Notice for New Registration- Bachelor of Science (B.Sc) Degree

B.Sc. Degree Programme

- **Overview**

  The External Degree programme offered by the Faculty of Science, designed for part-time continuing education students. Usually the programme is conducted during weekends and the duration of the degree programme is tree years.

- **Intended Learning Outcomes**

  - demonstrate the comprehensive knowledge and understanding of concepts, principles and practices in physical sciences
  - represent the real-world problems in scientific framework using the concepts and principals in physical sciences
  - collect qualitative and quantitative data; analyze and interpret in logically and accurately
  - develop arguments and make sound judgment in accordance with basic theories and concepts of physical sciences
  - apply knowledge and understanding of the principles, concepts and practices of physical sciences towards solving the problems
  - use computing to solve real-world problems effectively and efficiently
  - adopt emerging technologies leading to better and efficient solution
  - communicate effectively convincingly to diverse ordinances
  - work effectively with team member and stakeholders, displaying the skills of listening, negotiating and leadership
  - integrate and work in different cultures and sub cultures, and respect their values
  - adapt, work independently and in collaboration with others
  - identify the ethics and exercise them
  - maintain professional integrity, punctuality and practice effective managerial skills

- **List of Subjects**
    - Applied Mathematics(AMAT)
    - Computer Science(COSC)
    - Computer Studies(COST)
    - Pure Mathematics(PMAT)
    - Statistics(STAT)

b.

- **List of Subject Combinations**
    - **Combination 1:** Pure Mathematics, Applied Mathematics, Statistics
    - **Combination 2:** Pure Mathematics, Applied Mathematics, Computer Science
    - **Combination 3:** Pure Mathematics, Applied Mathematics, Computer Studies
    - **Combination 4:** Pure Mathematics, Compute Science, Statistics
    - **Combination 5:** Pure Mathematics, Computer Studies, Statistics

Applied Mathematics

Subject: Applied Mathematics (AMAT)

Year	Semester	Code	Title	Type	Pre-requisite	Co-requisite
1	I	AMAT 16513	Vector Analysis	C	A/L Combined Mathematics	
		AMAT 16522	Mechanics I	C	A/L Combined Mathematics	
	II	AMAT 17532	Vector Methods in Geometry	C	AMAT 16513	
		AMAT 17543	Numerical Methods I	C	AMAT 16513	
2	I	AMAT 26552	Scientific Computing using Appropriate Software I	C	AMAT 17543	
		AMAT 26562	Mechanics II	C	AMAT 16522	
	II	AMAT 27572	Numerical Methods II	C	AMAT 17543	
		AMAT 27582	Scientific Computing using Appropriate Software II	C	AMAT 26552	AMAT 27572
3	I	AMAT 36593	Computational Mathematics	C	AMAT 27582	
		AMAT 36603	Mathematics for Finance I	O	PMAT 16522	
		AMAT 37613	Mathematical Modeling	C	PMAT 27572	

	II	AMAT 37623	Introduction to Fluid Dynamics	C	PMAT 36593	
		AMAT 37633	Mathematics for Finance II	O	AMAT 36603	
		AMAT 37643	Mechanics III	O	AMAT 26562	

Computer Science

Subject: Computer Science(COSC)					
Year	**Semester**	**Code**	**Title**	**Type**	**Pre-requisite**
1	I	COSC 16512	Introduction to Computing	C	G.C.E. A/L
		COSC 16523	Fundamentals of Programming	C	G.C.E. A/L
	II	COSC 17533	Data Communication and Networks	C	COSC 16512
		COSC 17543	Object Oriented Programming	C	COSC 16523
2	I	COSC 26552	Software Engineering	C	COSC 16512, COSC 17543
		COSC 26563	Data Structures and Algorithms	C	COSC 17543
	II	COSC 27573	Computer Architecture and Operating Systems	C	COSC 16512, COSC 16523
		COSC 27583	Database Management Systems	C	COSC 16523
3	I	COSC 36593	Enterprise Software Design and Architecture	C	COSC 26563, COSC 27583
		COSC 36603	Web & Internet Technologies	O	COSC 17533, COSC 17543, COSC 27583
		COSC 36612	Visual Programming	O	COSC 27583, COSC 26552
		COSC 36622	Cyber Security	O	COSC 17533
	II	COSC 37633	Full-Stack Software Development	C	COSC 36593
		COSC 37642	Artificial Intelligence	O	COSC 16512, COSC 16523
		COSC 37652	Mobile Application Development	O	COSC 17543, COSC 27583
		COSC 37662	Big Data Technologies	O	COSC 17533, COSC 17543, COSC 27583

Computer Studies

Subject: Computer Studies(COST)					
Year	**Semester**	**Code**	**Title**	**Type**	**Pre-requisite**
1	I	COST 16512	Introduction to Computing	C	G.C.E. A/L
		COST 16523	Fundamentals of Programming	C	G.C.E. A/L
	II	COST 17532	Introduction to Computer Networks	C	COST 16512
		COST 17543	Database Management Systems	C	COST 16512, COST 16523
2	I	COST 26553	Object Oriented Programming	C	COST 16523, COST 17543
		COST 26563	Systems Analysis & Design	C	COST 16512
	II	COST 27573	Web Development	C	COST 26553
		COST 27582	Information Systems	C	COST 26563
3	I	COST 36593	Event Driven Programming	C	COST 27573
		COST 36602	Social and Professional Issues in Computing	O	COST 26563
		COST 36612	Human Computer Interaction	O	COST 27573, COST 27582
		COST 36622	Software Project Management	O	COST 27582
	II	COST 37633	Multimedia Technologies	C	None
		COST 37642	Mobile Application Development	O	COST 26553
		COST 37652	Software Quality Assurance	O	COST 27582
		COST 37662	Industry-based Project	O	All the Level 01 and Level 02 courses, COST 36593

Pure Mathematics

Subject: Pure Mathematics(PMAT)					
Year	**Semester**	**Code**	**Title**	**Type**	**Pre-requisite**
1	I	PMAT 16513	Discrete Mathematics I	C	A/L Combined Mathematics
		PMAT 16522	Matrix Algebra	C	A/L Combined Mathematics
	II	PMAT 17532	Discrete Mathematics II	C	PMAT 16513
		PMAT 17543	Theory of Calculus	C	PMAT 16513
2	I	PMAT 26553	Linear Algebra	C	PMAT 16522
		PMAT 26562	Infinite Series	C	PMAT 17543
	II	PMAT 27572	Ordinary Differential Equations	C	PMAT 17543
		PMAT 27583	Functions of Several Variables	C	PMAT 26553
3	I	PMAT 36593	Complex Variables	C	PMAT 27583
		PMAT 36602	Abstract Algebra	C	PMAT 26553
	II	PMAT 37612	Theory of Riemann Integration	C	PMAT 17543
		PMAT 37622	Mathematical Methods	C	PMAT 27583
		PMAT 37632	Geometry	C	PMAT 27583

Statistics

Subject: Statistics(STAT)					
Year	**Semester**	**Code**	**Title**	**Type**	**Pre-requisite**
1	I	STAT 16514	Fundamentals of Statistics	C	GCE (A/L)
		STAT 16521	Statistical Laboratory	C	GCE (A/L)
	II	STAT 17533	Probability Distributions and Applications I	C	STAT 16514
		STAT 17542	Optimization I	C	GCE (A/L)
2	I	STAT 26513	Probability Distributions and Applications II	C	STAT 17533
		STAT 26522	Optimization II	C	STAT 17542
	II	STAT 27533	Inferential Statistics	C	STAT 26513
		STAT 27542	Survey Methods & Sampling Techniques	C	STAT 26513/STAT 27533
3	I	STAT 36513	Statistical Models	C	STAT 27533
		STAT 36522	Statistical Quality Control	C	STAT 17533/ STAT 27542
	II	STAT 37532	Non-parametric Statistics	C	STAT 27542
		STAT 37543	Time Series Analysis	C	STAT 36513