

and skills to students who wish to apply such knowledge within their own graduate areas. Courses currently applicable include: Business 223 Seminar in Organizational Behavior, Psychology 270T Seminar in Applied Behavioral Science, Social Work 273T Seminar in Social Work Practices, and Speech 215 Seminar in Speech Arts. For further information about courses available, consult the office of the Dean of the School of Graduate Studies.

### COMPUTER SCIENCE COURSES (C S C)

In addition to the graduate courses listed below, several undergraduate courses dealing with computers are offered by various departments of the college. They are grouped here for the convenience of students who are interested in the study of computer science or computer applications in specific fields. (See departmental listings for undergraduate course descriptions.)

#### **C S C 180T. Programming in Specialized Computer Languages (2-3)**

**B A 62A Automation and Computer Languages—FORTRAN (3)**

**B A 62B Automation and Computer Languages—COBOL (3)**

**B A 162 Advanced Computer Programming (3)**

**B A 166 Applied Computer Systems (3)**

**B A 168 Data Processing Management (3)**

**B A 169 Machine Language Programming (3)**

**B A 173 Computer Configuration (3)**

**Engr 70 Computer Programming (2)**

**Psych 140T Computer Applications in Psychology (3)**

### GRADUATE COURSES (C S C)

*Note: Prerequisite to all graduate courses: Math 72 and 110, B A 62A or B, 162, and 169 or equivalent, or permission of instructor.*

#### **210. Information Structures (3)**

Structural representation of information; linear lists, strings, arrays, and orthogonal lists; tree and graph structures; multilinked structures; storage systems; storage allocation and utilization; symbol tables; searching and sorting techniques.

#### **220. Programming Languages (3)**

Syntax and semantics specification of languages; parsing; properties of algorithmic languages; list processing, string manipulation, multipurpose, and simulation languages.

#### **227. Computational Methods for Time Series Data (3)**

Prerequisite: Math 107 or equivalent; permission of instructor. Digital processing of single- and multi-channel time series data and preparation of Fortran programs. Z-transforms; correlation and spectral analysis; recursive and convolution filtering; beamforming; power spectrum estimation, other signal-to-noise ratio improvement and signal detection methods.

#### **230. Organization of Computing Systems (3)**

Logic and memory elements; Boolean functions and minimizations; digital arithmetic, storage, control, and input-output facilities; system organization, multiprogramming, multiprocessing, and real-time features.

#### **250. Systems Programming (3)**

Prerequisite: C S C 210, 220, and 230. Batch processing programs, characteristics, and limitations; multiprogramming and multiprocessing systems; addressing techniques, core management, file system design and management, system accounting, and operating system behavior.