

Foundation Scholarship for ICS

In the second year (the Senior Fresh year) of all primary degree programmes Trinity College tries to identify 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.

If you want to try to obtain a Scholarship, you must sit a set of scholarship examinations, typically in your Senior Fresh year, which are normally held just before Hilary term (i.e. in January) although YOU need to check the dates. To be eligible you must apply online to the Academic Registry in Michaelmas semester during the period specified at <https://www.tcd.ie/academicregistry/exams/scholarship/>. (Normally this period is around the end of October or the beginning of November but again YOU need to check the dates).

Computer Science, as a discipline, combines the application of theoretical concepts with engineering design. The examinations for Foundation Scholarship in Integrated Computer Science will identify exceptional students with this combination of abilities at a level appropriate to one and a half years of study of Computer Science. There are four examinations to sit:

Subject	Duration	Weighting
CS: Mathematics & Statistics (XSCH3071)	3 hours	30%
CS: Computer Programming (XSCH3307)	2 hours	25%
CS: Computer Science (Code to be decided)	2 hours	22.5%
CS: Computer Systems (XSCH3087)	2 hours	22.5%

Past papers are available at <https://www.tcd.ie/academicregistry/exams/past-papers/scholarship/>

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. This entire paper is considered to be the General Section of the Scholarship examination for Computer Science students. 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: Mathematics & Statistics (XSCH3071) – This paper 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 & Statistics examination, candidates will be required to answer four out of six questions on this three-hour examination. There are three sections as follows and students answer at least one question from each section:

- Section A: Two questions based on the study of Mathematics in the Junior Fresh year.
- Section B: Two questions based on the study of Mathematics in the first semester of the Senior Fresh year.
- Section C: Two questions based on the study of Statistics in the Junior Fresh year and in the first semester of the Senior Fresh year.

CS: Computer Science (Code to be decided) - The Computer Science examination addresses the structure and behaviour of computer systems, from assembly language programming, efficient management of data & information, and systems programming. Candidates will be required to answer all three questions on this two-hour examination.

CS: Computer Systems (XSCH3087) - The Computer Systems examination will also assess candidates' problem solving skills but will do so in applied areas such as microprocessor systems and telecommunications. Candidates will be required to answer all three questions on this two hour examination. Again the expectation is that successful candidates will be able to provide considered answers that demonstrate a deep knowledge and understanding of the technologies that they have studied as well as an ability to extend this knowledge to previously unseen technologies or propose alternative approaches to solving problems.