**UNIVERSITY OF GHANA**

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**DEPARTMENT OF COMPUTER SCIENCE**

**SCHOOL OF PHYSICAL AND MATHEMATICAL SCIENCES**

**SEMESTER I 2018/2019 ACADEMIC YEAR**

**COURSE SYLLABUS**

**CSCD201: Information Systems**

**Credits: 3**

**Lecture Period(s) and Venue:**

**Monday 5:30pm -6:25pm (NNB3)**

**Wednesday 1.30pm – 3:25pm (JQB19)**

**Prerequisite**: CSCD101 and/or adequate knowledge of computer systems.

**Office Location**: Computer Science Department, Room 10

**Office Hours**: MONDAYS 11:00HRS TO 14:00HRS GMT WEDNESDAYS 10:00HRS TO 13:00HRS GMT

**E-mail**:

**Teaching Assistant(s):\*\* Yet to be assigned**

**Subject Overview**

This course treats the subject area known as information systems or computer information systems. The course will cover the fundamental business information systems concepts including data, information, systems theory, business organizations as systems, components, roles of information systems, competitive advantage concepts. Business applications concepts; how information technologies are used in modern enterprises to support goals and objectives of organizations. Development processes – developing and implementing business applications using several strategic planning and application development approaches. Issues of information systems security, legal and ethical concern will be discussed.

Adequate knowledge of Computer hardware, software, telecommunications networks and data resource management technologies is required and assumed for the course and will not be taught.

**Course Objective:**

The goal is to help the computer science student learn how to use and manage information technologies to revitalize business processes, improve business decision making and gain competitive advantage.

**Course Delivery:**

Course delivery modes will be mainly lectures , practical and tutorials and group presentations.

**PLAGIARISM POLICY**

The functioning of an academic community depends on the integrity of all of its members. As a member of this community, you are responsible for understanding and adhering to the PLAGIARISM POLICY. Violations include, but are not limited to, cheating on tests and quizzes, unauthorised collaboration on assignments and plagiarism. Violations of the PLAGIARISM POLICY may result in appropriate sanctions, as stipulated in the PLAGIARISM POLICY. The policy is available at <http://www.ug.edu.gh/aqua/policies-guidelines>.

All students are expected to familiarize themselves with the contents of the Policy.

**Attendance & Late Policy**

Prompt and consistent attendance in this course is essential for your success in this course. All assignments are due at 17:00 Hours GMT or 5pm local time on the schedule due date. To make deadlines more manageable, each student will be allowed three late days during the semester for which lateness will not be penalized. No late work will be accepted after the deadline if you have used up all your late days.

**The Use of Technology in the Classroom**

This course will adopt the use of innovations to enhance teaching and learning. Students are required to bring along their lap top computers to lectures. This will help us work collaboratively on building information systems, presentations and projects via the web. For this reason, please use your Google provided Gmail accounts for the entire duration of the course. Mobile phone usage is not encouraged during lectures and tutorials.

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| Grade Determination | Grading Criteria |
| |  |  | | --- | --- | | Grade | Score | | A | 80-100 | | B+ | 75-79 | | B | 70-74 | | C+ | 65-69 | | D+ | 60-64 | | D | 55-59 | | E | 45-49 | | F | <45 | | |  |  | | --- | --- | | Category | Weight | | Final Examination | 60 | | Interim Assessment | 20 | | Attendance | 10 | | Assignment / Information System Project presentation | 10 | | Total | 100 | |

**Reading List**

1. Doyle Stephen, Information Systems for you 3nd ED, nelson thornes, www.nelsonthornes.com
2. O’BRIEN James A. Introduction to Information Systems , Essentials for the e-Business, University of Phoenix
3. Laudon K.C. and LaudonJ.L,Management Information Systems – Organization and Technology, 3rd ED +, Macmillan Publishing
4. Joseph P.T. and Sanjay Mohapatra S.J. ,Management Information Systems in Knowledge Economy, PHI Learning Private Limited
5. Efraim Turban, Kelly Rainer R and Potter R.E. , Introduction To Information Technology, 2010 AFRICAN REPRINT, WILEY
6. Bennett S., McRobb S. and Farmer R.,Object-Oriented System Analysis and Design using UML, McGraw-Hill
7. Brian Corr, Business Information Systems, A modular series, DP Publications

**Quizzes/Assignments**

There will be quizzes, assignments and mini project covering databases, organizations and business information systems concepts to access your understanding of the subject matter. Quizzes will follow the completion of major topics.

**IA & Exam**

The exams will cover material presented in the course materials and class. The IA would cover materials based on week 1 up the current week. The coverage of the exam would be discussed as the period draws nearer.

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| **WEEK** | **TOPIC** | **OBJECTIVES** | **EXPECTATIONS** | **READING LIST** |
| 1 | INTRODUCTION AND OVERVIEW | To introduce the subject of Information Systems from two perspectives - first as a subject in the area of computer science and second as solution to problems in organisations with emphasis on modern Business organisations | Be able to distinguish between information system as a subject area in computer science and information systems as solution to problems – application in organizations.  Be able to give both the technical and business definition of information systems  Know the aims and role of IS in modern organisations | Read Course material CSCD201Module1-Deifinitions |
| 2 | DATA   * Definition * Properties of data * Organising data (Data hierarchy) * Entity and attributes (database concepts) * Data capture and Data Entry and controls * Data verification and validation | To stress the importance of data as resource for information processing. To teach the student the concepts involved in identifying sources of data, organising data for capture, storage and processing in computer systems and preserving the integrity of maintained data in databases | * Be able to define data * Be able to organise data for computation/ processing * Be able to identify various data types * Be able to define validation rules * Be able to do basic database operations (create table structures and do data entry) | Read Course material CSCD201Module1-Data |
| 2 | INFORMATION   * Definition * Uses of Information * Sources of Information * Qualities of Good Information * Functions performed by Information | To introduce the nature of information and how it is derived from data. The role of information in business organisations. The qualities of good information. The functions information performs in business organisations. | Be able to define the term information.  Be able to distinguish between the technical and business definitions | Read Course material CSCD201Module2-INFORMATION |
| 3 | GENERAL SYSTEM THEORY   * Definition * Importance of GST in Information System development process * Generic Components of systems * Synergy in systems | To teach the student the theoretical aspects of systems  To know and relate the system theory to the development of reliable Information Systems in organisations  To teach the system view of organisations | * Be able to define systems * Identify the various components of systems and their functions * Differentiate between closed systems and open systems * Be able to apply the systemic view of solving complex problems | Read Course material CSCD201Module3-General System Theory  Object-Oriented System Analysis and Design using UML |
| 4 | ORGANISATIONS   * Definition * Organisations as systems * Organisational structure * Levels of management and their decision making * The Need of information in organisations | To teach students the nature of business organizations / the system view of organization/ functions of management and the need for information in decision making | Expected to know the organization structure/ levels of management/ lines of authority and levels of decision making. How information requirements vary in the organization and how this dictates the various business Information Systems | Read Course material on ORGAIZATIONS |
| 5 | INFORMATION SYSTEMS   * Definition * Components * Types * Information Architecture |  | Be able to define Information System from the Business and technical perspectives. Identify the components. Define Information Architecture and its relevance to development | Read Course material CSCD201Module6-BUSINESS FUNCTIONAL APPLICATIONS |
| 6 | Business Information Systems  Their nature and major characteristics   * Transaction Processing Systems (TPS) * Management Information Systems (MIS) * Decision Support Systems (DSS) / Expert Systems * Knowledge work Systems (KWS) * Data work systems (DWS) * Executive Support Systems ( ESS) | Nature and features of Six Business Information Systems commonly used in organizations. Their roles in organizations. The types are closely linked to the levels of management. How to build them. | Know and be able to describe the nature and features of the major six business Information Systems. Practice the use of databases and electronic spreadsheets to process data and generate information | Read Course material CSCD201Module6-BUSINESS FUNCTIONAL APPLICATIONS |
| 6 | STRATEGIC INFORMATION SYSTEM (SIS)   * Nature and major characteristics * Business Process Reengineering * Information Products | How organizations face competition at the market place by using information systems. | Know the difference between SIS and the other Business Information Systems. Know the reasons why SIS are designed and used. | Read Course material CSCD201Module7-STRATEGIC INFORMATION SYSTEMS |
| **7** | **INTERIM ASSESSMENT** | | | |
| 8 | INFORMATION SYSTEM BUILDING METHODS –DEVELOPMENT   * TRADITIONAL SYSTEMS LIFE CYCLE * PROTOTYPING * APPLICATION PACKAGES * END-USER DEVELOPMENT * OUTSOURCING | Teach the student the stages involved in system analysis and design leading to development and deployment | Student must be aware of the methodology : Fact finding, feasibility study, analysis phase, system design, testing the system, implementing the new system, documentation, system evaluation. Detail practical application of the methodology not required. | Read Course material CSCD201Module6-BUSINESS FUNCTIONAL APPLICATIONS  Doyle Stephen, Information Systems for you 2nd ED |
| 9 | Information systems supporting e-Commerce Models   * Portals * e-Business Model * digital signatures * encryption * e-Services | Electronic-commerce as a result of the Internet technology. How modern organizations are exploiting it | Students must understand the e-Business model and the e-Services. Must be able to build simple web-driven application using HTML. Create portals. | Management Information Systems in Knowledge Economy |
| 10 | Information systems for Mobile Commerce  Mobile commerce   * GPRS * WAP Programming * Wireless Technologies | Identify available modern tools in Ghana | No details will be required of students. Students knowledge of various tools used in this area would be sufficient. | Management Information Systems in Knowledge Economy |
| 11 | Information System Security | Computer security and software security issues | Know and be able to define security terminologies. How to prevent theft of the technologies and more importantly backing up data. | Management Information Systems in Knowledge Economy |
| 12 | COMPUTERS AND THE LAW  The Data Protection Act | Highlight areas of the data Protection Act 2012, Ghana and Data Protection Act 1998, UK. Computers and Privacy | Students must be conversant with the legal implications of processing data more so private data. The actors under the law and their roles. | Doyle Stephen, Information Systems for you 2nd ED |
| 13 | The Social effects of Information Systems | The Environmental, ethical, moral and social issues raised by the information systems developed for use in organizations | Students must be able to argue for and against the use of Information Systems / Information Technology in organizations. Changing employment patterns, cashless society, use of the internet etc. | Doyle Stephen, Information Systems for you 2nd ED |