

CSCI S-111. Intensive Introduction to Computer Science Using Java (CRN: 30035)

Henry H. Leitner PhD, , Senior Lecturer on Computer Science and Assistant Dean of Continuing Education for Information Technology, Harvard University

David G. Sullivan SM, Doctoral Candidate in Computer Science, Harvard University

Intended as a fast-paced first course in computer science for students who plan to take more advanced courses in the field or to work extensively with computers. Covers fundamental data structures (arrays, files, stacks, queues, linked lists, trees, graphs), control structures (including recursion), algorithms (sorting, searching, pattern matching), and their implementation in both UNIX and PC-based environments using the programming language Java. Key notions of object-oriented programming (OOP), including encapsulation, inheritance, and abstract data types, will be emphasized. Problem sets will require a minimum of 20 hours of programming each week. Graduate-credit students will be expected to learn to write some additional applications using the abstract windowing toolkit (AWT) and Swing. This course provides complete coverage of the syllabus for the Advanced Placement examination in computer science.