Chapter 1:   Introduction

1.1   Purpose of this Volume

The primary purpose of this volume is to provide guidance to academic institutions and accreditation agencies about what should constitute an undergraduate software engineering education. These recommendations have been developed by a broad, internationally based group of volunteer participants. This group has taken into account much of the work that has been done in software engineering education over the last quarter of a century. Software engineering curriculum recommendations are of particular relevance, since there is currently a surge in the creation of software engineering degree programs and accreditation processes for such programs have been established in a number of countries.

The recommendations included in this volume are based on a high-level set of characteristics of software engineering graduates presented in Chapter 3. Flowing from these outcomes are the two main contributions of this document:

- SEEK: Software Engineering Education Knowledge - what every SE graduate must know

- Curriculum: ways that this knowledge and the skills fundamental to software engineering can be taught in various contexts

1.2   Where we fit in the Computing Curriculum picture

In 1998, the Association for Computing Machinery (ACM) and the Computer Society of the Institute for Electrical and Electronic Engineers (IEEE-CS) convened a joint-curriculum task force called *Computing Curricula 2001,* or *CC2001* for short. In its original charge, the CC2001 Task Force was asked to develop a set of curricular guidelines that would "match the latest developments of computing technologies in the past decade and endure through the next decade." This task force came to recognize early in the process that they—as a group primarily composed of computer scientists—were ill-equipped to produce guidelines that would cover computing technologies in their entirety. Over the past fifty years, *computing* has become an extremely broad designation that extends well beyond the boundaries of computer science to encompass such independent disciplines as computer engineering, software engineering, information systems, and many others. Given the breadth of that domain, the curriculum task force concluded that no group representing a single specialty could hope to do justice to computing as a whole. At the same time, feedback they received on their initial draft made it clear that the computing education community strongly favored a report that did take into account the breadth of the discipline.