Chapter 1
Introduction

In the fall of 1998, the Computer Society of the Institute for Electrical and Electronic Engineers (IEEE-CS) and the Association for Computing Machinery (ACM) established the Joint Task Force on Computing Curricula 2001 (or CC2001 for short) to undertake a major review of curriculum guidelines for undergraduate programs in computing. The charter of the task force was expressed as follows:

> To review the Joint ACM and IEEE/CS Computing Curricula 1991 and develop a revised and enhanced version for the year 2001 that will match the latest developments of computing technologies in the past decade and endure through the next decade.

As indicated in our charter, the goal of the CC2001 effort is to revise *Computing Curricula 1991* so that it incorporates the developments of the past decade. That task has proved much more daunting than we had originally realized. Computing has changed dramatically over that time in ways that have a profound effect on curriculum design and pedagogy. Moreover, the scope of what we call *computing* has broadened to the point that it is difficult to define it as a single discipline. Past curriculum reports have attempted to merge such disciplines as computer science, computer engineering, and software engineering into a single report about computing education. While such an approach may have seemed reasonable ten years ago, there is no question that computing in the 21st century encompasses many vital disciplines with their own integrity and pedagogical traditions.

1.1 Overall structure of the CC2001 series

In light of the broadening scope of computing—and because the feedback we received on our initial draft strongly encouraged us to move in this direction—we have chosen to divide the CC2001 report into several volumes. This volume focuses specifically on computer science. To encompass the many other disciplines that are part of the overall scope of computing and information technology, however, IEEE-CS and ACM have created additional committees to undertake similar efforts in other areas, including computer engineering, software engineering, and information systems.

Once the individual reports have been completed, representatives from all the disciplines will come together to produce an overview volume that links the series together. That overview volume will contain definitions of the various computing disciplines along with an assessment of the commonalities that exist in the curricular approaches. The structure of the series as a whole is illustrated in Figure 1-1.

1.2 Overview of the CC2001 process

Developing the recommendations in this volume is primarily the responsibility of the CC2001 Task Force, the members of which are listed at the beginning of this report. Given the scale of the CC2001 project and the scope over which it extends, it was necessary to secure the involvement of many other people, representing a wide range of constituencies and areas of expertise. To ensure the broad participation necessary for success in a project of this kind, the task force established a total of 20 focus groups, divided into two distinct categories: Knowledge Focus Groups (KFGs) and Pedagogy Focus Groups (PFGs).