

DEPARTMENT OF INFORMATION TECHNOLOGY

1. PROGRAMME LEARNING OUTCOMES:

The programme provides opportunities for the student learners to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have been referenced to the Qualification Descriptors for Level 5 (Honors Bachelor Degree) of the Rwandan National Qualifications Framework for Higher Education Institutions and IEEE/ACM specification for a Degree in Information Technology.

A. Knowledge and Understanding

At the end of the programme learners should be able to demonstrate knowledge and understanding of:

- A1. The application and impact of Information Technology based solutions to real life problems
- A2. The fundamentals of Computer programming; the techniques used to develop Information Technology solutions.
- A3. Current trends, technologies, products, and practices in Information Technology.
- A4. Fundamental skills in mathematics, physics, computer hardware, databases and web technologies .
- A5. Rudimentary but functional understanding of an Information Technology System setup
- A6. Basic problem solving skills
- A7. Computer hardware structures and components
- A8. Strategies for purchasing and installing hardware and software in the customised building of a computer.
- A9. The fundamental premises of Information technology and how to create and troubleshoot IT systems implementations.
- A10. Legal implications of IT practices and implementations

B. Cognitive/Intellectual skills/Application of Knowledge

At the end of the programme learners should be able to:

- B1. Learn to research technology problems
- B2. Provide technology support
- B3. Learn new technology tools.

- B4. Independently acquire new skills in order to keep their skills current.
- B5. Document their work; write clearly and appropriately in an Information Technology context.
- B6. Respect user's data, including backup and security, and to think through the ethical consequences of Information Technology decisions.
- B7. Create IT applications as relevant solutions to common situations and resolve IT system problems.
- B8. Identify computer hardware structure and components and distinguish strategies for purchasing and installing hardware and software in the customized building of a computer.
- B9. Develop a functional skill set to enable them to act entrepreneurially
- B10. Application of the scientific method to problem solving

C. Communication/ICT/Numeracy/Analytic Techniques/Practical Skills

At the end of the programme learners should be able to:

- C1. Learn essential web development skills related to current Internet technologies and protocols, web graphics and multimedia, web authoring and design and web programming.
- C2. Learn essential networking skills including installing, configuring, securing and troubleshooting the devices, protocols and services within a network infrastructure. Students will learn to diagnose and solve network problems.
- C3. Learn essential IT support skills including installing, configuring, securing and troubleshooting operating systems and hardware.
- C4. Students will learn to diagnose and solve operating system problems
- C5. Demonstrate mastery of computing skills to assist their studies and research.
- C6. Exhibit fundamental skills in database and application development using a range of programming languages
- C7. Perform software installations and identify computer hardware basics
- C8. Understand the basic components and functions of a geographic information system
- C9. Show expertise in the theoretical and practical concepts of the design, implementation and maintenance of modern computer communication networks
- C10. Write and debug C, C++, Csharp and JAVA programs.
- C11. Understand basic Internet technologies. Create, publish and maintain websites
- C12. Integrate HTML, CSS, Visual Basic.net and JavaScript into stand-alone and dynamic web pages.
- C13. Design and implement structured, modular, object-oriented and event-driven programs.

C14 Appreciate the impact of good Entrepreneurial & Marketing practices in an IT environment

D. General transferable skills

At the end of the programme learners should be able to:

- D1. Supervise and offer advice on ICT projects at all levels of business enterprises.
- D2. Follow and appreciate ICT trends and developments on global scale.
- D3. Apply Information Technology based solutions to Industry, government and social problems
- D4. Perform analysis and interpretation of data
- D5. Perform a leading role in the management of IT projects.
- D6. Intellectual inquiry
- D7. Information Skills (including researching, selecting and organising)
- D8. Numeracy and Data Analysis, Interpretation and Extrapolation
- D9. Critical and conceptual thinking
- D10. Organisation and Planning (including setting and reviewing priorities)
- D11. Communication and Presentation (written, visual and verbal)