FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER AND INFORMATION SCIENCES

SOFTWARE ENGINEERING

Bachelor of Science with Honours in Software Engineering
Bachelor of Science in Computer Science
Diploma of Higher Education in Computer Science
Certificate of Higher Education in Computer Science

These regulations are to be read in conjunction with General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

Mode of Study
1. The programme is available by full-time study only.

Place of Study
2. The programme includes placement out with the University campus.

Curriculum
3. All students shall undertake an approved curriculum as follows:

First Year

All students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
CS103	Machines, Learning and Computation	1	20
CS104	Information and Information Systems	1	20
CS105	Programming Foundations	1	20
CS106	Computer Systems and Organisation	1	20
CS101	Topics in Computing 1	1	10
MS113	Introduction to Business Analysis and Technology -S1	1	10
	Elective Module*		10

*With the approval of the Advisor of Study a student may replace the elective with a Vertically Integrated Project (VIP).

Second Year

All students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
CS207	Advanced Programming	2	20
CS208	Logic and Algorithms	2	20
CS209	User and Data Modelling	2	20
CS210	Computer Systems and Architecture	2	20
CS211	Professional Issues in Computing	2	10
CS259	Quantitative Methods for Computer Science	2	10
CS260	Functional Thinking	2	10
	Elective Module*		10

*With the approval of the Advisor of Study a student may replace the elective with a Vertically Integrated Project (VIP).

Third Year

All students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
CS308	Building Software Systems	3	20
CS313	Computer Systems and Concurrency	3	20
CS310	Foundations of Artificial Intelligence	3	20
CS312	Web Applications Development	3	20
CS316	Functional Programming	3	20
CS317	Mobile App Development	3	20

Industrial Placement

Between the third and the fourth years of their study each student shall spend a period of approximately one year on work approved by the Programme Director; this shall constitute the module CS415 Industrial Placement. The major part of this period will normally be spent in industry and a report on the work performed must be submitted to the Programme Director by the end of the first week of the first semester of the final year. This report shall count for 20 credits at Level 4.

Fourth Year

All students shall undertake modules amounting to 120 credits as follows:

Compulsory Modules

Module Code	Module Title	Level	Credits
CS420	Software Engineering*	4	80
CS408	Individual Project	4	40

*CS420 Software Engineering comprises of CS409 Software Architecture and Design (20 credits) and CS407 Computer Security (20 credits) together with 40 credits of optional modules from the table below.

CS420 Software Engineering Optional Modules

Module Code	Module Title	Level	Credits
CS410	Advanced Functional Programming	4	20
CS411	Theory of Computation	4	20
CS412	Information Access and Mining	4	20
CS414	Digital Forensics	4	20
CS426	Human Centred Security	4	20
MS418	Project Management	4	20
Such other Level 4 or Level 5 modules as may be approved by the Programme Director.			

Not all optional modules on this list will be available in each academic year. Please check your programme handbook for confirmation of which optional modules will run.

Progress
4. In order to progress to the second year of the programme, in addition to satisfying the requirements of General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level, a student must also gain a non-compensated pass for the module CS105 Programming Foundations.

5. In order to progress to the third year of the programme, in addition to satisfying the General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level, a student must also gain a non-compensated pass for the module CS207 Advanced Programming.

6. In order to progress to the fourth year of the programme, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

Final Honours Classification
7. On successful completion of the fourth year, a candidate will be awarded 80 Level 4 credits under the module code CS420 Software Engineering.

8. The final Honours classification will normally be based on the first assessed attempt at all modules taken at Levels 3 and 4.

Award

9. **BSc with Honours in Software Engineering**: In order to qualify for the award of the degree of BSc with Honours in Software Engineering, a candidate must have accumulated no fewer than 500 credits from the programme curriculum and must include CS408 Individual Project and CS415 Industrial Placement.

A candidate who withdraws or is withdrawn from the programme up to and including Year 3 may be given one of the following exit awards depending on their credit total:

10. **BSc in Computer Science**: See General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level, and must include 100 credits at Level 3.

11. **Diploma of Higher Education in Computer Science**: See General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

12. **Certificate of Higher Education in Computer Science**: See General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.

Transfer

13. **BSc with Honours in Computer Science**: a candidate who fails to secure an industrial placement between Year 3 and Year 4 will be transferred to BSc with Honours in Computer Science, see General Academic Regulations – Undergraduate, Integrated Master and Professional Graduate Degree Programme Level.