

## 6.2.3 BACHELOR OF SCIENCE (COMPUTER SCIENCE)

### Entry Requirements

- i. A candidate pursuing the B.Sc. degree in Computer Science must meet the minimum University entry mean grade of C+ in KCSE or any other entry mean grade/ qualification recognized by the university senate. In addition the candidate must have attained the following minimum grades at KCSE or equivalent qualifications: Mathematics B+, Physics B+ and English C+.  
OR
- ii. Accredited Diploma Holders. Candidates with an accredited Diploma in Computer Science or related field with a credit pass and mean grade of C in KCSE with a C+ in Physics and Mathematics may be admitted into the first year of study and acquire credit transfer for equivalent courses with credit grade at diploma level.

### Examinations

Common University regulations shall apply

### Certification

No certification

### Unit Code and Title

#### Level 100

UCU 100: Communication Skills

SCO 100: Computer Fundamentals

SCO 102: Introduction to Programming

SCO 104: Computer Organization and Architecture I

SCO 106: Electronics

SCO 108: Discrete Mathematics

SCO 110: Mathematical Foundations for Computer Science

UCU 101: Development Studies

UCU 103: Introduction to Critical and Creative Thinking

SCO 103: Object Oriented Programming I

SCO 105: Data Communication Technologies

SCO 113: Foundations of Artificial Intelligence

SCO 109: Linear Algebra for Computer Science

SCO 104: Calculus I

**Level 200**

SCO 200: Object Oriented Programming II  
 SCO 204: Data Structures and Algorithms  
 SCO 206: Database Systems  
 SCO 208: Object Oriented Analysis and Design  
 SMA 200: Calculus II  
 SCO 212: Probability and Statistics for Computer Science  
 SCO 201: Computer Organization and Architecture II  
 SCO 203: Software Testing and Quality Assurance  
 SCO 207: Web Development Technologies  
 SCO 209: Microprocessor and Assembly Language Programming  
 SCO 211: Automata Theory  
 SCO 215: System Analysis and Design  
 SCO 217: Operating Systems  
 SIT 205: Entrepreneurship and Business Planning

**Level 300**

SCO 300: Computer Networks  
 SCO 302: Software Project Management  
 SCO 304: Advanced Database Systems  
 SCO 306: Programming Languages  
 SCO 308: Design and Analysis of Algorithms  
 SCO 310: Component Programming  
 SMA 330: Numerical Analysis I  
 SCO 301: Compiler Construction  
 SCO 303: Simulation and Modelling  
 SCO 305: Computer Graphics  
 SCO 307: Human Computer Interface  
 SCO 309: Research Methods and Technical Writing  
 SCO 311: Electronic Commerce  
 SCO 312: Industrial Attachment

**Level 400**

SCO 400: Project (2 units)  
 SCO 402: Legal and Ethical Issues in Computing  
 SCO 404: Entrepreneurship  
 SCO 406: Computer Systems Security  
 SCO 408: Information Systems Management  
 SCO 410: Distributed Systems  
 SCO 412: Mobile Computing and Wireless Technology  
 ECU 400: Research Methodology

**Select all 4 units from one of the following areas of specialization**

Net Centric Computing  
 SCO 401: Network Management  
 SCO 403: Networked Applications  
 SCO 405: Compression  
 SCO 407: Multimedia Technologies

**Intelligent Systems**

SCO 409: Natural Language Processing

SCO 411: Neural Networks

SCO 413: Robotics

SCO 415: Data Warehouse and Data Mining

**Information Systems**

SCO 417: Geographic Information Systems (GIS)

SCO 419: Enterprise Resource Planning (ERP) Systems

SCO 421: Decision Support Systems

SCO 423: Information System Auditing