ICT-U CAMEROON, P.O. Box 526 Yaounde, Cameroon

Schools and Programs

DETAILED ICT-U PROGRAMS AND CORRESPONDING CREDIT HOURS

Important note on English as a Second Language (ESL) and International Computer Driving License (ICDL):

English as a Second Language (ESL): The courses detailed in this document are all taught in English. However, students with French or Spanish as their first language will be offered the opportunity to go through a one-semester intensive English as a Second Language (ESL) program to prepare the students for our ICT University courses. This one semester program DOES NOT count towards the student's degree. The details of the ESL program follow the explanation of the ICDL.

International Computer Driving License (ICDL):

The ICDL demonstrates a student's ability to use a computer and its most popular computer applications. Candidates have to pass tests in the following seven modules as the first three (3) credit hour course at ICT-U. The ICDL program is for anyone who wishes to become fully competent in the use of a computer and common applications. Each ICDL module provides a practical program of up-to-date skills and knowledge areas which are validated by a test.

For students to achieve a solid base of skills and knowledge, therefore attaining a minimum level of digital literacy, it is recommended that candidates complete and attain certification in a minimum of four ICDL modules. Students are required to take training on each module prior to taking the test. Each module is tested separately with each test lasting no longer than 45 minutes. For a recommended level of ICT competence to be achieved, a certification of a minimum of seven ICDL modules is appropriate. In order to achieve the ICDL certification, individuals must pass a test for each of the seven modules.

ALL ICT-U students MUST take this course which counts for three (3) credit hours towards their degree. This course will be open to members of the public who just wish to do this as their part of their professional development, without engaging in any of ICT-U's degree programs.

Module 1 - Concepts of ICT

Module 2 - Using the Computer and Managing Files
Module 3 - Word Processing
Module 4 - Spreadsheets
Module 5 - Using Databases
Module 6 - Presentation
Module 7 - Web Browsing and Communication
Module 8 - 2D Computer Aided Design
Module 9 - Image Editing
Module 10 - Web Editing
Module 11 - Health Information Systems Usage
Module 12 - IT Security
Module 13 - Project Planning

English as a Second Language (ESL) Detailed Program: Organized in five modules

English as a Second Language Module 1

Conversation Skills Are Developed

• Reading and writing are important skills, but we begin the ESL program with emphasis on listening and speaking. The main focus of the program is developing one's ability to use English in everyday personal and workplace situations.

The student will receive a student assignment booklet and CD which are designed to help you learn to speak English. The student needs to follow the directions in the student assignment booklet to understand how and when to use each component of the program.

English as a Second Language Module 2

Literacy in the Workplace

The student will learn the essentials of basic English necessary to survive on the job.

• Completing simple forms and asking for directions

• Identifying places at work

• Following simple instructions for using common machines at work

• Greeting customers, taking their orders and offering assistance

• Understanding good work habits

• Working with money, both at work and at home

• Following safety rules at work

• Reading help wanted ads, and completing a job application

English as a Second Language Module 3

Everyday English

The student will learn the essentials of basic English necessary to survive in any English speaking country

• Introducing and completing an identification form

• Reading maps, following directions and using a payphone

• Calendars, times and dates, store hour signs, and the weather

• The supermarket, reading price tags and expiration dates

• Shopping for clothes, comparison shopping, and writing checks

• Buying or renting a home, asking for simple repairs

• Making doctors' appointments, listening to doctors' instructions

• Reading help wanted ads, completing job applications

• Using public transportation and reading traffic signs

English as a Second Language Module 4

Basic Skills in Reading

The student readings include a variety of sources such as popular literature, classical literature, articles, reviews, and workplace-related materials.

• Fiction - includes many different examples from novels and short stories

• Nonfiction - biographies, autobiographies, essays, magazine articles, reviews

• Poetry and Drama - popular, social, and classical aspects of each are covered

• Prose and Visual Information - brochures and ads, calendars and schedules, forms and documents, manuals and handbooks, drawings and diagrams, charts and graphs

English as a Second Language Module 5

Basic Skills in Writing

Writing is a form of expression and communication. When the student writes well, others can understand what they are saying. The student will learn to use the writing process to their advantage.

• Essay and Creative Writing - the writing process, narrative writing, descriptive writing, expository writing, persuasive writing

• Workplace and Personal Writing - letter writing, job search writing, workplace writing, explanatory writing, report writing

• Grammar Guide - mechanics, usage, sentence structure

• Writing Handbook - models, editing, checklist, proofreading

ACADEMIC MAJOR 2: INFORMATION SYSTEMS AND NETWORKING (ISN)

MASTER OF SCIENCE IN INFORMATION SYSTEMS AND NETWORKING (ISN)

Program Overview:

The Master of Science in information Systems and Networking is a two year program for students taking classes in the Spring, Summer and Fall semesters. Regular and part-time students are allowed to go above two years, however, students cannot be allowed in the program after three years. Students are required to complete at least 36 credit hours selected from a list of the core, required and elective courses offered. The course load will consist of the following:

- Completion of Coursework

  - ICT Research Seminars (6 hours)
  - Courses in Area of Concentration (24 hours) (Manuscript development)
  - Quantitative Research Methods/Statistics (3 hours)
  - Qualitative Research Methods (3 hours)

- Master's degree comprehensive examination or Scientific (theory-driven) thesis and a public defense
- Submission/Publication of three peer reviewed journal and three conference articles (facilitated through one-to-one mentoring of ICT-U faculty members)

See a list of some of the core and required courses for the program:

CURRICULUM:

Course name: Introduction to Networked information systems (3credit hours)

Course content: This course covers a general idea of both the technical and applications domains of advanced networked information systems. It includes systems visual data representations, secure information transmission, data-network architectures, architecture, information coding and compression for storage and transmission, complex heterogeneous management.

Course name: Software Process Management (5 credit hours)

Course content: Process improvement concepts such as CMMI, PCMM, and CQI are covered in this course. The concepts show how to evaluate the modern state of software development and provide practice in how to methodically advance and manage the software development process using national and international standards. The enhancement of the software development process and the improvement of the capability of the software experts are both treated in this course. By the end of the course, students will be required to construct a software upgrading plan.

Course name: Management of local Area Networks (3 credit hours)

Course content: This course presents the principles and practices of managing local area networks from the viewpoint of a network systems engineer, including hands-on projects working with a real local area network. Project-based learning experience is incorporated in the course outline. These are presented in terms of the broad organization of information concerning network components and from the standpoint of creating fundamental network management functions. The course also covers methods for diagnosing practical networks, alongside setting up and maintaining an internet protocol network.

Course name: Introduction to Multimedia networking (3 credit hours)

Course content: The introduction of contemporary techniques in multimedia communications, particularly in wireless networks forms the core of this course. The course offers concrete understanding in multimedia communications, stressing up to date trends and practices in modern industry. Student will take part in developing projects using some of the current most advanced technologies.

Course name: Design and Analysis of Network Systems (3 credit hours)

Course content: The course analyses recent networks, including classic telephone and internet protocol. Attention is also given to the characteristics of high-speed networks. It explains the principles of network design, including user-network interface, call processing, routing algorithms, distributed resource management, computational intelligence, distributed network management, and measures of network performance. Emphasis is laid on quality of service; hardware and software in future network design.

Course name: Information Networks I (3 credit hours)

Course content: This is course centered on the functioning of up to date computer networks. Focus is on the substantial and data link levels of the OSI layers and traces the development of client/server computing to the Internet. Topics covered include OSI layering, internet protocol, discrete wave division multiplexing, and local loops.

Course name: Information Systems Security (3 credit hours)

Course content: The course examines the world of systems security with understanding of highly developed network architectures including digital networks. It will make students to be acquainted with architectural design based on topological considerations, bandwidth assignment, connection management, flow control, and routing. It also studies security in optical communications, wireless communications, multimedia, and communication.

Course name: C# Special Topics (5 credit hours)

Course content: The course concentrates on the special topics of C# programming to explain those algorithms and data structures normally seen in routine software development. The course offers students the opportunity to study data structures including queues, stacks, lists, sets, maps, binary search trees, and b-trees. The students also gain knowledge in algorithms such as hashing, searching, sorting, recursion, and iteration.

Course name: Communication Software and Middleware (3 credit hours)

Course content: The course will offer an in-depth understanding of software techniques in communications. It digs into the improvement of models that deal with a broad range of issues in the design of communication software, including hardware and software partitioning. It incorporates topics such as multi-board communications software design and task and table managements. This course also covers communication middleware and agent technologies as enabling technology in networking.

Course name: Integrated Services Multimedia (3credit hours)

Course content: This course presents different types of multimedia information such as graphics, voice and their description; detection techniques for multimedia signals; modeling techniques to symbolize multimedia information; specification of multimedia demonstration based on service requirements; analysis and proportional performances of diverse models; and evaluation of dissimilar multimedia representations to suit user applications and for producing test scenarios for consistency.

Course name: Analytical Methods for Networks (3 credit hours)

Course content: The course is an introduction on contemporary information networks with a prominence on giving the student with the mathematical environment and needed analytical skills for presentation analysis of information networks' protocols. The course work is centered mostly on the bottom three layers of the protocol stack, focusing on delay and throughput analysis. It cover topics which include congestion control, data link layer issues, medium access control, mathematical models for routing in broadcast and point-to-point networks, and flow.

Course name: C# Advanced (5 credit hours)

Course content: This course focuses on the advanced concepts of C# programming such as .NET assemblies, reflection and attributes, processes, appdomains, and contexts. It teaches students how to construct multithreaded applications and applications that involves data using ADO.NET. Students also gain knowledge on .NET remoting and object serialization and deserialization. They acquire skills to construct graphical applications using GDI+.

Course name: Process Innovation and Management (3 credit hours)

Course content: The main focus this course is on the role of information technology in reengineering and strengthening key business processes. It also covers the consequences of organizational structures and processes, as the result of amplified opportunities to set up information and make more efficient business systems.

Course name: Quality Assurance (5 credit hours)

Course content: This embodies software testing all the way through the whole lifecycle of the systems development. Students will carry out peer appraisals. The course will also cover lessons learned and audits.

Course name: Web Programming (5 credit hours)

Course content: This course combines students' skills in web development, programming and databases to produce dynamic websites which cover the use of databases, web services, and mash-ups. It builds on programming concepts studied in JavaScript, Ajax, MySqi, API's and other tools to educate techniques for web programming. Students will relate development paradigms studied in the earlier courses to a team project.