

## Program Content

Semester	1		
Course Code:	IT1106		
Course Name:	Information Systems		
Credit Value:	4		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	45	30	125
<p>Course Aim/Intended Learning Outcomes:</p> <p>At the completion of this course student will be able to;</p> <ul style="list-style-type: none"> <li>describe components of information system infrastructure.</li> <li>explain the role information systems and in globalization</li> <li>analyse different types of information systems and their uses.</li> <li>describe the information system acquisition process</li> <li>provide appropriate information system solutions to meet the organizational requirements.</li> <li>evaluate information system contributions to the strategic management of organization.</li> <li>identify possible vulnerabilities in a given context and take necessary precautions to protect information systems</li> <li>ensure safety, privacy of information system users and sustainability of information systems.</li> </ul>			
Course Content: (Main Topics, Sub topics)			
<b>Topic</b>	<b>Theory (Hrs)</b>	<b>Practical (Hrs.)</b>	
1. Information System Concepts and Technologies	6	3	
2. Information Systems for Organizations and Globalization	6	4	
3. Electronic and Mobile Commerce	6	3	
4. Electronic Business Systems	8	4	
5. Specialized Systems and New Technologies	5	3	
6. Information system Acquisition	8	4	
7. Security, Ethical, Privacy and Other Challenge	6	9	
Total	45	30	

1. Information System Concepts and Technologies
  - 1.1. Information System Concepts [ Ref 1: Pg. ( 11-18 )]
  - 1.2. Managing Information in the Digital World [ Ref 1: Pg. ( 29-33)] [Ref 2: Pg. (8)]
  - 1.3. Computer-Based Information Systems [Ref 1: Pg. (18-26)]
  - 1.4. Information Technology infrastructure in an organization [Ref 1: Pg. (46-61)]
  - 1.5. Components of Information System Infrastructure [Ref 2: Pg. (28)]
    - 1.5.1.Computer Hardware and Mobile Devices [Ref 1: Pg. (86-123)] [Ref 2: Pg. ( 82-120)]
    - 1.5.2.Computer Software and Mobile Apps [Ref 1: Pg. (138-181)] [Ref 2: Pg. (134-173)]
    - 1.5.3.Network, Communication and Cloud Systems [Ref 1: Pg. (238-283)]
2. Information Systems for Organizations and Globalization
  - 2.1. Organizations and Information Systems
    - 2.1.1.The Role of Information Systems in Business [Ref 1: Pg. (29-33)] [Ref 2: Pg. (8)]
    - 2.1.2.Strategic Use of IT [Ref 2: Pg. (49-59)]
    - 2.1.3.Business Information Value Chain [Ref 2: Pg. ( 59-60)]
    - 2.1.4.Information Technology for Strategic Advantage [Ref 2: Pg. (61-63)]
    - 2.1.5.Careers in Information Systems [Ref 1: Pg. (62-72)]
  - 2.2. Information Technology Investments in Organizations
    - 2.2.1.Return on Investment
    - 2.2.2.Complementary Assets
    - 2.2.3.Challenges and Ethics of IT Investments
  - 2.3. Global Information Systems Strategies
    - 2.3.1.Globalization and Global IT Management [Ref 2: Pg. (645-246)]
    - 2.3.2.Digital divide
    - 2.3.3.Cultural, Ethnic, and Political Challenges [Ref 2: Pg. (246-248)]
    - 2.3.4.Global Business/IT Strategies, Applications and Platforms [Ref 2: Pg. (248-653)]
3. Electronic and Mobile Commerce
  - 3.1. An Introduction to Electronic Commerce [Ref 1: Pg. (296-303)]
  - 3.2. An Introduction to Mobile Commerce [Ref 1: Pg. (304-305)]
  - 3.3. Advantages of Electronic and Mobile Commerce [Ref 1: Pg. (305-306)]
  - 3.4. Electronic and Mobile Commerce Applications [Ref 1: Pg. (313-321)]
  - 3.5. Strategies for Successful E-Commerce and M-Commerce [Ref 1: Pg. (322-326)]
  - 3.6. Technology Infrastructure Required to Support E-Commerce and M-Commerce [Ref 1: Pg. (326-333)]
4. Electronic Business Systems
  - 4.1. Organizational Structure and Information Systems
    - 4.1.1.Transaction Processing Systems [ Ref 1: Pg. ( 21, 346-356)] [Ref 2: Pg. (293-296)]
    - 4.1.2.Management Information Systems [Ref 1: Pg. (22)] [ Ref 2: Pg. (14)]
    - 4.1.3.Decision Support Systems [ Ref 2: Pg. (420-423)]
    - 4.1.4.Executive Support Systems [ Ref 2: Pg. (436-438)]
  - 4.2. Functional Information Systems
    - 4.2.1.Marketing and Manufacturing Systems [Ref 1: Pg. (19)] [ Ref 2: Pg. (300-304)]
    - 4.2.2.Human Resource Management Systems [Ref 1: Pg. (19)] [Ref 2: Pg. (306-308)]
    - 4.2.3.Finance and Accounting Systems [Ref 1: Pg. (18)] [Ref 2: Pg. (308 -311)]
  - 4.3. Cross-Functional Systems

- 4.3.1.Introduction to Cross-Functional Systems
- 4.3.2.Enterprise Resource Planning Systems [Ref 1: Pg. (22, 356-359, 371)] [Ref 2: Pg. (290-293, 337-343)]
- 4.3.3.Supply Chain Management Systems [Ref 1: Pg. (48-49, 361-363)] [Ref 2: Pg. ( 345- 355)]
- 4.3.4.Customer Relationship Management Systems [Ref 1: Pg. (363-367)] [Ref 2: Pg. ( 326-335)]
- 4.3.5.Knowledge Management Systems [Ref 1: Pg. (25-26 , 410-420)] [Ref 2: Pg. (440-442)]
- 5. Specialized Systems and New Technologies
  - 5.1. Business Intelligence (BI) Systems
    - 5.1.1.Business Reporting and Analytics [ Ref 1: Pg. (382- 387)] [Ref2 418-433]]
    - 5.1.2.Business Intelligence Tools [Ref 1: Pg. (388-391)]
    - 5.1.3.Online Analytical Processing [Ref1 391]]
    - 5.1.4.BI Analytical Techniques [Ref 1: Pg. (392-395, 397-400)]
    - 5.1.5.Information Visualization [Ref 25, 385, 395]]
  - 5.2. Assistive Technology Systems [ Ref 1: Pg. (439 -441)]
    - 5.2.1.Artificial Intelligence [Ref 1: Pg. (421-432)]
    - 5.2.2.Multimedia and Virtual Reality [ Ref 1: Pg. (432-439)]
    - 5.2.3.Informatics [ Ref 1: Pg. (441-442)]
- 6. Information system Acquisition
  - 6.1. IS Acquisition Process [ Ref 1: Pg. (28-29, 542-546)]
  - 6.2. Valuing Information Systems Acquisition
    - 6.2.1.How information systems enable organizational processes
    - 6.2.2.Making a business case for information systems
    - 6.2.3.Productivity paradox of information systems
    - 6.2.4.Investment evaluation (Multi-criteria analysis and Cost-benefit analysis)
    - 6.2.5.Identifying and implementing innovations
  - 6.3. IS Acquisition Options [Ref 2: Pg. (502-546)]
  - 6.4. Sourcing Methods [Ref 1: Pg. (54-56)] [Ref 2: Pg. (637-639)]
    - 6.4.1.In-Sourcing
    - 6.4.2.Outsourcing and Offshoring
    - 6.4.3.Co-Sourcing
- 7. Security, Ethical, Privacy and Other Challenges
  - 7.1. Ethical Issues in Data Handling [ Ref 1: Pg. (600-606, 622-625)] [ Ref 2: Pg. (567-586)]
  - 7.2. Privacy Issues [Ref 1: Pg. (381- 386, 606-618)] [Ref 2: Pg. (586- 590)]
  - 7.3. Information System Security
    - 7.3.1.Security Threats and Attacks [Ref1 560-599)] [Ref 2: Pg. (596- 615)]
    - 7.3.2.Information System Security Planning and Management [Ref 1: Pg. (576-588)] [Ref 2: Pg. (596-610)]
  - 7.4. Ergonomics [Ref 1: Pg. (619-621)] [Ref 2: Pg. (594)]

#### **Teaching /Learning Methods:**

The students are advised to use the learning materials and do the activities, practice quizzes and assignments in the VLE: <http://vle.bit.lk> .

**ONLINE LEARNING MATERIALS AND ACTIVITIES**

If you are a registered student of BIT degree program, then you can access all learning materials, activities and this syllabus in the VLE: <http://vle.bit.lk>. It is very important to participate in learning activities given in the VLE to learn this subject.

**Assessment Strategy:****Continuous Assessments/Assignments:**

The assignments consist of two quizzes, assignment quiz 1 (It covers the first half of the syllabus) and assignment quiz 2 (It covers the second half of the syllabus). The maximum mark for a question is 10 and the minimum mark for a question is 0 (irrespective of negative scores). Final assignment mark is calculated considering both assignments, and students will have to obtain at least 40% for each assignment. Students are advised to complete online assignments before the given deadline. It is compulsory to pass all online assignments to qualify to obtain the Level I, Diploma in IT (DIT), certificate.

In the course, case studies/Lab sheets will be introduced, and students have to participate in the learning activities.

**Final Exam:**

The final examination of the course will be held at the end of the semester. The paper consists of 40 MCQs and candidates have to answer all the 40 questions within 2 hours.

**References/ Reading Materials:**

**Ref 1:** Stair, R., & Reynolds, G. (2018). Principles of Information Systems, 13th Edition: Cengage Learning. (Available from pdfdrive.com)]

**Ref 2:** Marakas, G. M. & O'Brien, J. A. (2013). Introduction to information systems. 16th Edition: Tata McGraw-Hill Publishing Company Limited. (Available from pdfdrive.com)

**Ref 3:** Satzinger, J. W., Jackson, R. B., & Burd, S. D. (2016). Systems analysis and design in a changing world. 7th Edition, Cengage learning. (Available from pdfdrive.com)