Foundation Scholarship - Examination Requirements

Course of Study:	TJH Computer Science
School/Discipline:	Computer Science and Statistics
Academic Year:	2025/26

Foundation Scholarship involves a searching examination, set and assessed so as to select students of outstanding ability. The objective of the Foundation Scholarship examination is to identify students who can consistently demonstrate exceptional knowledge and understanding of their subjects. The examination requires candidates to demonstrate: skill in synthesising and integrating knowledge across the full range of the set examination materials; rigorous and informed critical thought; and, in appropriate disciplines, a highly-developed ability to solve problems and apply knowledge.

Please include a brief statement below which explains how your examinations succeed in identifying the qualities associated with Scholarship.

The objective of the Foundation Scholarship examination in Joint Honours Computer Science is to identify students who, at a level of evaluation appropriate to the Senior Freshman year, and depending on the pathway chosen, demonstrate outstanding academic ability in their knowledge and understanding of Computer Science. The Scholarship exams are based on the Freshman curricula and the questions demand a well-developed problem solving ability and a deeper understanding of the modules offered in the Freshman courses. This will require a synthesis and integration of knowledge in all the modules.

The ability to analyse a problem, design an efficient solution and implement that solution in the form of a computer program is assessed in the Computer Programming examination, compulsory for all JH candidates. This entire paper is considered to be the General Section of the Scholarship examination for JH Computer Science students. Candidates will be required to answer two out of two questions on this two hour examination. By allowing students one hour to answer each question, the expectation is that successful candidates will be able to provide considered answers that demonstrate deep insight, rather than merely providing working solutions. While a number of the questions will be based on module-specific knowledge in areas such as algorithms, data structures and information management, other more general questions will be set by anonymous examiners.

The Computer Science examination addresses the structure and behaviour of computer systems, from computer architecture and assembly language programming, efficient management of data and information. This examination is compulsory for those taking 2 Scholarship papers in CS. Candidates will be required to answer 3 questions from 4 in a two hour period.

Mathematics – in particular topics such as linear algebra and statistics – is fundamental to the study of Computer Science. Furthermore, in addition to being theoretical, the study of Mathematics involves the development of practical skills relevant to Computer Science, such as statistical analysis. In the Mathematics and Statistics examination, candidates will be required to answer three out of four questions in 2 hour 15 min. Successful candidates must be able to demonstrate a deep understanding of theoretical concepts and exceptional ability in the application of practical mathematical and statistical skills. This Mathematics paper is the third Scholarship paper available to Joint Honours CS candidates.

Completed by:	**Date:**