Foundation Scholarship for CSLL

The objective of the Foundation Scholarship examination is to identify students who, at a level of evaluation appropriate to the Senior Freshman year, demonstrate academic excellence reflected by exceptional knowledge and understanding of the relevant subjects in Computer Science, Linguistics and the individual language studied (French, Spanish or Irish).

Besides requiring that candidates show at a relatively early point in the year a mastery of the wide spectrum of components making up the CSLL program, the Scholarship examination is demanding in a further respect. Though the questions will be based on course materials and their understanding, students will encounter at least some questions whose solution is of a type which may never have been rehearsed as such in tutorials or assignments. Such problems will utilize the concepts presented in course materials (mathematical, linguistic and relating to computer programming), and test the ability of candidates to use a non-superficial understanding of these concepts in thinking through and devising solutions. This will require synthesis and integration of knowledge both across all modules and across both years of their study.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Duration</th>
<th>Weight</th>
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<tbody>
<tr>
<td>CS: Computer Programming (XSCH3307)</td>
<td>2 hours</td>
<td>25%</td>
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<tr>
<td>CS: Mathematics (XSCH3419)</td>
<td>2 $\frac{1}{4}$ hours</td>
<td>25%</td>
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<tr>
<td>Linguistics (XSCH3209)</td>
<td>2 hours</td>
<td>25%</td>
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<tr>
<td>Language (XSCH3016 or 3044 or 3063)</td>
<td>varies</td>
<td>25%</td>
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**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 (XSCH3419)** This paper covers topics in mathematics mainly drawn from the mathematics modules taught up until the end of the first semester in second year. Mathematics is fundamental to the study

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$^1$This is Sections A and B of XSCH3071.
of Computer Science. Furthermore, in addition to being theoretical, it involves the development of practical skills relevant to Computer Science. In the Mathematics examination, candidates will be required to answer three out of four questions in 2.25 hours, from

- 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.

Linguistics (XSCH3209) The Linguistics paper has two sections. One section addresses the techniques encountered in the analysis of the word (phonetics, phonology, computational morphology) and drawing material relating to this encountered both in the JF year and the first term of SF year. A second section concerns the analysis of the sentence and will draw on notions encountered in modules concerning syntax and semantics both in the JF year and the first term of SF year.

Language: French (XSCH3016) For those studying French there are two elements. There is a written examination (3016) which requires students to respond in French, in no fewer than 500 words, to one of a series of questions relating to a philosophical, political or social topic. This paper requires students to produce a piece of writing which demonstrates their mastery of the structure of French argumentative texts. This must also reproduce a near-native standard of expression in French, in terms of both idiomatic expression and the use of advanced and appropriate vocabulary relating to the chosen topic. The text must be almost entirely free from grammatical errors. This exam tests the students ability to think critically, to structure these thoughts in a coherent manner, and to express them with grammatical accuracy while corresponding to the rhetorical norms of the French argumentative style. There is also an oral examination which tests ability to communicate to a near-native standard in French. It begins with a five-minute presentation based on a pre-prepared topic, chosen from a list of topics one week in advance of the exam. This is followed by questions from two examiners relating to the presentation itself and the general theme, and, possibly, more general questions unrelated to the theme. This part of the exam requires students first to demonstrate their ability to prepare a well-structured and convincing oral presentation on a philosophical/literary/political topic showing their strength in argumentation and expression in French. Students must then defend their argument using error-free and idiomatic French, which requires both an advanced level of linguistic ability and critical thought. (Expect 1 1/2 hours.)
**Language: Irish (XSCH3044)**  
Beidh aistriúcháin ó Ghaeilge go Béarla agus ó Bhéarla go Gaeilge le déanamh. Measfar cumas aistrithe na niarrthóirí faoi na ceanntheidil saibhreas foclóra, liofacht stíle agus cruinneas teanga (gramadach, litriú, poncaíocht srl.). Ní mór don aistriúchán a bheith dílis don bhuntaí atá ar an láimh amháin agus do chor nádúrtha cainte na spriotheanga ar an láimh eile. Tástálfar máistreachta na n-iarrrthóirí ar ghrámadach na Gaeilge ar an bpáipéar seo freisin le ceachtanna gramadaí. Beidh faillí sa chuid seo bpáipéar anchothasach. (Expect 1 1/2 hours + oral.)

**Language: Spanish (XSCH3063)**  
This two-hour paper on Spanish Language Competence consists of two equally weighted questions. Students complete a translation into English and an essay in Spanish selected from a range of general questions. Students also complete a ten-minute oral exam on a range of general topics. The examination tests students advanced command of the language. Candidates must be able to display a high level of grammatical and syntactical accuracy as well as appropriate use of a wide range of vocabulary.