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| **Course Title** | **Applications of Information & Communication Technologies** | | |
| **Course Code** | **GE-160** | | |
| **Credit Hours** | 3 (2,1) | | |
| **Category** | General Education | | |
| **Prerequisite** | None | | |
| **Co-Requisite** | None | | |
| **Follow Up** | None | | |
| **Course Introduction** | The course is designed to provide students with an exploration of the practical applications of Information and Communication Technologies (ICT) and software tools in various domains. Students will gain hands-on experience with a range of software applications, learning how to leverage ICT to solve daily life problems, enhance productivity and innovate in different fields. Through individual and interactive exercises and discussions, students will develop proficiency in utilizing various software related to ICT. | | |
| **Course Learning Outcomes (CLOs)** | At the end of the course, the students will be able to: | **BT** | **PLO** |
| | CLO1: Explain the fundamental concepts, components, and scope of ICT. | C2 (Explain) | 1,2 |
| | CLO2: Identify uses of various ICT platforms and tools for different purposes. | C4 (Identify) | 1,2,3 |
| | CLO3: Apply ICT platforms and tools for different purposes to address basic needs in different domains of daily, academic, and professional life. | C3 (Apply) | 3,4,5 |
| | CLO4: Understand ethical and legal considerations in use of ICT platforms and tools. | C2 (Understand) | 1,2,3 |
| **Text Book/ Reference Material** | 1. "Discovering Computers" by Vermaat, Shaffer, and Freund.<br>2. Deborah Morley and Charles S. Parker, Understanding Computers: Today and Tomorrow, 16th edition, Cengage Learning, 2016, ISBN-13: 978-1337251853<br>3. "Computing Essentials" by Morley and Parker.<br>4. "GO! With Microsoft Office" Series by Gaskin, Vargas, and McLellan.<br>5. "Exploring Microsoft Office" Series by Grauer and Poatsy.<br>6. "Technology in Action" by Evans, Martin and Poatsy.<br>7. Livesley, Robert Kenneth. An introduction to automatic digital computers. Cambridge University Press, 2017.<br>8. Joan Lambert, Curtis Frye, Microsoft Office 2019 Step by Step, First Edition. ISBN: 978-1-50-930597-1. | | |

**Weekly Lesson Plan**

| Week No. | Course Content | Assignments/Readings |
|---|---|---|
| **Week 1** | Course Introduction: Motivation, Significance and Future Prospects. Introduction to the World of Computers. Computers in Your Life. What Is a Computer and What Does It Do? Computers to Fit Every Need. Operating System: Explore Task Manager of Microsoft ® Windows. Using Linux Operating System using Virtual Box. Changing Drives, Deleting, Copying, Moving files using command line interface in Linux. | Morley et al. Chapter 1 |
| **Week 2** | Introduction to the World of Computers. Computer Networks and the Internet. Computers and Society. Basic ICT Productivity Tools: Effective use of popular search engines to explore WWW, Formal communication tools and etiquettes (Gamail, Microsoft Outlook, etc.) | Morely et al.: Chapter 1<br>Assignment 1 |
| **Week 3** | The System Unit: Processing and Memory. Data and Program Representation. Inside the System Unit. How the CPU Works. Making Computers Faster and Better Now and in the Future. Microsoft Word: Basic Editing. Character and Paragraph Formatting. Managing Text Flow. Creating Tables. Working with Themes Style Sets, Backgrounds, Quick Parts, and Text Boxes. Using Illustrations and Graphics. Formatting a CV. | Morely et al.: Chapter 2<br>Lab Manual – V.<br>Quiz 1 |
| **Week 4** | Microsoft Excel – I: Working with Microsoft excel. Using Office Backstage. Using basic Formulas and Functions. Formatting Cells, Ranges, and Worksheets. | Lab Manual – VI.<br>Assignment 2 |

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| **Week 5** | Storage: Storage Systems Characteristics. Hard Drives. Optical Discs and Drives. Flash Memory Storage Systems. Other Types of Storage Systems. Microsoft Excel – II: Managing Worksheets. Working with Data and using Advanced Formulas. Securing and Sharing Workbooks. Creating Charts adding pictures and shapes to a Worksheet. | Lab Manual – VII.<br><br>Morely et al.: Chapter 3 |
| **Week 6** | Microsoft PowerPoint & Primitive Graphics Design Tools: PowerPoint essentials and presentation basics. Working with Text and Designing a Presentation. Adding Tables to Slides. Using Charts in a Presentation. Creating SmartArt Graphics. Creating Graphics and Adding to a Presentation. Using Animation and Multimedia. Securing and Sharing a Presentation. Input and Output: Keyboards. Pointing and Touch Devices. Scanners, Readers, and Digital Cameras. Audio Input. Audio Output. Display Devices. Printers. | Morely et al.: Chapter 4<br>Lab Manual – VIII.<br>Quiz 2 |
| **Week 7** | System Software: Operating Systems and Utility Programs: System Software vs. Application Software. The Operating System. Operating Systems for Personal Computers. Operating Systems for Servers. Operating Systems for Mobile Devices. Operating Systems for Larger Computers. Utility Programs. The Future of Operating Systems. Microsoft Access – I: Database Essentials. Creating Database Tables. Working with Tables and Database Records. Modifying Tables and Fields. Creating Forms and Reports. | Lab Manual – IX.<br><br>Morely et al.: Chapter 5 (page 174 to 207) |
| **Week 8** | Computer Networks: What Is a Network? Networking Applications. Network Characteristics. Data Transmission Characteristics. Networking Media. Data Transmission Characteristics. Networking Media. Microsoft Access – II: Creating and Modifying Queries. Using Controls in Reports and Forms. | Morely et al.: Chapter 7<br>Lab Manual – X<br>Assignment 3 |
| **Week 9** | The Internet and the World Wide Web: Evolution of the Internet. Getting Set Up to Use the Internet. Searching the Internet. Google Workspace (Google Docs, Sheets, Slides), | Morely et al.: Chapter 8 |
| **Week 10** | Google Drive, Dropbox (cloud storage and file sharing), Google Drive (Cloud storage with Google Docs integration) and Microsoft OneDrive (Cloud storage with Microsoft integration), | https://drive.google.com/drive/home<br>https://www.dropbox.com/<br>https://onedrive.live.com/login<br>Quiz 3 |
| **Week 11** | Evernote (Note-taking and organization applications) and OneNote (Microsoft's digital notebook for capturing and organizing ideas), | https://onenote.cloud.microsoft/ |
| **Week 12** | Video conferencing (Google Meet, Microsoft Teams, Zoom, etc.), social media applications (LinkedIn, Facebook, Instagram, etc.) | https://meet.google.com/landing<br>Assignment 4 |
| **Week 13** | ICT in Education: Working with learning management systems (Moodle, Canvas, Google Classrooms, etc.), Sources of online education courses (Coursera, edX, Udemy, Khan Academy, etc.), Interactive multimedia and virtual classrooms | https://moodle.com/<br>https://www.instructure.com/canvas |
| | | https://www.coursera.org/ |
| **Week 14** | ICT in Health and Well-being: Health and fitness tracking devices and applications (Google Fit, Samsung Health, Apple Health, Xiaomi Mi Band, Runkeeper, etc.), Telemedicine and online health consultations (OLADOC, Sehat Kahani, Mahram, etc.) | https://oladoc.com/<br>https://www.marham.pk/<br>Quiz 4 |
| **Week 15** | ICT in Personal Finance and Shopping: Online banking and financial management tools (JazzCash, Easypaisa, Zong PayMax, 1Link and MNET, Keenu Wallet, etc.), E-commerce platforms. | https://www.jazzcash.com.pk/<br>https://1link.net.pk/ |
| **Week 16** | Digital Citizenship and Online Etiquette: Intellectual property and copyright issues, Ensuring originality in content creation by avoiding plagiarism and unauthorized use of information sources, Content accuracy and integrity (ensuring that the content share through ICT platforms is free from misinformation, fake news, and manipulation). | Review of the course |