

Regulations for the Software Engineering Part I Comprehensive Examination

CAS-2012-08

Goal of the Comprehensive Examination

To test graduate level understanding of undergraduate material. The examination should test candidates for breadth of knowledge and the ability to integrate ideas in Software Engineering. The comprehensive examination is an oral examination conducted in two instalments. To guide the candidate in their preparations, the topics covered are separated into two areas:

Areas

1. *Computing Fundamentals*
2. *Software Engineering*

For each of the two areas, candidates will be provided with a written problem statement that will provide an entry point for the oral examination for that area. The subsequent questions in the oral examination are not restricted to the same scope as the written problem statement in that area.

Structure of the Comprehensive Examination

Part I of the Comprehensive Examination consists of two parts, one for each of the two areas listed above.

1. The comprehensive examination must be successfully completed within 24 months of entry.
2. The Department publishes an Examination syllabus. Students should consider taking or auditing those courses that best help them to prepare for the Examination. The courses can be graduate or undergraduate, including directed reading courses (books, papers).
3. The Examination is offered twice a year, normally in November and May. The two parts of the Examination are spread over one or two weeks with a least one day between two successive parts.
4. Students are not required to take all two parts of the Examination at the same offering.
5. To pass the Comprehensive Examination, Part I, students must pass all two parts of the Examination.
6. Students who fail to complete the examination are dismissed but may be allowed to transfer to one of the Master's programs of the Department.

A departmental *Comprehensive Examination Committee for Software Engineering*, appointed by the Department Chair or delegate, prepares and executes the Examination. The committee consists of two Examiners for each of the two areas and a Chair. The two examiners for each area administer the part of the Examination for that area. The Software Engineering Graduate Committee oversees the work of the Examination Committee.

1. Each of the two parts of the Examination is at most 60 minutes, individually given oral test.
2. The two Examiners for an area write a set of written questions, usually four, for that area. These written questions are provided to the students fourteen calendar days in advance of the day on which the oral test for that area is scheduled. The Examiners administer all the oral tests for that area.
3. The oral tests for an area are conducted as follows. For each of the written questions one of the two Examiners is responsible for questioning the student. The Examiner asks the student to give an answer to the question and then explain it. The same Examiner then asks the student questions about his or her answer and possibly follow-up questions related to the topic of the written question. The Examiners must give the student the opportunity to answer all of the written questions within the test's one-hour timeframe.
4. The Chair of the Examination Committee is present at each oral test as an observer.
5. The oral tests are closed book, closed door, and videotaped.
6. For each oral test, the Examination Committee recommends a result to the Computer Science Graduate Committee. There are three possible outcomes: pass with distinction, pass, and fail. The Software Engineering Graduate Committee makes a recommendation to the Department based on the Examination Committee's recommendation.