| **COURSE INFORMATION** | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | | **ITP04** | | | | | | | | |
| **Course Title** | | **Platform Technologies** | | | | | | | | |
| **Term Offered** | | **First Semester** | | | | | | | | |
| **Course Credit** | | **3.00** | | | | | | | | |
| **Class hours per Course Type** | | **Lecture Laboratory Lecture with laboratory** | | | | | | | | |
| **Pre-Requisite** | | **ITP03** | | | | | | | | |
| **Co-requisite** | | **NONE** | | | | | | | | |
| **University Philosophy, Mission, Vision, Objectives, School Vision and Mission** | | | | | | | | | | |
| **University Philosophy** | | The institution believes that through education, man’s God-given gifts are discovered and developed for his personal fulfillment and community uplift. | | | | | | | | |
| **University Vision** | | It envisions to create a community responsive to the challenges of the changing world. | | | | | | | | |
| **University Mission** | | It is tasked to prepare individuals with the best that education can offer in a manner that is consistent with the needs of society. | | | | | | | | |
| **University Objectives** | | To inculcate critical thinking;  To provide competent human resources in various fields;  To uphold discipline, justice and equality; and  To improve man’s quality of life through research and community services. | | | | | | | | |
| **School Vision** | | To build a community of technology innovators responsive to the challenges of the computing world. | | | | | | | | |
| **School Mission** | | To prepare computer professionals with the best computing science education adaptive to the global environment. | | | | | | | | |
|  | | **Institutional, Program and Course Outcomes** | | | | | | | | |
| **Institutional Outcomes** | | The Institutional Outcomes aligned to the course are (is):   1. Meet the standards of both local and global markets. 2. Innovate and contribute to technological advancement and societal development. 3. Demonstrate dynamism, resiliency, and integrity as desired of a professional. | | | | | | | | |
| **Program Outcomes** | | By the time of graduation, the students shall be able to:   1. Analyze complex problems, and identify and define the computing requirements appropriate to its solution. (IT03) 2. Design, implement, and evaluate computer-based systems, processes, components, or programs to meet desired needs and requirement under various constraints. (IT05) 3. Apply knowledge through the use of current techniques, skills, tools, and practices necessary for the IT profession. (IT07) 4. Function effectively as a member or leader of a development team recognizing the different roles within a team to accomplish a common goal. (IT08) 5. Assist in the creation of an effective IT project plan. (IT09) 6. Recognize the need for and engage in planning self-learning and improving performance as a foundation for continuing professional development. (IT13) | | | | | | | | |
| **Course Description** | | This course introduces students to various computer operating systems and guides them in selecting the most suitable one based on specific requirements. It focuses particularly on Linux OS, covering essential topics such as using CLI commands, understanding Linux's structure, creating scripts, and setting up a web server on a Linux system. | | | | | | | | |
| **Course Outcomes (CO)** | | At the end of the course, the students will be able to:   1. Define operating systems and their file systems, and recommend an operating system based on specific requirements; 2. Use the Linux command line and create shell scripts to address various problems and tasks; 3. Utilize basic network utilities in Linux and understand the processes that use them; and 4. Set up and configure a web server accessible locally and from other devices in a network, | | | | | | | | |
| **Course Learning Plan** | | | | | | | | | | |
| Course Outcomes Number | Intended Learning Outcomes | | | Topic | Time Allotment | Learning Activities | | Learning Materials and Platform | | Learning Assessment |
|  | **PRELIM PERIOD** | | | | | | | | | |
|  | At the end of the lesson/learning experience, the students will be able to**:** | | |  |  |  | |  | |  |
|  | Observe the classroom Policy such as classroom requirement, grading system and consultation hours, Discuss the University PVMO, specific program objectives. | | | Orientation on Classroom Policies, University PMVO and the Program Objectives. | 1 hour lecture |  | | In Person | | Short Quiz on University PVMO |
| 1 | Explain the history, structure, types, and installation of operating systems.  Differentiate the file systems present in three major operating systems | | | **Chapter 1:** Introduction to Operating Systems  **Chapter 2:**  Different File Systems | 3 hours lecture  6 hours lab  2 hours lecture,  3 hours lab | * Overview of Operating Systems, History and Evolution * Types of Operating Systems * Installation of OS. * Windows File System * Linux File System * Mac File System | | Lecture Notes, Computer Laboratory  In Person | | Seatwork, Quiz, Lab Activity, Research |
| **Prelim Examination** | | | | | | | | | | |
| **MIDTERM PERIOD** | | | | | | | | | | |
| 2 | Use basic Linux commands and navigate Linux directories efficiently and manage file permissions  Make shell scripts for use-cases | | | **Chapter 3:**  Basic Linux Commands and Environment  **Chapter 4:**  Shell Scripting | 4 hours lecture  6 hours lab  4 hours lecture  6 hours lab | * Introduction to Linux * Navigating Linux Using the CLI * File and Directory Permissions * Managing Users and Groups * Basic File Operations * Introduction to Shell Scripting * Basic Scripting Concepts * Writing and Executing Shell Scripts * Practical Scripting | | Lecture Notes, Computer Laboratory  In Person | | Seatwork, Quiz, Lab Activity, Research |
| **Midterm Examination** | | | | | | | | | | |
| **PRE-FINALS PERIOD** | | | | | | | | | | |
| 3 | Determine process information along with child and parent processes  Understand basic concepts in networking and apply them in a Linux environment  Identify host and network vulnerabilities through network scanning | | | **Chapter 5:**  Process Management  **Chapter 6:**  Networking in Linux  **Chapter 7:**  Linux Recon Basics | 2 hours lecture  3 hours lab  4 hours lecture  6 hours lab  2 hours lecture  3 hours lab | * Introduction to Processes * Process States and Life Cycle * Managing Processes in Linux * Background and Foreground Processes * Basic Networking Concepts * Configuring Network Interfaces * Network Utilities * Network Scanning Tools * Identifying Host and Network Vulnerabilities | | Lecture Notes, Computer Laboratory  In Person | | Seatwork, Quiz, Lab Activity, Research |
| **Pre-Final Examination** | | | | | | | | | | |
| **FINAL PERIOD** | | | | | | | | | | |
| 4 | Identify the advantages and disadvantages of different Linux Web Servers  Setup a Linux web server and host a website | | | **Chapter 8:**  Linux Web Servers  Web Server Hosting | 2 hours lecture  3 hours lab  10 hours | * Different Web Servers in Linux * Presentation, creation and hosting of a basic website that can be accessed locally and on other devices | | Lecture Notes, Computer Laboratory  In Person | | Lab Activity, Project |
| **Final Examination** | | | | | | | | | | |
|  |  | | |  | **Total Number of Hours =** | **90** | |  | |  |
| **Course References** | Graham, D. G. (2021). Ethical Hacking. San Francisco: Octal Publishing Inc.  Hess, K. (2023). Practical Linux System Administration. Sebastopol: O'Reilly Media, Inc.  OccupyTheWeb. (2019). Linux Basics for Hackers (1st ed.). San Francisco: No Starch Press Inc.  Palmer, W., & Walters, M. (2012). Operating Systems (4th ed.). Philippines: Cengage Learning Asia Pte Ltd.  Shotts, W. (2019). The Linux Command Line. San Francisco: No Starch Press Inc. | | | | | | | | | |
| **Course Requirements** | **Web Server Deployment.** Students will set up a web server and host a functional website accessible locally and from other devices.  **Student Portfolio**. Students shall submit their portfolio complete with their exams, quizzes, and activities. | | | | | | | | | |
| **Assessment and Grading** | The minimum requirement for a passing grade is 75% all throughout the following:  **Lecture Classes:**  **Note:**  Midterm CS – consolidation of CS from prelim to midterm  Final CS – consolidation of CS from prelim to finals  40% Class Standing  60% Exams  10% Prelim Exam (PE)  15% Midterm Exam (ME)  20% Semi Final Exam (SF)  25% Final Exam (FE)  **Laboratory Classes:**  **Note:**  30% Written  20% Exam  50% Practical  Midterm Grade Practical = 2\*(20% Prelim Practical + 30% Midterm Practical)  Final Grade Practical = 20% Prelim Practical +30% Midterm Practical + 50% (final practical)  Midterm CS = Written Activities from Prelim to Midterm  Final CS = Written Activities from Prelim to Finals | | | | | | | | | |
| **Course Policies** | **Attendance:**   * A maximum of 20 hours of cumulative absences is allowed; exceeding this limit will result in the student being dropped from the subject.   **Late Submissions:**   * Late submissions will be permitted past a due date but with a 10%-point reduction for each missed day. Discuss any circumstances with the instructor if a late submission becomes necessary.   **Special Exams and Quizzes:**   * Special Exams and Quizzes may only be permitted upon approval from the academic affairs office. | | | | | | | | | |
| **Revision History** | | | | | | | | | | |
| **Revision Number** | | **Date of Revision** | | **People Involved in the Revision** | **Date of Effectivity** | **Highlights of Revision** | | | | |
|  | | **13 August 2024** | | Marc France P. Cabiles  Jann Alfred A. Quinto, MSIB | **19 August 2024** | * Changed the focus of the course to Operating Systems, with highlight on Linux. | | | | |
| **Prepared by:** | | | | | | | | | | |
| **Name of Faculty** | | **Marc France P. Cabiles** | | | | | | | | |
| **Email Address** | | cabilesmf@cdd.edu.ph | | | | | | | | |
| **Consultation Schedule (Day and Time)** | | Every Friday, 8am – 12pm | | | | | | | | |
| **Location of Office** | | Arzatech Office, 2nd Floor LCA Building, Universidad de Dagupan | | | | | | | | |
|  | | |  | | | |  | | | |
| **Checked by:**  **JANN ALFRED A. QUINTO, MSIB**  Dean | | | **Recommending Approval:**  **DR. CARIDAD O. ABUAN**  Vice President for Academics, Research, & Extension | | | | | | **Approved:**  **JANN ALFRED A. QUINTO, MSIB**  Chief Oeprating Officer | |