Foundation Scholarship for JH CS

In the second year (the Senior Fresh year) of all primary degree programmes Trinity College tries to identify, through written examinations, exceptional students and rewards them with a Foundation Scholarship. This award has significant benefits (free fees, rooms, Commons (food!), a small salary) and is quite prestigious.

Information about **applying** to sit Foundation Scholarship examinations, and their timing can be found at https://www.tcd.ie/academicregistry/exams/scholarship/ More detail on Trinity Joint Honours organisation of Schol, and how many papers students take in which subject, is at https://www.tcd.ie/tjh/foundation-scholarship/ This document describes the Computer Science side, only, of the Foundation Scholarship examination in Joint Honours Computer Science. Details of the papers for the other subject will be available separately.

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 material taught up until the end of the first semester in second year and the questions demand a well-developed problem solving ability and a deep understanding of the material. This will require a synthesis and integration of knowledge in all the modules.

There are three Joint Honours CS papers from which students must sit 1, 2 or 3, depending on their chosen pathway and their own choice. All Scholarship candidates sit 4 papers – the remaining papers are as specified for your other subject (Business/Geography/Linguistics).

Paper	**Duration**	**Weighting**	
CS: Computer Programming (XSCH3307)	2 hours	25%	Mandatory for all JH CS candidates
CS: Computer Science (XSCH3478)	2 hours	25%	Mandatory for JH CS candidates taking 2 Schol papers in CS.
CS: Mathematics & Statistics (XSCH3418)	2¼ hours	25%	For JH CS candidates taking 3 Schol papers in CS.

CS: Computer Programming (XSCH3307) - 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. Candidates will be required to answer both 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 the questions will draw on module-specific knowledge in areas such as algorithms and data structures, the questions are also intended to challenge advanced aspects of programming.

CS: Computer Science (XSCH3478) - The **Computer Science** examination addresses the structure and behaviour of computer systems, assembly language programming, and the efficient management of data and information. This examination is compulsory for those majoring in CS and those on the Joint Honours pathway; it may be taken by those minoring in CS. Candidates will be required to answer 3 questions from 4 in a two hour period.

CS: Mathematics & Statistics (XSCH3418) – This paper is taken by those majoring in CS who choose to take 3 papers in CS. It covers topics in mathematics and statistics mainly drawn from the mathematics modules and the statistics modules taught up until the end of the first semester in second year. Mathematics is fundamental to the study of Computer Science. Furthermore, in addition to being theoretical, the study of Mathematics and Statistics involve the development of practical skills relevant to Computer Science. In the Mathematics and Statistics examination, candidates will be required to answer three out of four questions in 2 hour 15 min; two questions are on mathematics, two on statistics. 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.

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