UNIVERSITY of GUYANA

THE INSTITUTE of DISTANCE and CONTINUING EDUCATION

a) INTRODUCTION:

Title:

BSC COMPUTING, INFORMATION TECHNOLOGY AND BUSINESS

General description:

The Programme, BSc Computing, Information Technology and Business was developed using Open Education Resources from the Commonwealth of Learning (creative commons license/shareware), University of Guyana Home Grown Courses and Content. The programme will produce a graduate with broad based Computing, Information Technology and Business related IT skills. Graduates of the degree can establish their own businesses or pursue careers in the Private and Public Sector in occupations such as Data Base Administrators, Web Designers, IT Consultants, Web Marketers/Managers, and IT Managers.

b) JUSTIFICATION FOR THE PROGRAMME AND EXPECTED ANNUAL STUDENT INTAKE:

The programme is intended an alternative to the online BSc Computing and Information Technology and provides opportunities for persons irrespective of their geographical location to acquire a degree fully online. Persons enrolled will no longer be required to take tests/assessments/examination physical setting. This is made possible through the enhancements made to the University of Guyana Learning Management System which provides many of the safeguards available for the writing of tests/examination.

The expected annual intake is 20 students who can come from persons who had graduated from the Berbice Campus in the Associate Degree in Computer Science, persons working in the Information and Communication Technology Fields, Entrepreneurs or prospective Entrepreneurs, Secondary School Graduates who are desirous of furthering their education or enhancing their current computer related skills.

c) COMMENCEMENT DATE: By January, 2021

d) ENTRANCE REQUIREMENTS:

- Five subjects CSEC/GCE O Levels, Grades I to III inclusive of English Language and Mathematics.
- Students who have completed the Diploma in Mobile Applications Development.
- Mature candidates with lesser qualifications must pass the UG entrance examination before being admitted into the programme.
- Any other qualification considered acceptable by the University of Guyana.

e) PROGRAMME DETAILS

Students are expected to complete **163** credits of studies to be awarded the degree in four years. Students who need to exit the programme before completing all four years will be awarded an Associate Degree in Computing, Information Technology and Business once they have successfully completed the first two years of the programme with the understanding that there will be no reentry into the programme should the circumstances which caused the premature exit from the programme change.

Credits measure the student workload required for the successful completion of the programme or with 10 credits representing 10 hours of work per week (4 hours of instructor/tutor led instruction/contact, 1 hour of self-study, 1 hour run time for videos/simulations, 1 hour viewing audios, 1 hour posting to/participation in groups, 2 hours' time spent understanding/reading content).

Table 1 presents the programme details for the BSc Computing, Information Technology and Information Systems

PROGRAMME EVALUATION AND GRADING SCHEME:

Students are expected to achieve a GPA of 2.0 to be eligible to graduate.

3.4 to 4.0 = Distinction
3.3 to 2.7 = Credit
2.6 to 2.0 = Pass
< 2.0 = Fail

Table 1: Programme Profile BSc. Computing, Information Technology and Business

YEAR	COURSE CODE	COURSE TITLE	CREDITS	SEMESTER	COMMENT
1	ENG 1108	Introduction to Use of English	10	1	Old Course – On books
1	CSO 1003	Introduction to Computers	10	1	New (COL-OER)
1	DMA 1102	Introduction to Databases	4	1	On books – Course in Diploma in Mobile Application Development (COL-OER)
1	CSO 1006	Introduction to Programming	10	1	New Home grown- Adapted from FNS Course Outline
1	ENG 1208	Technical Communication	10	2	Old Course – On books
1	CWA 1202	Web Programming 1	4	2	On book – Course in Certificate in Web Development
1	CSO 1005	Mathematics for Computing and IT Professionals	10	2	New Course Outline Home grown
			58		
YEAR 2					
2	DMA 2101	Introduction to Windows and IOS	4	1	On books – Course in Diploma in Mobile Application Development (COL-OER)
2	DMA 2103	Programming with Java	4	1	On books – Course in Diploma in Mobile Application Development (COL-OER)
2	CSO 2005	Internet Technologies	10	1	New Course Outline - Homegrown
2	CSO 2006	IOT and Cloud Computing	3	2	New (COL-OER
2	CWA 1203	Web Programming II	4	2	On books – Course in Certificate in Web Development
2	CSE 2100	Data Structures and Analysis of Algorithms	4	2	On books- Course in Associate of Science Degree in Computer Science

2	CSO 2007	Introduction to Entrepreneurship	4	2	COL - OER - New course outline
			33		
YEAR 3					
3	CSO 3005	Business Research: An Introduction	10	1	New (COL-OER) Course Outline t
3	CSO 3006	Digital Marketing	10	1	New(COL, OER) Course Outline
3	CSO 3007	Computer Security, Forensic and Ethical Hacking	10	1	New (COL, OER) Course Outline
3	CSO 3008	Business Information Systems	10	2	New (COL,OER) Course Outline
3	CSO 3009	Business Plan Development	10	2	New (COL-OER) Course Outline
			50		
YEAR 4					
4	CSO 4007	Principles of Management	10	1	NEW(COL,OER) Course Outline
4	CSO 4006	The Computer and Information Technology Research Project	12	1 & 2	New Homegrown Course Outline
			22		
TOTAL PROGRAMME CREDITS 163					

UNIVERSITY of GUYANA

COURSE CODE AND NAME: ENG 1108, Introduction to the Use of English

Duration: 15 weeks (4 hours of synchronous instructor lead time per week)

Credits: 10

Lecturer:

Exemptions

There are no exemptions for this course.

Pre-Requisites/Co-Requisites
None required.

Follow-on Course:
There is no follow-on course.

Course Description
The Introduction to the Use of English is a foundation course required for students who enter the University of Guyana and are largely from Creole speaking backgrounds. The course introduces students to language as it is used in academic settings and targets the development of reading and writing skills for the tasks required at university. It aims to provide interactive settings for students to develop and increase their language awareness and attain confidence to aim for mastery of oral and written Standard English.

Objectives of Course
The objectives of the course are to enable participants/students to:

- Increase their awareness in language;
- Acquire skills in listening/viewing/reading and responding to English used in academic settings;
- Think critical and improve the level of comprehension of written English;

- Develop skills in writing well-developed essays on topical issues.

Student Learning Outcomes

On completion of the course, students will be able to:

- differentiate between literal and interpretative meanings;
- write good topic/thesis statements;
- construct well developed essays on topical issues which are error free;
- use the correct form of the verb in oral and written communication;
- use rhetorical strategies in writing;

Course content:

Week 1:	Introduction to language in the Guyana context
Weeks 2, 3, 4	Different types of writings: Expository, Descriptive, Persuasive, and Narrative
Week 5	Rhetorical strategies and paragraphing
Week 6	Literal and interpretative meanings
Weeks 7 – 8	Higher order level of thinking; analysis, synthesis and evaluation - Sentence construction.
Weeks 9, 10, 11, 12	Essay writing – topic, thesis, paragraphing, structure and development
Week 13	Evaluation
Week 14 -15	Grammar- punctuation, vocabulary, verbs, tenses

Method of Assessment:

Course work:

Portfolio (5 pieces)	=	25%
Two in-class tests	=	50%

Final Assessment/Examination:

One three-hour written paper = 50%

Grading Scheme:

A 100 - 75%
B 74 - 65%
C 64 - 55%
D 54 - 40%
F 39 % & below Fail

Recommended Readings

Bailey, S (2011). Academic Writing: A Handbook for International Students. 3rd Ed. London: Routledge. Gillett, A. (2012). Using English for Academic Purposes: A Guide for Students in Higher Education, Online at http:www.uefap.com

Lowe, C and Zemliansky, P. (eds) (2009). Writing Spaces: Readings on Writing. Vol. 1 Indiana: Parlour Press

Lowe, C and Zemliansky, P. (eds) (2009). Writing Spaces: Readings on Writing. Vol. 2 Indiana: Parlour Press

UNIVERSITY of GUYANA

THE INSTITUTE of DISTANCE and CONTINUING EDUCATION

DISTANCE EDUCATION UNIT

CODE AND COURSE NAME: CSO 1003, Introduction to Computers

Duration: 15 weeks (4 hours of synchronous instructor lead time per week)

Credits: 10

Lecturer:

Exemptions

There are no exemptions for this course.

Pre-Requisites/Co-Requisites

Follow-on Course:

The follow on course is CSO 3008, Business Information Systems

Course Description

The Introduction to Computers course will prepare future entrepreneurs to operate computer hardware and software applications. Participants will gain an understanding of computer hardware, information systems, operating systems, office applications and networks. It will ensure the entrepreneur is able to apply the concepts of networks, the Internet, World Wide Web, and mobile technologies and how they could potentially support a successful business operation.

Objectives of Course

The objectives of the course are to enable participants/students to prepare future entrepreneurs to operate computer hardware and software applications. Participants will gain an understanding of computer hardware, operating systems, office applications and networks. It will ensure the entrepreneur is able to apply the concepts of networks, the Internet, World Wide Web, and mobile technologies and how they could potentially support a successful business operation.

Student Learning Outcomes

On completion of the course, students will be able to:

1. Examine the impact of computer technology on society, education, industry, government and business.
2. Distinguish between Information Technology and Information Systems.
3. Operate a personal computer and computer peripherals.
4. Explain effective computer practices such as backup, updating, troubleshooting, etc.
5. Explain the differences between network software, operating software and application software.
6. Produce simple documents and presentations using Microsoft Word and PowerPoint.
7. Describe a typical network and network hardware.
8. Explain the difference between the Internet and World Wide Web.
9. Explore and search the World Wide Web using a browser to research information.

Course Content

UNIT 1: IMPACT AND HISTORY OF COMPUTERS

Topic 1:	Computer Technology – An Introduction
Topic 2:	Information Technology and Information Systems– The Fundamentals
Topic 3:	Computer Technology in Work and Play

UNIT 2: COMPUTER HARDWARE

Topic 1:	The Evolution of Computer Technology
Topic 2:	Computer Hardware and Peripherals
Topic 3:	Computers and Computing
Topic 4:	Data Processing

UNIT 3: SOFTWARE

Topic 1: Operating systems, utility programs and language translators.

Topic 2: Application software

UNIT 4: FILE AND DATA MANAGEMENT

Topic 1: Disk and File Management Operations

UNIT 5: INPUT AND OUTPUT DEVICES

Topic 1: Keyboard and Pointing Input Devices.

Topic 2: Direct Input Devices.

Topic 3: Softcopy Output Devices.

Topic 4: Hardcopy Output Devices.

Topic 5: Storage Devices.

UNIT 6: COMMUNICATIONS AND CONNECTIVITY

Topic 1: Communicating using Technology

Topic 2: Connecting Computers

METHOD OF TEACHING

The main teaching methods for this course are a combination of synchronous instructions, group discussions, case studies and tutorials.

METHOD OF ASSESSMENT:

MAJOR ASSIGNMENT

The major assignment for this course is to produce a detailed analysis of the hardware, software and network requirements for a small business and its growth over three to five years. The assignment will require the participants to produce the following:

1. Three to five page report using a word processor of your choice (e.g. MS Word, Open Office Word, etc.).

2. Presentation of five to ten slides that describes the technology solutions reflected in the written report. The slides must incorporate graphics. The participant may select the presentation software to be used to produce the project presentation.

3. The third part of the assignment is to create a spreadsheet that illustrates to cost of the equipment and the annual operation of the technology support required by the business. You should include the creation of a web site as part of the marketing solution. Participants may select the spreadsheet software to be used to produce the budget.

4. All three files should be emailed to your instructor for feedback and review.

More details are provided in the Course Summary.

COURSE SCHEDULE

The instructor will provide a proposed course schedule based on the length of the semester and any additional assignments or activities that he or she requires of the course participants.

HARDWARE AND SOFTWARE

Computer Requirements: This course requires that you have access to a printer and computer with Office software that is connected to the Internet. Your institution may provide access to their computer lab or you may use your home or local community computer resources.

Software Requirements: Each student will be required to have access to Microsoft Office or Open Office that includes a word professor, presentation software, spreadsheets and data base program. Open Office is an open source equivalent of Microsoft Office and can be downloaded free from the Internet.

Assignment 1	-	20 marks
Assignment 2	-	20 marks
Total	-	40 marks
Final Assignment		60 marks
Total		100 marks

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the final examination, and a minimum of forty-five percent (45%) of the total marks.

RECOMMENDED READING

UNIT 2: Kopplin, J. (2002). An Illustrated History of Computers. Computer Science Lab. Retrieved November 10, 2007 from: **http://www.computersciencelab.com/ComputerHistory/History.htm**.

UNIT 3: Microsoft Corporation. (2006). Windows History. Available at:

http://www.microsoft.com/windows/WinHistoryDesktop.mspx.

McLean, P. (2007). Road to MAC OS X: Safari 3.0. Appleinsider. Available at:

http://www.appleinsider.com/articles/07/10/18/road_to_mac_os_x_leopard_safari_3_0.htm&page=1

Reimer, J. (2005). A History of the GUI. Ars Technia. Available at: **http://arstechnica.com/articles/paedia/gui.ars/1**.

UNIT 4: University of Virginia. (2007). Resources: File Management. Information Technology Centre. Available at: **http://itc.virginia.edu/desktop/docs/fms/**.

UNIT 5: Soojung-Kim Pang, A. (2002). Mighty Mouse. Stanford Magazine. Available at: **http://www.stanfordalumni.org/news/magazine/2002/marapr/features/mouse.html**.

UNIT 6: NCI Frederick Communications. (2005). Networking Introduction. Available at: **http://comm.ncifcrf.gov/networking/networkintro.html**.

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION

DISTANCE EDUCATION UNIT

COURSE CODE AND NAME: DMA 1102, Introduction to Databases

No. of Credits: 4

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Name of Lecturer:

UG EQUIVALENT:

CSE 2102 - Database Systems Design and Information Management

EXEMPTIONS:

This course is a component of the Diploma in Mobile Application Development. Persons who have passed this course with at least a Grade of "C" are exempted from taking this course.

PRE & CO-REQUISITES:

There are no pre or co requisites for this course.

FOLLOW-ON COURSE:

There is no follow-on course.

COURSE DESCRIPTION:

This course will equip students with ICT skills which include theory and practical of fundamental concepts of database management systems, data modelling techniques, data normalization, Structured Query Language (SQL) and finally, database development process. At the end of this course, you should be able to take a real world case scenario and create a database that adhere to a user requirements and required functions.

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

OBJECTIVES OF COURSE:

The objectives of the course are to enable participants/students to:

- Explain the basic definition and characteristics of databases.
- Compare and contrast different roles of database end users.
- Differentiate between various data models.
- Design physical database schema for given user requirements.
- Develop an entity-relationship model based on user requirements.
- Normalize a set of relational schema to a third normal form.
- Describe and use data definition language commands (SQL).
- Describe and use data manipulation commands (SQL).
- Describe how to join tables for use in SQL.
- Design, Implement and Test a database according to given user requirements.

STUDENT LEARNING OUTCOMES

Upon completion of the course, students will be able to:

1. Describe what a database is and how it functions.
2. Outline various properties of a database.
3. Explain the roles of different database end users.
4. Compare and contrast the different databases based on their classification.
5. Explain how database technology has evolved.
6. Describe the limitations of file-based systems.
7. Identify different application areas of database.
8. Explain the basic concepts of data modelling.
9. Identify different levels of database architecture as viewed by users.
10. Explain the concept of data independence and its importance in a database system
11. Compare and contrast between logical and physical data independence.
12. Explain the basic concepts behind data models.
13. Categorize different types of data models.
14. Describe the basic differences between relational, hierarchical, object-oriented and network database models.
15. Describe the fundamental concepts and notations in relational data model.
16. Explain the various types of relationships in the Relational Data Model.
17. Describe the basic properties of a table.
18. Describe the significance ER Model in database design.
19. Explain the entity-relationship model and its components.
20. Convert user requirements into an ER Model.
21. Describe the basic concepts of data integrity rules.
22. Specify integrity constraints and how to enforce them.
23. Identify business rules when gathering user requirements.
24. Explain the basic concepts of data redundancy in database design.

25. Compare and contrast different types of data anomalies.
26. Apply various techniques in removing data anomalies during database design.
27. Describe the concept of functional dependency.
28. Compare and contrast different types of functional dependencies.
29. Identify various types of inference rules in relation to FD.
30. Use n dependency diagram tool to define FD.
31. Describe the fundamental concepts of normalization.
32. Compare and Contrast different types of normal forms.
33. Normalize a database relation to a third normal form.
34. Describe different SQL - DDL commands.
35. Identify where and when to use the appropriate SQL DDL commands.
36. Create database by using SQL DDL commands.
37. Produce set of database tables using DDL commands.
38. Describe the various types of integrity constraints and how they are used.
39. Construct basic queries using Distinct Clause.
40. Construct basic queries using Where Clause.
41. Construct basic queries using Sand/Or operator.
42. Construct basic queries using Aggregate Functions.
43. Construct basic queries using Order By Clause.
44. Construct basic queries using Special Operator.
45. Explain the different methods for joining tables.
46. Construct advanced queries of two or more tables using join operations.
47. Explain the basic concepts of software development life cycle.
48. Outline user requirements for database design and implementation process.
49. Convert user requirements into a logical design.
50. Recognize the logical design and implement the database.
51. Test and maintain the implemented database.

COURSE CONTENT:

Week 1: Introduction to Database Systems

: Database History

Week 2: Data Modelling

: Data Models

Week 3: Relational Data Model

Week 4: Entity Relationship Model

Week 5: Integrity Rules and Constraints

Week 6: Relational Design and Redundancy

: Test

Week 7: Functional Dependencies

Week 8: Introduction to Data Normalization

Week 9-10: Introduction to SQL

Week 11-12: SQL – Data Manipulation Language

Week 13: SQL – Join Statements

Week 14: Database Development Process

Week 15: Revision and Final Examination

TEACHING METHODOLOGIES:

The course material as well as several Assessments, e-Activities and Tutorials will be delivered online learning.

METHOD OF ASSESSMENT:

One Test	10%
Project	16%
Five Forums	10%
Journal	4%
Two Assignments	20%
Total	60%
Final Examination	40%
TOTAL:	**100%**

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the **Final Examination**, and a minimum of forty-five percent (45%) of the course work marks.

REFERENCE AND FURTHER READING

Lukwaro, E and Mbwete, G. Introduction to Database. [Online]. Available:

http://oasis.col.org/handle/11599/2835[Access 30.05.18]

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION

DISTANCE EDUCATION UNIT

COURSE CODE AND NAME: CSO 1006, Introduction to Programming

No. of Credits: **10**

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Name of Lecturer:

Description:

This course is designed for students with little or no prior programming experience. This course introduces the fundamental concepts of general programming with the use of the Python programming language as the tool. The course additionally offers a prologue to the authentic and social setting of figuring and programming specifically. In addition, this course will expand student's knowledge in problem solving and critical thinking: Problem-solving strategies; the role of algorithms in the problem-solving process; implementation strategies for algorithms; troubleshooting techniques; the idea and properties of algorithms.

Exemption(s):

There are no exemptions for this course.

Objectives:

The objectives of the course are to enable participants have a good understanding of general programming and provide them with opportunities to develop their critical thinking and problem solving skills.

Learning Outcomes:

At the end of this course, students will be able to:

1. Explain the development of programming languages.
2. Identify the basic terminology used in computer programming.
3. Explain the process and tools used in running a programs.
4. Differentiate between programming language paradigms.
5. Write, compile and debug programs in Python.
6. Use different data types in a computer program.
7. Design programs involving decision constructs, loops and functions.

8. Explain number type conversion.
9. Design programs using string operators and methods.
10. Discuss the use of list, tuples and dictionary.
11. Explain the difference between call by value and call by reference
12. Make appropriate decisions about when to use macros vs functions
13. Create/update basic data files.

Course Content:

Week 1: A chronological history of programming languages

Overview of Python

Python Environment – installing and running python

Week 2: Basic syntax – identifiers, reserved keywords, lines and indentation, quotation, comments and multiple line statements

Week 3: Variables

Basic operators

Week 4: Decision statements

Week 5: Looping construct: while loop and for loop

Test # 1

Week 6: Numerical types

Casting

Pre-defined functions

Week 7: String – special operators, formatting operators and methods

Week 8: Basic List operations: creating, updating and deleting

List functions & methods

Week 9: Basic Tuples operations: creating, updating and deleting

Tuple functions

Week 10: Dictionary: creating, updating and deleting

Dictionary functions & methods

Test # 2

Week 11: Function definition

Call by value vs call by reference

Week 12: Modules: *import* statement

Global and local functions

Packages

Week 13: Files I/O

Week 14 -15: Revision

Method of Evaluation:

Coursework	**(60%)**
4 Assignments (10% each)	40%
2 Test (10% each)	20%
Final Examination	40 %
	100%

Grading Scheme:

E = 75% - 100%
F = 65% to 74%
G = 55% to 64%
H = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the **Final Examination**, and a minimum of forty-five percent (45%) of the course work marks.

Recommended Reading (s):

- Zelle, J. (2010). *Python Programming An introduction to computer science (2nd Ed.)* Portland, Oregon: Franklin, Beedle & Associates Inc.
- Dawson, M. (2003). *Python Programming for Absolute Beginners (3rd Ed.)*

Course Code	ENG 1208
Course Title	Technical Communication
Number of Credit	10 credits
Programme Stage	One
Mode of delivery	Distance Mode
Co-requisites and Pre-requisites	None
Duration in weeks	Not applicable

Course summary

This course is designed to help students develop the communication skills that are essential for individuals to competently function in a professional, scientific or technical environment. It is intended to develop students' proficiency in writing reports that reflect extensive knowledge and clear understanding of the procedures/methods employed in acquiring and analyzing data.

Learning outcomes

At the end of the course the student would be able to:

- develop an understanding of the fundamental characteristics and functions of technical communication
- apply current conventions and techniques to compose letters, memoranda, e-mail messages and other business correspondence
- engage in various stages of the planning and writing process to produce well-structured, well-written proposals and reports
- appropriately use information from the internet, library databases and other information sources
- increase their communicative competence in the use of English through form- and
- meaning-focused activities (e.g., language exercises, drama routines, and field excursions).

Course content:

Introduction to Technical Communication (TC)

Writing within an Organization: Format & Layout of Business Documents: Letters, memoranda and Emails

Writing Summaries

Planning and Writing Proposals

Designing and Delivering Oral Presentations

Planning and Writing Technical Report.

Recommended Readings

Boveé, Courtland L. and John V. Thill. Business Communication Today. Eighth Edition. New Jersey: Prentice Hall, 2005.

Kennedy, Mary L. and Hadley M. Smith. Reading and Writing in the Academic Community. New Jersey: Prentice Hall, Inc., 1994

Kirszner, Laurine G. and Stephen R. Mandell. The Holt Handbook. Fifth Edition. San Diego: Harcourt Brace College, 1999

Markel, Mike. Technical Communication: Situations and Strategies. Fourth Edition. New York: St. Martin's Press Inc., 1996.

Merriam-Webster's Guide to Business Correspondence. Second Edition. Massachusetts: Merriam-Webster Inc., 1996.

Evaluation

Coursework: Three (3) assessments = 50%

Examination: One three-hour written paper = 50%

Note: Students MUST obtain a PASS in BOTH Coursework and Examination for successful completion of this course.

Grading Scheme:

A 100 - 75%

B 74 - 65%

C 64 - 55%

D 54 - 40%

F 39 % & below Fail

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

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DISTANCE EDUCATION UNIT

COURSE CODE AND TITLE: CWA 1202, Web Programming-1 (Client side Scripting)

No. of Credits: 4

Duration: 15 weeks (8 hrs. /week)

Name of Lecturer:

UG EQUIVALENT:

CSE 2201 Internet Computing I

EXEMPTIONS:

There are no exemptions for this course.

PRE & CO-REQUISITES:

There are no pre or co requisites for this course.

FOLLOW-ON COURSE:

There is no follow-on course.

COURSE DESCRIPTION:

This course provides an introduction to web development and client-side scripting. After providing a review of HTML5 and CSS, the course provides exposer to the concepts of web programming using client side scripting. The course covers basic construction of web page, cascading style sheet, and java script. The course provides a solid foundation in computer programming in Javascript: syntax and data structures, AJAX, DOM, and JS libraries. The students will gain an understanding of the popular libraries that power rich web applications such as JQuery and AngularJS to build rich web applications.

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

OBJECTIVES OF COURSE:

The objectives of the course are to enable participants/students to:

1. Demonstrate and understand the basic concepts of web programming
2. Write well-structured, easily maintained, standards-compliant, web pages using HTML and CSS code.
3. Use JavaScript to add dynamic content to pages that meet specific needs and interests.
4. Use JavaScript libraries jQuery and AngularJS to create dynamic pages.
5. Apply techniques of form validation using Java Script.
6. Describe important concepts related to client side Web Security.

STUDENT LEARNING OUTCOMES:

Upon completion of the course, students will be able to:

7. Explain the basics of World Wide Web and its related concepts.
8. Differentiate between static and dynamic web pages.
9. Identify the characteristics of a website.
10. Explain web development process model.
11. Explain the importance of web technologies.
12. Explain basic concepts of Hypertext Markup Language.
13. Use basic HTML tags to format your webpages.
14. Apply hyperlinks to other documents.
15. Display images and multimedia on your pages.
16. Develop a basic form for taking user input.
17. Use different methods of writing CSS.
18. Explain the basic properties of CSS.
19. Write comments to explain CSS code.
20. Use box model and control the opacity of an image.
21. Implement an image gallery using CSS.
22. Explain JavaScript syntax.

23. Write JavaScript statements and functions.
24. Use a text editor (such as notepad) to type and save your JavaScript code and view its output in a browser.
25. Use of operators in JavaScript.
26. Explain the concept of arrays and its associated operations.
27. Implement JavaScript conditions.
28. Explain JavaScript Events.
29. Use loops for different programming constructs.
30. Validate different input types in a form.
31. Explain DOM and its working.
32. Use DOM Methods, Document and events in JavaScript.
33. Determine values of screen width and height.
34. Identify the location of a web page in JavaScript.
35. Explain the working of the JavaScript navigators.
36. Use popup boxes in JavaScript code.
37. Load jQuery in your computer.
38. Explain the syntax of jQuery and use jQuery Selectors.
39. Use events and effects to make your web pages interactive.
40. Use jQuery to validate different input fields of form.
41. Load AngularJS in your computer or use it through CDN.
42. Explain the syntax of AngularJS.
43. Use directive to enhance the functionality of your web page.
44. Copy filters to format data.
45. Explain the concept of data binding
46. Explain basic concept of web security.
47. Explain the principles of web security.
48. Identify common client side attacks.
49. Explain CAPTCHA role and its implementation.
50. Implement measures to protect web applications from vulnerabilities of security threats.

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

COURSE CONTENT:

Week 1: Introduction to Web Programming

Week 2-3: HTML

Week 4-5: Basics of CSS

Week 6: JavaScript

Week 7: Test

Week 8-9: JavaScript

Week 10: JavaScript

Week 11-12: jQuery

Week 13-14: AngularJS

Week 15: Web Security

Week 16: Revision and Final Examination

TEACHING METHODOLOGIES:

The course subject material as well as several Assessments, e-Activities and Tutorials will be delivered via Blended (online and face-to-face) learning. The Final Examination will be conducted in a classroom setting (face-to-face).

METHOD OF ASSESSMENT:

One Test	10%
Project	16%
Five Forums	10%
Journal	4%
Two Assignments	20%
Total	60%
Final Examination	40%
TOTAL:	100%

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

GRADING SCHEME:

A. = 75% - 100%
B. = 65% to 74%
C. = 55% to 64%
D. = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the Final Examination, and a minimum of forty-five percent (45%) of the total marks.

REFERENCE AND FURTHER READING

Ahmad, H, Ahmed, M and Haider, S. Web Programming 1. [Online]. Available: http://oasis.col.org/handle/11599/2844[Access 30.05.18]

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE AND CONTINUING EDUCATION

DISTANCE EDUCATION UNIT

Course Coda and Name: CSO 1005, Mathematics for Computing and IT Professionals

Course Credit: 10

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Lecturer:

Description: This course is a first year course intended for students pursuing the BSc. Computing and Information Technology and Information Systems program online. This course is intended as a mathematical foundation to Computing and Information Technology Professions. Students will be equip with the fecundation skills in mathematics, statistics and discrete structures required for the computing discipline.

Exemption(s): There are no exemptions for this course.

Learning Outcomes:

At the end of this course, students will be able to:

1. Describe the basics of number theory.
2. Maneuver and simplify algebraic expressions proficiently and reliably.
3. Solve systems of equations proficiently and reliably.
4. Apply matrix operations to solve systems of linear equations.
5. Employ the properties of functions to sketch its graph.
6. Identify, describe and use various trigonometric ratios and apply them in problem solving.
7. Explain the basic notions of Set Theory.
8. Use appropriate descriptive and inferential statistical techniques to interpret data and information.
9. Describe basic logic used in algorithm development.
10. Formulate a problem in logical terms.
11. Use Mathematical Software to solve problems

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

Course Content:

Week 1 & 2	Factors & Fractions Modular Arithmetic Arithmetic Functions
Week 3	Laws of Algebra Systems of linear equations (up to 3 variables)
Week 4	Methods of solving quadratic equations (factorization, quadratic formula, completing the square & graphically) Minimum & maximum points of the quadratic
Week 5	Functions & graphs (sketch quadratic, cubic and reciprocal functions)
Week 6	Matrix Operations Determinant & Inverse Gaussian Elimination Solutions of Systems of Linear Equations
Week 7	Measure of Angles Trigonometric Ratios Trigonometric Identities Test # 1
Week 8	Set Theory (Intersections, Unions, Complements, Universal Sets, Set Difference, Venn Diagrams) Set algebra Set Proofs
Week 9	Discrete Probability Bayes' Theorem Permutation & Combination
Week 10	Data Classification Methods of data collection Sampling Techniques Bar charts, Pie charts & Pictograms
Week 11	Normal Distributions – Properties and Applications The Standard Normal Distribution
Week 12	Logical propositions Logical equivalence Truth Tables

Week 13 Predicate Logic
Predicates and Quantified Statements
Arguments with Quantified Statements

Week 14 Valid and Invalid Arguments
Modus Ponens
Modus Tollens

Week 15 Graph Theory (basic properties)
Directed graphs
Models of Computation

Method of Evaluation:

Coursework (60%)

3 Assignments (15% each)	45%
Test	15%

Final Examination 40 %

Grading Scheme:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the Final Examination, and a minimum of forty-five percent (45%) of the total marks.

Recommended Reading (s):

- Bostock, L. & Chandler, F. (2013). *Core mathematics advanced level (3rd ed.)* Oxford, UK: Oxford University Press
- Rosen, K, H. (2019). Discrete Mathematics and It's Applications (8th ed) New York, NY: McGraw-Hill

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

COURSE CODE AND NAME: DMA 2101, Introduction to Windows Mobile & IOS

No. of Credits: 4

Duration: 15 weeks (4 hours of synchronous instructor lead time per week)

Name of Lecturer: NA

UG EQUIVALENT: NA

EXEMPTIONS:

This course is a component of the Diploma in Mobile Application Development. Persons who have passed this course with at least a Grade of "C" are exempted from taking this course.

PRE & CO-REQUISITES:

There are no pre or co requisites for this course.

FOLLOW-ON COURSE:

There is no follow-on course.

COURSE DESCRIPTION:
This course "Introduction to Windows Mobile and iOS" will help learners to design and develop a simple mobile App in Windows and iOS. This course also covers the architecture of Windows and iOS. It is also useful to know about user interfaces for development of apps in Windows and iOS. After going through this course, you will be able to design simple apps with database and you will be able use database for apps in Windows and iOS.

OBJECTIVES OF COURSE:
The objectives of the course are to enable participants/students to:

STUDENT LEARNING OUTCOMES

Upon completion of the course, students will be able to:

1. Explain the features of Microsoft Visual Studio (MVC).
2. Identify the requirements for mobile application development.
3. Develop the environment for mobile application development.
4. Design simulators in Windows.
5. Design debugger in Windows.
6. Write and test your first app.
7. Explain the Universal Windows Platform.
8. Identify efficient ways to build apps.
9. Explain the basic features of Extensible Application Markup Language.
10. Define the purpose and use of User Interface.
11. Use UI controls in application development.
12. Explore .Net Framework.
13. Explain the basics of C# Language.
14. Write small C# application.
15. Define the concept of MVC.
16. Explain responsive design techniques.
17. Explain various layout panels and its use case scenario.
18. Explain the use of navigation panel.
19. Discuss the Usage of gesture control for touch based devices.
20. Define various XAML controls used in UI design.
21. Explain the basics of SQLITE.
22. Explain the Importance of SQLITE.
23. Write different commands of SQLITE.
24. Loading of SQLITE.
25. Write a small code in SQLITE.
26. Publish or subscribe eventing services.
27. Lower resource consumption problem can be resolved.
28. List the components of a camera.
29. Explain the process of image capturing.
30. Explain the features of windows camera.
31. Explain what Xcode means.
32. Use the iOS languages.
33. Explain what Simulators means.
34. Explain the importance of a Debugger.
35. Explain the setup of an iOS development environment.
36. Explain the concept of Auto Layout.
37. Explain what is storyboarding.
38. Explain UI control.
39. Explain the components of UI control.
40. Explain the basics of Swift.

41. Explain the methodology of Swift.
42. Explain the MVC Framework.
43. Explain the interaction of Objective C & Swift.
44. Explain the basic features of Playground.
45. Explain the concept of Model-View-Controller.
46. Explain what are Top Label Panels. **iOS: Vie.**
47. Explain Gesture Handing.
48. Explain the Navigation Controllers.
49. Explain Model-View-Controller of Model-View-Controller.
50. Explain the storage of data on IOS.
51. Differentiate know the difference between the storage technologies.
52. Explain the different storage technologies.
53. Differentiate between User Defaults /Sqlite/Core Data.
54. Explain the use and applications of core data.
55. Explain what Web Services means.
56. List the major classes of Web Service.
57. Explain the functions of web services.
58. Explain data consumption in IOS.
59. Explain the IOS Services Architecture.
60. Explain what threading is about.
61. Explain the types and categories of threading.
62. Explain synchronization.
63. Explain what UI threats are.
64. Explain what background threads are

CONTENT:

BLOCK 1: BASICS OF WINDOWS MOBILE

Week 1: Development Environment

Week 2: User Interface for Windows Mobile

Week 3: Introduction to C#

Week 4: Windows Mobile: Layout Controllers and Model

BLOCK 2: DEVELOPING APPS WITH IOS

Week 5: Storage in Windows Mobile

: Integrating with Web Services in Windows Mobile

Week 6: Multi-Threading in Windows Mobile

: Interaction with Camera in Windows Mobile

BLOCK 3: BASIC OF iOS
Week 7: Development Environment

: Test

Week 8: User Interface for iOS

Week 9: Introduction to Swift

Week 10: iOS Controllers and Model

BLOCK 4: developing apps with ios

Week 11: Storage in iOS

Week 12: Integrating with Web Services in iOS

Week 13: Multi-Threading in iOS

Week 14: Interaction with Camera in iOS

Week 15: Revision and Final Examination

TEACHING METHODOLOGIES:
The course subject material as well as several Assessments and e-Activities will be delivered via online learning. The Final Examination will be conducted online.

METHOD OF ASSESSMENT:

One Test	10%
Project	16%
Five Forums	10%
Journal	4%
Two Assignments	20%
Total	60%
Final Examination	40%
TOTAL:	**100%**

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the **Final Examination**, and a minimum of forty-five percent (45%) of the course work marks.

REFERENCE AND FURTHER READING

Astya,P, et al. Introduction to Windows Mobile. [Online]. Available: http://oasis.col.org/handle/11599/2838[Access 30.05.18]

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

COURSE CODE AND NAME: DMA 2103, Programming Using Java

No. of Credits: 4

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Name of Lecturer: NA

UG EQUIVALENT:

CSE 2200 – Contemporary Programming Paradigms

EXEMPTIONS:

There are no exemptions for this course.

PRE & CO-REQUISITES:

There are no pre or co requisites for this course.

FOLLOW-ON COURSE:

There is no follow-on course.

COURSE DESCRIPTION:

Java is a general-purpose computer programming language that is concurrent, class-based, object oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" (WORA), meaning that compiled Java code can run on all platforms that support Java without the need for recompilation.

OBJECTIVES OF COURSE:
The objectives of the course are to enable participants/students to:

- Explain Java as a platform consisting of virtual machine and execution environment.

- Understand and explain the different editions of java platform that can be used to create Java programs.
- Understand and explain Java Database Connectivity and how to achieve such connectivity.
- Understand the proper installation of JDK and setting up the environment for creating Java programs.
- Explain the use of classes and objects and identify how they simply process of creating complex program.
- Proper understanding and use of selection, decision and repetition.

STUDENT LEARNING OUTCOMES:

Upon completion of the course, students will be able to:

1. Understand the concepts of Java programming.
2. Understand the need for Java as a platform independent language.
3. Understand the different editions of Java.
4. Understand Java databases.
5. Understand system requirement for different operating systems.
6. Understand how to set up a working Java platform and environment.
7. Data Types in Java programming.
8. Use Keywords in Java programming.
9. Use Variables and Literals in Java programming.
10. Use Operators in Java programming.
11. Execute Selection as a mechanism for controlling the flow of a program.
12. Execute the if statement, the if-else statement, and the switch statement.
13. Execute Nested selection statements.
14. Execute the else-if construction.
15. Execute the switch statement.
16. Execute Repetitive statement.
17. Execute the while statement.
18. Encapsulation and data hiding.
19. Use keyword this.
20. Use static variables and methods.
21. Import static members of a class.
22. Use the enum type to create sets of constants with unique identifiers.
23. Identify enum constants with parameters.
24. Organize classes in packages to promote reuse.
25. Relate how inheritance promotes software reusability.
26. Relate the notions of super classes and sub classes and the relationship between them.
27. Use keyword extends to create a class that inherits attributes and behaviors from another class.
28. Use access modifier protected to give subclass methods access to superclass members.

29. Use superclass members with super.
30. Explain how constructors are used in inheritance hierarchies.
31. Explain methods of class Object, the direct or indirect superclass of all classes
32. Explain the concept of polymorphism.
33. Use overridden methods to effect polymorphism.
34. Distinguish between abstract and concrete classes.
35. Use abstract methods to create abstract classes.
36. Explain how polymorphism makes systems extensible and maintainable.
37. Determine an object's type at execution time.
38. Explain and implement interfaces.

CONTENT:

Week 1: Introduction
Week 2: Installing the Java Development Kit (JDK)

Week 3: Basic Syntax

Week 4-6: Selection, Decision & Repetition

Week 7: Test
Week 8-9: Objects and Classes

Week 10: Polymorphism

Week 11-14: Revision
Week 15: Final Examination

TEACHING METHODOLOGIES:

The course subject material as well as several Assessments, e-Activities and Tutorials will be delivered via online learning. The Final Examination will be conducted online.

METHOD OF ASSESSMENT:

One Test	10%
Project	16%
Five Forums	10%
Journal	4%
Two Assignments	20%
Total	60%
Final Examination	40%
TOTAL:	**100%**

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%

C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the **Final Examination**, and a minimum of forty-five percent (45%) of the course work marks.

REFERENCE AAND FURTHER READING

Alhassan, M, JalilChobe, A and Ndunagu, J. Programming Using Java. [Online]. Available:

http://oasis.col.org/handle/11599/2840[Access 30.05.18]

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

Course Code and Name: CSO 2005, Internet Technologies

Course Credit: 10

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Lecturer:

Description: This course is a second year course intended for students pursuing the BSc. Computing and Information Technology and Information Systems program online. This course reflects on how emerging technologies will empower society to do more with the Internet and provide students with the requisite knowledge of the internet, World Wide Web and internet tools available for IT Professionals.

Exemption(s): There are no exemptions for this course.

Learning Outcomes:

At the end of this course, students will be able to:

12. Identify the usefulness of the Internet.
13. Describe reference models of the internet.
14. Demonstrate understanding of the Domain Name System.
15. Apply internet protocols to develop solutions to online business platform.
16. Identify internet services associated with doing business online.
17. Explain the infrastructure and data transfer mechanisms of the Internet.
18. Discuss contemporary issues related to the Internet and World Wide Web.
19. Discuss e-mail operations and etiquettes when send e-mails.
20. Explain the features of web browsers.
21. Discuss the benefits and limitations of Internet collaboration tools.
22. Apply internet security protocols to utility computing.

Course Content:

Week 1	History & evolution of the WWW Architecture and features of the WWW Internet, Intranet & Extranet
Week 2	ISO Model TCP/IP Model Internet Protocols
Week 3	IP Addresses Uniform Resource Locator Absolute & Relative URL Domain Name Architecture
Week 4	Internet Services Internet Connectivity Video conferencing Making PDF's Accessible
Week 5	E-mail protocols E-mail workings & operations Topographies of E-mail
Week 6	E-mail etiquettes & Security Popularity of e-mail providers
Week 7	Use of a Web Browser Bookmark & History Uploading & Downloading Plug-ins
Week 8	Types of Web Browsers Site advantages Web Servers Proxy Servers
Week 9	Surfing & Searching Referencing & Plagiarism
Week 10	Website Types Design & Development Publishing, Registration & Hosting
Week 11	Website Security Tools & Techniques Monetization

Week 12	Search Engine Components Search Engine Architecture Search Engine Optimisation
Week 13	Online Education Social Networking News Groups & Mailing list
Week 14	Data Encryption Data Encryption Standards Encryption tools & techniques
Week 15	Digital Signature Firewall Security

METHOD OF EVALUATION:

Coursework (60%)	
Assignments	20%
Quizzes	20%
Research paper	20%
Final Examination	40 %

Grading Scheme:

A. = 75% - 100%
B. = 65% to 74%
C. = 55% to 64%
D. = 45% to 54%
F. = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the Final Examination, and a minimum of forty-five percent (45%) of the total marks.

RECOMMENDED READING (S):

- Deitel, H. M., Deitel, P. J., & Nieto, T. R. (2012). *Internet & world wide web (5th ed.).* Prentice Hall.
- Miller, J. (2008). *Internet Technologies and Information Services (2nd ed.).* Libraries Unlimited.
- Sutherland, K. (2000) *Understanding the Internet.* Buttweworth-Heineman
- Frick, E. (2019). *Information Technology Essentials*. Frick Industries LLC.
- Vermaat, M. (2017). *Discovering Computers.* Cengage Learning.

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

COURSE CODE AND TITLE: **CSO 2006, IOT AND CLOUD COMPUTING**

No. of Credits: 3

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Name of Lecturer: NA

UG EQUIVALENT:

EXEMPTIONS:

There are no exemptions for this course.

PRE & CO-REQUISITES:
This course requires learners to have prior knowledge of programming in Java.

FOLLOW-ON COURSE:

There is no follow-on course.

COURSE DESCRIPTION:

The course provides an overview of the Internet of Things (IoT) and Cloud Computing concepts, infrastructures and capabilities. This will help students gain the necessary knowledge to construct IoT systems and use cloud services for processing and storage of the data produced by the IoT devices. Emphasis will be placed on the architecture and design of IoT systems, the different technologies (wireless/mobile/sensor) governing system implementation and the migration of the data to the Cloud for processing. This module aims to develop knowledge and critical understanding of the underlying principles of Cloud Computing and IoT systems, and the commercial and business implications of technical advances in this area. Students will gain

practical experience in the development of Cloud-based IoT systems and exposure to appropriate hardware and software platforms that underpin such development.

OBJECTIVES OF COURSE:

The objectives of the course are to enable participants/students to:

1. Describe the IoT and Cloud architectures

2. Determine the right sensors and communication protocols to use in a particular IoT system.

3. Deploy Cloud Services using different cloud technologies.

4. Implement cloud computing elements such virtual machines, web apps, mobile services, etc.

5. Establish data migration techniques from IoT devices to the cloud.

6. Implement security features to protect data stored in the cloud.

7. Use visualisation techniques to show data generated from the IoT device.

STUDENT LEARNING OUTCOMES

Upon completion of the course, students will be able to:

1. Describe the IoT and Cloud architectures.

2. Determine the right sensors and communication protocols to use in a particular IoT system.

3. Deploy Cloud Services using different cloud technologies.

4. Implement cloud computing elements such virtual machines, web apps, mobile services, etc.

5. Establish data migration techniques from IoT devices to the cloud.

6. Implement security features to protect data stored in the cloud.

7. Use visualisation techniques to show data generated from the IoT device.

COURSE CONTENT

This course is divided into 4 modules, namely:

1. Introduction to IoT and Cloud

2. Internet of Things

3. Cloud Computing

4. Application of IoT and Cloud

Unit 1: Introduction to IoT & Cloud

- Topic 1: Trends of Computing
- Topic 2: Introduction to IoT

Unit 2: Internet of Things

- Topic 1: IoT Architectures
- Topic 2: IoT Devices and Sensors
- Topic 3: IoT communication and protocols

Unit 3: Cloud Computing

- Topic 1: Cloud Computing Fundamentals
- Topic 2: Cloud Computing Architectures
- Topic 3: Cloud Types and Services
- Topic 4: Virtualization and Resource Management

Unit 4: Application of IoT & Cloud

- Topic 1: IoT and cloud integration
- Topic 2: Application development and cloud processing
- Topic 3: Security and Privacy for IoT/Cloud Computing

METHOD OF TEACHING

METHOD OF ASSESSMENT

There are no examinations; course is fully assessed by Coursework as specified below:

- Assignment (main) - 50%
- Activities - 40%
- Online participation - 10%

GRADING SCHEME:

A. = 75% - 100%
B. = 65% to 74%
C. = 55% to 64%
D. = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the **Final Examination**, and a minimum of forty-five percent (45%) of the total marks.

Coursework		Weightage
1. Main Assignment	Report with codes and screenshot: 1- IoT module implementation 2- Working with Big Data 3- Upload and analysing data from IoT Device Detailed assessment criteria to be prepared for students, given that the weightage is high	**50%**
2. Activities	Essay on topics related to the content covered in the module to enhance the knowledge in that particular module.	**40%**
3. Online Participation	Quiz after each module/topic to assess understanding.	**10%**
Total Percentage		**100**

VIDEO RESOURCES

UNIT 1: https://www.youtube.com/watch?v=9OZKXG1Ey0c

https://www.youtube.com/watch?v=On2CfJ_qNxU

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https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ

UNIT 2: https://www.youtube.com/watch?v=SFUFgnjAPSo

UNIT 3: https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ

https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ

https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ

https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ

https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ

https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ

UNIT 4: https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ

RECOMMENDED READINGS

- Arrington, M. (2016). Gmail Disaster: Reports Of Mass Email Deletions. [Online] TechCrunch. Available at: https://techcrunch.com/2006/12/28/gmail-disaster-reports-of-mass-email-deletions/ [Accessed 19 May 2018].
- Arthur, C. (2018). Security leak leaves US Apple iPad owners at risk. [Online] the Guardian. Available at: https://www.theguardian.com/technology/2010/jun/10/apple-ipad-security-leak [Accessed 19 May 2018].
- Domo.com. (2018). Connecting Your Data, Systems & People | Domo. [Online] Available at: https://www.domo.com/ [Accessed 19 May 2018].
- Etherington, D. (2017). Amazon AWS S3 outage is breaking things for a lot of websites and apps. [Online] TechCrunch. Available at: https://techcrunch.com/2017/02/28/amazon-aws-s3-outage-is-breaking-things-for-a-lot-of-websites-and-apps/ [Accessed 19 May 2018].
- IBM Research. (2018). Research at IBM. [Online] Available at: https://www.research.ibm.com/files/pdfs/gto_booklet_executive_review_march_12.pdf [Accessed 19 May 2018]

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UNIVERSITY of GUYANA

THE INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

COURSE CODE AND TITLE: CWA 1203, **Web Programming II (Server Side Scripting)**

No. of Credits: 4

Duration: 15 weeks (8 hrs. /week)

Name of Lecturer: NA

UG EQUIVALENT:

CSE 3101 – Internet Computing II

EXEMPTIONS:

There are no exemptions for this course.

PRE & CO-REQUISITES:

There are no pre or co requisites for this course.

FOLLOW-ON COURSE:

There is no follow-on course.

COURSE DESCRIPTION:

This course will help you understand, what web programming is and why you might want to do it. Many applications work well as a web application. Web programming is the practice of writing applications that run on a web server and can be used by many different people. Web programming allows you to turn a simple, static HTML page into a dynamic masterpiece. It allows others to interact with your web site and use the application on any computer with Internet access. It is often easier than programming applications that will run directly on the

computer. It allows you to make or edit anything dynamic on your website, such as a forum, a guestbook, or even a form submission.

OBJECTIVES OF COURSE:

The objectives of the course are to enable participants/students to:

- Describe the purpose of Client/Server Architecture.
- Explain Internet Protocols.
- Demonstrate how web works.
- Describe importance of Web Programming languages.
- Develop database-driven application using PHP and MySQL.
- Write code to create session and cookies in PHP application.
- Develop application using AJAX to communicate and exchange data to and from server and database.
- Describe different types of websites and web system's attacks.

STUDENT LEARNING OUTCOMES:

Upon completion of the course, students will be able to:

1. Explain how Client-Server systems work.
2. Differentiate between two-tier and three-tier architectures.
3. Describe multi-tier architectures.
4. Differentiate different Internet Protocols
5. Explain how Hypertext Transfer Protocol works.
6. Differentiate PHP to other Server-Side scripting Languages.
7. Differentiate CGI to other Server-Side scripting Languages.
8. Differentiate Perl to other Server-Side scripting Languages.
9. Differentiate JSP to other Server-Side scripting Languages.
10. Differentiate ASP to other Server-Side scripting Languages.
11. Differentiate NET Python to other Server-Side scripting Languages.
12. Differentiate Cold Fusion to other Server-Side scripting Languages.
13. Describe the basic structure of a PHP Script.
14. Identify PHP Error Messages.
15. Differentiate PHP Functions and Objects.
16. Write a simple PHP script.
17. Develop application using PHP script.
18. Write codes used in PHP to connect to MySQL database.

19. Describe how the MySQL server can accessed.
20. Explain how to Display Content in a Web Page.
21. Write codes to Query a MySQL Database with PHP. Pprepare a Database.
22. Explain how ‘sessions’ work.
23. Write PHP codes illustrating starting or resuming a Session.
24. Explain how session data are stored.
25. Explain process of reading session data.
26. Explain how a session is destroyed.
27. Define Ajax and how it is implemented.
28. Explain the technologies combined in Ajax.
29. Explain how asynchronous processing is handled using Ajax.
30. Describe the formats and protocols used by AJAX.
31. Explain all features of Perl.
32. Describe different ways to run Perl program.
33. Explain Arithmetic in Perl.
34. Categorize different subroutines in Perl.
35. Explain the major difference between Perl and PHP.
36. Explain how to create and use JQuery.
37. Explain all feature of jQuery.
38. Explain how jQuery Works.
39. Explain when to use jQuery.
40. Identify useful jQuery Functions.
41. Explain how to read, write and delete cookies in jQuery.
42. Identify and understand CGI environment variables.
43. Explain what is CGI.
44. Describe the uses for CGI.
45. Describe Drawbacks of using CGI.
46. Explain how CGI technology works.
47. Run CGI programs on the web servers.
48. Identify the ways used to connect client browsers to CGI Programs.
49. Describe how hackers find security vulnerabilities.
50. Explain how hackers exploit web applications.
51. Describe different types of web sites and web system’s attacks.
52. Describe Solution to web sites and web system’s attacks.

COURSE CONTENT:

Week 1:	Client Server Architecture and Web Protocols
Week 2:	Introduction to Sever Side Scripting and Technologies
Week 3-4:	PHP Scripting Language
Week 5:	Interacting with Database
Week 6:	Sessions and Cookies in PHP
Week 7:	Test
Week 8-9:	Introduction to AJAX
Week 10:	Introduction to Perl
Week 11:	Introduction to jQuery
Week 12:	Introduction to Common Gateway Interface (CGI)
Week 13:	Web Application Security
Week 14:	**Revision**
Week 15:	**Final Examination**

TEACHING METHODOLOGIES:

The course subject material as well as several Assessments, e-Activities and Tutorials will be delivered via online learning. The Final Examination will also be conducted online.

METHOD OF ASSESSMENT:

Two Test	10%
Project	16%
Five Forums	10%
Journal	4%
Two Assignments	20%
Total	60%
Final Examination	40%
TOTAL:	**100%**

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

GRADING SCHEME:
A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the **Final Examination**, and a minimum of forty-five percent (45%) of the total marks.

REFERENCE AND FURTHER READING

Ombeni, M and Thomas, E. Web Programming 11. [Online].

Available: http://oasis.col.org/handle/11599/2845 [Access 30.05.18]

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

UNIVERSITY of GUYANA

THE INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

CODE AND COURSE NAME: **CSO 2007,** Introduction to Entrepreneurship

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Credits: 4

Lecturer:

Exemptions
There are no exemptions for this course.

Pre-Requisites/Co-Requisites
Nil

Follow-on Course:
There is no follow-on course.

Course Description
Introduction to Entrepreneurship will introduce future business owners to the concepts and principles of entrepreneurship. The course will introduce the role entrepreneurs play in the local business environment and the impact of entrepreneurship on the national economy. This course will explore many of the concepts that future entrepreneurs must master before they start their business. It is a course that mixes theory with practice. Learners will be challenged to apply the principles, concepts and framework to real world situations.

Objectives of Course
The objectives of the course are to empower participants/students with the knowledge and skills required to establish their own businesses.

Student Learning Outcomes
Recognize the entrepreneurial potential within yourself.
Describe the role of entrepreneurship within society.
Explain the impact of entrepreneurship on the individual, the family and the local community.
Explain the process and nature of entrepreneurship.

Identify ways in which entrepreneurship manifests itself in society, including startups and within the corporate environment, public sector and non-profit sector.
Identify and assess potential business opportunities.
Explore how business opportunities can be turned into sustainable business opportunities.
Explore a typical business model for an entrepreneurship enterprise.
Explain the business planning process and its outputs.
Explain how the start-up process works.

Course Content

UNIT ONE- ENTREPRENEURSHIP

TOPIC 1.1 – THE NATURE OF ENTREPRENEURSHIP
TOPIC 1.2 – THE ROLE OF ENTREPRENEURSHIP IN SOCIETY
TOPIC 1.3 – CHARACTERISTICS OF AN ENTREPRENEUR

UNIT TWO– FROM IDEAS TO A SUSTAINABLE BUSINESS

TOPIC 2.1 – THE ENTREPRENEURIAL PROCESS
TOPIC 2.2 – OPPORTUNITY RECOGNITION
TOPIC 2.3 – COMING UP WITH A BUSINESS IDEA FOR START-UP
TOPIC 2.4 – DEVELOPING YOUR BUSINESS CONCEPT

UNIT THREE – NEW BUSINESS VENTURES

TOPIC 3.1 – LEGAL CONSIDERATIONS
TOPIC 3.2 – THE COMPETITION
TOPIC 3.3 – FINANCING YOUR NEW BUSINESS
TOPIC 3.4 – MARKETING AND SALES

UNIT FOUR - THE BUSINESS PLAN

TOPIC 4.1 – THE BUSINESS MODEL TOPIC 4.2 – BUSINESS PLANNING

UNIT FIVE - MARKETING, TECHNOLOGY, LEGAL AND ETHICAL CONSIDERATIONS

TOPIC 5.1 - MARKETING AND THE ENTREPRENEUR
TOPIC 5.2 – TECHNOLOGY AND THE ENTREPRENEUR
TOPIC 5.3 - LEGAL AND ETHICAL CONSIDERATIONS

METHOD OF TEACHING

The main teaching methods for this course are a combination of lectures, group activities, assignments, case studies and tutorials.

METHOD OF ASSESSMENT:

Assignment 1 - 15 marks

Assignment 2	-	15marks
Assessment 1	-	10 marks
Total	-	40 marks
Final Assessment	-	60 marks
Total	-	100 marks

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the final examination, and a minimum of forty-five percent (45%) of the total mark

RECOMMENDED READING

Benade, I., Gases, C., Louw, W., Stegemann, A., Wannberg, W. (2011) *Entrepreneurship*.

Namibian College of Open Learning.

Commonwealth of Learning and Virtual University of the Small States (2010) *Starting Your Own Business, A Self-Study Guide*

Cronje, G., du Toit, G., and Motlatla, M. (2003) *Introduction to Business Management*. Cape Town: Oxford University Press.

Gerber, M.E. (1986). The E-Myth: Why Most Businesses Don't Work and What To Do About It. Ballinger Publishing.

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

COURSE CODE AND TITLE: **CSO 3007, Computer Security, Forensic and Ethical Hacking**

No. of Credits: 10

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Name of Lecturer: NA

UG EQUIVALENT:

EXEMPTIONS:

There are no exemptions for this course.

COURSE DESCRIPTION

The aim of this course is to equip learners with the knowledge and techniques for computer forensics practices and evidence analysis. It prepares learners to use various forensic investigation approaches and tools necessary to start a computer forensics investigation. It also aims at increasing the knowledge and understanding in cyber security and ethical hacking.

OBJECTIVES OF COURSE

1. Define computer forensics.
2. Identify the process in taking digital evidence.
3. Describe how to conduct an investigation using methods of memory, operating system, network and email forensics.
4. Assess the different forensics tools.
5. Differentiate among different types of security attacks.
6. Describe the concept of ethical hacking.

STUDENT LEARNING OUTCOMES

UNIT I

- define the terms computer crime, cybercrime and computer forensics
- identify some digital forensic investigation methods
- explain what is meant by forensic readiness
- identify computer hardware components
- define defragmentation
- identify the hardware components for networking
- define file systems, types of file systems, file system categories

UNIT 2

- define memory forensics
- explain the importance of searching memory for evidence, shadow walker
- define Live Response
- identify the categories of data that can be collected from memory
- explain different commands used for getting data from different parts of the system
- differentiate between Hardware Data Acquisition and Software Data Acquisition

UNIT 3

- identify how files are deleted
- recover deleted files and partitions
- utilise forensic tools to acquire digital information
- explore the Windows Registry for important information

UNIT 4

- explain what is meant by security incident, first response
- identify incidents based on the category of Low, Mid or High level
- explain how to secure and evaluate different electronic crime scenes
- explain how to conduct preliminary interviews
- explain how to document electronic crime scenes
- identify the process to collect and preserve electronic evidences
- explain how the packaging and transport of electronic evidences should be carried out

UNIT 5

- differentiate between ethical hackers and malicious hackers
- identify the different types of hackers and hacking
- structure the ethical hacking process
- define malwares
- differentiate among the different types of malwares and the threats posed by them
- recognise the symptoms of a malware
- describe the process life cycle of a malware
- propose tools for malware detection and for providing safeguards against such malwares

COURSE CONTENT

There are five units in this course:

Unit 1 - Introduction (Week 1, 2 & 3)

Topics to be covered:

-Introduction to Computer Forensics

-Computer Hardware

-Understanding File System

Unit 2 - Forensics Categories (Week 4, 5, 6 & 7)

Topics to be covered:

-Memory Forensics

-Operating system forensics

-Email Forensics

-Network Forensics

Unit 3 - Forensics Tools (Week 8)

Topics to be covered:

-Computer Forensics tools

Unit 4 - Forensics Investigation Process (Week 9, 10, 11 & 12)

Topics to be covered:

-Investigation at the scene of crime

-Digital Evidence Collection

-Case Work

Unit 5 - Ethical Hacking (Week 13)

Topics to be covered:

-Introduction to Ethical Hacking

-Virus, Trojan and Malware Threats

-Network Security Attacks

METHOD OF TEACHING

The main teaching methods for this course are synchronous instructor led tutoring, presentations, demonstrations, case study, discussion forums. The course subject material as well as several Assessments, e-Activities and Tutorials will be delivered via online learning. The Final Examination will also be conducted online.

METHOD OF ASSESSMENT

		Criteria	%
Assessment 1	Employee Intellectual Property Information Theft	Indicative number of words: 2500 words Criteria 1. Report Structure: 10% (Table of Content, Table of Figures, Headings Titles etc) 2. Content: 30 % 3. Critical analysis and recommendations: 30 % 4. Language: 20 % 5. Use of references: 10 %	40
Assessment 2	Ethical Hacking a Bank Online Services (Group Assignment: Maximum of Three Students)	Indicative number of words: 5000 words Criteria 1. Report Structure: 10% 2. Content: 25 % 3. Critical analysis and tool selection: 30 % 4. Language: 20 % 5. Use of references: 10 % 6. Clear information on Allocation of roles during execution of assignment: 5 %	50
Assignment 3	Online Participation	Participation to chats, forums	10
			100

Assignment 1:

Write a report discussing how you would conduct the computer forensic investigation for the Employee Intellectual Property Information Theft scenario as depicted in Unit4. You are required to expand in detailed each of the individual steps involved during the investigation providing reasonable argument as to why you have chosen such approach, tools and methodology. Use the knowledge which you have acquired from Unit 1 until Unit 4.

The report should be of 3000 words and should cover the following computer forensic investigation processes:

- Identification and Collection of Digital Evidence
- Preservation of Electronic Evidence
- Examination of Digital Evidence
- Reporting the Result/Findings.

Criteria for Assessment

1. Report Structure: 10% (Table of Content, Table of Figures, Headings Titles etc.)
2. Content: 30 %
3. Critical analysis and recommendations: 30 %
4. Language: 20 %
5. Use of references: 10 %

Assignment 2 – Group project: Ethical Hacking a Bank Online Services

You are working as an ethical hacker and you have been asked by a bank to find all the threats and vulnerabilities which the bank would encounter when allowing their customers to bank online through a website and mobile application. Following the ethical hacking process, write a report of 5000 words, detailing how you would conduct the Ethical hacking process (planning, tools selection, plan execution, result evaluation) and identifying all the potential threats and solutions which a customer and the bank might face when banking online**.**

Criteria for Assessment

1. **Maximum of three students**
2. **Report Structure: 10%**
3. **Content: 25 %**
4. **Critical analysis and tool selection: 30 %**
5. **Language: 20 %**
6. **Use of references: 10 %**
7. **Clear information on Allocation of roles during execution of assignment: 5 %**

Mini Project: Casework Assessment

Write a report discussing how you would conduct the computer forensic investigation for the Employee Intellectual Property Information Theft scenario. You make wish to expand in detailed each of the individual steps involved during the investigation, providing reasonable argument as to why you have chosen such approach, tools and methodology. Use the knowledge which you have acquired from Units 1 to 4.

VIDEO RESOURCES

UNIT 1: **https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ**

UNIT 2: **https://youtu.be/sB75synT6Ck**

UNIT 3: **https://youtu.be/5H1pqZOnxfU**

UNIT 4: **https://youtu.be/Ki9waQeMTHw**

UNIT 5: **https://youtu.be/yfqgDJeCLzg**

REFERENCES AND FURTHER READINGS

- Norwich University Online, 2015. *Role of computer Forensics in Crime.* [ONLINE] Available at http://www.norwich.edu/
- M. Maras and Maras, (2014). *Computer Forensics: Cybercriminal, Laws and Evidence.* Second Edition. Jones & Bartlett Learning.
- Dauda, S (2013). *Digital Forensics 101: Case Study Using FTK Imager. eForensics Magazine.*
- The National Archives Online, 2011. *Digital Continuity to Support Forensic Readiness.* [ONLINE] Available at http://www.nationalarchives.gov.uk/dc-guidance

UNIT 2

- M. Maras & Maras, (2014). *Computer Forensics: Cybercriminal, Laws and Evidence.* Second Edition. Jones & Bartlett Publishers
- MARCELLA, P. et al., 2007. *Cyber Forensics: A Field Manual for Collecting, Examining, and Preserving Evidences of Computer Crimes.* Second Edition. CRC press

UNIT 3

- Data Recovery Pro, 2018. ParetoLogic Data Recovery Pro. [ONLINE] Available at http://www.datarecoverydownload.com/. [Accessed 22 March 2018].
- CCleaner, 2018. Recuva. [ONLINE] Available at https://www.ccleaner.com/recuva/. [Accessed 22 March 2018].
- Ontrack, 2018. Recuva. [ONLINE] Available at https://www.ontrack.com/products/data-recovery-software/. [Accessed 22 March 2018].
- Carrier, B. 2018. Autopsy. [ONLINE] Available at http://www.sleuthkit.org/index.php. [Accessed 22 March 2018].

- WinRecovery Software, 2018. • WinRecovery. [ONLINE] Available at https://www.winundelete.com/. [Accessed 22 April 2018].
- EaseUS, 2018. EaseUS Partition Recovery Wizard. [ONLINE] Available at https://www.easeus.com/partition-recovery/index.htm. [Accessed 22 April 2018].
- LSoft Technologies Inc, 2018. Active@ Partition Recovery. [ONLINE] Available at http://www.partition-recovery.com/. [Accessed 22 April 2018].
- A-FF Labs, 2018. Partition Find and Mount. [ONLINE] Available at http://findandmount.com/howtouse/. [Accessed 22 April 2018].
- AccessData, 2018. Forensic Toolkit. [ONLINE] Available at http://findandmount.com/howtouse/. [Accessed 22 April 2018].
- Guidance Software, 2018. EnCase Forensics. [ONLINE] Available at https://www.guidancesoftware.com/. [Accessed 22 April 2018].
- GetData, 2018. Mount Image Pro. [ONLINE] Available at http://www.mountimage.com/. [Accessed 22 April 2018].
- Microsoft, 2018. Mount Image Pro. [ONLINE] Available at https://msdn.microsoft.com/en-us/library/windows/desktop/ms724871(v=vs.85).aspx/. [Accessed 23 April 2018].
- Wikipedia, 2018. Dd_Unix. [ONLINE] Available at: https://en.wikipedia.org/wiki/Dd_(Unix)/. [Accessed 22 March 2018].

UNIT 4

- M. Maras and Maras, (2014). *Computer Forensics: Cybercriminal, Laws and Evidence.* Second Edition. Jones & Bartlett Publishers
- MARCELLA, P. et al., 2007. *Cyber Forensics: A Field Manual for Collecting, Examining, and Preserving Evidences of Computer Crimes.* Second Edition. CRC press.
- InfoSec Institute, 2018. *Computer Forensics Investigation – A Case Study*" [ONLINE] Available at https://resources.infosecinstitute.com/computer-forensics-investigation-case-study/

UNIVERSITY of GUYANA

THE INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

CODE AND COURSE NAME: CSO 3005, Business Research: An Introduction

Duration: 15 weeks

Credits: 10

Lecturer:

Exemptions
There are no exemptions for this course.

Pre-Requisites/Co-Requisites
None required.

Follow-on Course:
There is no follow-on course.

Course Description
This Business Research course is designed to prepare future entrepreneurs to employ research methods to gather, collate, and analyze business data that is important to the success of their business venture. Upon completion of the course, individuals will be able to use simple statistical analysis methods, produce data gathering instruments, identify types of data that would be useful to an entrepreneur and apply appropriate analysis methods to examine the impact of the data on business operations.

Objectives of Course
The objectives of the course are to enable participants/students to:
1. Examine how research can help an entrepreneur grow and manage his or her business.
2. Explain the principles of research as they apply to business requirements.
3. Select appropriate business research methods to address business issues.
4. Employ descriptive statistics to analyze business data.
5. Employ qualitative research and analysis methods to capture and evaluate business information.

Student Learning Outcomes
On completion of the course, students will be able to:

1. Describe basic business research methods and tools.
2. Apply basic research methods and descriptive statistical tools to questions associated with a small business enterprise that you have started or wish to start in the future.
3. Identify basic business research sources and apply information gathered from them to a practical business research question.
4. Describe the importance of defining the information that an entrepreneur needs to make business decisions.
5. Describe basic business research methods and tools that can be used to answer business questions.
6. Apply one of the research methods to a problem or question that you want to answer for your small business or one that you wish to start.
7. Describe the main steps that go into a successful survey in general as well as the special aspects of customer satisfaction surveys.
8. Identify the characteristics of a good questionnaire.
9. Prepare and conduct customer interviews that will help you gather data to answer a basic business problem.
10. Set up and run a focus group with 6 – 8 participants.
11. Write a case study related to a business problem that you have identified.
12. Analyze and report on the data obtained from interviews and focus groups.
13. Describe the use of basic descriptive statistics (e.g. mean, median, and mode) in the analysis of quantitative business research data.
14. Apply analytic tools to gain an understanding of the meaning of the data that you have collected to solve a business problem or question.
15. Use the basic functions of an Excel spreadsheet to analyze business research data.
16. Analyze questionnaire data using a spreadsheet program such as Excel.
17. Describe the various types of narrative data that you can collect.
18. Describe the steps in a content analysis process that you can adapt to business questions that you wish to ask customers and clients.
19. Apply what you have learned to an example in the business you are thinking of starting or already run.
20. Demonstrate an understanding of how to analyze qualitative data from interviews and focus groups by applying data coding techniques.

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

Course Content

The course is divided into four units:

UNIT 1: INTRODUCTION TO BUSINESS RESEARCH METHODS

Topic 1.1 – An Overview Basic Business Research Methods
Topic 1.2 – Designing Surveys Using Questionnaires
Topic 1.3 – Qualitative Approaches: Interviews, Focus Groups, and Case Studies

UNIT 2: TOOLS AND TECHNIQUES: ANALYZING AND INTERPRETING QUANTITATIVE BUSINESS RESEARCH DATA

Topic 2.1 – Descriptive Statistics Used in Business Research
Topic 2.2 – Introduction to Using Excel Data Analysis Tools

UNIT 3: TOOLS AND TECHNIQUES: ANALYZING AND INTERPRETING QUANTITATIVE BUSINESS RESEARCH DATA

Topic 3.1 – Analyzing Qualitative Data from Interviews and Focus Groups

UNIT 4: WRITING AN EFFECTIVE BUSINESS RESEARCH REPORT

Topic 4.1: Business Intelligence
Topic 4.2: Writing an Effective Business Research Report
Topic 4.3 – Implementing Business Research Data: Putting the Results into Operation

METHOD OF TEACHING

The main teaching methods for this course are synchronous instructor led tutoring, presentations, demonstrations, case study, discussion forums.

METHOD OF ASSESSMENT:

Assessment takes the form of responding to unit activities, tests, written assignments and a final examinations

Activities	-	10 marks
Assessment 1	-	10 marks
Assignment 1	-	10 marks
Assignment 2	-	10 marks
Total	-	40 marks
Final Examination	-	60 marks
Total	-	100 marks

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the final examination, and a minimum of forty-five percent (45%) of the total marks.

RECOMMENDED TEXT

Primary

Adams, J, Raeside, R & Khan, HTA 2014, *Research Methods for Business and Social Science Students*, vol Second edition, Sage Publications Pvt. Ltd, New Delhi, viewed 29 June 2020, https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=784882&site=ehost-live (EBook Available on Ebscohost)

Creswell, John (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches,* 4th Edition. SAGE Publications.

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

COURSE CODE AND TITLE: CSO 3006, DIGITAL MARKETING

No. of Credits: 10

Duration: 15 weeks **(**4 hours of synchronous instructor lead time per week)

Name of Lecturer: NA

UG EQUIVALENT:

EXEMPTIONS:

There are no exemptions for this course.

COURSE DESCRIPTION

This is an enriching course designed to educate students in the area of Digital Marketing. Digital marketing landscape continues to grow at a rapid pace; marketers are faced with new challenges and opportunities within this digital age. This module is an initiative designed to educate students in the area of Digital Marketing. Digital Marketing and Social Media have transformed marketing and business practice across the globe. As companies no longer have a choice regarding digital marketing and media, having a well-developed and resourced digital marketing strategy has become a must so as to create and sustain meaningful relationships with customers in an increasingly competitive business environment.

This module provides an understanding of the ever evolving digital landscape and examines the strategic role of digital marketing processes and tools in designing the overall Marketing strategy and the Digital Marketing Plan. It explores the challenges of Interactive media, the online market place, and the creative challenges of communicating and retention strategies of customers through these media, the main search engines and the future trends in digital marketing.

This module has been designed for those who want to understand the key elements of building an effective digital marketing strategy. Covering best practice and using case studies throughout, the module offers a practical guide to the core techniques in digital marketing.

At the end of this module, students should understand some of the key challenges that will shape your digital marketing strategy.

OBJECTIVES OF COURSE

The objectives of the course are to:

- provide students with the essential philosophies and practices of marketing and digital marketing technologies.
- equip students with specific knowledge in the areas of digital marketing communications
- familiarise students to methodologies, tools and technologies involved in digital marketing.
- provide students with sufficient background that will allow them to pursue their careers in the Digital Marketing area

STUDENT LEARNING OUTCOMES

By the end of the course students will be able to:

1. Use Digital Marketing.
2. Use Web Analytics & Conversion.
3. Use Rate Optimisation.
4. Assess the threats, security and other, posed by digital marketing.
5. Apply underlying business and marketing concepts to understand the relationship between digital marketing strategy and the wider organisation.
6. Evaluate how digital marketing strategy differs across business sectors.

COURSE CONTENT

This course is divided into 8 modules, namely:

1. <u>Module 1: Introduction to Digital Marketing</u> Topic 1:

What is Digital Marketing?

Topic 2: Traditional marketing v/s Digital Marketing

Topic 3: Types of online presence

Topic 4: The 4 Ps of marketing and their implications for Digital Marketing

Topic 5: Affiliate marketing

Topic 6: Segmentation strategies for Digital Marketing

Topic 7: Digital Marketing Platforms

Topic 8: Digital Marketing Strategy and Digital Marketing plan

2. Module 2: Introduction to Digital Marketing

Topic 1: Digital World

Topic 2: Online Marketplace

Topic 3: Disintermediation

Topic 4: Digital Media

Topic 5: Electronic Data Interchange

3. Module 3: Relationship Marketing in the Digital Era

Topic 1: Relationship and customer lifecycle marketing

Topic 2: The Importance of Customer Relationship Management within a Business

Topic 3: Ladder of loyalty and CRM

Topic 4: CRM and Digital Marketing Strategy

Topic 5: Introduction to e-CRM

Topic 6: Benefits and challenges of e-CRM

Topic 7: Role of Loyalty programmes in CRM process

Topic 8: Building the CRM Plan

Topic 9: CRM and Database Marketing and Customer lifecycle communications

Topic 10: Database marketing and marketing automation

Topic 11: CRM Profiling

4. Module 4: Evaluation and Improvement

Topic 1: Success Rate

Topic 2: Metrics for Marketing

Topic 3: Churn Rate

Topic 4: Recommendation Systems

5. Module 5: Digital Marketing Channels
Topic 1: Digital Marketing Channels

Topic 2: Email Marketing

Topic 3: Social Media Marketing

Topic 4: Affiliate Marketing

Topic 5: Mobile Marketing

Topic 6: Payment

6. Module 6: Search Engines
Topic 1: What Is Search Engine Optimisation (SEO)

Topic 2: SEO Process

Topic 3: Internal Link Structure

Topic 4: Link Popularity/ Relevance

Topic 5: Crawlability/ Optimised Code

Topic 6: Content Relevance

Topic 7: Technical Aspects of SEO

Topic 8: Measuring SEO Success

Topic 9: SEO Tools

Topic 10: Search Engine Marketing (SEM)

Topic 11: The Google Adwords model

Topic 12: Issues in SEM

Topic 13: Black Hat and Negative SEO

7. **Module 7: Trends in Digital Marketing**
Topic 1: Trends in Digital Marketing

Topic 2: Artificial Intelligence in Digital Marketing

Topic 3: Personalisation in Digital Marketing

Topic 4: Augmented Reality Integrated with Social Media

Topic 5: Social Media Analytics

Topic 6: Mobile Devices in Digital Marketing

8. **Module 8: Case Study**

Topic 1: Guidelines for creating first Digital Marketing Campaign

Topic 2: Using Pinterest

Topic 3: Case Studies

METHOD OF TEACHING

METHOD OF ASSESSMENT

There are no examinations; course is fully assessed by coursework as specified below:

There are no examinations; course is fully assessed by coursework as specified below: Activities consist of Case studies that have been to be critically analysed based on the concepts learned in the different units

GRADING

Participation is graded on attendance, leading class discussions on your assigned case study and discussion questions, and asking smart questions of your colleagues.

Your final grade will be determined by your understanding of the course materials, case study analysis, and ability to creatively apply the concepts in real world scenarios via the final group project. Particular emphasis is placed on having a solid foundation of qualitative and quantitative data to back up your recommendations for campaigns.

Grades will be determined by the following breakdown:

- Tests: 50%
- Final Group Project: 40%
- Class Participation: 10%

GRADING SCHEME

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

VIDEO RESOURCES

UNIT 1:	**https://youtu.be/tugMTn3hF4g**
UNIT 2:	**https://www.youtube.com/channel/UCCU9kVXTQ3gw-IIZMVPPYGQ**
UNIT 3:	**https://youtu.be/kO47sh3A3j8**
UNIT 4:	**https://youtu.be/6siGGymjhzo**
UNIT 5:	**https://youtu.be/Cw8Zc9d9H7w**
UNIT 6:	**https://youtu.be/2boYuR8Ib3w**
UNIT 7:	**https://youtu.be/yGc3uaM4dmY**

OTHER RESOURCES

Guidelines for Creating Your First Digital Marketing Campaign

An effective campaign demands a great deal of time, patience and planning. The following guidelines might prove useful if you are running a Digital Marketing Campaign for the first time.

- Outline Your Individual/ Company Marketing Goals
- Determine Your Budget
- Perform Marketing Research
- Determine Your Target Personas
- Outline Campaign Goals
- Content Creation
- Promotion & Execution
- Train Internally
- Analyze

RCOMMENDED READINGS

1. Oliveira, A., 2017. A Four-Step Guide To Creating Your Digital Marketing Plan, Available at: https://www.forbes.com/sites/forbesagencycouncil/2016/11/17/a-four-stepguide-to-creating-your-digital-marketing-plan. [Accessed on 20 May 2018]

2. McDonald, M., 2012. *Market Segmentation: How to do it, how to profit from it*, John Wiley & Sons.

3. Stern, C.W. and Deimler, M.S., 2006. *The Boston Consultancy Group on Strategy*: *Classic concepts and new perspectives*, John Wiley & Sons.

4. Chaffey, D. and Ellis-Chadwick, F., 2015. *Digital Marketing Strategy, Implementation and Practice*, 6th edition. Financial Times/ Prentice Hall, Harlow.

5. Kingsnorth, S., 2016. *Digital Marketing Strategy: An Integrated Approach to Online Marketing*, Kogan Page, Business & Economics.

6. Chaffey, D. and Smith, P.R., 2017. *Digital Marketing Excellence: Planning, Optimizing and Integrating Online Marketing*, 5th Edition, Routledge , ISBN-13: 978-1138191709

7. Rob Stokes; *eMarketing: The Essential Guide to Marketing in a Digital world*. Available at https://www.redandyellow.co.za/textbook/ [Accessed on 6th June 2018]

RECOMMENDED READINGS from the following outlets and blogs:

- Harvard Business Review
- Forrester Research
- Moz.org
- Growthhackers.com
- https://www.searchenginejournal.com/
- Statistics from https://www.statista.com/
- https://searchenginewatch.com/
- Questions and answers from https://www.quora.com/

UNIVERSITY of GUYANA

The Institute of Distance and Continuing Education
DISTANCE EDUCATION UNIT

CODE AND COURSE NAME: CSO 3008, Business Information Systems

Duration: 15 weeks (4 hours of synchronous instructor lead time per week)

Credits: 10

Lecturer:

Exemptions
There are no exemptions for this course.

Pre-Requisites/Co-Requisites
CSO 1003, Introduction to Computers

Follow-on Course:
There is no follow-on course.

Course Description
The Business Information System course will prepare future entrepreneurs to use information and communication technology to support the growth and success of their business venture. They will be prepared to maximize the potential of the internet to attract and support customers, communicate with employees and others and support business operations. The entrepreneur will be able to employ business applications to automate their business practices and operations.

Objectives of Course
The objectives of the course are to enable participants/students to:

1. Maximize the potential of the web to market their products and services, support customers and manage employees.
2. Create databases, capture data and generate reports.
3. Employ Excel to create spreadsheets, generate financial reports and complete financial analysis.
4. Employ communications hardware and software to support virtual meetings.
5. Develop a corporate web presence.
6. Employ social networking software and groupware to share and collaborate with employees, customers and others engaged in the business.
7. Examine how an online presence can help you grow your business.

Student Learning Outcomes

UNIT 1:

1. Use Excel to create a Balance Sheet.
2. Use Excel to create and Income Statement.
3. Use Excel to create an Annual Budget.
4. Explain the difference between a flat file database and a relational database
5. Create a flat file database
6. Generate simple reports using Pivot Tables.
7. Generate reports from Pivot Tables
8. Use Excel to create various types of charts.

UNIT 2:

1. Understand the business case for having a website
2. Identify the main considerations that drives the creation of a website
3. Identify key features and functionalities of a corporate website

UNIT 3:

4. Use email to market the potential customers
5. Conduct e-mail surveys and collect data
6. Receive and respond to email on a smartphone
7. Recognise email as a business communication tool
8. Describe email marketing tools and techniques.
9. Create e-mailing lists.
10. Create an email account
11. Use emails to conduct surveys
12. Use emails to gather and collect data and feedback information
13. Setup and administer email subscriptions.
14. Use social media to communicate with providers and others
15. Use mobile phones to access emails

UNIT 4:

16. Share files, orders, forms etc., with potential providers
17. Identify and use Google Enterprise Application for business
18. 2. Identify and use enterprise level proprietary application
19. 3. Establish a community of practice (CoP)
20. Conduct small group virtual meetings in real time
21. Participate in video and audio conferencing calls

UNIT 5:

22. Explain the difference between synchronous and asynchronous communication
23. Identify the different forms of technologies that supports each mode

24. Recognise the usefulness of audioconferencing.
25. Recognise the usefulness of videoconferencing.
26. Explain what a webinar is and how it works.

UNIT 6:

27. Use Microsoft Access database templates for specific business tasks
28. Create and maintain a Microsoft Access Database
29. Use cloud backup as your online offsite storage
30. Make use of Backup Appliance
31. Onsite Backup
32. Recognise the technologies available for Internet security [firewall, Intrusion Detection System (IDS)].
33. Understand how to store and retrieve files in a central storage space online

Course Content

UNIT ONE - SPREADSHEETS TO SUPPORT SMALL BUSINESS

Lesson 1.1 – Create Balance Sheets, Income Statements and Budgets
Balance Sheets
Creating A Balance Sheet Using Excel
How to create a balance sheet using an excel template
How to create a balance sheet manually
Income Statements
How to create an income statement using an excel template
Preparation of Annual Budgets
Lesson 1.2 – Produce a Flat Database for Customer Data & Inventory Control
Flat file vs relational database
Create a flat file
Lesson 1.3 – Generate Corporate Reports and Data Compilation
Pivot Tables
Lesson 1.4 – Create Financial Charts and Diagrams to Display Data
Column Charts
Pie Chart and Bar Charts
Other types of Charts
Exports formatted data, charts and diagrams into other office Software

UNIT TWO – CREATE A CORPORATE WEB PRESENCE

LESSON 2.1 – CORPORATE WEBSITES
Corporate Websites
LESSON 2.2 – Website Features and functionalities
LESSON 2.2 – Going Public
Domain Name Registration (DNS)
Hosting your website

UNIT THREE – E-MAIL AND BUSINESS COMMUNICATIONS

Lesson 3.1 – Use Email to Market Potential Customers.
Email as a Business Communication Tool
How Email Works
Email Marketing
Mailing
Lesson 3.2 –Email Surveys and Data Collection
Email surveys
Online Data Collection
Lesson 3.3 – Support Communication with Providers and Others
Email Subscriptions
Social Media
Lesson 3.4 – Receive And Respond to Emails on A Smartphone
Mobile email Access

UNIT FOUR – ESTABLISH A COMMUNITY OF PRACTICE

Lesson 4.1 – Share Files, Orders, Forms and Documents with Potential Suppliers
Online order forms
Form Builder
File and Document Sharing
Lesson 4.2 - Customer ratings of products or services
Customer ratings
Lesson 4.3 – Support Communication and collaboration
Google Enterprise Applications (Google Apps)
Proprietary Collaborative Environment
A community of practice

UNIT FIVE – SYNCHRONOUS TOOLS TO SUPPORT BUSINESS

Lesson 5.1 - Synchronous vs Asynchronous communication
Synchronous Communication
Asynchronous communication
Lesson 5.2 – Synchronous communication tools for individual and small
Groups
Softphones
Cisco's IP Communicator
X-Lite
Polycom PVX
Mobile Telephony
IPhone
Skype for Business
Lesson 5.3 – Audio, video and web conferencing for Business
Audioconferencing
Videoconference
Web conferencing

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

UNIT SIX – OTHER BUSINESS INFROMATION TOOLS

Lesson 6.1 – Microsoft Access and other Relational Database
Database overview
Microsoft Access
Access for your Business
Creating a database
Lesson 6.2 - The use of cloud and other offsite mechanism
Cloud Computing
Software as a service (SaaS)
Cloud for Business
Online storage and backup
Lesson 6.3 - The use of backup and restore software
Cloud backup and online storage
Data Recovery
On site backup
Lesson 6.4 - The use of antivirus and Internet security software
Antivirus
Internet Security
Lesson 6.5 – The use of File transfer and File Sharing Software
Box Storage
Collaboration

METHOD OF TEACHING

The main teaching methods for this course are synchronous instructor led tutoring, presentations, demonstrations, case study, discussion forums. The course subject material as well as several Assessments, e-Activities and Tutorials will be delivered via online learning. The Final Examination will also be conducted online.

METHOD OF ASSESSMENT:

Assignment/Assessment 1	-	15 marks
Assignment 2	-	15marks
Assignment 3	-	10 marks
Total	-	40 marks
Final Assignment/Major Project	-	60 marks
Total	-	100 marks

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the final examination, and a minimum of forty-five percent (45%) of the total marks.

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

UNIVERSITY of GUYANA

THE INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

CODE AND COURSE NAME: CSO 3009, Business Plan Development

Duration: 15 weeks (4 hours of synchronous instructor lead time per week)

Credits: 10

Lecturer:

Exemptions
There are no exemptions for this course.

Pre-Requisites/Co-Requisites
Nil

Follow-on Course:
There is no follow-on course.

Course Description

This Business Plan Development course is designed to help prepare future entrepreneurs to formalize and communicate their business idea to a variety of audiences including potential funders such as banks, other lending institutions, government agencies, and venture capitalists. This course will help ensure that future entrepreneurs understand how to conduct a competitor analysis by asking key questions about their competitors. It will also guide them through the process of profiling customers and determining the target market for their goods or services. With this as a background, and drawing on the other courses in this certificate program, future entrepreneurs will be develop a complete business plan for their business venture including all of the financial components, competitive analyses, and customer profiles.

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

Objectives of Course

The objectives of the course are to enable participants/students to:

- Identify, develop and evaluate a business idea.
- 2. Acquire the entrepreneurial skills required to gather and analyze industry information, potential markets, assess the impact of competitors and define the needs of potential customers.
- Analyze the environment or industry in which the proposed business will exist.
- Conduct a feasibility analysis.
- Create a customer profile.
- Analyze the competition and determine their impact on your proposed business venture.
- Produce strategies to address the competition.
- Develop a revenue generation model and growth strategies.
- Produce a multi-year financial plan that supports the business venture.
- Projecting business growth and its impact on resources, personnel and finances.
- Describe the content of a business plan.
- Apply the business planning process to produce a business plan.

Student Learning Outcomes

On completion of the course, students will be able to:

1. Describe an idea for a new business.
2. Evaluate your new business idea against a set of criteria.
3. Formally present your new business idea to potential funders
4. Describe a process for evaluating your business ideas.
5. Describe the importance of formalizing your business ideas as a part of a business plan.
6. Analyze the environment or industry in which your proposed business will exist.
7. Conduct a competitor analysis.
8. Describe the components that are included in a customer profile including demographics, geography, psychographics, attitude, and buying behaviour.
9. Describe the characteristics of an ideal customer for your business and develop a profile for your ideal customer.
10. Describe how to build an income statement, balance sheet and cash flow statement for your business.
11. Describe a variety of revenue generation models and indicate why they are ones that will work in your business.
12. Outline the importance of financial forecasting and growth projections.
13. Write a complete business plan for the business idea that you have been developing throughout this certificate program.

Course Content

UNIT 1: CREATING A NEW BUSINESS FROM THE GROUND-UP

Topic 1.1 – Coming Up with A Good Business Idea
Topic 1.2 – Evaluating and Formalizing Your Business Idea

UNIT 2: COMPETITOR ANALYSIS

Topic 2.1 – Industry Analysis
Topic 2.2 – Key Questions to Ask About Your Competitors
Topic 2.3 – Competitor Analysis Framework
Topic 2.4 – The Strategic Force Field Model

UNIT 3: CUSTOMER PROFILE

Topic 3.1 – The Components of a Customer Profile
Topic 3.2 – Creating a Customer Profile for the Ideal Customer

UNIT 4: BUSINESS PLANNING

Topic 4.1: The Importance of the Financial Plan
Topic 4.2: Writing the Business Plan

METHOD OF TEACHING

The main teaching methods for this course are synchronous instructor led tutoring, presentations, demonstrations, case study, discussion forums. The course subject material as well as several Assessments, e-Activities and Tutorials will be delivered via online learning. The Final Examination will also be conducted online.

METHOD OF ASSESSMENT:

Assessment takes the form of responding to activities, as well as written assignments and examination.

Responding to Activities	-	15 marks
Test 1	-	10 marks
Assignment	-	15 marks
Total	-	40 marks
Final Exam	-	60 marks
Total	-	100 marks

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the final examination, and a minimum of forty-five percent (45%) of the total marks.

UNIVERSITY of GUYANA

THE INSTITUTE of DISTANCE and CONTINUING EDUCATION
DISTANCE EDUCATION UNIT

CODE AND COURSE NAME: CSO 4007, Principles of Management

Duration: 15 weeks (4 hours of synchronous instructor lead time per week)

Credits: 10

Lecturer:

Exemptions
There are no exemptions for this course.
Pre-Requisites/Co-Requisites
None required.
Follow-on Course:
There is no follow-on course.
Course Description
Participants/students will study one of the most vital and fascinating disciplines in business – the field of management! Within this fast-paced world, the role of managers is ever changing. Hence the course prepares a manager in the 21st century to be prepared for the challenges presented by a highly dynamic and rapidly changing business environment. This course therefore seeks to provide participants/students with an understanding of the key concepts and skills relevant to the principles and practices of management.

Objectives of Course
The objectives of the course are to enable participants/students to:

1. Compare and contrast management versus leadership.
2. Examine the theories of management that apply to a small business environment.
3. Employ the functions of management (Planning, Leading, Organizing and Controlling).
4. Describe the principles and best practices of business management.
5. Examine the decision making process in a small business.
6. Explore the roles and responsibilities of an entrepreneur as a business manager

Student Learning Outcomes

On completion of the course, students will be able to:

1. Explain what is meant by the term management.
2. Classify the different levels of managers and identify the primary function of each group.
3. Differentiate between the functions of managers at the various levels.
4. Analyse and discuss the various roles and responsibilities of management.
5. Identify key skills needed by managers.
6. Describe the different functions of managers.
7. Describe the different functions of managers.
8. Define the term planning as a function of management and describe its purposes within an organisation.
9. Define goals and plans and explain the relationship between them.
10. Describe and formulate different organisational goals.
11. Explain the concepts mission and vision.
12. Explain the steps involved in the planning process.
13. Describe how successful planning facilitates organisational performance.
14. Describe the obstacles to planning and techniques and how to overcome them.
15. Identify and explain the six elements of organization structure.
16. Explain when specific structural characteristics such as centralisation, span of management and formalisation should be used within organisations.
17. Describe the basic forms of organizational structure.
18. Define departmentalisation and describe the approaches to structural design.
19. Explain why job specialization is important.
19. Describe an idea for a new business.
20. Evaluate your new business idea against a set of criteria.
21. Formally present your new business idea to potential funders
22. Describe the principals and best practices of directing.
23. Describe the process of directing.
24. Explain the role of the supervisor as a person directing others.
25. Examine leadership and its impact on the directing function.

Course Content

The course is divided into five units.

UNIT 1 – THE NATURE OF MANAGEMENT.

Topic 1.1: What is Management?

Topic 1.2: Levels of Management

Topic 1.3: Managerial Roles within an Organisation.

UNIT 2 – PLANNING AS A MANAGEMENT FUNCTION.

Topic 2.1: Planning – An Overview

Topic 2.2: Business Goals and Objectives

Topic 2.3: Planning Tools and Techniques

UNIT 3 – ORGANIZING AS A MANAGEMENT FUNCTION.

Topic 3.1: What Are Organizing Elements of a Structure?

Topic 3.2: Types of Organizational Structure

UNIT 4 – DIRECTING AS A MANAGEMENT FUNCTION.

Topic 4.1: Overview of Directing

Topic 4.2: Supervision as a Management Function

Topic 4.3: Motivation as a Management Function

Topic 4.4: Leadership as a Management Function

Topic 4.5: Communications as a Management Function

UNIT 5 – CONTROLLING AS A MANAGEMENT FUNCTION.

Topic 5.1: The Nature of Control

Topic 5.2: Business Monitoring Tools

METHOD OF TEACHING

The main teaching methods for this course are synchronous instructor led tutoring, presentations, demonstrations, case study, discussion forums. The course subject material as well as several Assessments, e-Activities and Tutorials will be delivered via online learning. The Final Examination will also be conducted online.

METHOD OF ASSESSMENT:

Assessment takes the form of responding to activities, as well as written assignments and examination.

Responding to Activities	-	15 marks
Test 1	-	10 marks
Assignment	-	15 marks
Total	-	40 marks
Final Exam	-	60 marks
Total	-	100 marks

GRADING SCHEME:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the final examination, and a minimum of forty-five percent (45%) of the total marks.

RECOMMENDED TEXT

RECOMMENDED READING

UNIT 1:

Carpenter M., Bauer T. and Erdogan B. (2009). Chapter 1: Introduction to Principles of Management. In Principles of Management. (e-Book). Available at:
http://www.oercommons.org/courses/principles-of-management/view

CliffNotes. (nd.). Principles of Management: Homework Help in Management from CliffNotes. Read the following sections:

i. Management and Organizations. Available at: http://www.cliffsnotes.com/study_guide/Management-and-Organizations.topicArticleId-8944,articleId-8847.html

ii. Functions of Managers. Available at: http://www.cliffsnotes.com/study_guide/Functions-ofManagers.topicArticleId-8944,articleId-8848.html

Dispelling Common Management Myths. Available at:
http://www.cliffsnotes.com/study_guide/Dispelling-CommonManagement-Myths.topicArticleId-8944,articleId-8849.html

UNIT 2:

1. Carpenter M., Bauer T. and Erdogan B. (2009). Chapter 6: Goals and Objectives. In Principles of Management. (e-Book). Available at: http://www.oercommons.org/courses/principles-of-management/view
2. CliffNotes. (nd.). Principles of Management: Homework Help in Management from CliffNotes. Read the following sections:

   i. Decision Making and Problem Solving. Available at: http://www.cliffsnotes.com/study_guide/The-DecisionMakingProcess.topicArticleId-8944,articleId-8863.html.

   ii. Organizational Planning. Available at: http://www.cliffsnotes.com/study_guide/DefiningPlanning.topicArticleId-8944,articleId-8868.html.

3. Tague, N.R. (2004). Seven New Management and Planning Tools. (Web Site). ASQ Quality Press. Available at: http://asq.org/learn-about-quality/newmanagement-planning-tools/overview/overview.html.

4. Ward, S. (nd.). Increase Success with Daily Planning. About.com web site. Available at:

http://sbinfocanada.about.com/cs/successprogram/a/week4.htm.

5. Wikipedia. (nd.). PEST Analysis. Available at: http://en.wikipedia.org/wiki/PEST_analysis.

6. Wikipedia. (nd.). Competitor Analysis. Available at: http://en.wikipedia.org/wiki/Competitor_analysis.

UNIT 3:

1. Carpenter M., Bauer T. and Erdogan B. (2009). Chapter 7 – Organizational Structure and Change. (e-Book). Available at: http://www.oercommons.org/courses/principles-of-management/view
2. Carpenter M., Bauer T. and Erdogan B. (2009). Chapter 8 – Organizational Culture. (e-Book). Available at: http://www.oercommons.org/courses/principles-ofmanagement/view

3. CliffNotes. (nd.). Principles of Management: Homework Help in Management from CliffNotes. Read the following sections:
    - i Creating Organizational Structure. Available at: http://www.cliffsnotes.com/study_guide/Going-from-Planning-to-Organizing.topicArticleId-8944,articleId-8874.html
    - ii Organizational Design and Structure. Available at: http://www.cliffsnotes.com/study_guide/Organizational-Design-Defined.topicArticleId-8944,articleId-8879.html

UNIT 4:

1. Carpenter M., Bauer T. and Erdogan B. (2009). Principles of Management. (eBook). Available at: http://www.oercommons.org/courses/principles-ofmanagement/view . Read the following chapters:
    - i Chapter 10 – Leading People and Organizations.
    - ii Chapter 11 – Decision Making.
    - iii Chapter 13 – Managing Groups and Teams.

2. CliffNotes. (nd.). Principles of Management: Homework Help in Management from CliffNotes. Read the following sections:
    - i Leadership and Management. Available at: http://www.cliffsnotes.com/study_guide/Leadership-Defined.topicArticleId-8944,articleId-8913.html.
    - ii Control: The Linking Function. Available at: http://www.cliffsnotes.com/study_guide/Organizational-Control-Objectives.topicArticleId-8944,articleId-8924.html.

UNIVERSITY of GUYANA

INSTITUTE of DISTANCE and CONTINUING EDUCATION

DISTANCE EDUCATION UNIT

COURSE CODE AND NAME: **CSO 4006,** The Computer and Information Technology Research Project

No. of Credits: **12**

Duration: **30** weeks **(**4 hours of synchronous instructor lead time per week)

Name of Lecturer:

Description:

This course is a final year course intended for students pursuing the BSc. Computing and Information Technology and Information Systems program online. This course is intended to explore computing, Information Technology and Business technologies in extensive complexity and qualifies a compulsory project for computing, Information Technology and Business professionals. It offers them practical experience of independent learning and reflective practice. Students will apply advanced IT principles and techniques to engender an IT solution to an identified problem and carry out extensive research and construct a substantial report.

Exemption(s): There are no exemptions for this course.

Learning Outcomes:

At the end of this course, students will be able to:

- Develop skills in identifying and defining problems.
- Understand the need for a feasibility study.
- Design research questions and objectives.
- Apply database design/web application design to real world problems.
- Explain the APA referencing style.
- Use online tools to search and retrieve information.
- Differentiate between experimental and quasi-experimental design
- Explain the use of cross-sectional design.
- Identify issues in research design.
- Develop database/web application.
- Explain the different sampling techniques.
- Identify a sample.
- Develop a user-friendly end-user interface.

- Design research instrument.
- Describe the process for validating a research instrument.
- Describe the process for checking the reliability of a research instrument.
- Describe various techniques for collecting data.
- Design questionnaires
- Develop skills in the methodical procedure in carrying a project
- Apply data processing tool such as SPSS and Excel to analyze data.
- Use descriptive statistical tools to present data.
- Link database/web application to an end-user interface.

Course Content:

Week 1 &2 Quantitative and qualitative research

Types of research
Identify research area (from Database or Web application perspective)

Feasibility study and Needs analysis (for database or Web research)

Week 3 & 4 Formulation of the research problem
Design research questions & Objectives

Week 5 & 6 Formulation of the research problem
Identify purpose and significance of study
Definition of operational terms

Review Database design/Web Application design

Week 7 ***Review of chapter one - Introduction***

Week 8 Types of research design
Concept of Literature review
APA referencing style

Week 9 Experimental and quasi-experimental design
How to access Journals and online materials

Week 10 Cross-sectional design
Develop database/Web application

Week 11 Issues in research design

Week 12 **Review of chapter two - Relevant literature**

Week 13	Research design Sample and sampling techniques *Creating Java User Interface & DB Connectivity*
Week 14	Research instrumentation Validity and reliability
Week 15	Method of data collection Questionnaire design
Week 16	**Review of chapter three - Methodology**
Week 17	Data processing Use of SPSS **Submission of Proposal**
Week 18	Presentation of data Use of Ms. Excel
Week 19	Statistical inference *Linking database/web application with Java Interface*
Week 20 & 22	Implementation of research
Week 23 - 27	Analysis of findings **Review of chapter four – discussion of findings**
Week 28	Submission of first draft
Week 30	Submission of final draft

Method of Evaluation:

Research proposal	40 %
Final Project	60 %

Submitted by Director IDCE and approved by University of Guyana, Academic Planning and Policy Committee on 2020/07/24, Academic Board on 2020/08/11, Finance and General Purposes Committee on 2020-08-28

Grading Scheme:

A = 75% - 100%
B = 65% to 74%
C = 55% to 64%
D = 45% to 54%
F = Less than 45%

To obtain a passing grade, a student must obtain at least forty-five percent (45%) of the marks awarded in the final examination, and a minimum of forty-five percent (45%) of the total marks.

Recommended Reading (s):

1. Campbell, D.T. & Stanley, J.C. (1966). *Experimental and Quasi-Experimental Designs for Research*. Chicago, Illinois: Rand McNally.
2. Chawla, D. & Sondhi, N. (2011). *Research Methodology: Concept and Cases.* New Delhi, India: Vikas Publishing.
3. Kumar, R. (2005). *Research Methodology: A Step By Step Guide For Beginners.* Delhi, India: Pearson Education India.
4. Spector, P. E. (1981). *Research Designs.* London: Sage.
5. Woody, C. (1924). A survey of educational research in 1923.*The Journal of Educational Research*, 9(5), 357-381.
6. Ullman, J.D, Widom J. (2007). *A First Course in Database Systems (3rd Ed.)*
7. Pratt, P. & Adamski. (1998). *Database Systems Management and Design*. *Boston*: Boys & Fraser Publishing Company
8. Deitel, P. & Deitel, H. *Java How to Program: Early Objects*
9. Sebesta, R. W. (2015). *Programming the world wide web (8th ed.)*. Pearson Addison Wesley.
10. Dix, A., Finaly, J. E. & Abowd, D. (2003). *Human-Computer Interaction (3rd ed.)* , Russell Beale published: Prentice Hall