Programme Specifications

Academic Year	(2019-2020) Academic Year
Programme Title	Information Technology Engineering
Award	Bachelor of Engineering (IT)/ BE (IT)
Programme Code	IT
Degree Awarding Institution	Technological University (Kyaukse)
Associateship, Membership	
Accreditation status and Accreditors	Provisional, Engineering Education Accreditation Committee (EEAC, Myanmar)
Qualification Level (Myanmar National Qualification Framework)	Level 6
Degree Awarding Requirements	Student must pass 240 credits, obtain passing score in every subject and must complete the specified field, industrial attachment and final year project
Department	Department of Information Technology Engineering
Head of Programme	Dr. Hnin Yu Khine
Contact	+959765432613, +959969861507
Admission Criteria	As described in admission section
Requirements for sitting exam	see in each course specification
Subject Benchmark	N/A
Mode of Attendance	Full Time
Total Credits	240
Minimum Period of Study	6 years
Maximum period of study	18 years
Teaching/Learning Methods	Combination of lecturers, tutorials, practical, assignment, coursework, individual and group work, presentation, report , projects, industrial training, in-house training, internship training.
Assessment	course work, written examinations, projects, reports, assignment, test, oral presentation, practical exam

Programme Overview	IT engineering programme will equip potential human resources to become IT engineers, professionals and researchers who can effectively work together in building of a modern developed nation, approach and solve complex problems systematically, have obligation and professional ethics and the ability to work humanly for benefit of society, humankind and the environment. IT programme is aimed to provide the understudies with advanced theory and concept, experience in complex problems solving and research good practices. In addition to formal course work, students are also required to participate in group seminars, industrial visit and training, integrated design project, technical talk and extracurriculum activities. IT is a broad subject and the concepts are developing which covers any hardware and software that will store, retrieve, manipulate, transmit, or receive information electronically in a digital form (e.g., personal computers, digital television, email, or robots). Information Technology Engineering can be applied to a wide scpoe of applications for our general public such as medical, industrial, environment, agricultural, education and many more sectors. The current research activities in IT field are computer networking and wireless communication engineering, data science engineering, software engineering, digital signal and image processing, cyber/ information security, data mining, big data and cloud computing, Artificial Intelligence.
Graduate Competencies	1. Ability to apply Engineering Knowledge 2. Complex Problem Analysis Skill 3. Design/Development Skill 4. Research Skill 5. Ability to apply Modern Tool 6. Ability to apply informed reasoning and Professional Engineering practice in society

7. Ability to understand and evaluate Environment and Sustainability
8. ability to apply ethical principles
9. Ability to function effectively as Individual and a Team member or leader
10. Communication Skill
11. Ability to apply Project Management and Finance
12. Life Long Learning Skill

Programme Educational Objectives

1. Produce multi-skilled engineer who can apply fundamental scientific and engineering principles to solve complex engineering problems systematically, creatively and innovatively, with the aids of modern analytical and design tools including research methodology, to contribute to the advancement of ICT engineering knowledge and practice.
2. Nurture engineer who is able to communicate and manage effectively as a leader and/or team player in diverse destinations of IT engineering and in multi-disciplinary environment, striving for responsible leadership and engineering innovations.
3. Foster development of engineer who practices professional virtues with strong commitment to moral and ethical responsibilities in the course of IT engineering practice, applies principles of sustainable development with considerations for natural resources, public health and safety, and environment, and is committed to personal holistic development through life-long learning.

Graduate Attributes

1. By the time of graduation of BE(IT) , students will be able to attain the following skills, knowledge and behaviour:
2. Apply knowledge of mathematics, natural science, engineering fundamental and engineering specialization concepts to solve complex IT engineering problems.
3. Identify, formulate, conduct research literature and analyze complex IT engineering problems to substantive conclusions by using principles of mathematics, natural sciences and engineering sciences.

4. Design solutions for complex IT engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.
5. Conduct investigation into complex IT problems using research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.
6. Create, select and apply appropriate techniques, resources, and modern ICT tools, including prediction and modeling, to tackle complex IT engineering problem with an understanding of the limitations.
7. Apply and contribute IT engineering knowledge to assess societal, health, safety, legal and cultural issues and the consequence of responsibilities relevant to professional engineering practice and solutions to complex engineering problems.
8. Understand and evaluate the sustainability and impact of IT engineering work in the solutions of complex engineering problems in societal and environmental contexts.
9. Apply ethical principles and commit to ethics, responsibilities and norms of engineering practice of IT engineering to address ethical dilemmas.
10. Function effectively as an individual, and as a member or leader both in diverse teams and in multi-disciplinary settings.
11. Communicate effectively on complex IT engineering activities being cooperated with the engineering community and society widely, that program will be able to comprehend and write effective reports and design documentation, make effective presentations, and provide explicit instructions.
12. Demonstrate knowledge and understanding of IT engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage IT projects in multidisciplinary environments
13. Recognize the necessity and plan to set up the appropriate commitment to engage in independent and life-long learning of the broadest technologies and new trend.

Curriculum

Year I

Semester I				Semester II			
Code		Title	Credits	Code		Title	Credits
M	11011	Myanmar	2	M	12011	Myanmar	2
E	11011	English	2.5	E	12011	English	2.5
EM	11001	Engineering Mathematics I	4.5	EM	12001	Engineering Mathematics I	4.5
E.Ch.	11011	Engineering Chemistry I	4.5	E.Ch.	12011	Engineering Chemistry I	4.5
E.Ph.	11011	Engineering Physics I	3.5	E.Ph	12011	Engineering Physics I	3.5
ME	11011	Basic Engineering Drawing I	2	ME	12011	Basic Engineering Drawing I	2
IT	11013	Introduction to Computer Systems	2.3	IT	12013	Introduction to Computer Systems	2.3

Year II

Semester I				Semester II			
Code		Title	Credits	Code		Title	Credits
E	21011	English	2.5	E	22011	English	2.5
EM	21003	Engineering Mathematics III	4.5	EM	22003	Engineering Mathematics III	4.5
IT	21011	Basic Electricity and Electronics	3	IT	22011	Basic Electricity and Electronics	3
IT	21021	Digital Logic Design	3	IT	22021	Digital Logic Design	3
IT	21012	Data Communications	2.3	IT	22012	Data Communications	2.3
IT	21015	Programming Language in C++	3	IT	22015	Programming Language in C++	3
IT	21025	Web Development Technologies I	3	IT	22025	Web Development Technologies I	3

Year III

Semester I				Semester II			
Code		Title	Credits	Code		Title	Credits
E	31011	English	2.5	E	32011	English	2.5
EM	31015	Engineering Mathematics V	4.5	EM	32015	Engineering Mathematics V	4.5
IT	31022	Computer Networks	3	IT	32022	Computer Networks	3
IT	31035	Web Development Technologies II	3	IT	32035	Web Development Technologies II	3
IT	31045	Programming Language in Java	3	IT	32045	Programming Language in Java	3
IT	31055	Data Structure	3	IT	32055	Data Structure	3
IT	31016	Database Management Systems	3	IT	32016	Database Management Systems	3

Year IV

Semester I				Semester II			
Code		Title	Credits	Code		Title	Credits
E	41011	English	2.5	E	42011	English	2.5
EM	41007	Engineering Mathematics VII	4.5	EM	42007	Engineering Mathematics VII	4.5
IT	41032	Advanced Computer Networks	3	IT	42032	Advanced Computer Networks	3
IT	41023	Computer Architecture and Organization	3	IT	42023	Computer Architecture and Organization	3

IT	41033	Operating Systems	3	IT	42033	Operating Systems	3
IT	41026	Advanced Data Management Techniques	3	IT	42026	Advanced Data Management Techniques	3
IT	41017	Modern Control Systems	3	IT	42017	Modern Control Systems	3

Year V

Semester I

Semester II

Code		Title	Credits	Code		Title	Credits
E	51011	English	3.5	E	52011	English	3.5
IT	51011	Software Engineering	3	IT	52065	Software Engineering	3
IT	51043	Embedded Systems	3	IT	52043	Embedded Systems	3
IT	51014	Cloud Computing	3	IT	52042	Cryptography And Network Security	3
IT	51027	Digital Signal Processing	3	IT	52047	Artificial Intelligence I	3
IT	51037	Digital Image Processing	3	IT	52037	Digital Image Processing	3
IT	51058	Integrated Design Project	2.3	IT	52058	Integrated Design Project	2.3

Year VI

Semester I

Semester II

Code		Title	Credits	Code		Title	Credits
HSS	61011	Humanities and Social Science	3	IT	62078	Graduation Thesis	9
IT	61042	Wireless and Mobile Communications	3				
IT	61052	Network Planning and Management	3				
IT	61075	Project Management	3				
IT	62068	Industrial Training	4				