

Chapter (1)

Introduction

1.1 Introduction of the project

In today's digital era, managing course registrations efficiently is crucial for educational institutions like Computer University. Our course registration system aims to streamline this process, making it easier for students and administrators to handle course enrollments seamlessly.

The "Course Registration System for Computer University" comprises three main user roles: students, administrators, and guests. Each role has specific functionalities tailored to their needs within the system.

For administrators, the system provides comprehensive tools to manage user accounts, courses, and registrations. Administrators can view and manage student, including updating and registering account. Admin can create courses, prerequisites and also edit and delete them. And admin can manage the grade of each student throughout the semester. Additionally, administrators can handle the status of student's course registration form like rejecting the course registration form or approve course registration form.

Students, the primary users of the system, can login into the system and can register course for their related semester. Registered students can view their registration history to check their registration form is success or fail. And they can also read about the documentation of the system.

Guest users, those who have not registered or logged in, can read documentations of system.

The "Course Registration System for Computer University" is built using modern web technologies to ensure a seamless user experience. The backend is powered by PHP for data processing and storage, leveraging the robust capabilities of MariaDB for efficient database management. The frontend is developed using React for dynamic and interactive interfaces, providing users with a smooth and intuitive experience. Tailwind CSS is utilized for designing responsive and visually appealing layouts across different devices, ensuring accessibility and usability for all users. This combination of technologies creates a reliable and user-friendly system for managing course registrations at Computer University.

1.2 Objectives of the project

The main objectives of the projects are:

- ❖ To simplify and streamline the course registration process for students and administrators.
- ❖ To improve efficiency and accuracy in course selection, registration, and management.
- ❖ To automate administrative tasks to save time and resources.
- ❖ To ensure data security and privacy.
- ❖ To support academic goals of Computer University through effective course management.

Chapter (2)

Theory Background

2.1 Introduction to PHP

PHP (Hypertext Preprocessor) is a widely-used open-source scripting language suited for web development and general-purpose programming. Originally created by Danish-Canadian programmer Rasmus Lerdorf in 1994, PHP is now maintained by the PHP Development Team.

2.2 Features of PHP

PHP is known for its simplicity, flexibility, and ease of integration with various web technologies. Some key features of PHP include:

- ❖ Server-Side Scripting: PHP is primarily used for server-side scripting, allowing the execution of code on the server before sending the result to the client's browser.
- ❖ Cross-Platform Compatibility: PHP runs on various platforms, including Windows, Linux, macOS, and Unix-based systems.
- ❖ Open Source: PHP is open source, meaning it is freely available for anyone to use, modify, and distribute.
- ❖ Integration with Databases: PHP provides robust support for interacting with databases, including MySQL, PostgreSQL, Oracle, and SQLite, making it suitable for developing database-driven web applications
- ❖ Extensive Library Support: PHP has a vast ecosystem of libraries and frameworks that extend its functionality and simplify common tasks in web development.
- ❖ Web Server Support: PHP is compatible with popular web servers like Apache, Nginx, and Microsoft IIS.

2.3 PHP Architecture

PHP follows a traditional request-response model for web applications. When a client requests a PHP file from a web server, the server executes the PHP code, generates HTML content, and sends it back to the client's browser for rendering.

2.4 PHP Frameworks

PHP frameworks provide a structured environment for developing web applications by promoting code reusability, scalability, and maintainability. Some popular PHP frameworks include:

- ❖ Laravel
- ❖ Symfony
- ❖ CodeIgniter
- ❖ Yii
- ❖ Zend Framework

2.5 Advantages of Using PHP

PHP offers several advantages for web development projects, including:

Ease of Learning: PHP syntax is straightforward and easy to grasp for beginners, allowing developers to quickly start building web applications.

Cost-Effective: Being open source, PHP eliminates licensing costs associated with proprietary software, making it a cost-effective choice for businesses.

Rapid Development: PHP's extensive library support and frameworks enable developers to build web applications rapidly, reducing time-to-market.

Community Support: PHP has a large and active community of developers who contribute to its development, provide support, and share resources.

Chapter (3)

System Requirements Specification and Database Design

3.1 Hardware Requirements

The minimum hardware requirements for this system are as follows:

- ❖ **Processor (CPU)** : Intel core i5
- ❖ **Memory** : 4 GB RAM
- ❖ **Hard Disk**: 3 GB of available hard-disk space for installation, additional free space is required during installation.

3.2 Software Requirements

To set up the Course Registration System for Computer University on your personal computer for system development, the following software is required:

PHP 8.0.12: PHP is the primary programming language used for server-side scripting in this project. Ensure that PHP version 8.0.12 or above is installed on your system.

XAMPP Server: XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. XAMPP provides a local development environment for testing and deploying PHP applications. Make sure to install XAMPP with Apache, PHP, and MariaDB components.

MariaDB 10.0 or above: MariaDB is the chosen relational database management system (RDBMS) for storing and managing data in the Course Registration System. Install MariaDB version 10.0 or above on your system and set up an appropriate schema for the project.

Node.js and npm: Node.js is a JavaScript runtime built on Chrome's V8 JavaScript engine. npm is the package manager for JavaScript. Both Node.js and npm are required for installing and managing dependencies in a React project. Install Node.js and npm by downloading the installer from the official website.

React: React is a JavaScript library for building user interfaces. It is used for the frontend development of the Course Registration System. Install React using npm by running the following command: `npm install -g create-react-app`.

Tailwind CSS: Tailwind CSS is a utility-first CSS framework for rapidly building custom designs. It is used for styling the frontend components of the Course Registration System. Install Tailwind CSS by including it in your React project using npm: `npm install tailwindcss`.

Web Browser: The system should be accessible and compatible with popular web browsers such as Mozilla Firefox, Google Chrome, Microsoft Edge, etc., to ensure a wide user reach during testing and deployment.

Database Design

The Course Registration System for Computer University utilizes a relational database to manage data effectively. The database design includes the following tables:

roles: Define user role such as admin, sub_admin and student.

users: Contains information about users, including id, role_id, name, email, password, phone, gender, profile, status, created_date, and updated_date.

students: Contains data related to students including id, user_id, semester, major, student_year, created_date, and updated_date.

sub_admins: : Contains data related to students including id, user_id, department, created_date, and updated_date.

courses: Stores information about courses offered by the university, including id, course_name, course_code, course_year, semester, major created_date, and updated_date.

perquisites: Contains data related to perquisite course, including id, course, perquisite_code.

grades: Stores information about grade that offered by the related student including id, course_id, student_id, marks, letter_grade, grade_scor, remark, created_date, and updated_date.

registrations: Records registrations of students for courses, including id, cr_code, user_id, student_name, email, phone, course_code, course_name, major, student_year and semester, academic, status, created_date, updated_date.

The database schema should be designed to ensure efficient data storage, retrieval, and management for the Course Registration System.

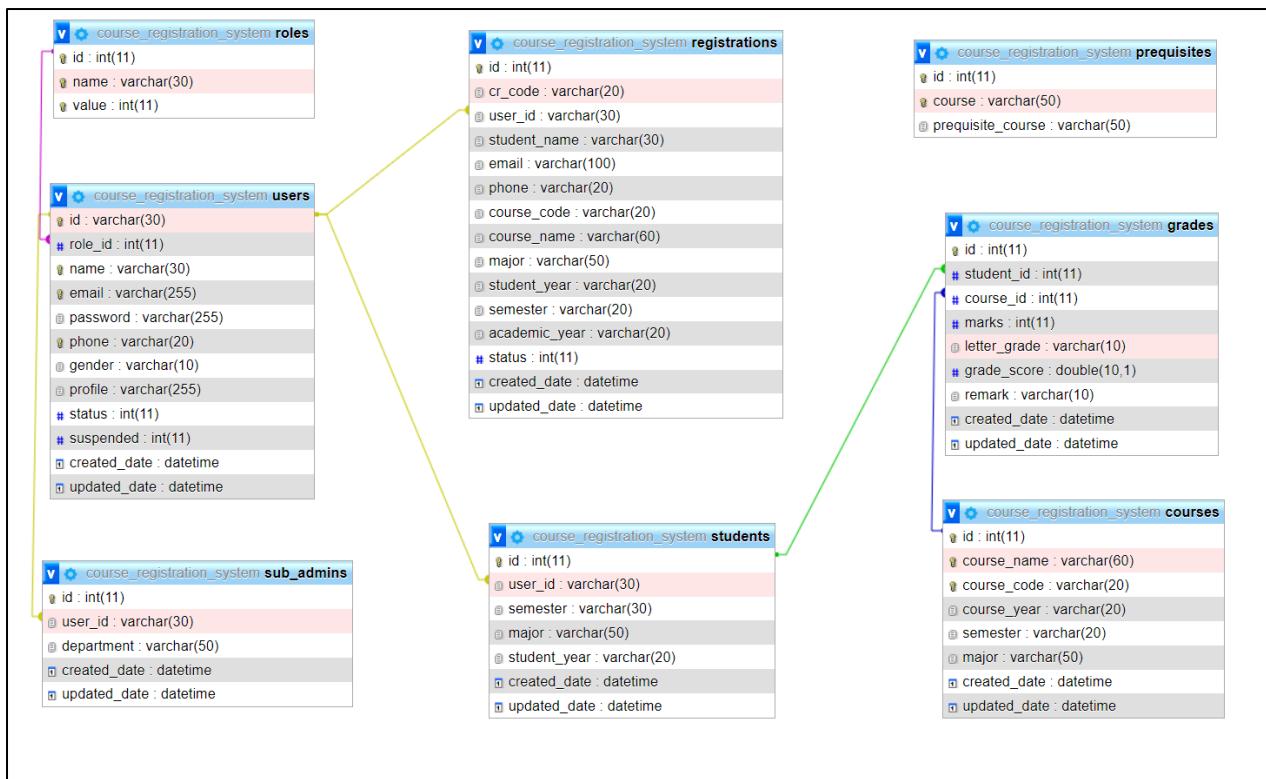


Figure (3.1) Entity Relationship Diagram for Course Registration System

Chapter (4)

Project Implementation

4.1 System Home for Administrator

- When the administrator enters the website address, the system shows “Home Page” as illustrated in Figure (4.1).

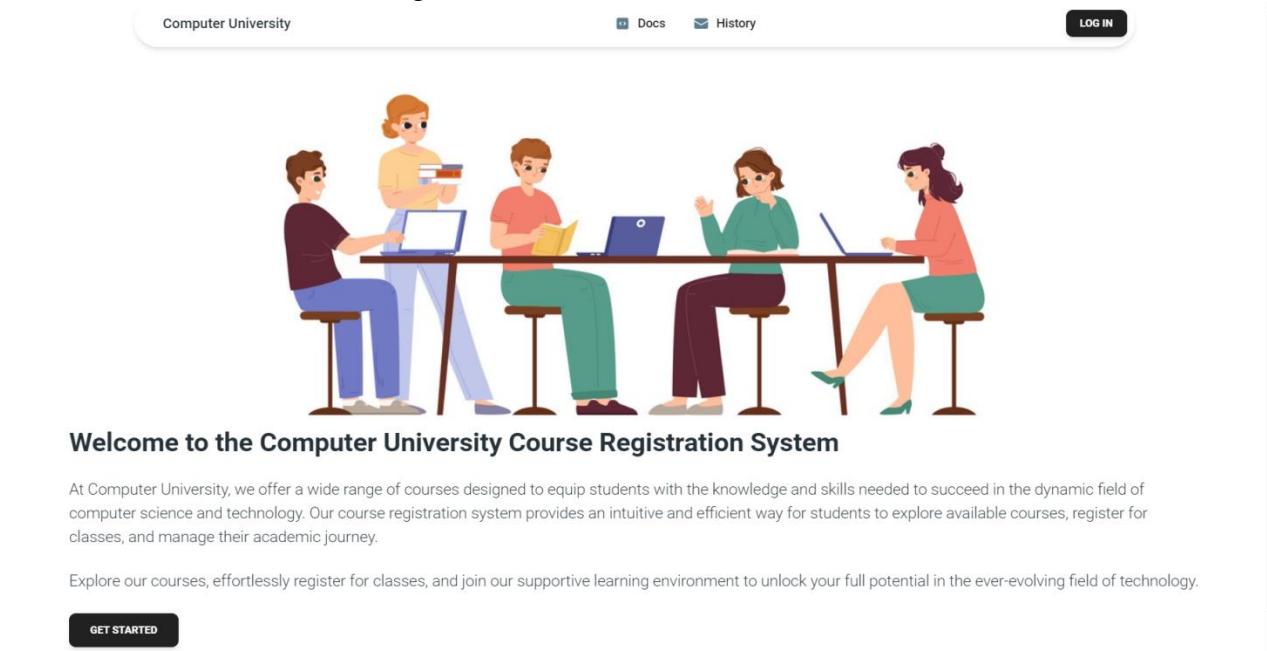


Figure (4.1) System Home Page for Administrator

4.1.1 Login Page for Administrator

- The administrator login to the system, by clicking “Login” tab at the top menu in Figure (4.1).
- The system displays the login page in Figure (4.2) and the administrator inserts the email and password.

A screenshot of the 'Login' page from the 'Computer University' website. The top navigation bar is visible with 'Docs', 'History', and a 'LOG IN' button. The main content area has a red error message 'Email and Password fields are required'. Below this is a 'Login' form with two input fields labeled 'Email' and 'Password', and a large black 'LOGIN' button. The footer contains the copyright notice '© 2024 Computer University Course Registration System'.

Figure (4.2) Login Page for Administrator

- The administrator type invalid email or password, the system shows the error message as shown in Figure (4.3).

The screenshot shows a web browser window for 'Computer University'. At the top, there is a navigation bar with links for 'Docs' and 'History', and a 'LOG IN' button. Below the navigation bar is a login form. The form has two input fields: one for 'Email' containing 'admin@ucspkku.edu.mm' and another for 'Password' containing several dots. Above the password field, the text 'Invalid Email or Password' is displayed in red. Below the password field is a large black 'LOGIN' button. At the bottom of the page, there is a dark footer bar with the text '© 2024 Computer University Course Registration System'.

Figure (4.3) Login Error Page for Administrator

4.1.2 Change Password Page

- When the administrator login is successful and the authenticate user first time login (status 0) into the system displays “Change Password” page to the administrator as illustrated in Figure (4.4).

The screenshot shows the 'Course Registration System' interface. On the left, a sidebar titled 'Admin Control' contains a 'Dashboard' button (which is highlighted in black) and other options: Students, Sub Admins, Courses, Prerequisites Course, Course Registration, Student Register, and SubAdmin Register. The main content area has a header 'Admin / ChangePassword' and 'ChangePassword'. It features a 'Change Password' form with three input fields: 'Current Password', 'New Password', and 'Confirm Password', followed by a 'CHANGE PASSWORD' button.

Figure (4.4) Change Password Page for Administrator

- When the administrator doesn't fill the required fields, the system displays "Error Message" to the administrator as illustrated in Figure (4.5).

This screenshot is identical to Figure 4.4, showing the 'Change Password' page. However, there is an additional red error message at the top of the form: 'CurrentPassword and NewPassword and ConfirmPassword fields are required'. The rest of the interface is the same, with the sidebar and the 'Change Password' form.

Figure (4.5) Field required error message for Administrator

- When the new password and confirm password is not match, the system displays "Error Message" to the administrator as illustrated in Figure (4.6).

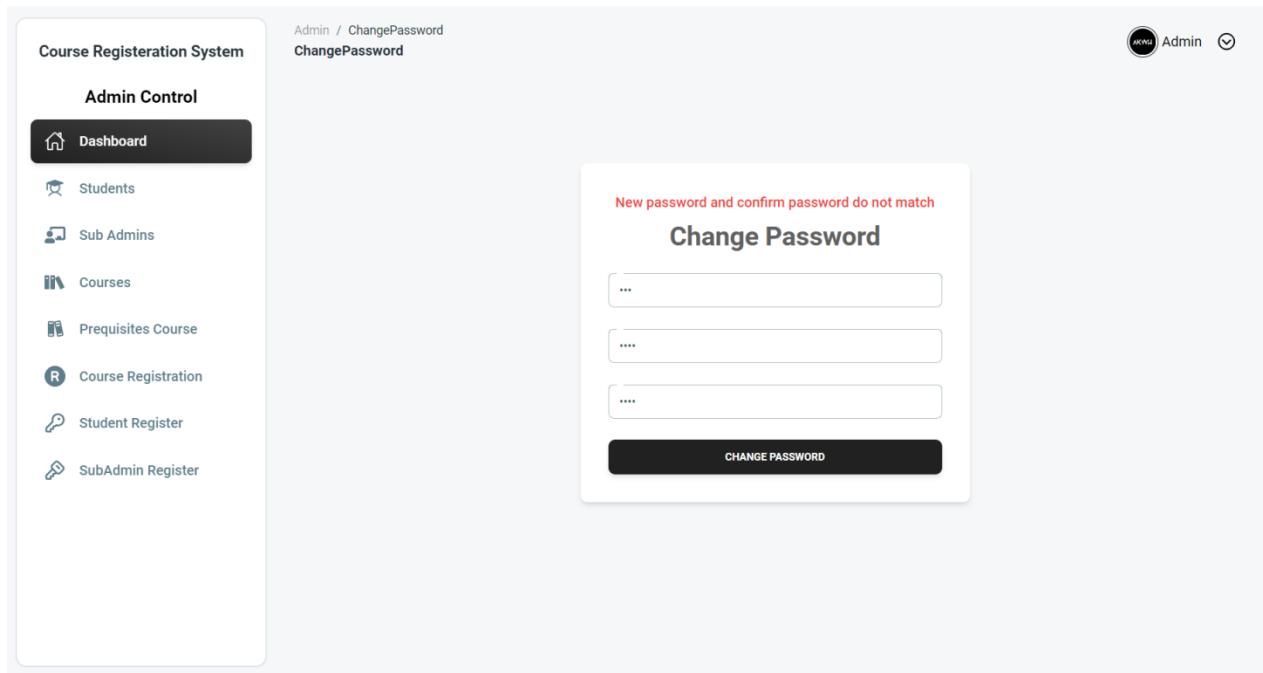


Figure (4.6) New Password and Confirm Password not match message for Administrator

- When the current password is not match, the system displays “Error Message” to the administrator as illustrated in Figure (4.7).

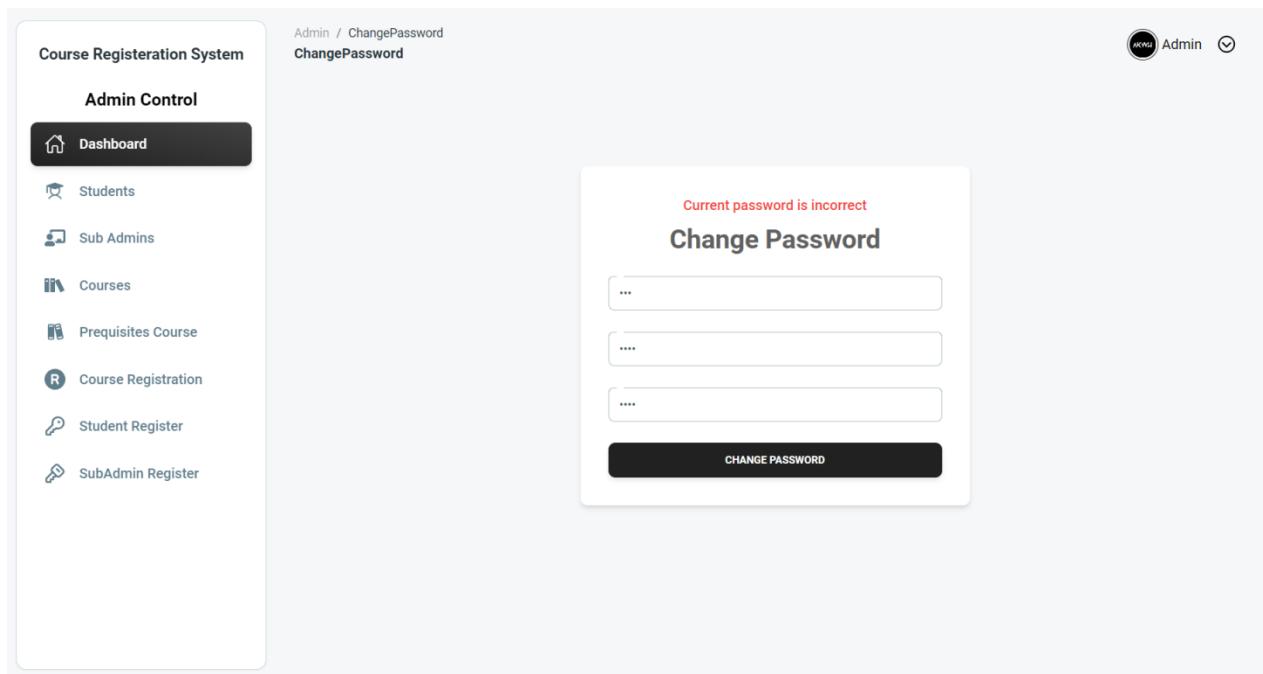


Figure (4.7) Current Password not match message for Administrator

- When the new password and confirm password is match and current password is match, but new password is not strong enough, the system displays “Error Message” to the administrator as illustrated in Figure (4.8).

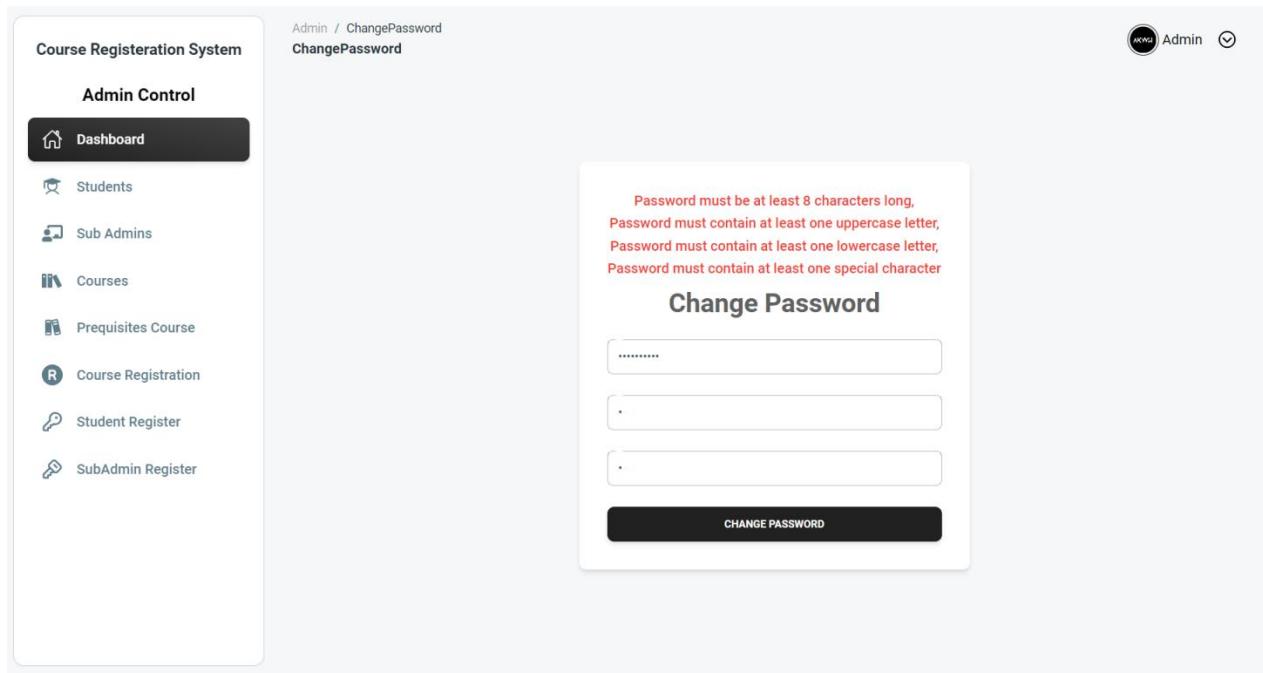


Figure (4.8) Weak Password error message for Administrator

- When the administrator successfully changed password, the system redirect “Login” page to the administrator as illustrated in Figure (4.9).

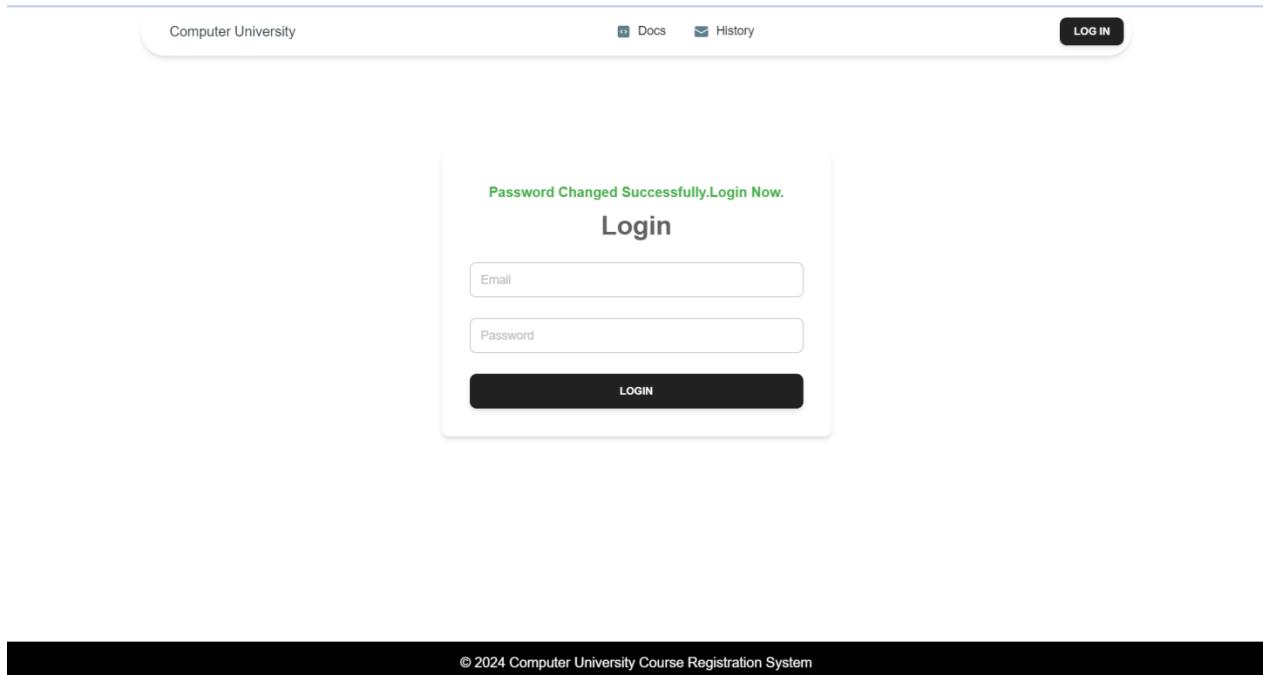


Figure (4.9) Login Page after change password for Administrator

4.2 Administrator dashboard page

- When the administrator login is successful, the system displays “Dashboard” page to the administrator as illustrated in Figure (4.10).

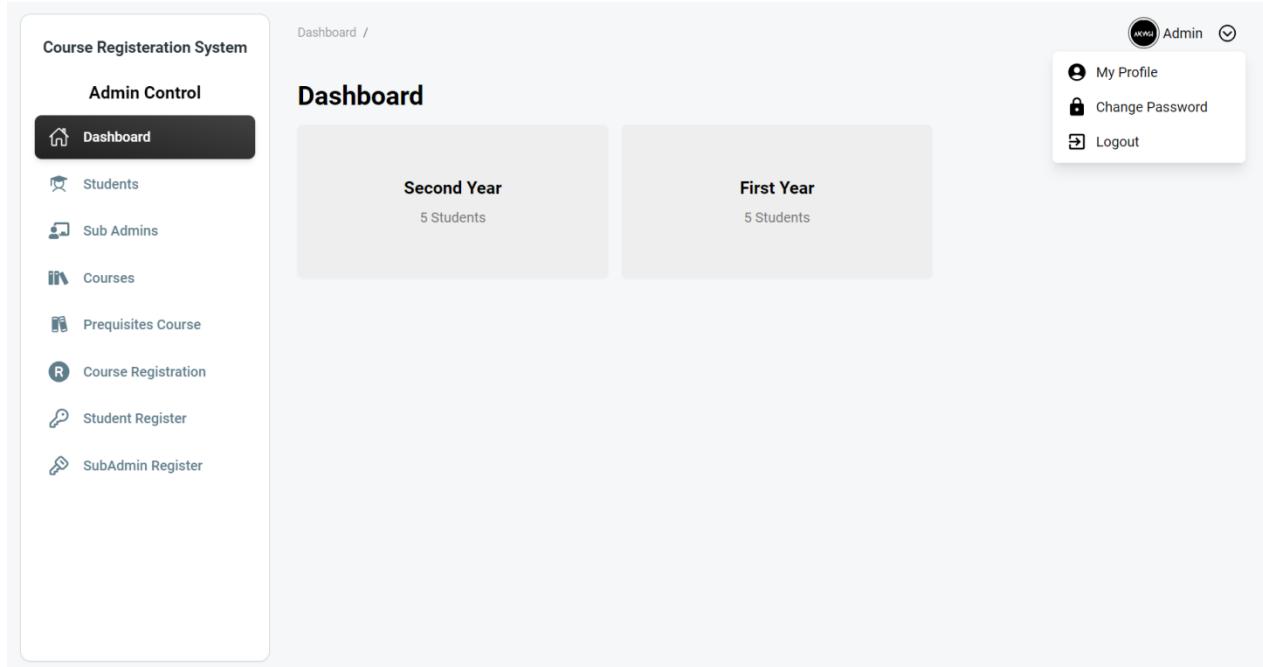


Figure (4.10): Admin Dashboard

4.2.1 View All Students List

- When the administrator wants to view the all students list that registered in this system, the admin clicks “Students” button and the system shows the students list as described in Figure (4.11).

Students / View				
View				
FIRST YEAR SECOND YEAR THIRD YEAR				
Students List				
STUDENTS	DETAILS	STATUS	PHONE	
Bob bob@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-791082022	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Alice alice@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-891082022	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Bruce bruce@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-891082062	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Scott Thomas scott@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-923132331	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Justin justin@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-891082224	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Htoo Paing Aung htoopainaung@ucspkku.edu.mm	Computer Science and Computer Technology First Year/Semester I	ACTIVE	09-881971333	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
John john@ucspkku.edu.mm	Computer Science and Computer Technology First Year/Semester I	ACTIVE	09-891082264	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Taylor taylor@ucspkku.edu.mm	Computer Science and Computer Technology First Year/Semester I	ACTIVE	09-923132333	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>

Figure (4.11) All Students List

4.2.2 View All Students List filter by Year

- When the administrator wants to view the students list filtered by each year, the admin clicks button that want to filter above the students list and the system shows the students list filter by year as described in Figure (4.12).

The screenshot shows the 'Course Registration System' interface under 'Admin Control'. On the left, a sidebar lists 'Dashboard', 'Students' (which is selected and highlighted in black), 'Sub Admins', 'Courses', 'Prerequisites Course', 'Course Registration', 'Student Register', and 'SubAdmin Register'. The main content area is titled 'Students / Year' with tabs for 'FIRST YEAR', 'SECOND YEAR' (which is selected and highlighted in black), and 'THIRD YEAR'. Below this, a section titled 'Second Year Students List' displays a table of student information. The columns are 'STUDENTS', 'FUNCTION', 'STATUS', and 'PHONE'. The data rows are:

STUDENTS	FUNCTION	STATUS	PHONE	VIEW	EDIT	GRADE
Bob bob@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-791082022	<button>VIEW</button>	<button>EDIT</button>	<button>GRADE</button>
Alice alice@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-891082022	<button>VIEW</button>	<button>EDIT</button>	<button>GRADE</button>
Bruce bruce@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-891082062	<button>VIEW</button>	<button>EDIT</button>	<button>GRADE</button>
Scott Thomas scott@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-923132331	<button>VIEW</button>	<button>EDIT</button>	<button>GRADE</button>
Justin justin@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-891082224	<button>VIEW</button>	<button>EDIT</button>	<button>GRADE</button>

Figure (4.12) All Students List filter by year

4.2.3 View Student Information

- When the administrator wants to view the complete information details of each student, the admin clicks "View" tab of each student and the system shows the student information details as described in Figure (4.13).

The screenshot shows the 'Course Registration System' interface under 'Admin Control'. The sidebar is identical to Figure 4.12. The main content area is titled 'Students / View' with a sub-section 'View'. A student profile for 'Mike' is displayed. The profile includes a graduation cap icon, the name 'Mike', and the text 'Computer Science / Second Year'. At the top right are 'Back' and 'Edit' buttons. Below this, the 'Profile Information' section shows the following details:

ID:	ucspku-000121	Major:	Computer Science
Name:	Mike	Semester:	Semester IV
Email:	mike@ucspkku.edu.mm	Year:	Second Year
Phone:	09-891082367	Status:	ACTIVE
Gender:	male	Created Date:	2024-03-06 20:40:27
Role:	STUDENT		

Figure (4.13) Student Information details

4.2.4 Edit and Update Student Information Details

- When the administrator wants to back to all students pages, the admin click the “Back” button as described in Figure (4.13).
- When the administrator wants to edit the student information, the admin clicks “Edit” button as described in Figure (4.13) or “Edit” button as described in Figure(4.12) and the system shows the edit student page as described in Figure (4.14).

The screenshot shows the 'Edit' student information page. The left sidebar has 'Admin Control' with 'Dashboard', 'Students' (selected), 'Sub Admins', 'Courses', 'Prerequisites Course', 'Course Registration', 'Student Register', and 'SubAdmin Register'. The main area shows a student named 'Mike' from 'Computer Science / Second Year'. The 'name' field is empty, resulting in a yellow error message 'Name field is required'. Other fields include 'id: ucspku-000121', 'email: mike@ucspkku.edu.mm', 'phone: 09-891082367', 'status: ACTIVE', 'Created Date: 2024-03-06 20:40:27', and 'Role: STUDENT'. There are 'UPDATE' and 'STUDENT' buttons at the bottom.

Figure (4.14) Edit Student Information details

- When the administrator did not fill the required fields to update, the system shows the “required message” as described in Figure (4.14).
- When the administrator fill the required field for update and click the “update” button as described in Figure(4.14), the system show the update successful message as described in Figure (4.15).

The screenshot shows the 'View' student information page. The left sidebar is identical to Figure 4.14. The main area shows a success message 'Student updated successfully'. Below it is a 'Students List' table with columns: STUDENTS, DETAILS, STATUS, and PHONE. The table lists seven students: Michael, Bob, Alice, Bruce, Scott Thomas, Justin, and Htoo Paing Aung. Each student row has 'VIEW', 'EDIT', and 'GRADE' buttons. The table header includes tabs for 'FIRST YEAR', 'SECOND YEAR', and 'THIRD YEAR'.

STUDENTS	DETAILS	STATUS	PHONE	
Michael mike@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-891082367	VIEW EDIT GRADE
Bob bob@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-79108222	VIEW EDIT GRADE
Alice alice@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-891082022	VIEW EDIT GRADE
Bruce bruce@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-891082062	VIEW EDIT GRADE
Scott Thomas scott@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-923132331	VIEW EDIT GRADE
Justin justin@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-891082224	VIEW EDIT GRADE
Htoo Paing Aung htoopaingaung@ucspkku.edu.mm	Computer Science and Computer Technology First Year/Semester I	ACTIVE	09-881971333	VIEW EDIT GRADE

Figure (4.15) Update Successful Student Information details

4.2.5 Specify Student Grade

- When the administrator wants to specify the grade of each student, the administrator click the “Grade” tab and the system shows the student grade form as described in Figure (4.16).

The screenshot shows the 'Course Registration System' interface. On the left, a sidebar titled 'Admin Control' lists various modules: Dashboard, Students (which is selected and highlighted in black), Sub Admins, Courses, Prequisites Course, Course Registration, Student Register, and SubAdmin Register. The main content area is titled 'Students / Grade' and 'Grade'. A blue button labeled '+ ADD GRADE' is visible. Below it, a section titled 'Student's Grades' displays a table with columns: STUDENTS, COURSE_NAME, MARKS, LETTER GRADE, GRADE SCORE, and REMARK. The table currently has no data.

Figure (4.16) Student's Grade Information details

- When the administrator wants to add student's grade, the administrator click the “Add Grade” tab and the system shows the student grade form as described in Figure (4.17).

The screenshot shows the 'Course Registration System' interface. The sidebar is identical to Figure 4.16. The main content area is titled 'Grades / Create' and 'Create'. A title 'Register Harry Hein's Grade' is displayed. The form fields include:

- ID Number: ucspku-000111
- Name: Harry Hein
- Year: First Year
- Courses: A dropdown menu labeled 'Select Course'
- Mark: A text input field labeled 'Student's mark...'

A large black 'REGISTER' button is at the bottom of the form.

Figure (4.17) Register Student Grade

- When the administrator did not fill the required filed to register grade or did not fill valid mark, the system shows the “error message” as described in Figure (4.18) and Figure(4.19).

The screenshot shows the 'Course Registration System' interface. On the left, a sidebar titled 'Admin Control' lists several options: Dashboard, Students (which is selected and highlighted in black), Sub Admins, Courses, Prequisites Course, Course Registration (with a red circular icon), Student Register, and SubAdmin Register. The main area is titled 'Grades / Create' and shows a form for 'Create'. The form includes fields for 'ID Number' (ucspku-000111), 'Name' (Harry Hein), 'Year' (First Year), 'Courses' (a dropdown menu set to 'Select Course'), and 'Mark' (a text input field containing 'Student's mark...'). A yellow error message box at the top right says 'Course_Id and Marks fields are required' with a close button. At the bottom is a large 'REGISTER' button.

Figure (4.18) Required Field Message

This screenshot is similar to Figure 4.18 but shows a different error message. The sidebar and main form structure are identical. The 'Courses' dropdown is now set to 'Myanmar'. The 'Mark' input field contains the value '101'. A yellow error message box at the top right says 'Mark is not valid!' with a close button. The 'REGISTER' button is at the bottom.

Figure (4.19) Invalid Mark Message

- When the administrator register grade successfully, the system shows the “successful message” as described in Figure (4.20).

The screenshot shows a course registration system interface. On the left, a sidebar titled "Course Registration System" contains a "Admin Control" section with links: Dashboard, Students (which is highlighted in black), Sub Admins, Courses, Prerequisites Course, Course Registration, Student Register, and SubAdmin Register. The main content area is titled "Harry Hein's Grades". A blue header bar at the top says "Grade registered successfully". Below it is a table with columns: STUDENTS, COURSE_NAME, MARKS, LETTER GRADE, GRADE SCORE, and REMARK. The table lists six subjects with their respective marks, letter grades, and scores. Each row has "EDIT" and "DELETE" buttons in the last column.

STUDENTS	COURSE_NAME	MARKS	LETTER GRADE	GRADE SCORE	REMARK
First Year / Computer Science and Computer Technology	Myanmar	77	A-	3.7	PASS
First Year / Computer Science and Computer Technology	English Result	55	C+	2.3	PASS
First Year / Computer Science and Computer Technology	Physics	66	B	3.0	PASS
First Year / Computer Science and Computer Technology	Principle of Information Technology	55	C+	2.3	PASS
First Year / Computer Science and Computer Technology	Basic Data Processing	88	A	4.0	PASS
First Year / Computer Science and Computer Technology	Discrete Mathematics	90	A+	4.0	PASS

Figure (4.20) Register Grade Successful Message

4.2.6 Edit and Update Student Grade

- When the administrator wants to edit the student grade, the administrator clicks “Edit” tab in Figure (4.20), the system show register edit page and did not fill required fields show error message as described in Figure(4.21).

The screenshot shows the "Edit Harry Hein's Grade" form. The URL in the browser is 127.0.0.1:3000/grades/edit/20?course_id=84&marks=99&student_name=Harry%20Hein&user_id=ucspku-000111&student_id=15&student_year=First%20Year. The form has two fields: "Mark marks" (which is empty and highlighted in yellow with an error message "Marks field is required") and "Select Course" (with "Myanmar" selected). A large "UPDATE" button is at the bottom. The left sidebar is identical to Figure 4.20.

Figure (4.21) Edit Student's Grade

- When the administrator successfully updated student grade, the system shows updated successful message as described in Figure (4.22).

The screenshot shows the 'Course Registration System' interface. On the left, a sidebar titled 'Admin Control' includes links for Dashboard, Students (which is highlighted in black), Sub Admins, Courses, Prequisites Course, Course Registration, Student Register, and SubAdmin Register. The main content area is titled 'Students / Grade Grade'. A blue button labeled '+ ADD GRADE' is at the top. Below it, a message box says 'Grade updated successfully'. The main table is titled 'Harry Hein's Grades' and lists student marks, letter grades, and remarks. The table has columns for STUDENTS, COURSE_NAME, MARKS, LETTER GRADE, GRADE SCORE, and REMARK. Each row includes 'EDIT' and 'DELETE' buttons.

STUDENTS	COURSE_NAME	MARKS	LETTER GRADE	GRADE SCORE	REMARK
First Year / Computer Science and Computer Technology	Myanmar	89	A	4.0	PASS
First Year / Computer Science and Computer Technology	English Result	55	C+	2.3	PASS
First Year / Computer Science and Computer Technology	Physics	66	B	3.0	PASS
First Year / Computer Science and Computer Technology	Principle of Information Technology	55	C+	2.3	PASS
					EDIT

Figure (4.22) Updated Successful Message

4.2.7 Delete Student Grade

- When the administrator wants to delete the student grade, the administrator clicks "Delete" tab as described in Figure (4.22) and the system shows the "confirm" message as described in Figure (4.23).

This screenshot is similar to Figure 4.22 but includes a modal dialog box asking 'Are you sure you want to delete this grade?'. The 'OK' button is highlighted in blue, while 'Cancel' is white. The rest of the interface is identical to Figure 4.22, showing Harry Hein's grades and edit/delete buttons.

STUDENTS	COURSE_NAME	MARKS	LETTER GRADE	GRADE SCORE	REMARK
First Year / Computer Science and Computer Technology	Myanmar	89	A	4.0	PASS
First Year / Computer Science and Computer Technology	English Result	55	C+	2.3	PASS
First Year / Computer Science and Computer Technology	Physics	66	B	3.0	PASS
First Year / Computer Science and Computer Technology	Principle of Information Technology	55	C+	2.3	PASS
					EDIT

Figure (4.23) Delete Confirm Message

- When the administrator clicks “ok” button, as described in Figure (4.23) and the system delete the grade and show “delete successful” message as described in Figure (4.24).

The screenshot shows the 'Grade' section of the 'Students' module. A success message 'Grade deleted successfully' is displayed above a table titled 'Harry Hein's Grades'. The table lists four subjects with their respective marks, letter grades, grade scores, and remarks. Each row has 'EDIT' and 'DELETE' buttons.

STUDENTS	COURSE_NAME	MARKS	LETTER GRADE	GRADE SCORE	REMARK
First Year / Computer Science and Computer Technology	English Result	55	C+	2.3	PASS
First Year / Computer Science and Computer Technology	Physics	66	B	3.0	PASS
First Year / Computer Science and Computer Technology	Principle of Information Technology	55	C+	2.3	PASS
First Year / Computer Science and Computer Technology	Basic Data Processing	88	A	4.0	PASS

Figure (4.24) Delete Successful Message

4.2.8 View Courses List

- When the administrator wants to view the courses of the system, the administrator clicks “Courses” tab from left menu and the system shows the course lists (4.25).

The screenshot shows the 'View' section of the 'Courses' module. A table titled 'Courses List' displays five courses with their details: Name, Code, Year, Semester, and Major. Each row has 'EDIT' and 'DELETE' buttons.

NAME	CODE	YEAR	SEMESTER	MAJOR
Myanmar(II)	M-1201	FIRST YEAR	SEMESTER II	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY
Myanmar	M-1101	FIRST YEAR	SEMESTER I	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY
Data Structures & Algorithms	CST-2211	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY
Principle of Information Technology	CST-1101	FIRST YEAR	SEMESTER I	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY
Circuits and Electronics	CT-2234	SECOND YEAR	SEMESTER IV	COMPUTER TECHNOLOGY

Figure (4.25) Courses List

4.2.9 Add Courses

- When the administrator wants to add new course for students, the admin clicks “Add Course” tab in Figure (4.25) and the system shows the add course form and did not fill the required fields show required message as described in Figure (4.26).

The screenshot shows the 'Create Course' form in the 'Course Registration System'. The left sidebar has a 'Courses' section highlighted. The main form has several input fields: 'Couser Code' (placeholder 'Course's Code...'), 'Couser Name' (placeholder 'Course's Name...'), 'Semester' (dropdown 'Select Semester'), 'Course Year' (dropdown 'Select Year'), and 'Course Major' (dropdown 'Select Major'). A yellow validation message at the top right says 'Course_code and Course_name and Course_year and Semester and Major fields are required' with a close button.

Figure (4.26) Add Course Form

- When the administrator created course name already exists, the system shows duplicate error message as described in Figure (4.27).

The screenshot shows the 'Create Course' form in the 'Course Registration System'. The left sidebar has a 'Courses' section highlighted. The main form has filled input fields: 'Couser Code' (E-1101), 'Couser Name' (English Result), 'Semester' (Semester I), 'Course Year' (First Year), and 'Course Major' (Computer Science and Computer Technology). A yellow validation message at the top right says 'Course_name "English Result" already taken, try with another course_name' with a close button.

Figure (4.27) Duplicate Error Message

- When the administrator successfully created course, the system shows course created successfully message as described in Figure (4.28).

The screenshot shows the 'Course Registration System' interface. On the left, a sidebar titled 'Admin Control' includes links for Dashboard, Students, Sub Admins, and Courses (which is highlighted). Under 'Courses', there are links for Prerequisites Course, Course Registration, Student Register, and SubAdmin Register. The main content area shows a 'Courses List' table with columns: NAME, CODE, YEAR, SEMESTER, and MAJOR. The table contains five rows of course data, each with 'EDIT' and 'DELETE' buttons. A blue notification bar at the top says 'course registered successfully'. The table rows are:

NAME	CODE	YEAR	SEMESTER	MAJOR
Web Development PHP	CS-3156(SK-II)	THIRD YEAR	SEMESTER V	COMPUTER SCIENCE
Myanmar(II)	M-1201	FIRST YEAR	SEMESTER II	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY
Myanmar	M-1101	FIRST YEAR	SEMESTER I	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY
Data Structures & Algorithms	CST-2211	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY
Principle of Information Technology	CST-1101	FIRST YEAR	SEMESTER I	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY

Figure (4.28) Course Created Successful Message

4.2.10 Edit and Update Courses

- When the administrator wants to update course, the admin clicks "Edit" tab in Figure (4.28) and the system shows the edit course form and did not fill the required fields or fill duplicate value, then the system show error message as described in Figure (4.29).

The screenshot shows the 'Course Registration System' interface. The sidebar and course list are identical to Figure 4.28. The main content area shows an 'Edit Course' form. At the top, a yellow warning box says 'Update Fail,Try with another unique value!'. The form fields are:

- Course Code: CS-3156(SK-1)
- Course Name: Web Development PHP
- Select Semester: Semester V
- Select Year: Third Year
- Select Major: Computer Science
- Created Date: 2024-03-07 19:11:11

A large red 'UPDATE' button is at the bottom of the form.

Figure (4.29) Error Message

- When the administrator successfully update course, the system shows the update successful message as described in Figure (4.30).

Programming Language Skills (Java Programming)	CST-2111	SECOND YEAR	SEMESTER III	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>DELETE</button>
Programming Logic & design (Programming in C++)	CST-1211	FIRST YEAR	SEMESTER II	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>
Software Analysis and Design	CST-3124	THIRD YEAR	SEMESTER V	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>
Software Engineering	CST-2223	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>
Traveller B2	E-2101	SECOND YEAR	SEMESTER III	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>
Traveller B2(II)	E-2201	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>
Web Development PHP	CS-3156(SK-1)	THIRD YEAR	SEMESTER V	COMPUTER SCIENCE	<button>EDIT</button> <button>DELETE</button>
Web Technology (Java Script Programming)	CS-2254	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE	<button>EDIT</button> <button>DELETE</button>

Figure (4.30) Update Successful

4.2.11 Delete Course

When the administrator wants to delete the course, the administrator clicks “Delete” tab as described in Figure (4.30) and the system shows the “confirm” message as described in Figure (4.31).

Programming Language Skills (Java Programming)	127.0.0.1:3000 says	Are you sure you want to delete this course?	<button>OK</button>	<button>Cancel</button>	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>DELETE</button>
Programming Logic & design (Programming in C++)					COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>
Software Analysis and Design	CST-3124	THIRD YEAR	SEMESTER V	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>	
Software Engineering	CST-2223	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>	
Traveller B2	E-2101	SECOND YEAR	SEMESTER III	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>	
Traveller B2(II)	E-2201	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button> <button>DELETE</button>	
Web Development PHP	CS-3156	THIRD YEAR	SEMESTER V	COMPUTER SCIENCE	<button>EDIT</button> <button>DELETE</button>	
Web Technology (Java Script Programming)	CS-2254	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE	<button>EDIT</button> <button>DELETE</button>	

Figure (4.31) Confirm Message

- When the administrator clicks “ok” button, as described in Figure (4.31) and the system delete the course and show “delete successful” message as described in Figure (4.32).

The screenshot shows the 'Courses List' page of the 'Course Registration System'. At the top, there is a success message: 'Course deleted successfully'. Below this, the 'Courses List' table displays five courses. Each course row includes columns for NAME, CODE, YEAR, SEMESTER, and MAJOR, followed by 'EDIT' and 'DELETE' buttons. The courses listed are:

NAME	CODE	YEAR	SEMESTER	MAJOR	EDIT	DELETE
Advanced Java Programming	SS-2205	SECOND YEAR	SEMESTER IV	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button>	<button>DELETE</button>
Arduino Fundamentals	SS-2231	SECOND YEAR	SEMESTER IV	COMPUTER TECHNOLOGY	<button>EDIT</button>	<button>DELETE</button>
Basic Data Processing	CST-1123(SS)	FIRST YEAR	SEMESTER I	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button>	<button>DELETE</button>
Calculus I	CST-1142	FIRST YEAR	SEMESTER I	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button>	<button>DELETE</button>
Calculus II	CST-2142	SECOND YEAR	SEMESTER III	COMPUTER SCIENCE AND COMPUTER TECHNOLOGY	<button>EDIT</button>	<button>DELETE</button>

Figure (4.31) Successful Message

4.2.12 View Prerequisites List

- When the administrator wants to view the prerequisite courses of the system, the administrator clicks “Prerequisites Courses” tab from left menu and the system shows the course lists (4.32).

The screenshot shows the 'Prerequisite Courses List' page of the 'Course Registration System'. At the top, there is a 'View' header and a 'ADD PREREQUISITE' button. Below this, the 'Prerequisite Courses List' table displays four entries. Each entry consists of two columns: 'COURSE' and 'PREREQUISITE COURSE', followed by 'EDIT' and 'DELETE' buttons. The entries are:

COURSE	PREREQUISITE COURSE	EDIT	DELETE
Advanced Java Programming	Programming Language Skills (Java Programming)	<button>EDIT</button>	<button>DELETE</button>
Programming Language Skills (Java Programming)	Programming Logic & design (Programming in C++)	<button>EDIT</button>	<button>DELETE</button>
Traveller B2	English Result(II)	<button>EDIT</button>	<button>DELETE</button>
Calculus II	Calculus I	<button>EDIT</button>	<button>DELETE</button>

Figure (4.32) Prerequisites Course List

4.2.13 Add Prerequisites Course

- When the administrator wants to add new prerequisites course for students, the admin clicks “Add Prerequisite” tab in Figure (4.32) and the system shows the add prerequisite course form and did not fill the required fields show required message as described in Figure (4.33).

The screenshot shows the 'Course Registration System' interface. On the left, a sidebar titled 'Admin Control' lists various options: Dashboard, Students, Sub Admins, Courses, Prequisites Course (which is selected and highlighted in black), Course Registration, Student Register, and SubAdmin Register. The main content area is titled 'Prerequisites / Create' and has a sub-section 'Create'. A yellow warning box at the top right says 'Course and Prerequisite_course fields are required' with a close button. Below this, the form has two input fields: 'Couser Name' (placeholder 'Course...') and 'Prerequisite Couser Name' (placeholder 'PrerequisiteCourse...'). At the bottom is a large black 'CREATE' button.

Figure (4.33)Add Prerequisite Course

- When the administrator successfully created course, the system shows course created successfully message as described in Figure (4.34)

The screenshot shows the 'Course Registration System' interface. The sidebar is identical to Figure 4.33. The main content area is titled 'Prerequisites / View' and has a sub-section 'View'. A blue button labeled '+ ADD PREREQUISITE' is visible. A light blue success message box says 'course registered successfully' with a close button. Below this is a table titled 'Prequisite Courses List' with columns 'COURSE' and 'PREQUISITE_COURSE'. The table contains the following data:

COURSE	PREQUISITE_COURSE	EDIT	DELETE
Analysis of Algorithms	Data Structure & Algorithms	<button>EDIT</button>	<button>DELETE</button>
Advanced Java Programming	Programming Language Skills (Java Programming)	<button>EDIT</button>	<button>DELETE</button>
Programming Language Skills (Java Programming)	Programming Logic & design (Programming in C++)	<button>EDIT</button>	<button>DELETE</button>
Traveller B2	English Result(II)	<button>EDIT</button>	<button>DELETE</button>
Calculus II	Calculus I	<button>EDIT</button>	<button>DELETE</button>

Figure (4.33)Add Prerequisite Successful

4.2.14 Edit and Update Prerequisite Courses

- When the administrator wants to update course, the admin clicks “Edit” tab in Figure (4.28) and the system shows the edit course form and did not fill the required fields or fill duplicate value, then the system show error message as described in Figure (4.34).

The screenshot shows the 'Course Registration System' interface. On the left, a sidebar titled 'Admin Control' includes links for Dashboard, Students, Sub Admins, Courses, and 'Prerequisites Course' (which is highlighted). The main area is titled 'Prerequisites / Edit' and shows an 'Edit' button. A modal window titled 'Edit Prerequisite' contains two input fields: 'Course' and 'Prerequisite Course'. A yellow error message box at the top says 'Course and Prerequisite_course fields are required'. At the bottom of the modal is a 'UPDATE' button.

Figure (4.34) Error Message in Edit Perquisite Form

- When the administrator successfully update course, the system shows the update successful message as described in Figure (4.35).

The screenshot shows the 'Course Registration System' interface. The sidebar and main area are similar to Figure 4.34, but the main area now displays a success message: 'Course updated successfully' above a table titled 'Prerequisite Courses List'. The table has columns for 'COURSE' and 'PREQUISITE.Course'. It lists four entries:

COURSE	PREQUISITE.Course	EDIT	DELETE
Advanced Java Programming	Programming Language Skills (Java Programming)	<button>EDIT</button>	<button>DELETE</button>
Programming Language Skills (Java Programming)	Programming Logic & design (Programming in C++)	<button>EDIT</button>	<button>DELETE</button>
Traveller B2	English Result (II)	<button>EDIT</button>	<button>DELETE</button>
Calculus II	Calculus I	<button>EDIT</button>	<button>DELETE</button>

Figure (4.35) Update Successful Message

4.3.15 Delete Prerequisite Course

- When the administrator wants to delete the prerequisite course, the administrator clicks “Delete” table described in Figure (4.35) and the system shows the “confirm” message as described in Figure (4.36).

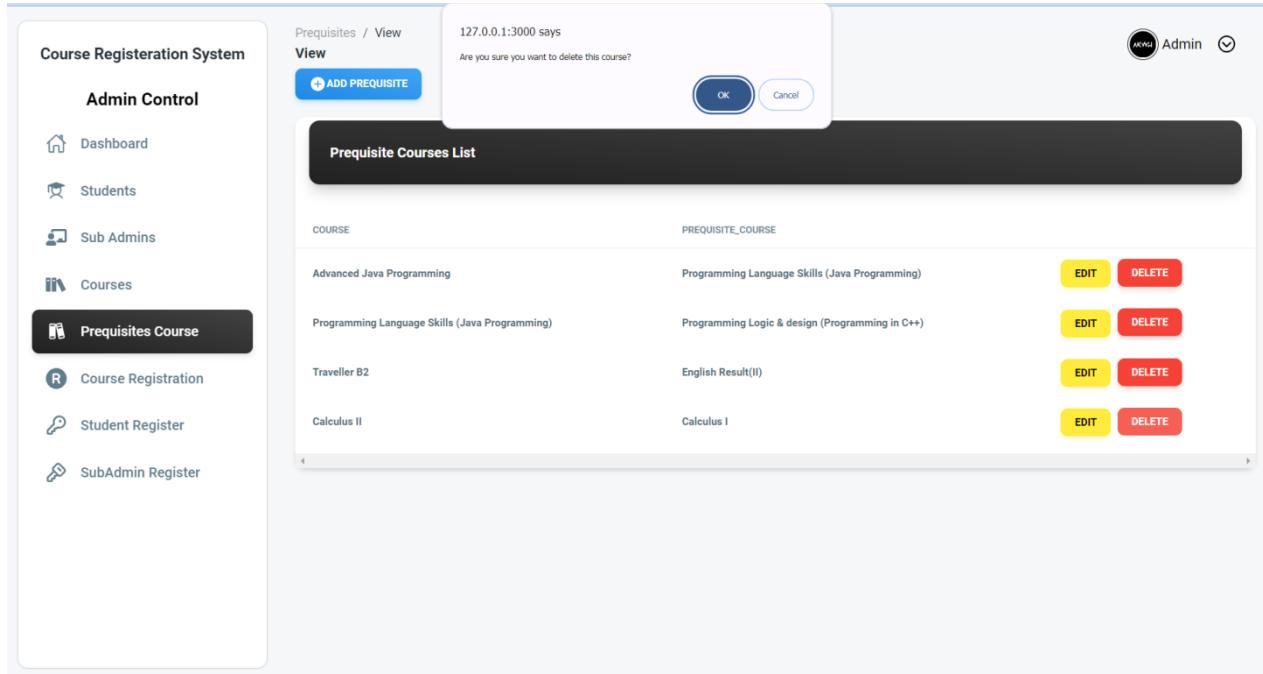


Figure (4.36) Confirm Message

- When the administrator clicks “ok” button, as described in Figure (4.36) and the system delete the course and show “delete successful” message as described in Figure (4.37).

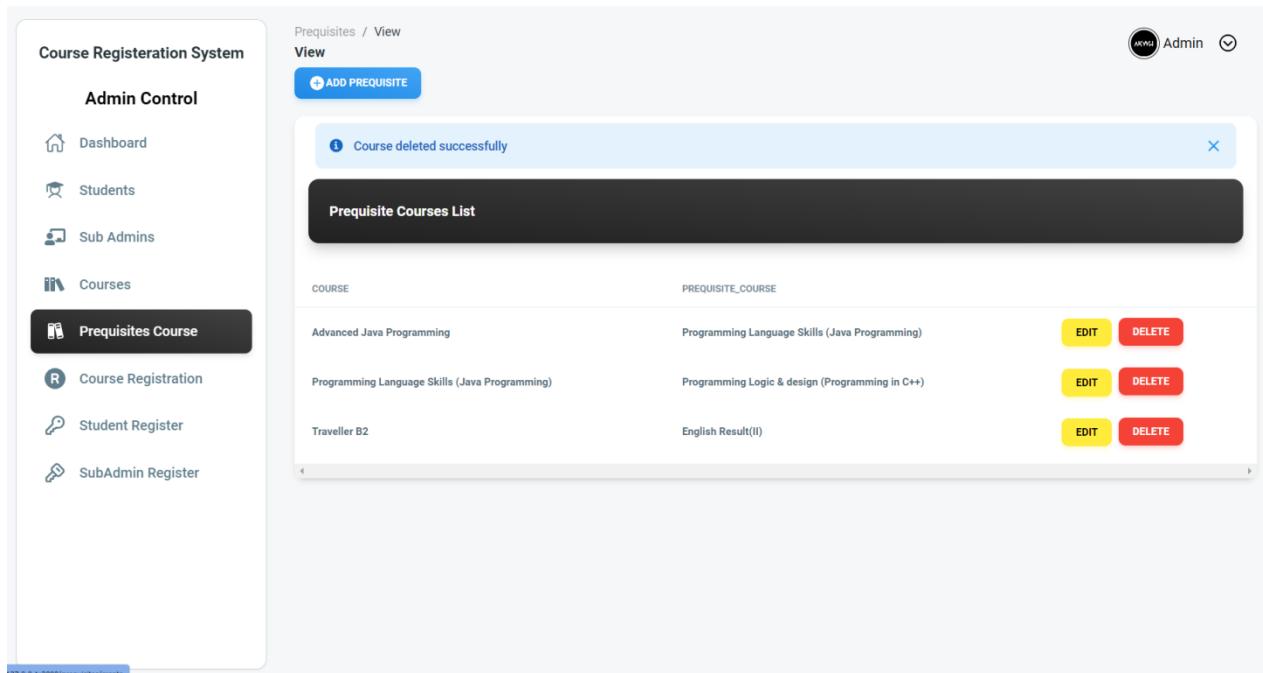


Figure (4.37) Delete Successful Message

4.3 Register Student Account

- When the administrator wants to register new student account, the admin clicks “Register Student” button from left menu and the show shows “Student Register Form” in Figure (4.38).

The screenshot shows the 'Course Registration System' interface. On the left, there's a sidebar titled 'Admin Control' with links: Dashboard, Students, Sub Admins, Courses, Prequisites Course, Course Registration, and Student Register (which is highlighted with a black background). Below these are SubAdmin Register and a 'REGISTER' button. The main area is titled 'Register Student' and contains fields for ID Number, Name, Email, Phone, Gender, Course Major, Course Semester, and Course Year. Each field has a placeholder text and a dropdown arrow. At the bottom is a large 'REGISTER' button.

Figure (4.38) Student Registration Form for Administrator

- When the administrator didn't fill the required filed and use duplicate value for unique value, then the system show required error message as described in Figure (4.39) and Figure (4.40).

This screenshot is identical to Figure 4.38, showing the 'Student Register' form. However, a yellow warning bar at the top states: 'Id and Name and Email and Phone and Gender and Major and Semester and Year fields are required' with a close button. The rest of the form and sidebar are the same as in Figure 4.38.

Figure (4.39) Field required error message

The screenshot shows the 'Course Registration System' interface. On the left, a sidebar titled 'Admin Control' lists various options: Dashboard, Students, Sub Admins, Courses, Prerequisites Course, Course Registration, Student Register (which is selected and highlighted in black), and SubAdmin Register. The main area is titled 'Register Student'. It contains fields for ID Number (ucspku-000111), Name (Will Smith), Email (willsmith@gmail.com), Phone (09-894353453), Gender (Male), Course Major (Computer Science), Course Semester (Semester IV), and Course Year (Second Year). A yellow warning box at the top right states: 'Id "ucspku-000111" already taken, try with another id'. A large 'REGISTER' button is at the bottom.

Figure (4.40) Duplicate error message

- After registering the student successfully, the system shows success message as described in Figure (4.41).

The screenshot shows the 'Course Registration System' interface. The sidebar on the left is identical to Figure 4.40. The main area shows a 'Students / View' section with tabs for FIRST YEAR, SECOND YEAR (which is selected), and THIRD YEAR. A success message box says 'Student registered successfully'. Below it is a 'Students List' table with the following data:

STUDENTS	DETAILS	STATUS	PHONE	
Will Smith willsmith@gmail.com	Computer Science Second Year/Semester IV	ACTIVE	09-894353453	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Michael mike@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-891082367	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Bob bob@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-791082022	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Alice alice@ucspkku.edu.mm	Computer Science Second Year/Semester IV	ACTIVE	09-891082022	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Bruce bruce@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-891082062	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Scott Thomas scott@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-923132331	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>
Justin justin@ucspkku.edu.mm	Computer Science Second Year/Semester III	ACTIVE	09-891082224	<button>VIEW</button> <button>EDIT</button> <button>GRADE</button>

Figure (4.41) Successful student register message

4.4 View Course Registration

- When the administrator wants to view the course registration of register students, the admin clicks “Course Registration” from the left menu and the system show course registrations list of each students as described in Figure (4.42).

STUDENT NAME	DETAIL	ACADEMIC YEAR	STATUS	DATE
Justin	Computer Science Second Year / Semester III	2024-2025	PENDING	2024-03-07 21:25:33
Olivia	Computer Science and Computer Technology First Year / Semester I	2024-2025	APPROVE	2024-03-07 21:12:27
Olivia	Computer Science and Computer Technology First Year / Semester 0	2024-2025	APPROVE	2024-03-07 21:00:47
Harry Hein	Computer Science and Computer Technology First Year / Semester I	2024-2025	APPROVE	2024-03-07 21:00:32

Figure (4.42) Course Registrations List for Administrator

- By clicking view of each records, the admin can check the registration form of student and can manage status (like approve or reject) as described in Figure (4.43).

University of Computer Studies (Pakokku)
2024-2025 Academic Year
(B.C.Sc.) Semester(4)

Course Registration Form

This completed form must be submitted to the office of register.

1. Student Name : Justin
2. Registration Number : ucspku-000116
3. Email Address/Phone Number : justin@ucspkku.edu.mm/09-891082224
4. Select NOT - Completed subjects :

<input type="checkbox"/> CST-2111	Programming Language Skills (Java Programming)
<input type="checkbox"/> CST-2124	Database Management System
<input type="checkbox"/> E-2101	Traveller B2
<input type="checkbox"/> CST-2133	Digital Logic Design
<input type="checkbox"/> CST-2142	Calculus II

Supporting Skills:

CST-2111(SK) HTML-002

Figure (4.43) Course Registrations Details

- After clicking the approve button of related course register form, the system show to the status changed status as described in Figure (4.44).

Course Registration / View

View

 Admin 

Admin Control

-  Dashboard
-  Students
-  Sub Admins
-  Courses
-  Prerequisites Course
-  Course Registration**
-  Student Register
-  SubAdmin Register

Status Changed! 

Students Registration List

STUDENT NAME	DETAIL	ACADEMIC YEAR	STATUS	DATE	
Justin	Computer Science Second Year / Semester III	2024-2025	APPROVE	2024-03-07 21:25:33	
Olivia	Computer Science and Computer Technology First Year / Semester I	2024-2025	APPROVE	2024-03-07 21:12:27	
Olivia	Computer Science and Computer Technology First Year / Semester O	2024-2025	APPROVE	2024-03-07 21:00:47	
Harry Hein	Computer Science and Computer Technology First Year / Semester I	2024-2025	APPROVE	2024-03-07 21:00:32	

- Figure (4.44) Handle Course Registrations status

4.5 System Home for Guest User

- When the guest user enters the website address, the system shows “System Home Page” as illustrated in Figure (4.45).

A vibrant illustration depicting five students of diverse backgrounds and styles gathered around a long wooden table. From left to right: a young man in a black t-shirt and blue jeans is focused on his laptop; a woman in a yellow top and light blue pants stands behind him, holding a stack of papers; a boy in a red t-shirt and green pants sits with an open book; a girl in a teal top and dark purple pants is gesturing while looking at her laptop; and a woman in a pink top and green skirt sits with her legs crossed, also working on a laptop. The scene conveys a sense of active learning and collaboration.

Welcome to the Computer University Course Registration System

At Computer University, we offer a wide range of courses designed to equip students with the knowledge and skills needed to succeed in the dynamic field of computer science and technology. Our course registration system provides an intuitive and efficient way for students to explore available courses, register for classes, and manage their academic journey.

Explore our courses, effortlessly register for classes, and join our supportive learning environment to unlock your full potential in the ever-evolving field of technology.

Figure (4.45) Documentation Page for Guest User

- Guest user can also read the documentations of the system as described in Figure (4.46).

The screenshot shows a documentation page for a course registration system. At the top, there is a navigation bar with links for 'Computer University', 'Docs', 'History', and a 'LOG IN' button. Below the navigation bar, the title 'Course Registration System Documentation' is displayed. The page is divided into sections: 'Introduction', 'Features', 'Usage', and 'Support'. The 'Introduction' section contains a brief welcome message about the system's purpose. The 'Features' section lists four items: User authentication and authorization, Course search and registration, Viewing course schedule and registration history, and Admin panel for managing courses, students, and registrations. The 'Usage' section provides instructions for creating an account and logging in. The 'Support' section includes a contact email address: support@university.com. At the bottom of the page, a copyright notice reads '© 2024 Computer University Course Registration System'.

Figure (4.46) Documentation Page for Guest User

4.6 Course Register Page for register student

- If the guest user clicks “GET STARTED” button of in Figure (4.45), the system shows “Login Form” The guest user must be logged in to the system.
- After login into the system as a student, if the student is first time login into the system, then the student must change new password like admin.
- After register student clicking “GET STARTED” button, then the system show course registration form related to that register login student as described in Figure (4.47) and Figure(4.48).

The screenshot shows a course registration form for a student named Justin. At the top, it displays the university name 'University of Computer Studies (Pakokku)', the academic year '2024-2025 Academic Year', and the semester '(B.C.Sc.) Semester(4)'. The form is titled 'Course Registration Form'. It contains a note: 'This completed form must be submitted to the office of register.' Below this, there are several sections of questions and answers:

- 1. Student Name : Justin
- 2. Registration Number : ucspku-000116
- 3. Email Address/Phone Number : justin@ucspkku.edu.mm/09-891082224
- 4. Select NOT - Completed subjects :
 - CST-2111 Programming Language Skills (Java Programming)
 - CST-2124 Database Management System
 - E-2101 Traveller B2
 - CST-2133 Digital Logic Design
 - CST-2142 Calculus II
- Supporting Skills:
 - CST-2155(SK) HTML+CSS

At the bottom of the form, there is a small note: 'The user who submits this form will be liable for his/her own actions. The user will be responsible for any damage caused by his/her actions.'

Figure (4.47) Course Registration Form for student

The screenshot shows a course registration form. At the top, there's a navigation bar with 'Computer University', 'Docs', 'History', and a user profile for 'JUSTIN'. The main form area has a section for 'Supporting Skills' with a checked box for 'CST-2142 Calculus II'. Below this is a list of courses with checkboxes: E-2201 (Traveller B2(II)), CST-2223 (Software Engineering), CST-2242 (Linear Algebra), CS-2254 (Web Technology (Java Script Programming)), SS-2205 (Advanced Java Programming), and CST-2211 (Data Structures & Algorithms). There's also a 'Supporting Skills' section with an unchecked box for 'CST-2155(SK) HTML+CSS'. A note says '5. The new Subjects that I would like to take for this Semester (Tick the Box)'. Below the checkboxes is a statement 'Student Aggremet: I agree to abide by all policies and procedures.' followed by a 'SUBMIT' button.

Figure (4.47) Course Registration Form for student

- After choosing the course by student, then the student click “submit” to register course and if successful the system show the successful message as described in Figure (4.48).

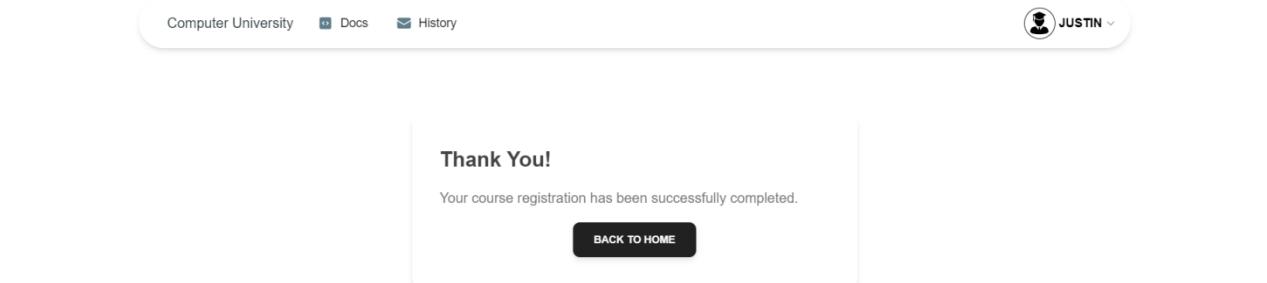


Figure (4.48) Course Registration Successful Message for student

- When the student want to check the course registration is reject or approve, the system show the “history course registration form” by clicking history button as shown in Figure (4.49).

Computer University History

JUSTIN

University of Computer Studies (Pakokku)
2024-2025 Academic Year
(B.C.Sc.) Semester(4)

Pending...

Course Registration Form

This completed form must be submitted to the office of register.

1. Student Name : **Justin**

2. Registration Number : **ucspku-000116**

3. Email Address/Phone Number : **justin@ucspkku.edu.mm/09-891082224**

4. Select NOT - Completed subjects :

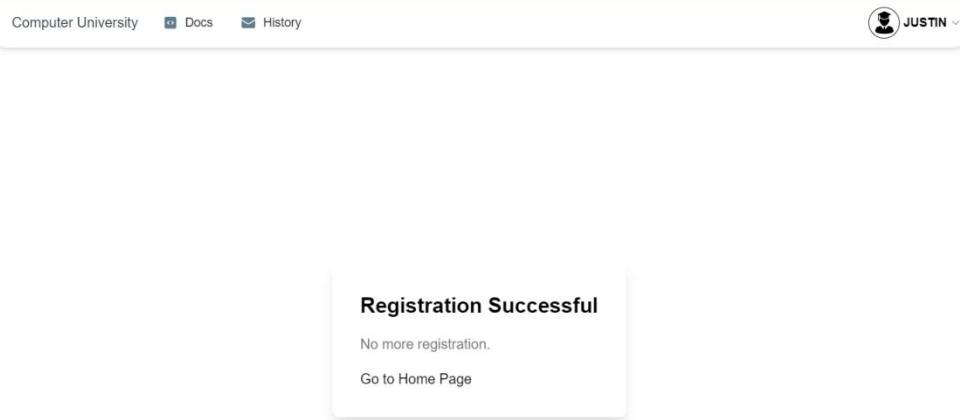
CST-2111 Programming Language Skills (Java Programming)
 CST-2124 Database Management System
 E-2101 Traveller B2
 CST-2133 Digital Logic Design
 CST-2142 Calculus II

Supporting Skills:

CST-2155(SK) HTML+CSS

Figure (4.49) History Course Registration form for student

- When the admin approve the student registration, the student accesses the “successful message” when student click “History” button again as described in Figure (4.50).
- When the admin approve the student registration, the student accesses the “no registration” message when student click “GET STARTED” button again as described in Figure (4.51).



© 2024 Computer University Course Registration System

Figure (4.50) Registration Successful for student

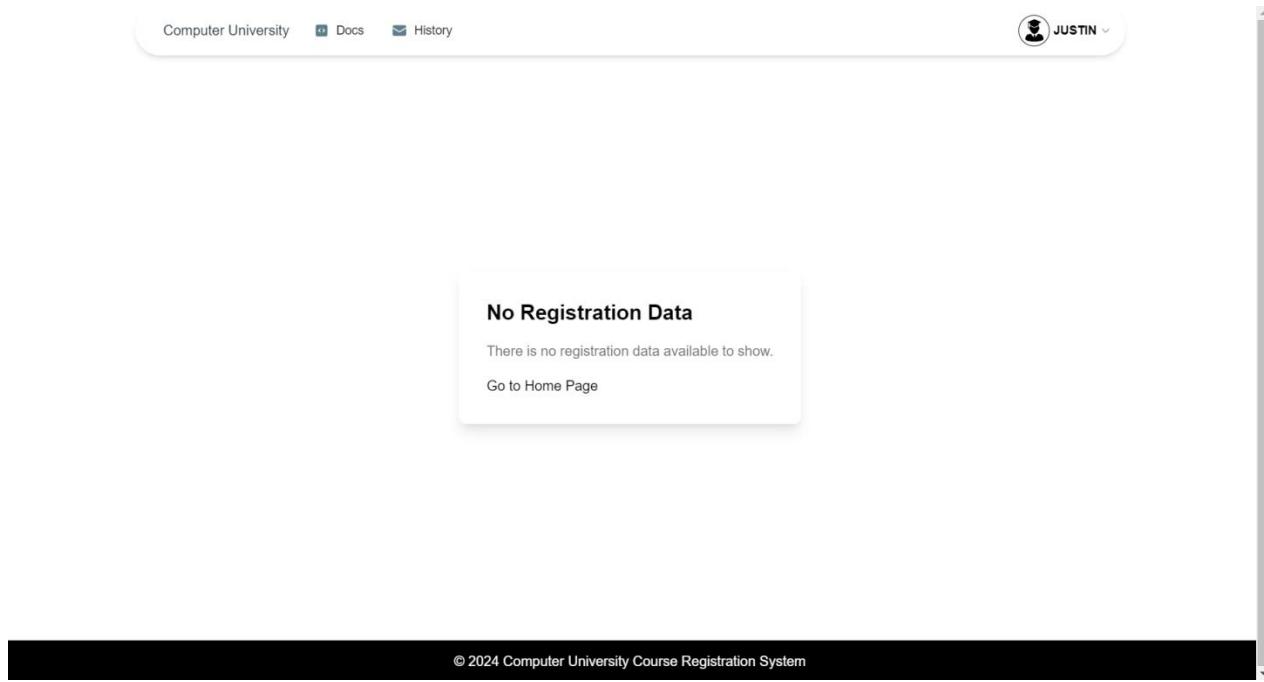


Figure (4.51) No more registration for register successful student

4.7 Profile

- When the users (both admin or student) wants to view “Profile”, then click “My Profile” as shown in Figure (4.52) then the system show the system profile page as shown in Figure (4.53).

A screenshot of the 'Course Registration System' dashboard. The left sidebar is titled 'Admin Control' and includes a 'Dashboard' button (which is highlighted in black), along with other options: 'Students', 'Sub Admins', 'Courses', 'Prequisites Course', 'Course Registration', 'Student Register', and 'SubAdmin Register'. The main content area is titled 'Dashboard' and shows two sections: 'First Year' (5 Students) and 'Second Year' (7 Students). In the top right corner, there is a user profile for 'Admin' with options: 'My Profile', 'Change Password', and 'Logout'. The footer of the dashboard has the text 'Dashboard /' and the year '2024'.

Figure (4.52) Student Profile

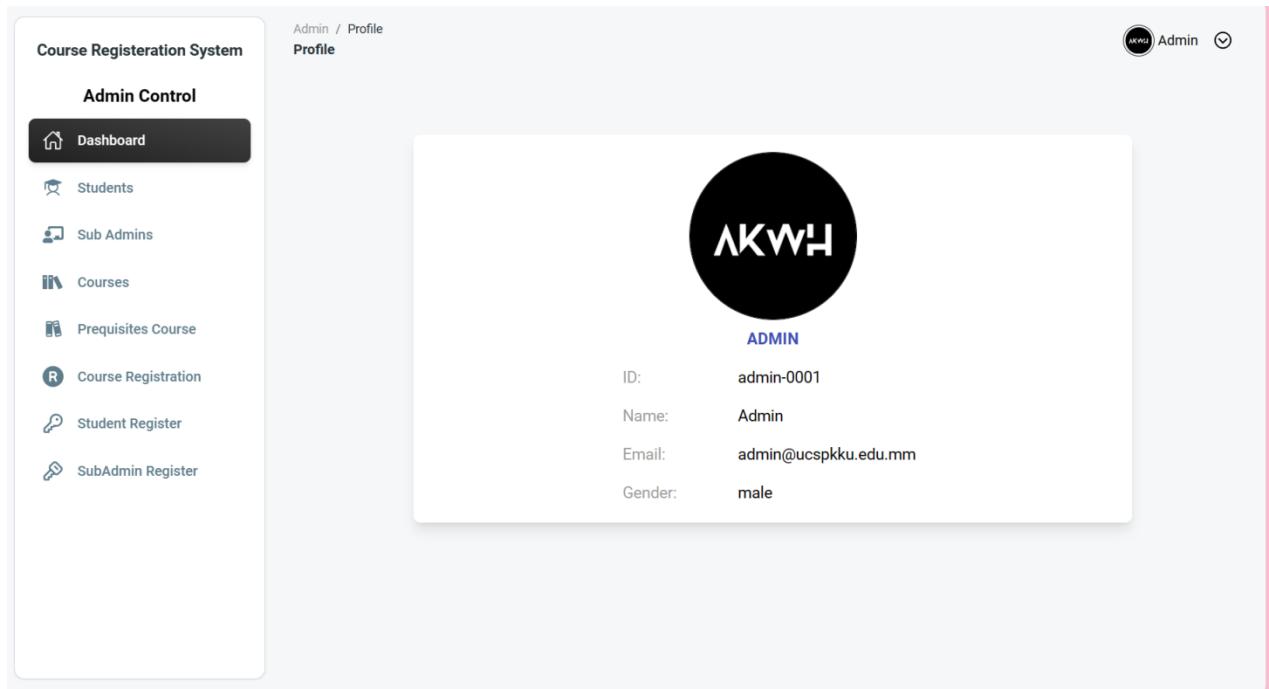


Figure (4.53) Admin Profile

- When the user wants to logout click “Logout” in Figure (4.52) and the system show the system home page after logout.
- For student must do the same as users.

4.8 URL Protection

- When the guest user, student and administrator make a mistake in the “URL” and the system show the “404 Not Found” page as described in Figure (4.54).

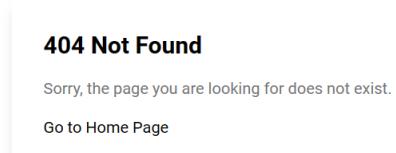


Figure (4.54) 404 Not Found Page

- When the guest user, student tries to access the admin dashboard or admin tries to access student page with “URL” that does not have permission to access, and the system show the “403 Forbidden” page as described in Figure (4.55).
 - When the user wants to go back to related home page and click “Go to Home Page” button in Figure (4.54) and Figure (4.55).
-

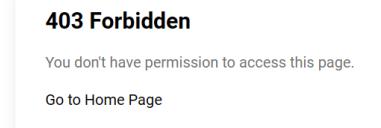


Figure (4.97) 403 Forbidden Page

Chapter (5)

Conclusion

5.1 Conclusion

In conclusion, the Course Registration System for Computer University is a comprehensive solution designed to streamline the course registration process for both students and administrators. By leveraging modern web technologies such as PHP, React, and Tailwind CSS, we have created a user-friendly platform that simplifies enrollment and enhances administrative efficiency.

5.2 Limitations of the Project

Despite its effectiveness, the current version of the system has some limitations. The system is currently limited to running on a local machine, restricting access for students and administrators outside the local network. Additionally, while the system facilitates course registration, it does not have time limitations, allowing students to register at any time, which may lead to potential scheduling conflicts and administrative challenges.

5.3 Further Extensions

Moving forward, we have some exciting plans to enhance our Course Registration System. We'll introduce pagination for student lists, making it easier to navigate through large numbers of students. Additionally, we'll implement a smarter search bar, allowing admin to quickly find the interested in. These changes will make the system easier to use and more helpful for everyone involved.