

## **IT 5105 – Professional Issues in IT**

### **(Compulsory)**

#### **INTRODUCTION**

In addition to technical skills, an IT professional must understand the social and professional context of information technology and computing, and adhere to ethical codes of conduct. This knowledge area covers the historical, social, professional, ethical and legal aspects of computing. It identifies how teamwork is integrated throughout IT and how IT supports an organization. It also stresses professional oral and written communication skills.

**CREDITS: 03**

#### **LEARNING OUTCOMES**

After successfully completing this course you will be able to:

- An ability to function effectively on teams to accomplish a common goal (Teamwork Concepts and Issues)
- Describe professional, ethical, legal, security and social issues and responsibilities (Social Context of Computing; Legal Issues in Computing ; Intellectual Property)
- An ability to communicate effectively with a range of audiences (Professional Communications)
- An ability to analyse the local and global impact of computing on individuals, organizations, and society (Organizational Context; Privacy and Civil Liberties)
- An ability to use and apply current technical concepts and practices in the core information technologies (Professional and Ethical Issues & Responsibilities; History of Computing)

#### **MINOR MODIFICATIONS**

When minor modifications are made to this syllabus, those will be reflected in the Virtual Learning Environment (VLE) and the latest version can be downloaded from the relevant course page of VLE. Please inform your suggestions and comments through the VLE. <http://vle.bit.lk>

#### **ONLINE LEARNING MATERIALS AND ACTIVITIES**

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

**FINAL EVALUATION**

Final exam of the course will be held at the end of the semester. It is a 2 hour paper with a mix of MCQ's and structured questions.

**OUTLINE OF THE SYLLABUS**

<b>Topics</b>	<b>Hours</b>
1. Professional Communications	05
2. Teamwork Concepts and Issues	05
3. Social Context of Computing	05
4. Intellectual Property	06
5. Legal Issues in Computing	06
6. Organizational Context	04
7. Professional and Ethical Issues & Responsibilities	05
8. History of Computing	04
9. Privacy and Civil Liberties	05
<b>Total</b>	<b>45</b>

**REQUIRED MATERIALS****Main Reading**

Learner should use the following user manuals as main reference materials.

- **Ref1:** Tavani, Herman T., “Ethics and technology: controversies, questions, and strategies for ethical computing” / Herman T. Tavani, Rivier University—Fourth edition. ISBN 978-1-118-28172-7
- **Ref 2:** “Ethics in Information Technology” George Reynolds, 2015 (ISBN-10: 1285197151)
- **Ref 3:** “Professional Issues in Information Technology” Frank Bott, First south Asia Edition. Chennai Micro Print (P) Ltd., Chennai, India. 2007 (ISBN 1-902505-65-4)

**Supplementary Reading:**

- **Ref 4:** COMPUTER CRIME ACT, No. 24 OF 2007:  
<http://www.documents.gov.lk/Acts/2007/Computer%20Crime%20-%20Act%2024/Act%20No.%2024E.pdf>
- **Ref 5:** BCS Code of conduct:  
<http://www.bcs.org/server.php?show=nav.6030>

- **Ref 6:** BCS Code of Practice:  
<http://www.bcs.org/server.php?show=nav.6029>
- **Ref 7:** ACS Code of Ethics:  
<http://courses.cs.vt.edu/~cs3604/lib/WorldCodes/Australia.Code.html>
- **Ref 8:** ACS Code of Professional Conduct and Professional Practice:  
<http://www.acs.org.au/index.cfm?action=show&conID=copc>
- **Ref 9:** IEEE Code of Ethics:  
<http://www.ieee.org/portal/pages/iportals/aboutus/ethics/code.html>
- **Ref 10:** Computer Society of Sri Lanka (CSSL):  
[http://www.cssl.lk/index.php?option=com\\_frontpage&Itemid=66](http://www.cssl.lk/index.php?option=com_frontpage&Itemid=66)
- **Ref 11:** INTELLECTUAL PROPERTY ACT, No. 36 OF 2003:  
[http://www.documents.gov.lk/Acts/2003/Intellectual%20Property%20\(Act%2036\)/Intellectual%20Property%20%20Act%2036.pdf](http://www.documents.gov.lk/Acts/2003/Intellectual%20Property%20(Act%2036)/Intellectual%20Property%20%20Act%2036.pdf)

## DETAILED SYLLABUS

### 1. Professional Communications (05 hrs.)

#### Instructional Objectives

- Prepare and deliver an oral presentation for a user audience.
- Prepare and deliver an oral presentation for a management audience.
- Write a technical memo to management.
- Create user documentation for an IT system.
- Create a set of technical requirements for an IT system.
- Compare and contrast technical writing and expository writing.

#### Sub Topics

- 1.1 Oral presentations
- 1.2 Technical writing
- 1.3 System documentation
- 1.4 Technical requirements

### 2. Teamwork Concepts and Issues (05hrs.)

#### Instructional Objectives

- Describe ways in which collaboration is used effectively in cross-functional teams.
- Prepare a self-evaluation of contributions made within a team experience.
- Prepare a peer evaluation of contributions made by team members.
- Describe the basic elements of group dynamics.
- Compare and contrast different conflict resolution strategies.

- Compare and contrast basic leadership styles and their
- Describe personality types and their effect on creating better teams.
- Identify and use collaboration tools.

**Sub Topics**

- 2.1 Collaboration
- 2.2 Group dynamics
- 2.3 Leadership styles
- 2.4 Personality types
- 2.5 Collaboration tools
- 2.6 different conflict resolution strategies

**3. Social Context of Computing (05 hrs)****Instructional Objectives**

- Interpret the social context of a particular information technology implementation.
- Evaluate a particular implementation through the use of empirical data.
- Describe positive and negative ways in which information technology alters the modes of interaction between people.
- Explain why computing and networking access is restricted in some countries.
- Explain the concept of “digital divide”, identify some causes and discuss possible solutions.
- Identify underlying gender, cultural and diversity related issues in information technology.
- Identify how information technology changes and affects culture as a whole.
- Identify how the internet has changed the face of computing and how it has affected society.

**Sub Topics**

- 3.1 Social informatics
- 3.2 Social impact of IT on society
- 3.3 Online communities & social implications
- 3.4 Philosophical context
- 3.5 Diversity issues
- 3.6 Gender-related issues
- 3.7 Cultural issues
- 3.8 Accessibility issues
- 3.9 Globalization issues
- 3.10 Economic issues in computing
- 3.11 Digital divide

**4. Intellectual Property (06 hrs)****Instructional Objectives**

- Distinguish among copyrights, patents, trademarks and trade secrets.
- Discuss the ramifications of non-disclosure agreements (NDAs).
- Discuss the implications of plagiarism, both in education and the profession.

- Discuss the consequences of software piracy on information technology and the role of relevant enforcement organizations.
- Discuss how intellectual property laws vary internationally.
- Describe consequences of the Digital Millennium Copyright Act.

**Sub Topics**

- 4.1 Foundations of intellectual property
- 4.2 Ownership of information
- 4.3 Plagiarism
- 4.4 Software piracy
- 4.5 Fair use
- 4.6 Digital Millennium' Copyright Act (DMCA)
- 4.7 Copyrights, patents, trademarks and trade secrets, NDAs
- 4.8 International differences

**5. Legal Issues in Computing (06 hrs)****Instructional Objectives**

- Identify methods by which computing services can be compromised.
- Discuss the legal implications of compromising computing services.
- Discuss the types of policies that should be included for system use and monitoring.
- Describe the basic elements of compliance laws – such as ADA508, FERPA, HIPAA, and Sarbanes-Oxley.
- Describe the differences in accountability, responsibility, and liability.
- Describe current approaches to managing risk, and describe the legal implications of compromising computing services.
- Evaluate an acceptable use policy.

**Sub Topics**

- 5.1 Compliance (ADA508, FERPA, HIPAA, Sarbanes-Oxley, etc.)
- 5.2 Hackers/crackers
- 5.3 Computer crime
- 5.4 Viruses
- 5.5 System use policies & monitoring
- 5.6 Risks and liabilities of computer-based systems
- 5.7 Accountability, responsibility, liability

**6. Organizational Context (04 hrs)****Instructional Objectives**

- Outline the basic parts of a typical IT environment.
- Explain how IT must support business processes.
- Identify how an IT professional maintains their professional behavior.
- Explain how an organizational culture can affect IT.

**Sub Topics**

- 6.1 Business processes
- 6.2 IT environment
- 6.3 Organizational culture
- 6.4 Professionalism

**7. Professional and Ethical Issues & Responsibilities (05 hrs)****Instructional Objectives**

- Identify the strengths and weaknesses of relevant professional codes as expressions of professionalism and guides to decision-making.
- Identify ethical issues that arise in the information technology field and determine how to address them technically and ethically.
- Apply appropriate professional codes of conduct in assignments.
- Identify progressive stages in a whistle-blowing incident.
- List the underlying philosophical aspects of ethical decision making.
- Identify how information technology is affected by workplace issues such as harassment and discrimination.
- Identify how society has been affected by identity theft and what to do to protect individuals.
- Compare and contrast two published codes of ethics.

**Sub Topics**

- 7.1 Relationships with professional societies
- 7.2 Codes of professional conduct, such as IEEE, ACM, BCS, ITAA, AITP
- 7.3 Ethics and history of ethics
- 7.4 Whistle-blowing
- 7.5 Workplace issues (harassment, discrimination)
- 7.6 Identity theft
- 7.7 Ethical hacking

**8. History of Computing (04 hrs)****Instructional Objectives**

- Identify and describe emerging technologies in the context of the history of computing technologies.
- Identify significant trends in the information technology profession.
- Identify how life-long learning impacts the information technology professional.
- Describe green computing and its practices

**Sub Topics**

- 8.1 Implications of:
  - 8.1.1 History of computer hardware, software
  - 8.1.2 History of the Internet
  - 8.1.3 Telecommunications
- 8.2 The IT profession
- 8.3 IT education

8.4 Environmental Issues

**9. Privacy and Civil Liberties (05 hrs)**

**Instructional Objectives**

- List the underlying criteria for both HIPAA and FERPA acts.
- Identify the basic parts of the E.U. Data Protection act.
- Discuss the Gramm-Leach-Bailey Act and how it protects privacy.

**Sub Topics**

9.1 HIPAA and FERPA

9.2 E.U. Data Protection

9.3 Gramm-Leach-Bailey Act