	8/17	B2	06	0.1250		3	No
			Total required for year 3		**120**		**300**	**900**	**1200**				**1.000**			

Course Code	Course Title	Compulsory or Elective	Pre-requisites	Co-requisites	Credit	Level	Tutor Directed Hours	Self-Directed Hours	Total Hours	Teaching weeks per course	Funding Category	Funding Classific.	EFTS	NZSCED	Internet Based Learning	Literacy Numeracy Component Yes/No
TOTAL REQUIRED FOR QUALIFICATION					**360**		**1170**	**2430**	**3600**				**3.000**			
ELECTIVE COURSES																
704.6D630	Applied Computing	E	5T550	Nil	15	6	50	100	150	8/17	B2	06	0.1250	020199	3	No
704.6D620	Programme Design	E	5D520	Nil	15	6	50	100	150	8/17	B2	06	0.1250	020103	3	No
704.6T660	eLearning and Presentation	E	Nil	Nil	15	6	50	100	150	8/17	J2	04	0.1250	029999	3	No
704.7T770	Distributed Systems	E	6T650 & 6T600	Nil	15	7	40	110	150	8/17	B2	06	0.1250	020113	3	No
704.7D726	Advanced Web Programming	E	6D626	Nil	15	7	40	110	150	8/17	B2	06	0.1250	020103	3	No
704.7T700	Advanced Networks	E	6T600	Nil	15	7	40	110	150	8/17	B2	06	0.1250	020113	3	No
704.7I730	Advanced eCommerce	E	5I530	Nil	15	7	40	110	150	8/17	B2	06	0.1250	020399	3	No
704.7I790	Special Topic	E	TBD	Nil	15	7	40	110	150	8/17	B2	06	0.1250	020307	3	No
INACTIVE COURSES 2019																
704.5O500	Financial Information Systems		Nil	Nil	15	5	60	90	150	8	J2	04	0.1250	080301	3	No
704.6I630	Principles of eCommerce		5I530	Nil	15	6	50	100	150	8/17	J2	04	0.1250	020199	3	No
704.6O690	Project Management		Nil	Nil	15	6	60	90	150		J2	04	0.1250	080315	3	No
704.7I7989	Industry Based Project		All compulsory level 5 and level 6 courses	Nil	30	7	60	240	300	17	B2	06	0.2500	020307	3	No
											MOE Internet Based Learning			1 = No Access 2 = Web-Supported 3 = Web-Enhanced 4 = Web Based		

- **Teaching hours** include scheduled time when tutor support is available (such as face-to-face class time), and/or guided online time. Includes assessment and assessment feedback time, time scheduled for resits, directed time in library and on projects with tutor support available, workshops, laboratories, supervised field trips, other tutor directed study. Guided hours include online activities, completion of projects and directed learning activities online where tutor support is available asynchronously via email or at specified times.
- **Workplace learning hours** – supervised and assessed work-placement hours
- **Self-directed learning hours** are hours outside of classroom time or the direct supervision of the tutor that the average student is expected to spend in order to complete the course successfully. Self-directed hours are purposeful, structured and measurable, e.g. completion of course work, reading of course materials, study groups, preparation, homework, research, practice etc.


BAppIS – Wiring Diagram
I798 Applied Project (pre-requisites: All compulsory Level 5 and 6 courses
I730 Advanced eCommerce
D720 Data Mining and Knowledge Extraction
D726 Advanced Web Programming
T770 Distributed Systems
T700 Advanced Networks
I700 Information Systems Strategic Planning
I7790 Special Topic
D711 Database Design and Applications
T725 Information Systems Security
I650 Systems Analysis and Design
D620 Programme Design
D630 Applied Computing
T650 Computer Operating Systems
T655 Mobile Applications Development
T660 eLearning and Presentation
O691 IT Project Management
I600 Management of Information Systems
D600 Programming II
T600 Network Infrastructure
O560 Social Implications of Computing Technology
I530 Introduction to eCommerce
D626 Fundamental Web Programming and Design
T507 Application Testing and Maintenance
O550 Business Communication
I500 Information Systems
D520 Programming I
T550 Computer Systems
Operations
Information Systems
Development
Technical
Core courses
Elective
Pre-requisite
Co-requisite

ADVANCED E-COMMERCE

Course code: 704.7I730	Elective	Effective from: January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: 704.5I530 Introduction to E-Commerce

Co-requisites: Nil

COURSE AIM

To enable students to examine the concepts and requirements of E-Commerce as practiced in the marketplace and to construct systems for doing business electronically and to understand the standards used in Business to Business (B2B) communications and electronic data exchange (EDI).

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Evaluate the role, function and approaches to electronic data interchange (EDI).
2. Implement systems using B2B e-commerce.

TOPICS / INDICATIVE CONTENT

- Using EDI as a diagnostic tool
- Alternative approaches to EDI including UN/EDIFACT and XML
- Security of EDI messages, solutions and auditing requirements
- Key technologies and applications of B2B EC
- Classification of architectural models
- Supplier oriented, buyer orientated and intermediary oriented marketplaces.
- Procurement re-engineering and just-in-time delivery and design methodology for system implementation
- Integration of e-commerce with back-end information
- Marketing issues in B2B e-commerce
- The role of agents in B2B e-commerce

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Evidential Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING RESOURCES

Based on the current trend in e-commerce, the tutor will provide the appropriate learning resources in class.

ADVANCED NETWORKS

Course code: 704.7T700	Elective	Effective from : January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: 704.6T600 Network Infrastructure

Co-requisites: Nil

COURSE AIM

To evaluate network solutions, select an appropriate technology for a given situation, and justify their selection. Learners will also be able to install a network solution and demonstrate an understanding of network administration.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Design a complex network to meet user requirements.
2. Integrate a network with a multi-user system.
3. Analyse and apply the concepts of network administration.

TOPICS / INDICATIVE CONTENT

- Network design overview – network requirements, design goals, design techniques
- Distributed systems and client server administration
- System integration
- Network security
  - Ensuring data and network continuity
  - Intrusion prevention
- Wireless networking
- Windows client server Configuration
  - Active directory configuration and implementation on LAN
  - Installation of network end user devices

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Integrated Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, Computer Labs

LEARNING AND TEACHING RESOURCES

Based on the current trend of Computer Network Technologies, the tutor will provide the appropriate learning resources in class.

ADVANCED WEB PROGRAMMING

Course code: 704.7D726	Elective	Effective from : January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: 704.6D626 Fundamental Web Programming

Co-requisites: Nil

COURSE AIM

To develop advanced web based applications which can interact with databases via the internet.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Evaluate Internet application frameworks with regards to web application development.
2. Evaluate and implement Internet server based database management systems.
3. Construct a web based Internet enabled application.
4. Apply XML (Extensible Markup Language).

TOPICS / INDICATIVE CONTENT

- Development frameworks
- Server based database management systems
- Construct a web application
- XML
- Advanced JS, HTML5, CSS
- Version control (Git)

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Integrated Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3, 4	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend of web development technologies, the tutor will provide the appropriate learning resources in class.

APPLICATION TESTING AND MAINTENANCE

Course code: 704.5T507	Compulsory	Effective from: January 2019

Credits	15	**Level**	**5**
Learning Hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	90		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To provide students with the skills to publish a web application, and produce user documentation and training material.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Migrate a web solution from development to a testing environment.
2. Create and use a test plan for a web solution.
3. Move a solution from a test environment to a live platform.
4. Configure applications to meet requirements and obtain client acceptances.
5. Produce user training material.

TOPICS / INDICATIVE CONTENT

- Test plans including functional testing, usability testing, standards compliance testing
- Set-up and migration from development to testing environment
- Performing testing and maintenance in accordance with a software development paradigm
- Carrying out functional testing of applications in multiple user environments with combinations of browsers and devices
- Measuring usability and compliance to standards
- Ensuring a solution works according to specifications
- Client acceptance process for a development project
- User training requirements and documentation

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Integrated Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3, 4, 5	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

To be provided in class by the tutor.

APPLIED COMPUTING

Course code: 704.6D630	Elective	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: 704.5T550 Computer Systems

Co-requisites: Nil

COURSE AIM

To develop the skills, competence and confidence to use generic software applications and productivity tools effectively in a business environment.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Use of a range of generic software tools to increase productivity in a business environment.
2. Solve business problems by correctly identifying the business requirements, designing and developing a solution using appropriate software tools.
3. Extract, disseminate and organise information to produce management reports to aid in the decision making processes of a business organisation.

TOPICS / INDICATIVE CONTENT

- Functionality of business software applications to enhance productivity
- Customise and integrate multiple applications to achieve optimal efficiency
- Matching methodologies to user requirements
- Software tool selection
- Application of design techniques
- Solution evaluation
- Data retrieval and manipulation for reporting
- Problem solving
- Designing and developing decision support systems

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Integrated Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

EARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

To be provided in class by the tutor.

APPLIED PROJECT

Course code: 704.7I798	Compulsory	Effective from: January 2019

Credits	45	**Level**	**7**
Tutor/Lecturer directed hours	100		
Self-directed Hours	350		
Total hours of student learning	**450**		

Pre-requisites: All compulsory Level 5 and level 6 courses

Co-requisites: Nil

COURSE AIM

To develop an ICT system, including software and or hardware in accordance with an agreed proposal.

LEARNING OUTCOMES

On successful completion of this course, the student will be able to:

1. Negotiate a project plan and learning contract to meet project proposal.
2. Develop a proposal identifying the project objectives, systems requirements, conceptual design, specifications and project plan to meet end user requirements.
3. Develop a working system or prototype to meet project proposal.
4. Develop a test plan to test the system.

TOPICS / INDICATIVE CONTENT

- Learning contract including agreed assessment methodology
- Project conceptualisation
- Systems development methodology
- Identification of end user and potential market
- Analysis of user requirements
- Analysis of user information systems to model information structure, flow and processes
- Supporting documentation standards
- Quality assurance including planning, systems development management, development standards, documentation standards, inspections, reviews, test plans, testing metrics, reuse, change control

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Learning contract	1, 2	15%
2	Develop and test a working system or prototype	3, 4	40%
3	Reflective report	1, 2, 3	10%
4	Project presentation	1, 2, 3, 4	10%
5	Written project report	1, 2, 3, 4	25%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

To be determined based on project topic.

BUSINESS COMMUNICATION

Course code: 704.5O550	Compulsory	Effective from: January 2019

Credits	15	**Level**	**5**
Learning Hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	**90**		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To apply theories and techniques associated with interpersonal and organisational communication within an information systems context.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Demonstrate oral presentation and writing skills that are clear, concise, courteous and correct, using currently recognised business formats.
2. Demonstrate and apply an understanding of communication theories and Interpersonal communication process in a business setting.
3. Evaluate the impact and influence of positive and effective communication management on organisational performance in a business setting.
4. Construct reports on a technical subject from information system (IS), information technology (IT) and communications technology.
5. Investigate the nature and significance of identity, culture and values, and demonstrate their relevance to the communication process.

TOPICS / INDICATIVE CONTENT

- Oral presentation skills
- Writing skills for business communication
- Basic business communication theories and processes
- Interpersonal communication skills
- Identity, culture, values in relation to communication
- Professional behaviours
- Technical documentation and reports from IS, IT and communication technologies
- Communication management and organisational performance

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Written Report	2, 3, 5	50%
2	Research Report and Presentation	1, 4	50%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies, computer labs

LEARNING AND TEACHING RESOURCES

To be provided by the tutor

COMPUTER OPERATING SYSTEMS

Course code: 704.6T650	Compulsory	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: 704.5T550 Computer Systems

Co-requisites: Nil

COURSE AIM

To understand the components of multi-user operating systems, the interaction between those components and the techniques involved in managing and organising the operating systems components; and use the basic commands of a multi-user operating system; and carry out basic systems administration.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Explain the internal operation of computing hardware and the functions of the basic system's programs: processors, registers memory, device controller interrupt techniques, DMA.
2. Use commands for a multi-user operating system.
3. Compare techniques and algorithms used in memory management and file systems.
4. Analyse the characteristics and performance of networks.

TOPICS / INDICATIVE CONTENT

- Hardware internals and systems programs
- Use multi-user operating systems commands
- Operating system internals
- Characteristics and performance of network operating systems

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3, 4	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend of operating systems, the tutor will provide the appropriate learning resources in class.

COMPUTER SYSTEMS

Course code: 704.5T550	Compulsory	Effective from: January 2019

Credits	15	**Level**	**5**
Learning Hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	90		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To provide students with the skills to apply the fundamental knowledge of the architecture and internal operation of a computer system. .

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Install and configure hardware resources including PCs, laptops and mobile devices.
2. Demonstrate skills in networking including internet concepts.
3. Install and configure systems software.
4. Carry out hardware and software diagnostic testing, maintenance, technical and customer support.
5. Demonstrate advanced technical knowledge of applications for supporting user requirements.
6. Apply security concepts, tools and techniques.

TOPICS / INDICATIVE CONTENT

- Installation and configuration of hardware components
- Installation systems software
- Basic network concepts and technologies (such as: topologies, basic network components and basic internet services)
- Testing and maintaining hardware and system software
- Diagnostic applications supporting technical and user requirements
- Security concepts, applications, tool and techniques

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3, 4, 5, 6	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

To be provided in class

DATA MINING AND KNOWLEDGE EXTRACTION

Course code: 704.D720	Compulsory	Effective from: January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To understand and apply different data mining techniques used to extract information from raw data including intelligent algorithms computational paradigms that enables data modelling, prediction / forecasting and the discovery of hidden patterns or anomalies in databases.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Articulate the rational of data mining in the context of information systems including decision tree techniques.
2. Evaluate a range of classification techniques including regression analysis and supervised learning.
3. Analyse and demonstrate clustering techniques
4. Analyse the role of dimensionality reduction and associated techniques
5. Evaluate a range of visualisation techniques

TOPICS / INDICATIVE CONTENT

- Data mining and decision tree construction
- Use of data mining for enhanced decision making
- Data mining types
- Classification techniques including regression analysis
- Association rules
- Clustering techniques
- Role of dimensionality reduction
- Visualisation techniques
- Nature inspired computing
- Learning behaviour including supervised or unsupervised learning

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Analysis Report	1, 2, 3, 4	40%
4	Exam	1, 2, 3, 4, 5	60%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend in data science methodologies and tools, the tutor will provide the appropriate learning resources in class.

DATABASE DESIGN AND APPLICATIONS

Course code: 704.7D711	Compulsory	Effective from: January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: 704.6I650 System Analysis and Design

Co-requisites: Nil

COURSE AIM

To demonstrate basic theoretical and practical knowledge for working with database management systems, data modelling, and data base design, and identifying and resolving security, integrity, and recovery issues.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Discuss the fundamental characteristics of database management systems.
2. Evaluate a specified database management system.
3. Design and implement a database application to meet specifications.
4. Tune a database to optimise transaction performance.
5. Diagnose and resolve problems related to security, integrity, recovery and audit.

TOPICS / INDICATIVE CONTENT

- Characteristics of database management systems
- Evaluation criteria for database management systems
- Design of database applications against specifications
- Tuning databases for optimal transaction performance
- Problem resolution related to security, integrity, recovery and audit

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Exam	1, 2	40%
2	Case Study Based Practical Project	1, 2, 3, 4, 5	60%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, Computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend in data science methodologies and tools, the tutor will provide the appropriate learning resources in class.

DISTRIBUTED SYSTEMS

Course code: 704.7T770	Elective	Effective from: January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: 704.6T650 Computer Operating Systems; and 704.6T600 Network Infrastructure

Co-requisites: Nil

COURSE AIM

To evaluate technology and strategies to implement a distributed environment including analysis of requirements, selection of appropriate distributed technologies and justification of selection and technical feasibility of the solution.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Evaluate current technologies used in distributed computing.
2. Evaluate distributed computing technologies for a given situation.
3. Assemble and configure a distributed computer system to demonstrate the technical feasibility of the solution.

TOPICS / INDICATIVE CONTENT

- Approaches to distributed computing
- Assemble and configure a distributed computer system
- Evaluate the wider issues on DCE
- Characteristics and operation of DCE

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Case Study	1, 2, 3	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies, computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend in networks and operating systems technologies, the tutor will provide the appropriate learning resources in class.

E-LEARNING AND PRESENTATION

Course code: 704.6T660	Elective	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To plan, develop, deliver and evaluate a computer based interactive training session for a workplace setting.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Analyse the components of training.
2. Plan, deliver and evaluate the effectiveness of a computer based interactive training programme to deliver a skill or topic.
3. Presentation on the theory and practice of computer based training.

TOPICS / INDICATIVE CONTENT

- Training principles
- Interactive instruction techniques
- Presentation skills
- E-Learning components
- E-learning design and development
- Evaluate implement
- Techniques such as brainstorming and Q/A

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Evidential Portfolio (may include but not limited to: tests, assignments, case studies presentations, reports, labs, projects and final examination)	1, 2, 3	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies, computer labs

LEARNING AND TEACHING RESOURCES

To be provided in class.

FINANCIAL INFORMATION SYSTEMS

Course code: 704.5O500	Inactive	

Credits	**15**	**Level**	**5**
Teaching hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	90		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To understand and apply theories and computerised tools associated with business processes to business structures, business planning and accounting.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Demonstrate understanding of organisational entities.
2. Demonstrate understanding of business planning.
3. Apply theories and tools associated with accounting.

TOPICS / INDICATIVE CONTENT

- Organisational and business entities
- Lining the nature of business to organisational type
- Environmental factors which influence businesses
- Financial budgets and business plans for small businesses
- Information sources, transaction records, tracking data flow, ledger accounts, trial balances
- Statements of financial performance and position
- Financial analysis

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Short answer test	1	20%
2	Business Plan	1, 2	40%
3	Case Study	3	40%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 40% in every course assessment event and a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

FUNDAMENTAL WEB PROGRAMMING AND DESIGN

Course code: 704.6D626	Compulsory	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: 704.O560 Social Implications of Computing Technology

COURSE AIM

To write basic web based programmes, read data from a database and link databases and web pages.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Explain the design principles of web sites and web pages including HTML standards, frames and styles.
2. Implement and manage a range of design technologies.
3. Describe, assess, implement and manage a range of server scripting.
4. Implement and manage Structured Query Language (SQL) and Open Database Connectivity (ODBC) interface.

TOPICS / INDICATIVE CONTENT

- Design principles
- Current technologies and frameworks.
- Content Management System and Scripting Language (example PHP, JavaScript, Python)
- SQL and ODBC

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Presentation	1	25%
2	Practical Assignment	2, 3, 4	75%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies

LEARNING AND TEACHING RESOURCES

Based on the current trend in Web Technologies the tutor will provide the appropriate learning resources in class.

INDUSTRY BASED PROJECT

Course code: 704.7I799	Inactive	

Credits	30	**Level**	**7**
Tutor/Lecturer directed hours	60		
Self-directed Hours	240		
Total hours of student learning	**300**		

Pre-requisites: All compulsory level 5 and level 6 courses

Co-requisites: Nil

COURSE AIM

To analyse system requirements and produce fully documented systems analyses using appropriate system development methods. To enable graduates to manage both information systems departments and teams more effectively. Topics covered will include several analysis and IS management methods, including the need for the highest standards of ethics and professionalism in IS practice.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Develop all or a large part of an industry-standard, industry-based information system.
2. Processes to ensure quality systems analysis of a professional standard.

TOPICS / INDICATIVE CONTENT

- Systems development methodology
- Obtaining and analysing user requirements
- Analysis of user information systems to model information structure, flow and processes
- Supporting documentation standards
- Being professional
- Learning logs
- Quality assurance including planning, systems development management, development standards, documentation standards, inspections, reviews, test plans, testing metrics, reuse, change control

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Guidelines	Weighting
1	Project Supervisor report on meeting industry requirements	Project supervisor, from report and discussions. Either observe demo or contact stakeholder for guidance or both.	10%
2	Academic requirement including Analysis and Design quality	Determined by project supervisor, from the report	20%
3	Achievement of learning objectives	Determined by project supervisor, from the learning log (see below)	20%
4	Compliance with project management process	Project supervisor. This may be modified by the Exam Board after the presentation, from presentation and discussion	20%
5	Seminar presentation	Exam Board, from presentation	10%
6	Project report and structure	Project supervisor, from report. To gain the sub-minimum, all key components should be present. The structure of the report should be dictated by the initial project plan, modified where necessary.	20%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, Computer labs

LEARNING AND TEACHING RESOURCES

INFORMATION SYSTEMS

Course code: 704.5I500	Compulsory	Effective from: January 2019

Credits	15	**Level**	**5**
Learning Hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	90		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To understand the principles, roles and organisation of information systems within organisations; to explain the nature, value and usage of information including privacy issues relating to both implementation and use; and to describe types of information systems and apply information gathering techniques.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Explain the nature, value and use of information and information systems.
2. Describe the fundamentals of systems theory, types of information systems and their roles within organisations.
3. Explain the role and structure of information systems departments.
4. Explain the methodology used to develop automated business information systems.
5. Explain the privacy issues relating to the implementation and use of information systems.

TOPICS / INDICATIVE CONTENT

- Nature, value and usage of information and information systems
- Systems theory in relation to information systems
- Type and role of information systems
- Role and structure of information departments
- Development methodologies for automated business information systems
- Privacy and the implementation and use of information systems

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Test	1, 2, 3	60%
2	Written Assignment	4, 5	40%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies, practical computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend of information systems, the tutor will provide the appropriate learning resources in class.

INFORMATION SYSTEMS SECURITY

Course code: 704.T725	Compulsory	Effective from: January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: 704.6T600 Network Infrastructure; 704.6T650 Computer Operating Systems

Co-requisites: Nil

COURSE AIM

To analyse security policies, models and mechanisms for secrecy, integrity, availability and application.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Discuss the implications of security related issues including policies, confidentiality, integrity, availability, authenticity.
2. Analyse the application of cryptography including basic number theory, symmetric key cryptosystems, public key cryptosystems, hash functions and key management.
3. Examine the key principles and concepts relating to identification and authentication.
4. Analyse key issues related to network and distributed systems.
5. Evaluate advanced security issues and systems including malicious software, multi-level security, secure information systems, auditing and intrusion detection and prevention.

TOPICS / INDICATIVE CONTENT

- Security principles and concepts
- Cryptography
- Authentication
- Distributed system security
- Network security
- Cyber operations security

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Assignment	1, 2, 3	50%
2	Project	3, 4, 5	50%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

To be provided in class.

INFORMATION SYSTEMS STRATEGIC PLANNING

Course code: 704.7I700	Compulsory	Effective from: January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: 704.6I600 Management of Information Systems

Co-requisites: Nil

COURSE AIM

To prepare an information systems strategic plan for an organisation defining the way an organisation will use information technology and systems to support its strategic aims, objectives and strategies taking cognisance of the organisational and social impact of information systems, their development and how emerging technologies can be used for competitive advantage.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Evaluate the relationship between information systems and the structure of an organisation, its value chain, operating system model, culture and its environmental factors.
2. Prepare a plan which defines the way an organisation will use information technology and systems to support the strategic aims of the organisation.

TOPICS / INDICATIVE CONTENT

- Organisational structures and impact of IS
- Principles of strategic management
- Value chains
- IT and the design of work processes
- Operating system model and culture
- Environmental factors
- Strategic planning
- Designing and developing plans

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Project Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies

LEARNING AND TEACHING RESOURCES

Based on the current trend of information management, the tutor will provide the appropriate learning resources in class.

INTRODUCTION TO E-COMMERCE

Course code: 704.5I530	Compulsory	Effective from: January 2019

Credits	15	**Level**	**5**
Learning Hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	90		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To develop a basic understanding of the business, legal and technological issues in the field of electronic commerce.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Define the nature of electronic commercial transactions.
2. Describe the types of technology needed to carry on commerce via electronic means including software and hardware.
3. Identify and explain the security problems facing e-commerce and describe the mechanism and techniques available to combat these problems.
4. Integrate the use of technology and the prescripts of law (privacy, copy right and secured payment) into the conduct of e-commerce.

TOPICS / INDICATIVE CONTENT

- Defining electronic business transactions
- Commercial challenges of e-commerce
- Current technological systems
- Marketing fit
- Common ED security challenges
- Technological risk solutions
- Encryptions, digital signatures and certification techniques
- Interrelationship between business, law and technology
- Forming and conducting e-commerce business
- Radical new development for e-commerce

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Test	1, 2	50%
2	Practical Assignment	3, 4	50%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend of information systems and e-commerce tools, the tutor will provide the appropriate learning resources in class.

IT PROJECT MANAGEMENT

Course code: 704.6O691	Compulsory	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To understand the requirements of project planning, control and use project management software to manage IT Project tasks.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Produce a project plan meeting a defined specification.
2. Apply the steps and techniques used in project control.
3. Produce professional documentation including a detailed project report.
4. Produce an implementation plan for an information system to a pre-defined standard.
5. Prepare a feasibility analysis including a cost / benefit analysis.

TOPICS / INDICATIVE CONTENT

- Budgeting and scheduling with certainty
- Statistical methods
- Budgeting and scheduling with uncertainty
- Basic management theory
- Project planning and organising
- Project execution, control, evaluation and termination
- Quality management and control
- PM Overview

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Project proposal and charter	1, 2	30%
2	Project Plan and reflection	3, 4, 5	70%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

To be provided by the tutor in class

MANAGEMENT OF INFORMATION SYSTEMS

Course code: 704.6I600	Compulsory	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: 704.5I500 Information Systems

Co-requisites: Nil

COURSE AIM

To understand and apply IT terminology and principles within a business context including competitive advantage and return on investment.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Demonstrate proficiency in the use of a range of generic software tools to increase productivity in a business environment.
2. Extract, disseminate and organise information to produce management reports to aid organisational decision making.
3. Analyse a range of enterprise resource planning systems.
4. Evaluate a range of transaction processing systems.

TOPICS / INDICATIVE CONTENT

- Software tools used for business and commerce
- Decision support systems
- Enterprise resource planning
- Transaction processing systems

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
2	Assignment	1, 2, 3, 4	60%
3	Exam	1, 2, 3, 4	40%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

To be provided in class by the tutor.

MOBILE APPLICATIONS DEVELOPMENT

Course code: 704.T655	Compulsory	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: 704.6D600 Programming 2

Co-requisites: Nil

COURSE AIM

To understand and apply mobile application development including fundamental programming principles, software architecture and user experiences for handheld software applications and their development environments.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Demonstrate an understanding and application of principles relating to a mobile platform and its development environment.
2. Create a project working with a mobile platform's development environment.
3. Evaluate a range of interface designs and applications.
4. Apply graphics and multimedia including location and maps, view and drawable animation.
5. Apply a range of data management including file access, and database.

TOPICS / INDICATIVE CONTENT

- Mobile platform and development environment
- Application fundamentals
- User interface design and application
- Graphics and multimedia
- Data management

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3, 4, 5	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

The tutor will provide learning and teaching resources based on the current mobile operating systems and technologies.

NETWORK INFRASTRUCTURE

Course code: 704.6T600	Compulsory	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To install, configure, administer and solve problems related to networks.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Evaluate a range of computer and data communications systems in organisations.
2. Demonstrate an understanding of basic networking.
3. Assemble and configure a local area network.
4. Solve problems with local area networks.

TOPICS / INDICATIVE CONTENT

- Data communication
- Encoding methods
- International organisations and standards
- Wide area networks and local area networks
- Network typologies and protocols
- Public network facilities
- LAN assembly, configuration, installation and testing
- Diagnostic tools for hardware and software

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Written Test	1,2	40%
2	Practical Project	2 ,3, 4	60%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies, computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend in Computer Networks design and infrastructure technologies, the tutor will provide the appropriate learning resources in class.

PRINCIPLES OF E-COMMERCE

Course code: 704.6I630	Inactive	

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: 704.5I530 Introduction to e-Commerce

Co-requisites: Nil

COURSE AIM

To develop a basic understanding of the business, legal and technological issues in the field of electronic commerce.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Define the nature of electronic commercial transactions.
2. Describe the types of technology needed to carry on commerce via electronic means including software and hardware.
3. Identify and explain the security problems facing e-commerce and describe the mechanism and techniques available to combat these problems.
4. Integrate the use of technology and the prescripts of law into the conduct of commerce electronically.

TOPICS / INDICATIVE CONTENT

- Defining electronic business transactions
- Commercial challenges of e-commerce
- Current technological systems
- Marketing fit
- Common ED security challenges
- Technological risk solutions
- Encryptions, digital signatures and certification techniques
- Interrelationship between business, law and technology
- Forming and conducting eCommerce business
- Radical new development for e-commerce
- Legal obligations
- Financial systems (banking, accounting and business transactions)

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Tests	1, 2	50%
2	Assignment	3, 4	40%

3	Presentation	3, 4	10%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

PROGRAMME DESIGN

Course code: 704.6D620	Elective	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: 704.5D520 Programming 1

Co-requisites: Nil

COURSE AIM

To design quality software commonly used in business using a variety of techniques; and to engage with system modelling and the full software engineering life-cycle using case studies, supported by CASE tools, to identify alternative approaches to software development.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Analyse algorithm design in terms of principles of good design and performance.
2. Model and design software typically required in industry.
3. Implement processes to ensure quality software.

TOPICS / INDICATIVE CONTENT

- Overview of Software Development Processes
  - Traditional Software Development Life
  - AGILE Software Development Approach
  - Challenges/Issues of Software Development
- Principles of good design
- Unified Modelling Language with CASE tool
  - Requirement and Analysis Modelling
  - Design Models
- Version Control
- Quality Assurance and Maintenance

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Practical Prototype Design	2, 3	50%
3	Test /Analysis	1, 2	50%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING RESOURCES

Tools: JADE, Microsoft Visual Studio, UML CASE, Tools, NORTHNET, LMS

To be provided in class by tutor.

PROGRAMMING 1

Course code: 704.5D520	Compulsory	Effective from: January 2019

Credits	15	**Level**	**5**
Learning Hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	90		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To provide students with the fundamental knowledge of scripting to perform typical system management tasks.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Apply programming concepts and tools to system management tasks.
2. Describe and explain procedural and object oriented programming.
3. Apply principles of implementation (user testing, deployment).
4. Demonstrate programming using core logic and mathematical concepts such as problem solving methods, critical thinking, abstract reasoning; and systems thinking.

TOPICS / INDICATIVE CONTENT

- Development Tools; Integrated development environment (IDE), flow diagrams and/or pseudo code, accessing and reading technical help documentation
- Fundamental programming constructs and principles; readable code, data types, variables, operators, selection, iteration and data structures (arrays).
- Object oriented programming; classes, fields, constructors and methods
- Implementation principles; create a simple application which includes accessing and using a class, practical debugging techniques

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3, 4	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

Based on the programming language, the tutor will provide the current and appropriate learning and teaching resources.

PROGRAMMING 2

Course code: 704.6D600	Compulsory	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: 704.5D520 Programming 1

Co-requisites: Nil

COURSE AIM

Students will be able to write and maintain programs using appropriate design patterns, data structures and algorithms.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Demonstrate effective use and understanding of procedural and Object Oriented programming.
2. Write applications using design patterns.
3. Write applications using appropriate data structures and algorithms.
4. Select and apply appropriate data validation techniques.

TOPICS / INDICATIVE CONTENT

- Programming syntax and structure; Sequence, selection and iteration.
- Design patterns (such as: Unified Modelling Language).
- Design a simple application.
- Class Members; Fields, properties, constructors, methods, events and delegates.
- Standard Controls; Events and properties.
- Object oriented principles; Encapsulation, inheritance and polymorphism.
- Data Structures; Arrays and collections.

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Portfolio (may include but not limited to: tests, assignments, case studies, presentations, reports, labs, projects and final examination)	1, 2, 3, 4	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

Based on the programming language, the tutor will provide the current and appropriate learning and teaching resources.

PROJECT MANAGEMENT

Course code: 704.6O690	Inactive	

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	**90**		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: Nil

COURSE AIM

To understand the requirements of project planning, control and use project management software to manage IT Project tasks.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Demonstrate knowledge of introductory project management principles to projects.
2. Apply project management principles to create project plans for simple projects.
3. Apply project management principles to execute, monitor and control simple projects.

TOPICS / INDICATIVE CONTENT

- Budgeting and scheduling with certainty
- Statistical methods
- Budgeting and scheduling with uncertainty
- Basic management theory
- Project planning and organising
- Project execution, control, evaluation and termination
- Quality management and control
- PM Overview

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Lab proficiency	2	5%
2	Test	1, 2	25%
3	Project Plan	1, 2, 3, 4	30%
4	Final exam	1, 2, 3, 4, 5, 6	40%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, computer labs

LEARNING AND TEACHING RESOURCES

To be provided by the tutor in class

SOCIAL IMPLICATIONS OF COMPUTING TECHNOLOGY

Course code: 704.O560	Compulsory	Effective from: January 2019

Credits	15	**Level**	**5**
Learning Hours			
Tutor/Lecturer directed hours	60		
Self-directed Hours	90		
Total hours of student learning	**150**		

Pre-requisites: Nil

Co-requisites: 704.6D626 Fundamental Web Programming and Design

COURSE AIM

To understand the development, application and consequences of information technology as both a social and technological process including identification of the ethical issues implicit in the computerisation in society.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Discuss the evolution of the development and applications of technology in society.
2. Discuss the ethical issues and implications associated with the use of technology.
3. Identify the legislative requirements relating to privacy and technology.
4. Identify the legal, ethical and social issues relating to information systems and network security.
5. Discuss the potential challenges and opportunities associated with technological advancement.

TOPICS / INDICATIVE CONTENT

- Evolution of computer technology in society
- Impact of computer technology in society
- Ethical theories and intellectual property
- Government and privacy
- Social Network and its impact on society
- Computer and network security
- Technology and the future
- Information systems security

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Project Written Assignment	1, 2, 3	60%
2	Exam	3, 4, 5	40%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies,

LEARNING AND TEACHING RESOURCES

Based on the current computer technologies and related issues, the tutor will provide the current and appropriate learning and teaching resources.

SPECIAL TOPIC

Course code: 704.7I790	Elective	Effective from: January 2019

Credits	15	**Level**	**7**
Learning Hours			
Tutor/Lecturer directed hours	40		
Self-directed Hours	110		
Total hours of student learning	**150**		

Pre-requisites: To be determined by supervisor depending on topic selection

Co-requisites: Nil

COURSE AIM

To provide students with the opportunity to focus in-depth on a specific technology or area of information technology. This may include technologies used in industry or a technology considered new and innovative.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Formulate and justify a research question relevant to contemporary Information and communication technologies.
2. Source and critically investigate a range of contemporary concepts and principles relevant to the research question.
3. Critically discuss concepts, technical issues and potential solutions relevant to the research question.
4. Present a critically reasoned response to the research question.

TOPICS / INDICATIVE CONTENT

- Determined via learning contract between academic supervisor and student

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Written investigative report	1, 2, 3, 4	100%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% for the course.

LEARNING AND TEACHING DELIVERY MODE

To be determined by learning contract

LEARNING AND TEACHING METHODS

To be determined by learning contract

LEARNING AND TEACHING RESOURCES

SYSTEMS ANALYSIS AND DESIGN

Course code: 704.6I650	Compulsory	Effective from: January 2019

Credits	15	**Level**	**6**
Learning Hours			
Tutor/Lecturer directed hours	50		
Self-directed Hours	100		
Total hours of student learning	**150**		

Pre-requisites: 704.6D626 Fundamentals of Web Programming and Design

Co-requisites: Nil

COURSE AIM

To analyse, design and implement moderately complex information systems. To analyse business cases and document the purpose, objective, data requests, data flows, input documents and output documents of common business functions.

LEARNING OUTCOMES

On successful completion of this course, students will be able to:

1. Explain the fundamentals of systems analysis and design.
2. Design an information system to meet the specifications of a business case.
3. Compare and contrast approaches to prototyping as an approach to systems development.
4. Implement a range of processes to ensure quality systems design.

TOPICS / INDICATIVE CONTENT

- Systems design
- Analysing the Business Case
- Requirements/Data/Process/Object Modelling
- User Interface Design
- Data Design
- System Architecture
- Prototyping
- Development Strategies
- Quality Processes

ASSESSMENT

Assessment Method: Achievement Based

Assessments:

No.	Assessment Event	Learning Outcomes	Weighting
1	Projects	1, 2, 3, 4	50%
2	Exam	1, 2, 3	50%

REQUIREMENT FOR SUCCESSFUL COMPLETION

To pass this, course learners must achieve a minimum of 50% cumulatively for the course.

LEARNING AND TEACHING DELIVERY MODE

Face to face / Blended / Distance (Online)

LEARNING AND TEACHING METHODS

Lectures, tutorials, case studies, computer labs

LEARNING AND TEACHING RESOURCES

Based on the current trend of information systems the tutor will provide the appropriate learning resources in class.