



NEWPORTS INSTITUTE OF COMMUNICATIONS & ECONOMICS

BS Computer Science

Program Duration: 04 Year

Admission requirements

12 Years of education, Intermediate/ A-Level or equivalent with Biology/ Mathematics, Chemistry/ Computer Sciences and Physics, DAE in Computers/Electrical/Electronics, with minimum 2nd Division.

Deficiency; “Students with premedical, must pass deficiency courses of mathematics of 6 credit hours in first 2 semesters”.

NEWPORTS Entry Test/Interview is mandatory.

INTRODUCTION

The BS (Computer Science) program provides the students with the necessary skills and impetus to work in the areas of Data Mining, Data Science, Artificial Intelligence, Deep Learning, Big Data and Data Analytics. The program is tailored to introduce develop and ingrain a thorough understanding of the computing discipline in students. The course content is a mix of theoretical and practical skills and allows the students to explore diversity in their program, with different courses, for the completion of their studies. This program enables the students to explore solutions to real life problems and propose the optimized solutions. The students are encouraged to embrace new computing technologies through self-directed professional development and training along with the ability to effectively disseminate knowledge. The program features interactive lectures, computer simulations and models which enable students to learn and practice their computing skills.

CAREER PROSPECTS

Graduates of the BS (Computer Science) program can find opportunities and applications for a lucrative career as Software Engineers, Database designers and administrators, Web Engineers, Software Quality Assurance Professionals.

Graduates will also be able to work as freelancers or entrepreneurs.



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Scheme of studies

Road Map

Total semesters: 08

Total Credit Hours: 133

Semester I			Semester II		
S #	Course Name	CR	S #	Course Name	CR
1	Programming Fundamentals	4	1	Object Oriented Programming	4
2	Calculus & Analytical Geometry	3	2	Digital Logic Design	4
3	Introduction to ICT	3	3	Probability & Statistics	3
4	English Composition & Comprehension	3	4	Communication & Presentation Skills	3
5	Applied Physics	3	5	University Elective – 1	3
Total Credit Hours		16	Total Credit Hours		17
Semester III			Semester IV		
S #	Course Name	CR	S #	Course Name	CR
1	Data Structures & Algorithms	4	1	Design & Analysis of Algorithms	3
2	Comp Organization & Assembly Lang.	4	2	University Elective – 2	3
3	Differential Equations	3	3	Database Systems	4
4	Discrete Structures	3	4	Linear Algebra	3
5	Professional Practices	3	5	Theory of Automata	3
Total Credit Hours		17	Total Credit Hours		16
Semester V			Semester VI		
S #	Course Name	CR	S #	Course Name	CR
1	Operating Systems	4	1	Computer Networks	4
2	Multi-variate Calculus	3	2	Technical & Business Writing	3
3	Compiler Construction	3	3	Artificial Intelligence	4
4	Software Engineering	3	4	CS Elective – 1	3
5	Numerical Computing	3	5	CS Elective – 2	3
Total Credit Hours		16	Total Credit Hours		17
Semester VII			Semester VIII		
S #	Course Name	CR	S #	Course Name	CR
1	Pakistan Studies	2	1	Islamic Studies/ Ethics	2
2	Parallel & Distributed Computing	3	2	CS Elective – 5	3
3	CS Elective – 3	3	3	University Elective – 4	3



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4	CS Elective – 4	3	4	Information Security	3
5	University Elective – 3	3	5	Final Year Project – II	3
6	Final Year Project – I	3			
Total Credit Hours		17	Total Credit Hours		14