BSc (Hons) Software Engineering - E320M

1. Objectives

Information and Communication Technology (ICT) sector being one of the most knowledge-intensive branches of the economy, there is demand for human resource in the software engineering discipline in both the public and private sectors. Software engineering is a field that deals with high-level designs and solutions that guide the development of specific software projects or products.

The programme has been tailor-made to produce graduates who are proficient in developing software according to Industry standards, in terms of methodologies and technologies. The course provides students with both theoretical knowledge and practical skills in areas such as software development, integration & testing and software project management. Graduates will possess the engineering skills required to design and implement software systems. The scheme of study offers graduates essential technical and soft skills to seamlessly make the transition from University to the software development industry and adapt to a professional environment.

The programme is in line with international recommendations of computing curricula for Undergraduate Degree Programs in Software Engineering and designed in collaboration with software industry.

2. General Entry Requirements

As per General Entry Requirements for Admission to the University for Undergraduate Degrees.

3. Programme Requirements

At least 2 GCE 'A' level Passes including Mathematics.

4. Minimum Requirements for Awards

(i) Degree Award

For the degree award in BSc (Hons) Software Engineering, the student must obtain at least 105 credits including:

Modules	**Credits**
Minimum Credits for Core Modules (Departmental)	78
Minimum Credits for Electives (Departmental)	12
Minimum Credits for Core Modules (Non Departmental)	6
Final Year Project	9
TOTAL	105

(ii) Diploma Award

The diploma is provided as a possible exit point in the programme. A student may opt for a Diploma in Software Engineering, by making a written request, provided he/she satisfies the requirements, as per University regulations.

5. Programme Duration

	Normal (Years)	Maximum (Years)
Degree:	3	5

6. Credits per Year

Maximum 48 credits, Minimum 6 credits, subject to section 5.

Yearly modules to be registered for only once at the start of the module, normally at the beginning of the academic year as specified by the Faculty.

7. Assessment

7.1 Continuous and written assessment of modules

Each module will be assessed over 100 marks (expressed as %).

Assessment will be based on written examination and continuous assessment. The written examination will be of 3 hour duration for yearly modules carrying 6 credits. The continuous assessment will count for a range 30 - 40% of overall percentage mark of the module.

Continuous assessment may be based on laboratory work, seminars and/or assignments and should include at least one class test per semester.

For a student to pass a module, an overall minimum of 40% should be attained in that module, as per University regulations.

Written examinations for the yearly modules will be carried out at the end of the academic year.

7.2 Final Year Project

The assessment of final year project CSE 3000(5) will be based on project report, presentation and software/system demo.

7.3 Diploma Project

For a student exiting at Diploma Level, the assessment of Diploma project CSE 2000(3) will be based on project report, presentation and software/system demo.

8. Specific Regulations

If Cummulative Point Average (CPA) of a student is less than 40%, s/he will have to repeat the entire academic year, and retake the modules as and when offered. However, s/he will not be required, if s/he wishes, to retake modules for which Grade C or above has been obtained. Students are allowed to repeat (a year) **only once** over the entire duration of the Programme of Studies.

Registration of a student will be terminated if:

i. the CPA is less than **40** at the end of an academic year and the student has already repeated one year of study; or

ii. the maximum duration allowed for completion of the Programme of Studies has been exceeded.

9. List of Modules

CORE MODULES

Departmental		**Hrs/Week L+P**	**Credits**
CSE 1009Y(1)	Software Engineering and Computing	3+0	6
CSE 1011Y(1)	Software Analysis and Modelling	2+2	6
CSE 1012Y(1)	Database Systems	2+2	6
CSE 1013Y(1)	Software Programming	2+2	6
CSE 1014Y(1)	Discrete Mathematics for Software Engineering	3+0	6
CSE 1016Y(1)	Communication and Business Skills for IT	3+0	6
CSE 2037Y(3)	Data Structures and Algorithms	2+2	6
CSE 2015Y(3)	Object-Oriented Software Development	2+2	6
CSE 2038Y(3)	Software Process and Design	3+0	6
CSE 2017Y(3)	Software Quality Assurance	3+0	6
CSE 2018Y(3)	Software Verification and Validation	2+2	6
CSE 3025Y(5)	Software Configuration Management and Best Practices	3+0	6
CSE 3026Y(5)	Agile Principles, Patterns And Practices	2+2	6
CSE 3000(5)	Final Year Project	-	9

Non-Departmental		**Hrs/Week L+P**	**Credits**
MGT 1067Y(1)	Principles and Practice of Management	3+0	6

ELECTIVE MODULES

Students choose **any Two** of the listed electives.

Departmental		**Hrs/Week L+P**	**Credits**
CSE 3023Y(5)	Web Frameworks and Patterns	2+2	6
CSE 3037Y(5)	Software Project Management	3+0	6
CSE 3039Y(5)	Software Metrics	3+0	6
CSE 3040Y(5)	Network Technologies	2+2	6
CSE 3052Y(5)	Software Requirements & Management	3+0	6
CSE 3088Y(5)	Software Security	2+2	6

Note: The University reserves the right not to offer a given elective module if the critical number of students is not attained and/or for reasons of resource constraints.

10. Programme Plan – BSc (Hons) Software Engineering

Year 1 Semester 1 & 2			
Module Code CORE	**Module Name**	**Hrs/Week L+P**	**Credits**
CSE 1009Y(1)	Software Engineering and Computing	3+0	6
CSE 1011Y(1)	Software Analysis and Modelling	2+2	6
CSE 1012Y(1)	Database Systems	2+2	6
CSE 1013Y(1)	Software Programming	2+2	6
CSE 1014Y(1)	Discrete Mathematics for Software Engineering	3+0	6
CSE 1016Y(1)	Communication and Business Skills for IT	3+0	6
			Total = 36
Year 2 Semester 1 & 2			
Module Code CORE	**Module Name**	**Hrs/Week L+P**	**Credits**
CSE 2037Y(3)	Data Structures and Algorithm	2+2	6
CSE 2015Y(3)	Object-Oriented Software Development	2+2	6
CSE 2038Y(3)	Software Process and Design	3+0	6
CSE 2017Y(3)	Software Quality Assurance	3+0	6
CSE 2018Y(3)	Software Verification and Validation	2+2	6
MGT 1067Y(1)	Principles and Practice of Management	3+0	6
			Total = 36
Year 3 Semester 1 & 2			
Module Code CORE	**Module Name**	**Hrs/Week L+P**	**Credits**
CSE 3000(5)	Final Year Project	-	9
CSE 3025Y(5)	Software Configuration Management and Best Practices	3+0	6
CSE 3026Y(5)	Agile Principles, Patterns And Practices	2+2	6
ELECTIVES	**Choose Two (2) modules from:**		
CSE 3023Y(5)	Web Frameworks and Patterns	2+2	6
CSE 3037Y(5)	Software Project Management	3+0	6
CSE 3039Y(5)	Software Metrics	3+0	6
CSE 3040Y(5)	Network Technologies	2+2	6
CSE 3052Y(5)	Software Requirements & Management	3+0	6
CSE 3088Y(5)	Software Security	2+2	6