



SOFTWARE REQUIREMENT SPECIFICATION

<<Extra Learning Centre – ELC01>>

– Hanoi, June 2025 –

(link video:

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O](https://drive.google.com/drive/folders/16gTcEdAjqImWlsxzoTtwLp1ldvZgwwRO))

(link figma:

<https://www.figma.com/design/PXui29YgjBYOWcnCvU0ndx/Untitled?node-id=0-1&p=f&t=SGFeBdA9UOWBxWOB-0>

Record of Changes

Version	Date	A* M, D	In charge	Change Description
V1.0	11/06	A	TrungDQ	Use Case, Actor,Business Rule, Screen Flow
V1.0	11/06	A	HoangVM	Use Case, Actor,Business Rule
V1.0	11/06	A	ChuVV	Use Case, Actor,Business Rule
V1.0	11/06	A	DoTH	Use Case, Actor,Business Rule
v1.0	11/06	A	MaiBN	Use Case, Actor,Business Rule

*A - Added M - Modified D - Deleted

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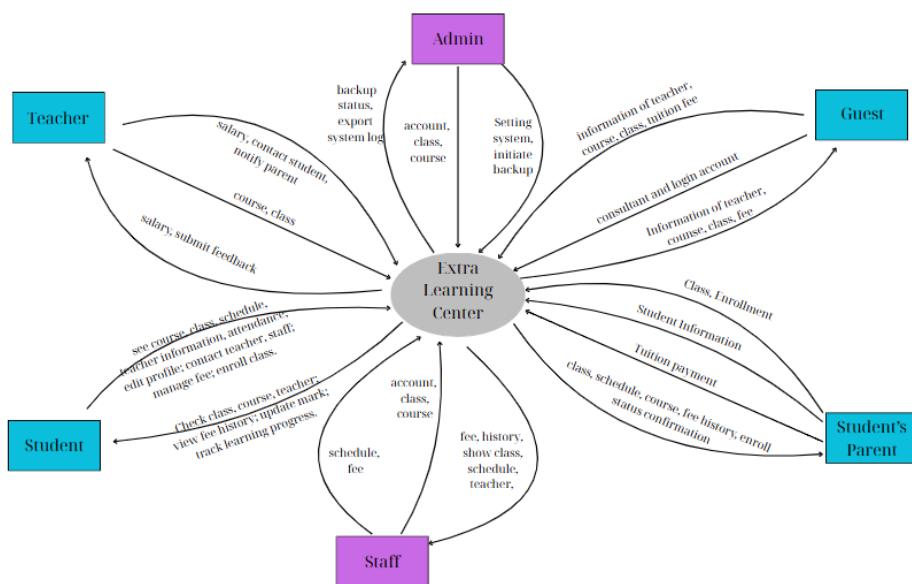
I. Product Overview

1.1. Product Vision

For K-12 tutoring centers and their communities, who need an efficient, unified way to manage operations, communication, and student learning, the ELCenter (ELC) platform is a comprehensive educational management system that connects administrators, staff, teachers, students, and parents into a single ecosystem, streamlining daily tasks, improving collaboration, and enabling data-driven decisions.

Unlike traditional manual processes or basic management tools, our product offers an all-in-one, scalable solution designed specifically for the needs of modern tutoring centers, with user-friendly interfaces, role-based access, and a roadmap for continuous updates and educational integrations.

1.2. Product Context



1.3. Major Features

- Features-01: Manage user accounts and permissions for different user roles, including administrators, staff, teachers, students, and parents.
- Features-02: Allow all users, including students, staff, teachers, and parents, to view and edit their own profile information to ensure it remains current.
- Features-03: Enable administrators and staff to create, manage, and schedule courses and classes, including filtering and viewing detailed class information.
- Features-04: Allow staff to manage student enrollment by viewing class rosters, assigning students to classes, and updating their information.

- Features-05: Provide tools for staff and teachers to input, update, and track student scores and academic performance.
- Features-06: Enable staff and teachers to record, view, and manage daily student attendance, including the ability to correct records.
- Features-07: Provide a central portal for announcements and stakeholder communication, allowing users to view schedules and progress updates.
- Features-08: Generate reports on student academic progress for parents and students, and operational reports for administrative decision-making.
- Features-09: Allow staff to set course fees and track the payment status of students to manage center financials.
- Features-10: Provide secure, web-based platform access for all users with role-specific permissions that tailor the user experience.

1.4. User Requirements

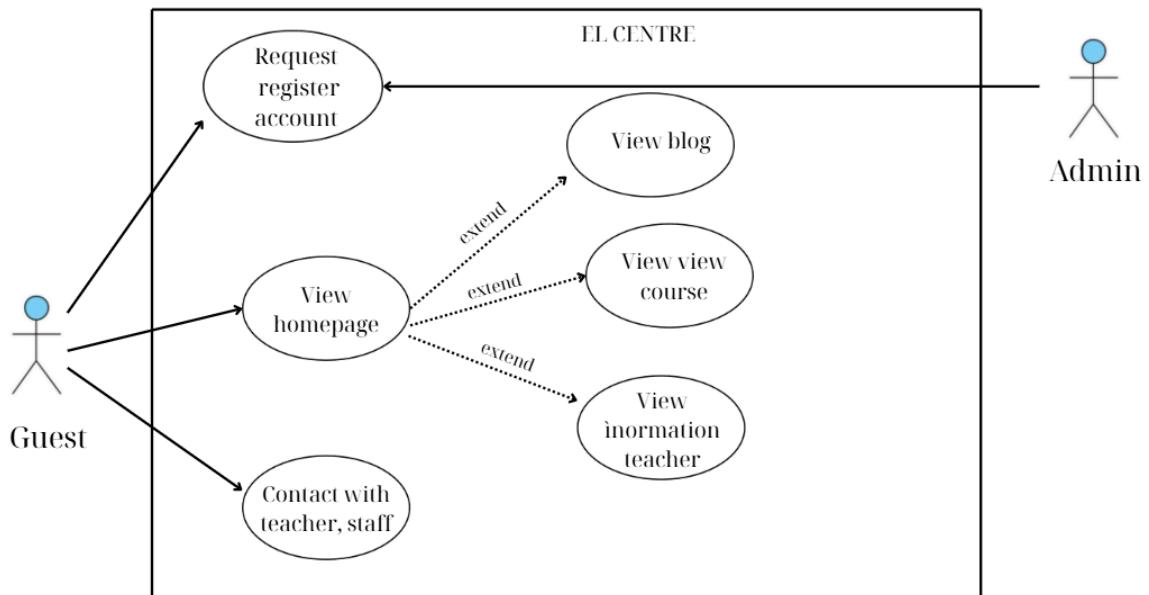
1.4.1 Actors List

#	Actor	Description
1	Administrator	The system administrator is a single individual responsible for overseeing the technical and operational aspects of the system. This role involves logging in/out, managing administrator profiles, configuring system settings, and maintaining user accounts for staff, students, and teachers. The administrator also supervises academic content (courses, classes, schedules, attendance, tuition), manages communication content (such as blogs), monitors system activity logs. This role ensures the overall stability, security, and smooth functioning of the platform.
2	Staff	The system operator (Staff) is responsible for the day-to-day operation and management of the tutoring center (2 members). A Staff member can log in/out, create courses and classes, assign teachers and students to classes, schedule class sessions, manage blogs and manage class's tuition fee records. Additionally, they can monitor student attendance, academic performance, and generate operational reports. Staff members act as the primary users responsible for the smooth operation of the center under the technical supervision of the system administrator.
3	Teacher	Teachers have the ability to propose the creation of new classes, including one-on-one sessions or group classes (1-many), based on either student learning requests or their own subject offerings. These proposals are submitted through the system and require review and approval by the system operator (Staff). In addition, teachers are responsible for delivering lessons and monitoring student academic performance in the classes officially assigned to them. A teacher can log in/out, view their teaching schedule, access class rosters, take attendance, enter grades, and provide academic feedback for each student. While teachers can initiate class proposals, they do not have direct permission to manage student accounts, approve enrollments, or configure system-level settings outside of their teaching scope.
4	Student	Students are the main learners of the center. A student can log in/out to access their personal dashboard, which includes class schedules, attendance history, and learning results. Students can view grades, send teacher feedback, and tuition payment status. They cannot modify any system data, but can monitor their learning progress and stay informed about their learning path and send the request support privately.

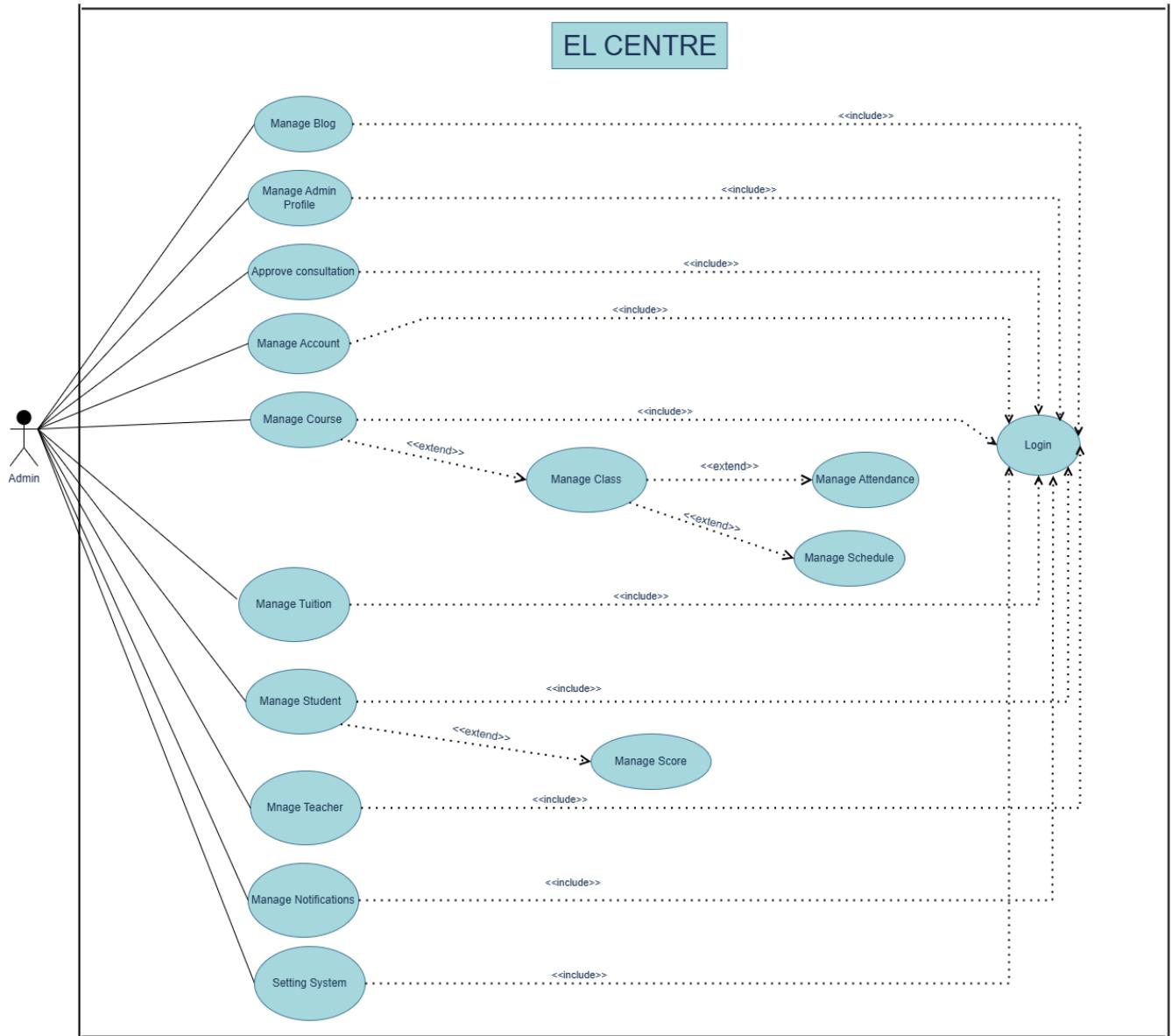
5	Std's Parent	Parents are linked to one or more students and serve as key supporters of their children's academic journey. A parent can log in/out to view each child's class schedule, attendance records, academic performance, and tuition payment history. In addition to viewing information, parents can actively enroll their children in available courses, including regular classes or special sessions offered by teachers. However, parents do not have permission to modify student accounts or system settings directly — their access is limited to monitoring, decision-making related to enrollment and payments, and communication support.
6	Guest	A Guest is an unregistered user who can explore the center by viewing its introduction, browsing available courses with descriptions, schedules, and tuition fees, reading blog posts on knowledge or study tips, and registering for an account to become an official student.

1.4.2 Use Cases

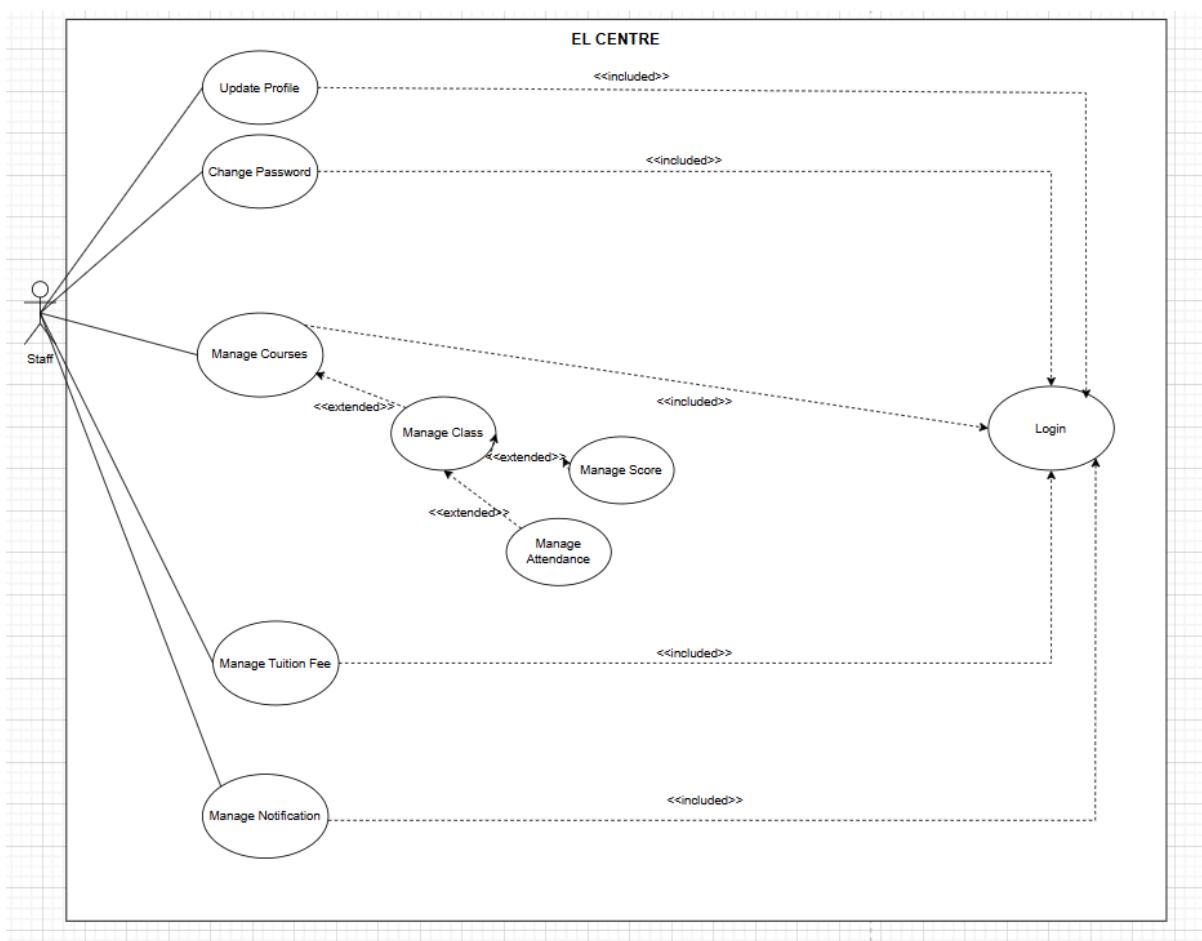
1.4.2.1 Diagram Ucs for Guest:



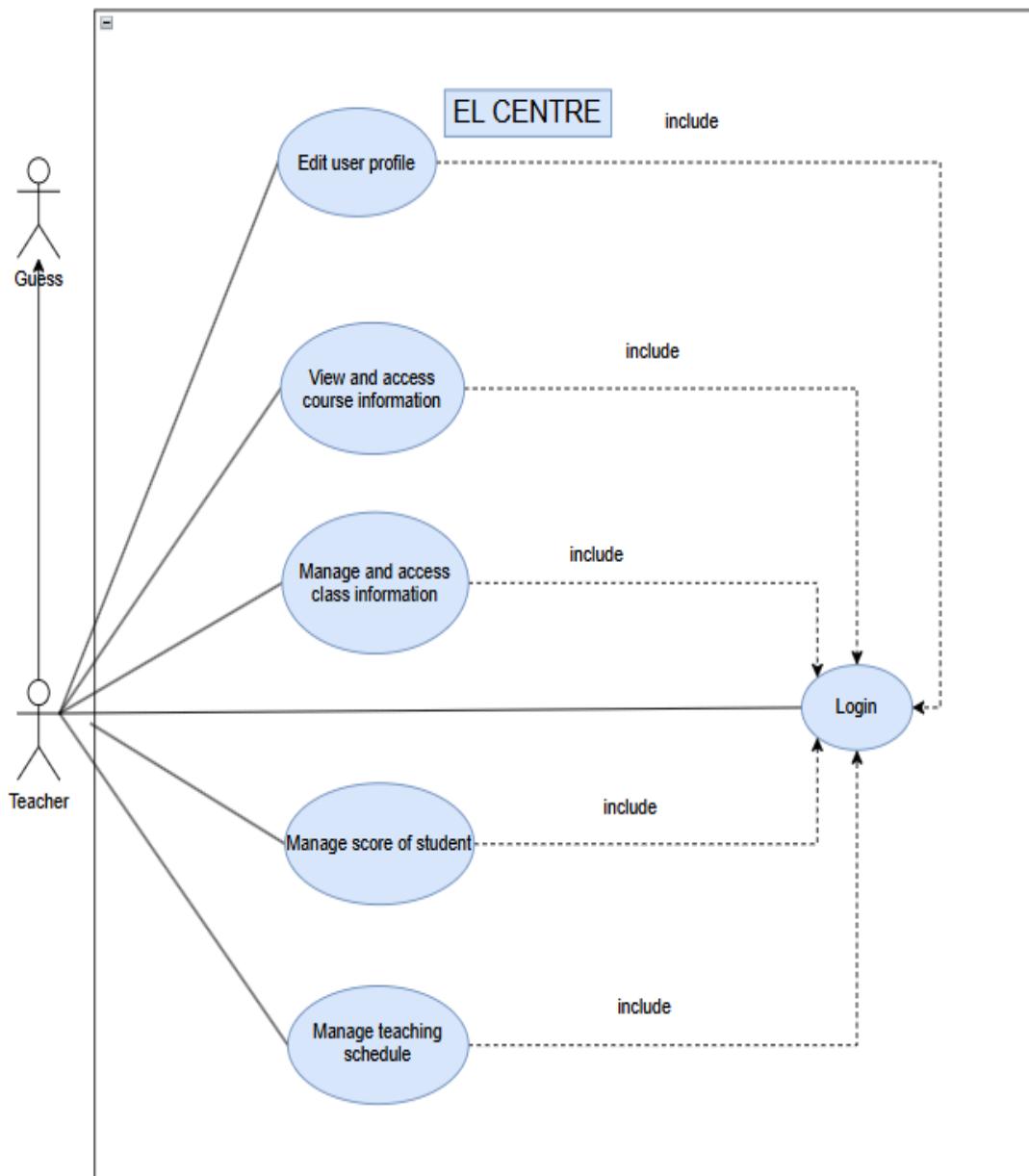
1.4.2.2 Diagram Ucs for Admin:



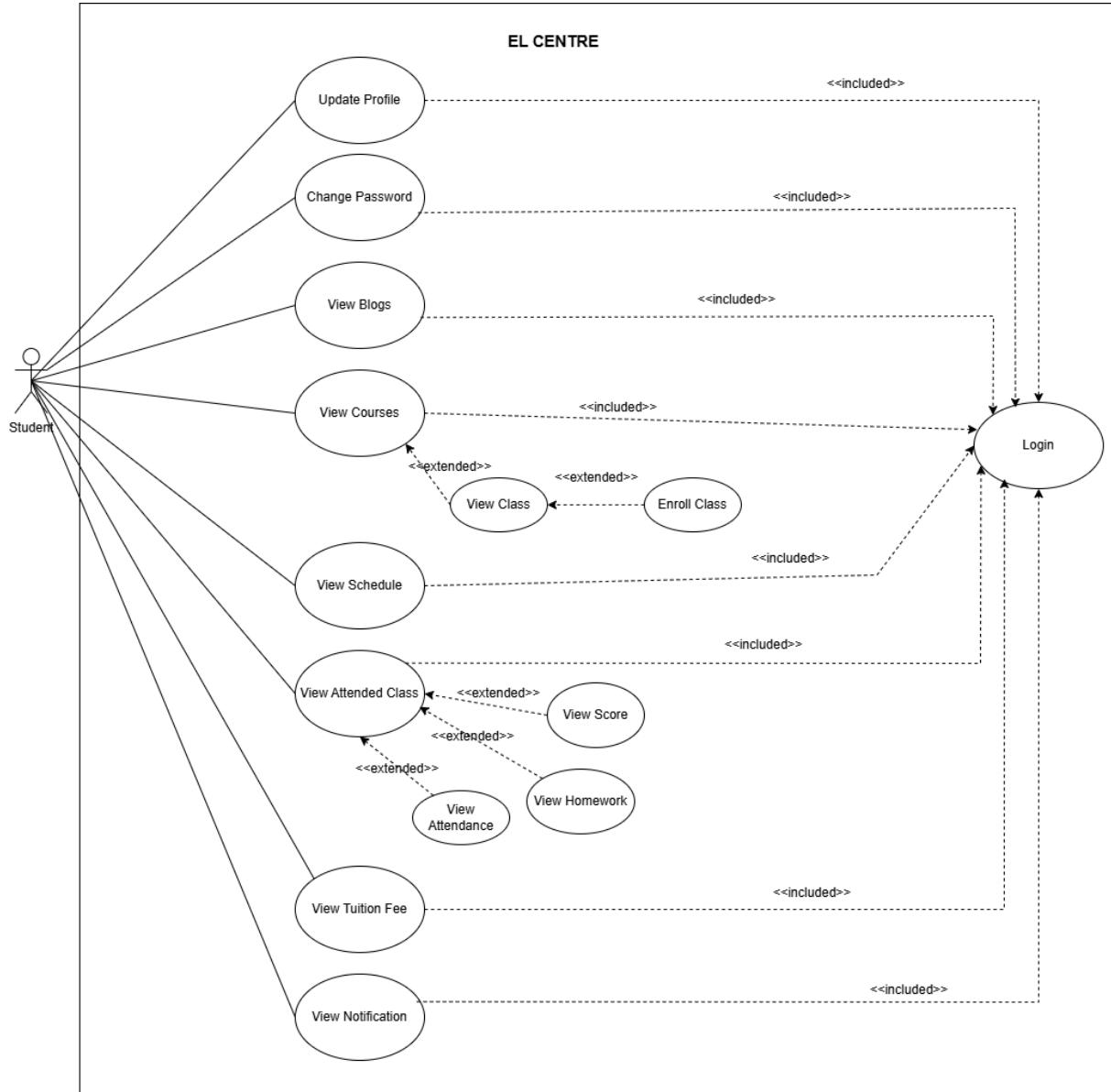
1.4.2.3 Diagram UCs for Staff



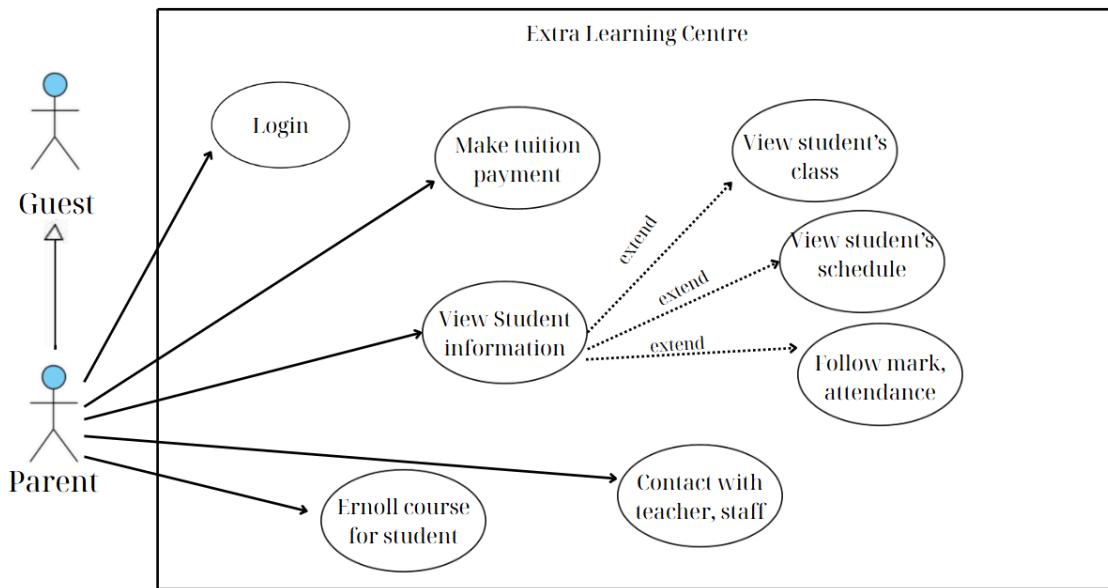
1.4.2.4 : Diagram UCs for Teacher:



1.4.2.5 : Diagram UCs for Student:



1.4.2.6 : Diagram UCs for Parent:



In which

ID	Feature	Use Case	Description
UC-01	Public	Register for a Student Account	As a guest user, I want to register for an official student account, so that I can access the educational services provided by the extra study center.
UC-02	Public	Forgot Password	As a user, I want to reset my password via email verification, so that I can securely regain access to my account.
UC-03	Public	View Home Page	As a user, I want to access the main landing page, so that I can navigate the extra learning centre website.
UC-04	Public	View Course Lists	As a user, I want to view a list of available courses, so that I can explore learning options.
UC-05	Public	View Class Lists	As a user, I want to view all available classes, so that I can learn more about their schedules and details.
UC-06	Public	View Learning Materials	As a user, I want to access learning materials, so that I can preview or download content to support my education.

UC-07	Public	View Post	As a user, I want to read posts and announcements, so that I can stay updated with centre news and events.
UC-08	Public	View Centre's information	<i>As a user, I want to view centre information, so that I can understand its services, location, and policies.</i>
UC-9	Admin, Staff	Create course	<i>As an admin or staff, I want to create new courses, so that students can enroll in them.</i>
UC-10	Admin, Staff	Update Course	As an admin or staff, I want to update course information, so that details stay accurate and up-to-date.
UC-11	Admin, Staff	Delete Course	<i>As an admin or staff, I want to delete courses, so that outdated or cancelled courses are removed from the system.</i>
UC-12	Admin, Staff	Create Class	<i>As an admin or staff, I want to create new classes, so that students can be assigned to appropriate learning groups.</i>
UC-13	Admin, Staff	Update Class	As an admin or staff, I want to update class details, so that information like size, schedule, or fee is correct.
UC-14	Admin, Staff	Delete Class	As an admin or staff, I want to delete classes, so that unnecessary or duplicate entries are removed.
UC-15	Admin	View Admin Dashboard	<i>As an admin, I want to view a dashboard, so that I can monitor system statistics, logs, and daily schedules.</i>
UC-16	Admin	View Account List	<i>As an admin, I want to view all user accounts, so that I can manage and monitor user activity.</i>
UC-17	Admin	View Account Details	As an admin, I want to see detailed information of each user, so that I can verify and manage accounts.
UC-18	Admin	Disable/Enable Account	As an admin, I want to enable or disable accounts, so that I can control system access.
UC-19	Admin	Update Information of Account	As an admin, I want to update user account details, so that their information remains current and accurate.
UC-20	Admin, Staff	View Student List	As an admin or staff, I want to view all enrolled students, so that I can manage and monitor student data.
UC-21	Admin, Staff	Update Student Information	As an admin or staff, I want to update student information, so that their records stay accurate.

UC-22	Admin, Staff	View Student Class in EL CENTRE	As an admin or staff, I want to view a student's enrolled classes, so that I can track their academic journey.
UC-23	Admin, Staff	Update Student Class in EL CENTRE	As an admin or staff, I want to update a student's class enrollment, so that it reflects changes in their schedule.
UC-24	Admin, Staff	View Student Tuition	As an admin or staff, I want to view student tuition information, so that I can track payments and dues.
UC-25	Admin, Staff	View Teacher List	As an admin or staff, I want to view all teachers, so that I can manage their profiles.
UC-26	Admin, Staff	Update Teacher Information	As an admin or staff, I want to update teacher details, so that their information remains up-to-date.
UC-27	Admin, Staff	View Class of Teacher in EL CENTRE	As an admin or staff, I want to view the classes assigned to each teacher, so that I can manage workload and schedules.
UC-28	Admin , Staff	Update Class of Teacher in EL CENTRE	<i>As an admin or staff, I want to assign or reassign teacher classes, so that schedules match expertise and availability.</i>
UC-29	Admin , Staff	Send Notification to Teacher or Student	As an admin or staff, I want to send notifications to individual users, so that they receive important updates.
UC-30	Admin , Staff	Send Notification to All Member in Class	As an admin or staff, I want to notify all members in a class, so that everyone stays informed.
UC-31	Teacher	View Teacher Dashboard	As a teacher, I want to view my dashboard, so that I can monitor classes and teaching schedules.
UC-32	Teacher	View Teaching Schedule	<i>As a teacher, I want to see my teaching schedule, so that I can stay organized.</i>
UC-33	Teacher	View Salary	As a teacher, I want to view salary details, so that I can track payments and bonuses.
UC-34	Teacher	View Attended Class	As a teacher, I want to view my attended classes, so that I can monitor my teaching activity.
UC-35	Teacher	View Student in Class	<i>As a teacher, I want to view students in my class, so that I can support their learning better.</i>
UC-36	Teacher	Manage Assignment	<i>As a teacher, I want to manage assignments, so that students have clear tasks and deadlines.</i>
UC-37	Teacher	View Attendance	As a teacher, I want to view attendance records, so that I can monitor student participation.
UC-38	Student	Request change class	As a student, I want to request a class change, so that I can switch if needed.

UC-39	Student, Parent	View schedule	As a student, I want to view my class schedule, so that I can attend on time.
UC-40	Student, Parent	View tuition	As a student, I want to see my tuition information, so that I can manage my payments.
UC-41	Student, Parent	View attendance	<i>As a student, I want to view my attendance records, so that I can track my participation.</i>
UC-42	Student, Parent	View notification	<i>As a student, I want to view notifications, so that I stay informed about updates.</i>
UC-43	Student	Submit assignment	As a student, I want to submit assignments, so that my work is evaluated.
UC-44	Student	Enroll in a class	<i>As a student, I want to enroll in a class, so that I can begin learning.</i>

1.5. Assumptions & Dependencies

AS-1: All users (students, parents, teachers, staff) are expected to have access to a computer and a stable internet connection to use the web-based system effectively.

AS-2: The center will have sufficient operational staff to manage daily activities, including class scheduling, teacher assignment, tuition tracking, and report generation.

AS-3: All user data will be entered accurately and completely during account creation or updates or forgotten password to ensure the reliability of system functions.

AS-4: The online payment system will remain stable and functional to allow students and parents to pay tuition fees securely and on time.

AS-5: In order for users to navigate and make use of the features provided by the Extra Learning Centre website, a basic level of computer literacy is assumed.

AS-6: The system is online and the server is operational during the course creation process.

AS-7: The course creation form is fully loaded and rendered correctly in the user's browser.

AS-8: The course being updated exists in the system and is identifiable by a valid Course ID.

AS-9: The Admin or Staff has appropriate permissions to perform course updates.

AS-10: The center has an online database for account storage.

AS-11: Email/SMS notification service is available and configured properly.

AS-12: Class data is updated in real time.

AS-13: Tuition payment verification may be integrated later.

AS-15: Upload directory exists and writable

AS-16: Valid class ID provided

AS-17: Staff is aware of dependencies

DE-1: The system depends on the availability and performance of third-party online payment gateways (e.g., VNPay, Momo). Any downtime or issues with these services may affect the tuition payment process.

DE-2: System maintenance and technical issue resolution rely on the availability of external developers or IT service providers, as the center does not have dedicated in-house technical staff.

DE-3: The web application must be hosted on a reliable server or hosting platform to ensure system uptime and responsive performance for all users

1.6. Limitations and Exclusions

- The system only supports access via web browsers and does not include mobile applications for iOS or Android at this stage.
- The system does not support integration with external platforms such as Learning Management Systems (LMS), online meeting tools (Zoom, Microsoft Teams), or online payment gateways (PayPal, Stripe).
- The system does not offer online learning features such as video conferencing or academic interaction tools (forums, online quizzes).
- The system does not provide predictive analytics, AI-powered features, or trend reports to support decision-making.

1.7. Business Rules

ID	Category	Rule Definition
BR-01	Constraints	Only one student account can be registered per email address.
BR-02	Constraints	Password must contain at least 8 characters, including a number and a special symbol.
BR-03	Constraints	A student can't enroll in the same class twice.
BR-04	Constraints	Course name must be unique in the system
BR-05	Constraints	Students, Learners can view courses, classes, classes' details, search/filter courses, view/ search classes, view feedback, view blogs and centre's information.
BR-06	Constraints	A course can only be deleted if it has no linked classes.
BR-07	Constraints	When adding a class, uploaded image must be in JPG or PNG format and less than 5MB in size
BR-08	Constraints	Class updates must preserve existing links (e.g., to courses or schedules); name, time, and fee must be valid.
BR-09	Constraints	A class can only be deleted if it has no dependent data like enrolled students or payment records

BR-10	Constraints	Network transmissions that involve financial information or personally identifiable information require 256-bit encryption.
BR-11	Constraints	Only regular employees can register for payroll deduction for any company purchase.
BR-12	Constraints	Only admins have access to the admin dashboard
BR-13	Constraints	Disabled accounts are not allowed to log in.
BR-14	Constraints	Only admin is allowed to update information, enable/disable user accounts.
BR-15	Constraints	When creating an account, you must provide complete information such as: Full name, email, role, phone number, address,....
BR-16	Constraints	Only active admin account (not disabled) can access the dashboard
BR-17	Constraints	Parents can only view the profiles of their linked children
BR-18	Action Enablers	Teachers can only upload documents for their assigned classes
BR-19	Action Enablers	Parent can be allowed to view their children's attendance and grades
BR-20	Constraints	Students, Learners can view courses, courses' details, search/filter courses, view feedback
BR-21	Action Enablers	When a student successfully enrolls in a class, an action to send a confirmation email to the student's registered address must be triggered.
BR-22	Inference	A student's "Completed" status for a course shall be inferred as true only when all mandatory exams and assignments for that course have a passing grade.
BR-23	Facts	Each user account belongs to exactly one of these roles: Admin, Staff, Teacher, Student, Parent.
BR-24	Facts	Each student may have zero, one, or two parents linked to their account.
BR-25	Action Enablers	If a class is cancelled, the system must automatically notify all enrolled students and their parents.
BR-26	Action Enablers	When a teacher submits an assignment, the system must automatically update the student's assignment in the dashboard.
BR-27	Inference	If a student's attendance rate for a class falls below 80%, the system marks the student as "At Risk" for that class.
BR-28	Inference	If a parent account has no active children, their access is limited to center announcements.
BR-29	Computation	The total tuition for a student in a term equals the sum of all enrolled class fees minus any valid discounts.
BR-30	Computation	The system calculates each teacher's total teaching hours per week as the sum of all scheduled class sessions.

II. Use Case Specifications

2.1. User Registration

2.1.1 UC-01_Register Account

ID and Name:	UC-01 Register Account		
Created By:	MaiBNHE182269	Date Created:	15/06/2025
Primary Actor:	Guest	Secondary Actors:	
Description:	A guest visits the website of the extra study center and wants to create an official student account to access educational services. The system guides them through the registration form, verifies the information, and creates an account upon successful validation.		
Trigger:	A guest selects the “Register” option on the homepage.		
Preconditions:	PRE-1. The guest has a valid internet connection and device. PRE-2. The guest has not previously registered with the same email address or phone number.		
Postconditions:	POST-1. A new student account is created and stored in the system. POST-2. The student is redirected to the login page with a success message. POST-3. The account is set to “Active” and ready for login.		
Normal Flow:	<ol style="list-style-type: none"> Guest clicks “Register for an Account” on the homepage. The system displays the registration form with required fields: full name, email, phone number, password, etc. Guest enters the required information. System validates the input (e.g., required fields, password strength). System checks for duplicate email or phone. Guest confirms and submits the form. The system creates the account in the database. System sends a confirmation email and/or SMS to the guest The system redirects guests to login page with a success message. 		
Alternative Flows:	1.1 Guest enters duplicate email → System displays “Email already in use” and requests a new one. 1.2 Guest enters weak password → System highlights issue and requests a stronger one.		
Exceptions:	1.0.E1 – Guest leaves required fields empty → System highlights missing fields and halts progress. 1.0.E2 – Email/SMS sending fails → System shows alert but completes account creation.		
Priority:	High		

Frequency of Use:	Dozens of new users per week (peak during admissions seasons).
Business Rules:	BR-01, BR-02
Other Information:	Guests may cancel the registration at any time before submitting. Confirmation via email/SMS is optional based on system settings.
Assumptions:	AS-10, AS-11

2.1.2 UC-02_Forgot password

ID and Name:	UC-02 Forgot password		
Created By:	DoTHHE182087	Date Created:	15/06/2025
Primary Actor:	Student, Teacher, Staff, Parent	Secondary Actors:	Admin
Description:	Guests who go to the system who want to log in but do not remember their password will be directed to the forgot password section. There they are required to enter the correct Email and Phone Number registered with their account to allow them to change their password.		
Trigger:	A guest selects the “Forgot password” option login option.		
Preconditions:	PRE-1. The user has access to a stable internet connection and a compatible device. PRE-2. The user has previously registered with a valid email address or phone number. PRE-3. The user accesses the “Forgot Password” page from the system's login interface.		
Postconditions:	POST-1. Check valid email and phone if wrong so guest can not change password POST-2. The system verifies the request and allows the user to reset their password. POST-3. A success message is shown, and the user is redirected to the login page.		
Normal Flow:	1. The visitor clicks “Forgot Password” on the login page. 2. The system displays a verification form with required fields for verification: Email, phone number. 3. The visitor enters the required information. 4. The system validates the input information (e.g. required fields, password strength). 5. The system checks for duplicate emails or phone numbers. 6. The system allows the user to enter a new password 7. The system redirects the visitor to the login page with a success message.		

Alternative Flows:	1.1 The guest enters an incorrect email or phone number or one that does not exist in the system → The system displays “Incorrect or non-existent email! Please try again”, or “Incorrect or non-existent phone number in the system” depending on which is incorrect, checks from email to phone number and creates a new entry request. 1.2 The guest enters a new password that is not in the allowed format → The system highlights the problem and requests a suitable or stronger password.
Exceptions:	1.0.E1 – Guest leaves required fields blank → System marks missing fields and stops the process. 1.0.E2 – Send notification failed → System displays warning and password is not changed
Priority:	High
Frequency of Use:	Dozens of new users per week (peak during admissions seasons).
Business Rules:	BR-02
Other Information:	Guests can choose to forget their password at any time, whether it is because they forgot it or want to change it to a new one without logging into the system.
Assumptions:	AS-3

2.2 Class enrollment

2.2.1 UC-44_Enroll in a class

ID and Name:	UC-44 Enroll in a Class		
Created By:	MaiBNHE182269	Date Created:	15/06/2025
Primary Actor:	Student	Secondary Actors:	Staff
Description:	A student (or parent on behalf of the student) logs into the system, views available classes, and selects a class to enroll in. The system checks for availability and enrolls the student if the class is not full.		
Trigger:	Student/Parent selects the “Enroll in Class” option from their dashboard.		
Preconditions:	PRE-1. Student or Parent is logged in. PRE-2. The student is eligible for enrollment (e.g., has no payment issues).		
Postconditions:	POST-1. The student is successfully enrolled in the selected class. POST-2. The class roster is updated. POST-3. A confirmation message is sent to the student/parent.		

Normal Flow:	<ol style="list-style-type: none"> 1. Student/Parent clicks “Enroll in Class.” 2. The system displays the list of available classes with filters (subject, time, teacher, level). 3. Student/Parent selects a class. 4. The system checks if the class has available slots. 5. If available, the system enrolls the student. 6. The system sends confirmation via dashboard and optional email/SMS. 7. System updates class roster and enrollment statistics.
Alternative Flows:	<p>1.1 Student selects multiple classes → System checks each for availability before confirming batch enrollment.</p> <p>1.2 Parents enrol multiple children in the same class → System processes each separately.</p>
Exceptions:	<p>1.0.E1 Class is full → System displays “Class Full” and offers to waitlist or choose another.</p> <p>1.0.E2 System error in updating class → Displays error message and logs failure.</p> <p>1.0.E3 Student already enrolled → System notifies with no duplicate enrollment allowed.</p>
Priority:	High
Frequency of Use:	High during new term enrollment periods; moderate otherwise.
Business Rules:	BR-03, BR-04
Other Information:	Waitlisting may be implemented in future versions. Enrollment can be canceled up to 48 hours before class starts.
Assumptions:	AS-12, AS-13

2.3. Public Feature

2.3.1 UC-03_View Home Page

ID and Name:	UC-03 View Home Page		
Created By:	Dam Quang Trung	Date Created:	6/11/2025
Primary Actor:	Guest	Secondary Actors:	
Description:	A customer (or guest) accesses the extra learning website and views the home page, which displays sliders, blog category, a variety of courses, available classes and information about centre		
Trigger:	A guest wants to browse or access for learning centre on the online extra learning website		
Preconditions:	PRE-1: The website can be accessed		

Postconditions:	POST-1: The guest has viewed the home page and is familiar with the sliders, blog category, and a variety of new courses, classes available on the website.
Normal Flow:	<p>1.0 Home Page</p> <ol style="list-style-type: none"> 1. The guest accesses the extra learning centre website 2. The website display the Home Page
Alternative Flows:	<p>2.1 Guest interacts with a course or class</p> <p>This flow occurs when the guest actively engages with the content on the home page.</p> <ol style="list-style-type: none"> 1. At step 2 of the Normal Flow, the home page is displayed successfully. 2. The guest clicks on a specific course or class card being displayed. 3. The system navigates the guest to the corresponding "Course Details" or "Class Details" page. 4. This use case ends and proceeds to use case " View Course Details".
Exceptions:	<i>Unavailable website</i>
	<ol style="list-style-type: none"> 1. If the website is unavailable, the guest will be unable to view the home page
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-05
Other Information:	The home page should be updated regularly with new classes, courses , slider and blog categories
Assumptions:	AS-1, AS-5

2.3.2 UC-05_View Course Lists

ID and Name:	UC-04_View Course Lists		
Created By:	Dam Quang Trung	Date Created:	6/11/2025
Primary Actor:	Guest	Secondary Actor	Student, Parents
Description:	A guest or learner accesses the extra learning website and views the courses list.		

Trigger:	A customer wants to browse or access for learning centre on the online extra learning website
Preconditions:	PRE-1: The website can be accessed
Postconditions:	POST-1: The customer has viewed a list of new courses and is able to see more or buy course
Normal Flow:	<p>1.0 Home Page</p> <p>1. The guest accesses the extra learning centre website 2. The website displays a list of courses including course name, grade.....</p>
Alternative Flows:	<p>2.1 Filter Courses</p> <p>1. Users use the filter bar to choose option filter</p> <p>2. All courses sorted by filter following the user's choice will be shown.</p> <p>2.2 Search course by name</p> <p>1. Users search the name of the course they want to find. The system will return courses that are relevant to the content they search.</p>
Exceptions:	<i>Unavailable website</i>
	1. If the website is unavailable, the guest will be unable to view the home page
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-20
Other Information:	The list of courses should be updated regularly with new courses and deleted out-of-date courses
Assumptions:	AS-1, AS-5

2.3.3 UC-05_View Class List

ID and Name:	UC-05_View Class List		
Created By:	DoTHHE182087	Date Created:	6/15/2025
Primary Actor:	Guest	Secondary Actor	Student, Staff
Description:	Guests or learners access the supplemental learning website and view the class listings.		
Trigger:	When learners click to view a specific course, the screen will be redirected to the page listing specific classes of that course.		
Preconditions:	PRE-1: The user has access to a stable internet connection and a compatible device. PRE-2: The course being viewed is published and available to the public or to logged-in users (based on role). PRE-3: The system database contains active class listings for the selected course.		
Postconditions:	POST-1: The user views the list of classes under the selected course. POST-2: The user can see detailed class information and optionally proceed to registration or inquiry.		
Normal Flow:	1. The user accesses the Extra Learning Center homepage. 2. The homepage displays a list of available courses (course name, level, subject). 3. The user selects a course of interest. 4. The system displays a list of available classes under the selected course. 5. The user views details such as class name, schedule, available slots, and teacher info.		
Alternative Flows:	1. Filter Class The user uses the filter bar to choose filter options (e.g., subject, level, date). The system displays only the classes matching the filter criteria. 2. Search class by name The user enters the name of a course into the search bar. The system returns relevant courses and associated class listings matching the search keyword.		
Exceptions:	Unavailable Website		

	<ol style="list-style-type: none"> 1. If the website is temporarily unavailable due to system maintenance or server error, the user will not be able to access the homepage or course listings. 2. The system shows a message: "The service is currently unavailable. Please try again later."
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-05
Other Information:	The list of class should be updated regularly with new class and deleted out-of-date class
Assumptions:	AS-1, AS-5

2.3.4 UC-06_View Learning Materials

ID and Name:	UC-06_View Material List		
Created By:	TrungDQHE190664	Date Created:	7/13/2025
Primary Actor:	Guest	Secondary Actor	Student, Staff
Description:	Guests or learners access the supplemental learning website and view the class listings.		
Trigger:	When learners click to view a specific material, the screen will be redirected to the page listing details of that course.		
Preconditions:	PRE-1: The user has access to a stable internet connection and a compatible device. PRE-2: The material being viewed is published and available to the public or to logged-in users (based on role). PRE-3: The system database contains active material listings for the selected course.		
Postconditions:	POST-1: The user views the details under the selected material. POST-2: The user can download the material free.		
Normal Flow:	1. The user accesses the Extra Learning Center homepage. 2. The homepage displays a list of material (subject, name, description, type). 3. The user selects a material of interest. 4. The system displays a list of available material under the selected subject. 5. The user views details such as subject, name, description, type.		

Alternative Flows:	<p>1. Filter Material The user uses the filter bar to choose filter options (e.g., subject, level, date). The system displays only the materials matching the filter criteria.</p> <p>2. Search material by name The user enters the name of a material into the search bar. The system returns relevant materials and associated material listings matching the search keyword.</p>
Exceptions:	<p>Unavailable Website</p> <ol style="list-style-type: none"> 3. If the website is temporarily unavailable due to system maintenance or server error, the user will not be able to access the homepage or material listings. 4. The system shows a message: “The service is currently unavailable. Please try again later.”
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-05
Other Information:	The list of material should be updated regularly with new document and deleted out-of-date material
Assumptions:	AS-1, AS-5

2.3.3 UC-07_View Post List

ID and Name:	UC-07_View Post List		
Created By:	TrungDQHE190664	Date Created:	7/13/2025
Primary Actor:	Guest	Secondary Actor	Student, Staff
Description:	Guests or learners access the supplemental learning website and view the Post listings.		
Trigger:	When learners click to view a specific post, the screen will be redirected to the page listing specific details of that post.		
Preconditions:	PRE-1: The user has access to a stable internet connection and a compatible device. PRE-2: The post being viewed is published and available to the public or to logged-in users (based on role).		

	PRE-3: The system database contains active post listings.
Postconditions:	<p>POST-1: The user views the list of posts under the selected keyword.</p> <p>POST-2: The user can see detailed post information and optionally proceed to registration or inquiry.</p>
Normal Flow:	<ol style="list-style-type: none"> 1. The user accesses the Extra Learning Center homepage. 2. The homepage displays a list of available posts (post name, keyword, keyTag,...). 3. The user selects a post of interest. 4. The user views details such as post name, keyword, description, and Content.
Alternative Flows:	<ol style="list-style-type: none"> 1. Filter post The user uses the filter bar to choose filter options (e.g., keyword, keyTag, date). The system displays only the classes matching the filter criteria. 2. Search post by name The user enters the name of a post into the search bar. The system returns relevant post and associated post listings matching the search keyword.
Exceptions:	<p>Unavailable Website</p> <ol style="list-style-type: none"> 5. If the website is temporarily unavailable due to system maintenance or server error, the user will not be able to access the homepage or post listings. 6. The system shows a message: "The service is currently unavailable. Please try again later."
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-05
Other Information:	The list of post should be updated regularly with new class and deleted out-of-date post
Assumptions:	AS-1, AS-5

2.3.3 UC-08_View Centre's Information

ID and Name:	UC-08_View Centre's Information		
Created By:	TrungDQHE190664	Date Created:	7/13/2025
Primary Actor:	Guest	Secondary Actor	Student, Staff
Description:	Guests or learners access the supplemental learning website and view the class listings.		
Trigger:	When learners click to view information about the centre, the screen will be redirected to the page listing information.		
Preconditions:	PRE-1: The user has access to a stable internet connection and a compatible device. PRE-2: The information being viewed is published and available to the public or to logged-in users (based on role). PRE-3: The system database contains active class listings for the information.		
Postconditions:	POST-1: The user views the information. POST-2: The user can request detailed class information and optionally proceed to registration or inquiry.		
Normal Flow:	1. The user accesses the Extra Learning Center homepage. 2. The homepage displays information about the centre. 3. The user fills the field to request consultation .		
Alternative Flows:	none		
Exceptions:	Unavailable Website 7. If the website is temporarily unavailable due to system maintenance or server error, the user will not be able to access the homepage or course listings. 8. The system shows a message: "The service is currently unavailable. Please try again later."		
Priority:	High		
Frequency of Use:	Frequent		
Business Rules:	BR-05		

Assumptions:	AS-1, AS-5
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2.4. Manage Courses

2.4.1 UC-09 _Create Course

ID and Name:	UC-09_Create Course		
Created By:	Vu Minh Hoang	Date Created:	6/11/2025
Primary Actor:	Admin-Staff	Secondary Actors:	Student, Guest
Description:	Admin or Staff accesses the course creation page, fills in required information such as course name, description, schedule, and submits the form to create a new course.		
Trigger:	Admin or Staff wants to add a new course to the system.		
Preconditions:	PRE-1: User is logged in as Admin or Staff PRE-2: Input data is valid		
Postconditions:	POST-1: A new course is added and displayed in the course list.		
Normal Flow:	1.0 Create Course <ol style="list-style-type: none"> 1. Admin/Staff opens the create course form 2. Fills in course data 3. Submits the form 4. System saves and confirms creation 		
Alternative Flows:	1.1 Invalid Data <ol style="list-style-type: none"> 1. System displays error message and asks user to correct the form 		
Exceptions:	Unavailable Database <ol style="list-style-type: none"> 1. System cannot connect to database to save course 		
Priority:	High		
Frequency of Use:	Frequent		

Business Rules:	BR-04
Other Information:	System records timestamp of creation automatically
Assumptions:	AS-6, AS-7

2.4.2 UC-10_Update Course

ID and Name:	UC-10_Update Course		
Created By:	Vu Minh Hoang	Date Created:	6/11/2025
Primary Actor:	Admin-Staff	Secondary Actors:	Student, Guest
Description:	Admin or Staff selects an existing course and modifies fields like name, description, schedule, or status.		
Trigger:	Admin/Staff needs to change information of an existing course		
Preconditions:	PRE-1: Course exists in the system PRE-2: User has permission		
Postconditions"	POST-1: Course data is updated successfully		
Normal Flow:	1.0 Update Course 1. Admin/Staff selects a course 2. Edits fields 3. Submits changes 4. System updates course in database		
Alternative Flows:	1.1 No changes made 1. System does not save 2. Shows "no changes detected"		

Exceptions:	Concurrency Error 1. Another user updated the course at the same time
Priority:	Medium
Frequency of Use:	Frequent
Business Rules:	BR-05
Other Information:	System may log the modifier and time
Assumptions:	AS-8, AS-9

2.4.3 UC-11_Delete Course

ID and Name:	UC-11_Delete Course		
Created By:	Vu Minh Hoang	Date Created:	6/11/2025
Primary Actor:	Admin-Staff	Secondary Actors:	Student, Guest
Description:	Admin or Staff deletes an existing course from the system (can be soft delete or hard delete).		
Trigger:	Admin/Staff wants to remove a course no longer offered.		
Preconditions:	PRE-1: Course exists PRE-2: User has delete permission		
Postconditions"	POST-1: Course is removed or marked inactive		
Normal Flow:	1.0 Delete Course <ol style="list-style-type: none"> 1. Admin/Staff clicks "delete" on a course 2. System shows confirmation 3. Course is deleted or flagged 		

Alternative Flows:	1.1 Cancel Deletion 1. User cancels deletion in confirmation dialog
Exceptions:	<i>Linked Class Exists</i> <i>1. System blocks deletion and shows message</i>
Priority:	High
Frequency of Use:	Occasional
Business Rules:	BR-06
Other Information:	Soft-delete preferred for record keeping
Assumptions:	AS-9

2.4.4 UC-12_ Create Class

ID and Name:	UC-12_ Create Class		
Created By:	Vu Minh Hoang	Date Created:	6/11/2025
Primary Actor:	Admin-Staff	Secondary Actors:	Student, Guest
Description:	Allows Admin or Staff to add a new class with attributes like name, size, schedule, fee, and image		
Trigger:	A staff wants to add a new class to a course		
Preconditions:	PRE-1: Course exists PRE-2: User has permission		
Postconditions"	POST-1: Class is created and saved in the system		
Normal Flow:	1.0 Create Class		

	<ol style="list-style-type: none"> 1. Admin/Staff accesses "Add Class" page 2. Fills in required fields 3. Uploads optional image 4. Submits form 5. System saves class
Alternative Flows:	<p>1.1 Missing required fields</p> <p>1. System shows validation message</p>
Exceptions:	<i>File upload fails or invalid format</i>
Priority:	High
Frequency of Use:	Regular
Business Rules:	BR-07
Other Information:	Class is associated with a course and a grade
Assumptions:	AS-15

2.4.5 UC-13_ Update Class

ID and Name:	UC-13_ Update Class		
Created By:	Vu Minh Hoang	Date Created:	6/11/2025
Primary Actor:	Admin-Staff	Secondary Actors:	Student, Guest
Description:	Allows updating class details such as name, size, time, fee, image, and notes		
Trigger:	Admin/Staff wants to modify class information		
Preconditions:	PRE-1: Class exists PRE-2: User has permission		

Postconditions"	POST-1: Updated class information saved
Normal Flow:	<p>1.0 Update Class</p> <p>1. Admin/Staff selects class to update</p> <p>2. Edits information</p> <p>3. Submits changes</p> <p>4. System updates class</p>
Alternative Flows:	<p>1.1 No changes made</p> <p>1. System shows "no changes detected"</p>
Exceptions:	Concurrent update by another user
Priority:	Medium
Frequency of Use:	Regular
Business Rules:	BR-08
Other Information:	Update time and editor may be logged
Assumptions:	AS-16

2.4.6 UC-14_Delete Class

ID and Name:	UC-14_Delete Class		
Created By:	Vu Minh Hoang	Date Created:	6/11/2025
Primary Actor:	Admin-Staff	Secondary Actors:	Student, Guest
Description:	Allows deletion of a class from the system		
Trigger:	Admin/Staff wants to remove a class		
Preconditions:	PRE-1: Class exists PRE-2: User has permission		

Postconditions"	POST-1: Class is removed (soft/hard delete)
Normal Flow:	<p>1.0 Delete Class</p> <p>1. Admin/Staff selects class</p> <p>2. Clicks delete</p> <p>3. System asks for confirmation</p> <p>4. Upon confirmation, deletes class</p>
Alternative Flows:	<p>1.1 Deletion canceled</p> <p>1. No changes made</p>
Exceptions:	Class linked to other active records (e.g., students)
Priority:	Medium
Frequency of Use:	Occasional
Business Rules:	BR-09
Other Information:	May be soft delete (status = inactive)
Assumptions:	AS-17

2.5. Admin Feature

2.5.1 UC-15_ View Admin Dashboard

ID and Name:	UC-15_View Admin Dashboard		
Created By:	Vu Van Chu	Date Created:	6/15/2025
Primary Actor:	Admin	Secondary Actor	none
Description:	This use case allows the admin to view a dashboard that displays revenue statistics, activity logs, required support from users, today's attendance, student satisfaction statistics, and links to management modules (accounts, teachers, students, courses).		

Trigger:	Admin wants to see an overview of the center's performance and operations.
Preconditions:	<p>PRE-1: Admin is logged in with an active account (BR-16).</p> <p>PRE-2: System has data on revenue, activities, schedules, attendance, student feedback (AS-3, AS-12).</p> <p>PRE-3: Website and server are active (DE-3).</p>
Postconditions:	<p>POST-1: Admin can view statistics and link to the management module.</p> <p>POST-2: Admin can navigate to the management module.</p>
Normal Flow:	<p>1.0 View Admin Dashboard</p> <ol style="list-style-type: none"> 1. The admin accesses the Extra Learning Centre website and logs in. 2. The admin navigates to the admin dashboard. 3. The system displays the dashboard, including: <ul style="list-style-type: none"> ○ Revenue statistics ○ Attendance statistics today ○ User activity logs ○ Today's class schedule ○ Quick access links to management modules (account, teacher, student, course). ○ Total number of student current of the system ○ Total number of teachers currently in the system ○ Total number of classes currently in the system 4. Admin view or click link to navigate.
Alternative Flows:	None
Exceptions:	<p><i>Site unavailable: Show error (DE-3).</i></p> <p><i>Unauthorized access: Deny if not admin (BR-12).</i></p> <p><i>Missing data: Show warning if data is incomplete (AS-3).</i></p>
Priority:	High
Frequency of Use:	Frequent

Business Rules:	BR-12 BR-16
Other Information:	The dashboard should be visually intuitive, with charts or graphs for revenue and activity trends to enhance usability.
Assumptions:	AS-1 AS-3 AS-5

2.5.2 UC-16_ View Account List

ID and Name:	UC-16_View Account List		
Created By:	Vu Van Chu	Date Created:	6/15/2025
Primary Actor:	Admin	Secondary Actor	none
Description:	This use case allows the admin to view a list of user accounts, including full name, email, role, phone number, status, with search and filtering options.		
Trigger:	Admin wants to see an account overview for management.		
Preconditions:	PRE-1: Admin logged in with active account (BR-16). PRE-2: Database has account information (AS-10). PRE-3: Website and server are up and running (DE-3).		
Postconditions:	POST-1: Admin can view the list of accounts. POST-2: Admin can search/filter accounts.		
Normal Flow:	1.0 View List Account <ol style="list-style-type: none"> 1. Admin logs in to the Supplemental Learning Center website. 2. Admin goes to the “User Management” module. 		

	<p>3. The system displays the account table (full name, email, role, phone number, status).</p> <p>4. Admin can view, search (by name/email), or filter (by role/status).</p>
Alternative Flows:	1.0A Account not found: The system displays “Account not found” if the search/filter has no results.
Exceptions:	<p><i>Website not available: Show error (DE-3).</i></p> <p><i>Unauthorized access: Deny if not admin (BR-14).</i></p> <p><i>Empty data: Show “Empty list” if no account (AS-3).</i></p>
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-14 BR-16
Other Information:	<p>The account table supports sorting and pagination.</p> <p>The interface has action buttons (view details, enable/disable, update).</p>
Assumptions:	AS-1 AS-3 AS-5

2.5.3 UC-17 _ View Account Details

ID and Name:	UC-17_View Account Details		
Created By:	Vu Van Chu	Date Created:	6/15/2025
Primary Actor:	Admin	Secondary Actor	none
Description:	This use case allows admin to view details of an account, including full name, email, role, phone number, address, status.		
Trigger:	Admin wants to check detailed information of an account.		

Preconditions:	PRE-1: Admin is logged in with an active account (BR-16). PRE-2: Account exists in database (AS-10). PRE-3: Website and server are active (DE-3).
Postconditions:	POST-1: Admin can see exact account details.
Normal Flow:	<p>1.0 View Details Accounts</p> <ol style="list-style-type: none"> 1. Admin logs in to the Supplemental Learning Center website. 2. Admin goes to the “User Management” module. 3. Admin selects an account from the list. 4. The system displays account details (full name, email, role, phone number, address, status).
Alternative Flows:	None
Exceptions:	<p><i>Website not available: Show error (DE-3).</i></p> <p><i>Unauthorized access: Deny if not admin (BR-14).</i></p> <p><i>Account does not exist: Show “Account not found”.</i></p>
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-16 BR-14
Other Information:	Account details are clearly displayed, prioritizing key fields (name, email, role).
Assumptions:	AS-1 AS-3 AS-5 AS-10

2.5.4 UC-18_Disable/Enable Account

ID and Name:	UC18_Disable/Enable Account
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Created By:	Vu Van Chu	Date Created:	6/15/2025
Primary Actor:	Admin	Secondary Actor	none
Description:	This use case allows the admin to enable (enable) or disable (disable) a user account to control access.		
Trigger:	Admin wants to enable/disable accounts to manage access.		
Preconditions:	PRE-1: Admin is logged in with an active account (BR-16). PRE-2: Account exists in database (AS-10). PRE-3: Website and server are active (DE-3).		
Postconditions:	POST-1: Account successfully enabled/disabled. POST-2: Disabled account cannot log in (BR-13).		
Normal Flow:	<p>1.0 Bật/Tắt tài khoản</p> <ol style="list-style-type: none"> 1. Admin logs in to the Supplemental Learning Center website. 2. Admin goes to the “User Management” module. 3. Admin selects the account and clicks “Enable”/“Disable”. 4. The system confirms the action. 5. Admin confirms, the system updates the status and notifies success. 		
Alternative Flows:	1.0A Cancel action: Admin cancels, system status does not change.		
Exceptions:	<p>Website not available: Show error (DE-3).</p> <p>Unauthorized access: Deny if not admin (BR-14).</p> <p>Account does not exist: Show “Account not found”.</p>		
Priority:	High		
Frequency of Use:	Frequent		
Business Rules:	BR-16 BR-13 BR-14		

Other Information:	Account status is clearly displayed (color/icon).
Assumptions:	AS-1 AS-3 AS-5 AS-10

2.5.5 UC-19_ Update Information of Account

ID and Name:	UC-19_Update Information of Account		
Created By:	Vu Van Chu	Date Created:	6/15/2025
Primary Actor:	Admin	Secondary Actor	none
Description:	This use case allows the admin to update account information, including phone number and address.		
Trigger:	Admin wants to edit account information.		
Preconditions:	PRE-1: Admin is logged in with an active account (BR-16). PRE-2: Account exists in database (AS-10). PRE-3: Website and server are active (DE-3).		
Postconditions:	POST-1: Account information updated successfully. POST-2: New data reflected in the system (AS-3).		
Normal Flow:	<p>1.0 Update Account</p> <ol style="list-style-type: none"> 1. Admin logs in to the Supplemental Learning Center website. 2. Admin goes to the “User Management” module. 3. Admin selects the account and clicks “Update”. 4. The system displays the form with current information. 5. Admin edits and submits the form. 6. The system validates and updates, notifying success. 		

Alternative Flows:	1.0A Invalid data: System reported error (BR-15), admin corrected and resend.
Exceptions:	<p><i>Website not available: Show error (DE-3).</i></p> <p><i>Unauthorized access: Deny if not admin (BR-14).</i></p> <p><i>Account does not exist: Show "Account not found".</i></p>
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-14 BR-16 BR-15 BR-1
Other Information:	The form has pre-filled data, unique email check.
Assumptions:	AS-1 AS-3 AS-5 AS-10 AS-11

2.5.6 UC-22_ View Student Class

ID and Name:	UC-22_View Student Class		
Created By:	Vu Van Chu	Date Created:	7/11/2025
Primary Actor:	Admin , Staff	Secondary Actor	none
Description:	This use case allows an admin or staff to view a student's enrolled classes in the EL CENTRE system, including class ID, name, schedule, teacher, and status, with search and filtering options to manage their academic progress.		

Trigger:	Admin or staff needs to review a student's enrolled classes for management or tracking purposes.
Preconditions:	<p>PRE-1: Admin or staff is logged in with an active account (BR-16).</p> <p>PRE-2: Database contains student and class information (AS-10, AS-12).</p> <p>PRE-3: EL CENTRE website and server are operational (DE-3).</p>
Postconditions:	<p>POST-1: Admin or staff views the student's enrolled classes.</p> <p>POST-2: Admin or staff can search or filter classes by teacher name, class name, or status.</p>
Normal Flow:	<p>1.0 View Student Class</p> <ol style="list-style-type: none"> 1. Admin or staff logs in to the EL CENTRE website (BR-16). 2. Admin or staff navigates to the "Student Management" module via the sidebar (AS-1). 3. Admin or staff selects a student by name or ID (BR-01). 4. The system displays a table of the student's enrolled classes, including class ID, name, schedule, teacher name, and status (AS-12). 5. Admin or staff can search by student or class name or filter by class status.
Alternative Flows:	<p>Alternative Flows:</p> <p>1.0A No classes found: The system displays "Không có dữ liệu lớp để hiển thị" if no classes match the search or filter criteria (AS-3).</p>
Exceptions:	<p>Website not available: Display error message (DE-3).</p> <p>Unauthorized access: Deny access if not admin or staff (BR-14).</p> <p>Empty data: Display "Không có dữ liệu lớp để hiển thị" if the student has no enrolled classes (AS-3).</p>
Priority:	High
Frequency of Use:	Frequent

Business Rules:	BR-01 BR-14 BR-16
Other Information:	The class table supports sorting by class name or schedule and includes pagination, as seen in the UI. Action buttons allow viewing class details or updating enrollment.
Assumptions:	AS-1 AS-3 AS-10 AS-12

2.5.7 UC-23_ Update Student Class

ID and Name:	UC-23_Update Student Class		
Created By:	Vu Van Chu	Date Created:	7/11/2025
Primary Actor:	Admin ,	Secondary Actor	none
Description:	This use case allows an admin or staff to update a student's class enrollment in the EL CENTRE system by adding, removing, or modifying classes to reflect changes in their academic schedule.		
Trigger:	Admin or staff needs to update a student's class enrollment due to schedule changes or requests or student want to change class .		
Preconditions:	PRE-1: Admin or staff is logged in with an active account (BR-16). PRE-2: Database contains student and class information (AS-10, AS-12, AS-16). PRE-3: EL CENTRE website and server are operational (DE-3). PRE-4: Admin or staff has permissions to update class enrollment (BR-14).		
Postconditions:	POST-1: Student's class enrollment is updated in the system. POST-2: Changes are reflected in the student's academic record.		

	POST-3: A confirmation email is sent to the student's registered address (BR-21).
Normal Flow:	<p>1.0 Update Student Class</p> <ol style="list-style-type: none"> 1. Admin or staff logs in to the EL CENTRE website (BR-16). 2. Admin or staff navigates to the "Student Management" module via the sidebar (AS-1). 3. Admin or staff selects a student by name or ID (BR-01). 4. The system displays the student's current enrolled classes (AS-12). 5. Admin or staff selects a class to add, remove, or modify using a valid class ID (AS-16, BR-03, BR-08). 6. Admin or staff submits the changes. 7. The system validates the changes, saves them, and sends a confirmation email (BR-21, AS-11). 8. The system displays "Thay đổi thành công!" and redirects to the student management page.
Alternative Flows:	<p>Alternative Flows:</p> <p>1.0A Invalid input: The system displays an error if the class or schedule is invalid (e.g., duplicate enrollment or schedule conflict) (BR-03, BR-08).</p>
Exceptions:	<p>Website not available: Display error message (DE-3).</p> <p>Unauthorized access: Deny access if not admin or staff (BR-14).</p> <p>Data conflict: Display "Update failed" if the class cannot be added (e.g., duplicate enrollment) (BR-03).</p>
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-01 BR-08 BR-14 BR-16 BR-21
Other Information:	<p>The interface validates inputs to prevent scheduling conflicts or duplicate enrollments.</p> <p>A confirmation prompt is displayed before saving changes.</p>

Assumptions:	AS-1 AS-3 AS-10 AS-11 AS-12 AS-16
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2.5.7 UC-24 View Student Tuition

ID and Name:	UC-24 View Student Tuition		
Created By:	Vu Van Chu	Date Created:	7/11/2025
Primary Actor:	Admin ,	Secondary Actor	none
Description:	This use case allows an admin or staff to view a student's tuition information in the EL CENTRE system, including class ID, subject, payment method, payment status, payment date, and notes, with search and filtering options to track financial records.		
Trigger:	Admin or staff needs to review a student's tuition details for financial oversight.		
Preconditions:	PRE-1: Admin or staff is logged in with an active account (BR-16). PRE-2: Database contains student and tuition information (AS-10, AS-12). PRE-3: EL CENTRE website and server are operational (DE-3).		
Postconditions:	POST-1: Admin or staff views the student's tuition details. POST-2: Admin or staff can search or filter tuition records by student name or payment status.		
Normal Flow:	<p>1.0 View Student Tuition</p> <ol style="list-style-type: none"> 1. Admin or staff logs in to the EL CENTRE website (BR-16). 2. Admin or staff navigates to the "Tuition Management" module via the sidebar (AS-1). 3. Admin or staff selects a student by name or ID (BR-01). 4. The system displays a table of tuition details, including class ID, subject, payment method, payment status, payment date, and notes (AS-12). 		

	5. Admin or staff can search by student name or filter by payment status.
Alternative Flows:	<p>Alternative Flows:</p> <p>1.0A No tuition records: The system displays “Không có dữ liệu học phí để hiển thị” if no tuition records exist (AS-3).</p>
Exceptions:	<p>Website not available: Display error message (DE-3).</p> <p>Unauthorized access: Deny access if not admin or staff (BR-14).</p> <p>Empty data: Display “Không có dữ liệu học phí để hiển thị” if no tuition records exist (AS-3).</p>
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-01 BR-10 BR-14 BR-16
Other Information:	<p>The tuition table supports sorting by payment status or date and includes pagination, as seen in adminReceiveHocPhi.jsp.</p> <p>Action buttons allow viewing details or sending notifications.</p>
Assumptions:	AS-1 AS-3 AS-10 AS-12

2.5.7 UC-25_ View Teacher List

ID and Name:	UC-25_ View Teacher List		
Created By:	Vu Van Chu	Date Created:	7/11/2025
Primary Actor:	Admin ,	Secondary Actor	none

Description:	This use case allows an admin or staff to view a list of teachers in the EL CENTRE system, including ID, name, specialization, phone number, school, teaching status, and assigned classes, with search and filtering options by specialization or status.
Trigger:	Admin or staff needs to review teacher profiles for management or assignment purposes.
Preconditions:	PRE-1: Admin or staff is logged in with an active account (BR-16). PRE-2: Database contains teacher information (AS-10). PRE-3: EL CENTRE website and server are operational (DE-3).
Postconditions:	POST-1: Admin or staff views the list of teachers. POST-2: Admin or staff can search or filter teachers by name, specialization, or teaching status.
Normal Flow:	<p>1.0 View Teacher List</p> <ol style="list-style-type: none"> 1. Admin or staff logs in to the EL CENTRE website (BR-16). 2. Admin or staff navigates to the “Teacher Management” module via the sidebar (AS-1). 3. The system displays a table of teachers, including ID, name, specialization, phone number, school, class taught at school, and teaching status at EL CENTRE (AS-10). 4. Admin or staff can search by name or filter by specialization (e.g., Toán, Lý, Hóa) or teaching status (e.g., Đang dạy, Chưa lớp, Đã dạy).
Alternative Flows:	<p>Alternative Flows:</p> <p>No teachers found: The system displays “Không có dữ liệu giáo viên để hiển thị” if no teachers match the search or filter criteria (AS-3).</p>
Exceptions:	<p>Website not available: Display error message (DE-3).</p> <p>Unauthorized access: Deny access if not admin or staff (BR-14).</p> <p>Empty data: Display “Không có dữ liệu giáo viên để hiển thị” if no teacher data exists (AS-3).</p>
Priority:	High
Frequency of Use:	Frequent

Business Rules:	BR-14 BR-16
Other Information:	The teacher table supports sorting by name or status and includes pagination, as seen in adminReceiveGiaoVien.jsp. Action buttons allow viewing details, updating records, or sending notifications.
Assumptions:	AS-1 AS-3 AS-10

2.5.7 UC-26_ Update Teacher Information

ID and Name:	UC-26_Update Teacher Information		
Created By:	Vu Van Chu	Date Created:	7/11/2025
Primary Actor:	Admin ,	Secondary Actor	none
Description:	This use case allows an admin or staff to update a teacher's details in the EL CENTRE system, including phone number, school, class taught at school, and hot status, to keep their profile current.		
Trigger:	Admin or staff needs to update a teacher's information due to changes in contact details or teaching assignments.		
Preconditions:	PRE-1: Admin or staff is logged in with an active account (BR-16). PRE-2: Database contains teacher information (AS-10). PRE-3: EL CENTRE website and server are operational (DE-3). PRE-4: Admin or staff has permissions to update teacher information (BR-14).		
Postconditions:	POST-1: Teacher's information is updated in the system. POST-2: Changes are reflected in the teacher's profile and logged in the system.		

Normal Flow:	<p>1.0 Update Teacher Information</p> <ol style="list-style-type: none"> 1. Admin or staff logs in to the EL CENTRE website (BR-16). 2. Admin or staff navigates to the “Teacher Management” module via the sidebar (AS-1). 3. Admin or staff selects a teacher by ID or name. 4. The system displays the teacher’s details (ID, name, specialization, phone number, school, class taught, hot status) (AS-10). 5. Admin or staff edits fields such as phone number, school, class taught, or hot status (BR-15). 6. Admin or staff submits the changes. 7. The system validates the input (e.g., phone number must be 10 digits, start with 0), saves the updates, logs the action, and displays “Thay đổi thành công!” (AS-3). 8. The system redirects to the teacher management page.
Alternative Flows:	<p>Alternative Flows:</p> <p>1.0A Invalid input: The system displays an error (e.g., “Số điện thoại phải dài 10 chữ số!” or “Số điện thoại phải bắt đầu bằng số 0!”) if the input is invalid (BR-15).</p> <p>1.0B Constraint violation: The system displays “Không thể thay đổi! Vì phạm nghị định 29!!” if the update conflicts with student class assignments (AS-3).</p>
Exceptions:	<p>Website not available: Display error message (DE-3).</p> <p>Unauthorized access: Deny access if not admin or staff (BR-14).</p> <p>Data conflict: Display “Update failed” if changes conflict with existing data (AS-3).</p>
Priority:	High
Frequency of Use:	Frequent
Business Rules:	BR-14 BR-15 BR-16
Other Information:	The interface validates phone number format and checks for conflicts with student class assignments, as seen in

	adminActionWithTeacher.java. A confirmation prompt is displayed before saving changes.
Assumptions:	AS-1 AS-3 AS-10

2.5.7 UC-27_ View Class of Teacher in EL CENTRE

ID and Name:	UC-27_ View Class of Teacher in EL CENTRE		
Created By:	Vu Minh Hoang	Date Created:	7/11/2025
Primary Actor:	Admin, Staff	Secondary Actor	None
Description:	An admin or staff member accesses the system to view the classes assigned to each teacher to manage workload and schedules effectively.		
Trigger:	Admin or staff selects the “View Teacher Classes” option in the admin/staff dashboard.		
Preconditions:	PRE-1. The user has an active admin or staff account. PRE-2. The user is logged into the system. PRE-3. The system contains teacher and class data. PRE-4. The admin/staff account is not disabled (BR-16, BR-13).		
Postconditions:	POST-1. The system displays a list of classes assigned to the selected teacher. POST-2. The displayed information includes class name, course, schedule, and other relevant details.		
Normal Flow:	Admin/staff logs into the system. Admin/staff navigates to the “Teacher Management” or “View Classes” section. The system displays a list of teachers. Admin/staff selects a specific teacher. The system retrieves and displays all classes assigned to the selected teacher, including class name, course, and schedule. Admin/staff can filter or sort the class list (e.g., by date or course).		

Alternative Flows:	<p>1.1 No classes assigned to the teacher → System displays a message: “No classes assigned to this teacher.”</p> <p>1.2 Teacher not found → System displays an error: “Teacher not found in the system.”</p>
Exceptions:	<p>1.0.E1 – System fails to retrieve class data → System displays an error message and logs the issue for investigation.</p> <p>1.0.E2 – User is not authorized (not admin/staff) → System denies access and redirects to login page (BR-12, BR-16).</p>
Priority:	Medium
Frequency of Use:	Daily by admin/staff during scheduling or workload management.
Business Rules:	BR-12, BR-16
Other Information:	<p>The displayed class details may include links to view additional information (e.g., enrolled students, course details).</p> <p>The system ensures data is encrypted during transmission (BR-10).</p>
Assumptions:	AS-1, AS-10, AS-12

2.5.7 UC-28_ Update Class of Teacher in EL CENTRE

ID and Name:	UC-28_ Update Class of Teacher in EL CENTRE		
Created By:	Vu Minh Hoang	Date Created:	7/11/2025
Primary Actor:	Admin, Staff	Secondary Actor	None
Description:	An admin or staff member assigns or reassigns classes to a teacher to ensure schedules align with their expertise and availability.		
Trigger:	Admin or staff selects the “Update Teacher Classes” option in the admin/staff dashboard.		

Preconditions:	<p>PRE-1. The user has an active admin or staff account with appropriate permissions (BR-16, AS-9).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains teacher, class, and course data in the online database (AS-10).</p> <p>PRE-4. Class updates comply with existing links to courses or schedules (BR-08).</p> <p>PRE-5. Class data is updated in real time (AS-12).</p> <p>PRE-6. Staff is aware of class dependencies (AS-17).</p>
Postconditions:	<p>POST-1. The teacher's class assignments are updated in the system database (AS-10).</p> <p>POST-2. The system preserves existing links to courses or schedules (BR-08).</p> <p>POST-3. A confirmation message is displayed to the admin/staff.</p>
Normal Flow:	<p>Admin/staff logs into the system.</p> <p>Admin/staff navigates to the "Teacher Management" or "Update Classes" section.</p> <p>The system displays a list of teachers and their current class assignments from the database (AS-10).</p> <p>Admin/staff selects a teacher and chooses to assign or reassign a class.</p> <p>The system displays available classes and their details (e.g., course, schedule, expertise required).</p> <p>Admin/staff selects a class and confirms the assignment.</p> <p>The system validates the assignment (e.g., no scheduling conflicts, valid class details) (BR-08).</p> <p>The system updates the teacher's class assignments in the database (AS-10).</p> <p>The system displays a confirmation message.</p>

Alternative Flows:	<p>1.1 No available classes → System displays a message: “No classes available for assignment.”</p> <p>1.2 Scheduling conflict detected → System displays an error: “Teacher is unavailable at the selected time.”</p>
Exceptions:	<p>1.0.E1 – Invalid class details (e.g., name, time, or fee) → System highlights the issue and halts progress (BR-08).</p> <p>1.0.E2 – User is not authorized (not admin/staff) → System denies access and redirects to login page (BR-12, BR-16).</p> <p>1.0.E3 – Database offline → System displays an error and logs the issue (AS-10).</p> <p>1.0.E4 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	High
Frequency of Use:	Weekly or as needed during scheduling changes.
Business Rules:	BR-08, BR-12, BR-16
Other Information:	<p>The system may allow uploading class-related images in JPG/PNG format, less than 5MB, to a writable upload directory (BR-07, AS-15).</p> <p>Network transmissions are encrypted (BR-10).</p>
Assumptions:	AS-1, AS-9, AS-10, AS-12, AS-15, AS-17

2.5.7 UC-29_ Send Notification to Teacher or Student

ID and Name:	UC-29_ Send Notification to Teacher or Student		
Created By:	Vu Minh Hoang	Date Created:	7/11/2025
Primary Actor:	Admin, Staff	Secondary Actor	None

Description:	An admin or staff member sends a notification to an individual teacher or student to provide important updates.
Trigger:	Admin or staff selects the “Send Notification” option in the admin/staff dashboard.
Preconditions:	<p>PRE-1. The user has an active admin or staff account with appropriate permissions (BR-16, AS-9).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains valid teacher or student contact information in the database (AS-10).</p> <p>PRE-4. The recipient’s account is active (BR-13).</p> <p>PRE-5. Email/SMS notification service is available and configured properly (AS-11).</p>
Postconditions:	<p>POST-1. The notification is sent to the selected teacher or student via email or SMS.</p> <p>POST-2. The system logs the notification in the database for tracking purposes (AS-10).</p>
Normal Flow:	<p>Admin/staff logs into the system.</p> <p>Admin/staff navigates to the “Send Notification” section in the dashboard.</p> <p>The system displays a list of teachers and students from the database (AS-10).</p> <p>Admin/staff selects a recipient (teacher or student).</p> <p>Admin/staff enters the notification message and selects the delivery method (email/SMS).</p> <p>The system validates the message and recipient contact details.</p> <p>The system sends the notification via the configured service (AS-11).</p> <p>The system displays a confirmation message.</p>
Alternative Flows:	1.1 Recipient not found → System displays an error: “Recipient not found in the system.”

	1.2 Invalid contact details → System displays an error: “Invalid email or phone number.”
Exceptions:	<p>1.0.E1 – Notification delivery fails (e.g., email/SMS service down) → System shows an alert but logs the attempt (AS-11, BR-10).</p> <p>1.0.E2 – User is not authorized (not admin/staff) → System denies access and redirects to login page (BR-12, BR-16).</p> <p>1.0.E3 – Database offline → System displays an error and logs the issue (AS-10).</p> <p>1.0.E4 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	Medium
Frequency of Use:	As needed for individual communications.
Business Rules:	BR-10, BR-12, BR-13, BR-16
Other Information:	<p>Notifications may include links to class details or schedules.</p> <p>Financial or personal information is encrypted during transmission (BR-10).</p>
Assumptions:	AS-1, AS-9, AS-10, AS-11

2.5.7 UC-30_ Send Notification to All Members in Class

ID and Name:	UC-30_ Send Notification to All Members in Class		
Created By:	Vu Minh Hoang	Date Created:	7/11/2025
Primary Actor:	Admin, Staff	Secondary Actor	None
Description:	An admin or staff member sends a notification to all members (teachers and students) of a specific class to ensure everyone is informed.		

Trigger:	Admin or staff selects the “Notify Class” option in the admin/staff dashboard.
Preconditions:	<p>PRE-1. The user has an active admin or staff account with appropriate permissions (BR-16, AS-9).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The class exists in the system with a valid class ID and enrolled students/teachers (AS-10, AS-16).</p> <p>PRE-4. Recipients' accounts are active (BR-13).</p> <p>PRE-5. Email/SMS notification service is available and configured properly (AS-11).</p> <p>PRE-6. Class data is updated in real time (AS-12).</p>
Postconditions:	<p>POST-1. The notification is sent to all members of the selected class via email or SMS.</p> <p>POST-2. The system logs the notification in the database for tracking purposes (AS-10).</p>
Normal Flow:	<p>Admin/staff logs into the system.</p> <p>Admin/staff navigates to the “Notify Class” section in the dashboard.</p> <p>The system displays a list of classes from the database (AS-10).</p> <p>Admin/staff selects a class by its valid class ID (AS-16).</p> <p>Admin/staff enters the notification message and selects the delivery method (email/SMS).</p> <p>The system validates the message and retrieves the contact details of all class members.</p> <p>The system sends the notification to all members via the configured service (AS-11).</p> <p>The system displays a confirmation message.</p>
Alternative Flows:	1.1 Class has no members → System displays a message: “No members enrolled in this class.”

	1.2 Some recipients have invalid contact details → System sends notifications to valid contacts and logs errors for invalid ones.
Exceptions:	<p>1.0.E1 – Notification delivery fails for some recipients (e.g., email/SMS service down) → System shows an alert but logs the attempt (AS-11, BR-10).</p> <p>1.0.E2 – User is not authorized (not admin/staff) → System denies access and redirects to login page (BR-12, BR-16).</p> <p>1.0.E3 – Invalid class ID → System displays an error: “Invalid class ID” (AS-16).</p> <p>1.0.E4 – Database offline → System displays an error and logs the issue (AS-10).</p> <p>1.0.E5 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	Medium
Frequency of Use:	Weekly or as needed for class-wide updates.
Business Rules:	BR-10, BR-12, BR-13, BR-16
Other Information:	<p>Notifications may include class updates or schedule changes.</p> <p>Financial or personal information is encrypted during transmission (BR-10).</p>
Assumptions:	AS-1, AS-9, AS-10, AS-11, AS-12, AS-16

2.5.7 UC-31_ View Teacher Dashboard

ID and Name:	UC-31_ View Teacher Dashboard		
Created By:	Vu Minh Hoang	Date Created:	7/11/2025
Primary Actor:	Teacher	Secondary Actor	None
Description:	A teacher accesses their dashboard to monitor their assigned classes and teaching schedules.		

Trigger:	Teacher logs into the system and selects the “Teacher Dashboard” option.
Preconditions:	<p>PRE-1. The user has an active teacher account (BR-13).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains the teacher’s class and schedule data in the online database (AS-10).</p> <p>PRE-4. Class data is updated in real time (AS-12).</p> <p>PRE-5. The teacher has basic computer literacy to navigate the dashboard (AS-5).</p>
Postconditions:	<p>POST-1. The system displays the teacher’s dashboard with class and schedule information.</p> <p>POST-2. The dashboard remains accessible until the teacher logs out.</p>
Normal Flow:	<p>Teacher logs into the system.</p> <p>The system displays the teacher’s dashboard with a summary of assigned classes, upcoming schedules, and notifications (AS-10).</p> <p>Teacher navigates to view detailed class or schedule information.</p>
Alternative Flows:	<p>1.1 No classes assigned → System displays a message: “No classes assigned.”</p> <p>1.2 No upcoming schedules → System displays a message: “No upcoming schedules.”</p>
Exceptions:	<p>1.0.E1 – System fails to load dashboard (e.g., database offline) → System displays an error message and logs the issue (AS-10).</p> <p>1.0.E2 – User is not authorized (not a teacher) → System denies access and redirects to login page (BR-13).</p> <p>1.0.E3 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	High

Frequency of Use:	Daily by teachers to manage their activities
Business Rules:	BR-13
Other Information:	<p>The dashboard may include links to upload documents for assigned classes (BR-18).</p> <p>Network transmissions are encrypted (BR-10).</p>
Assumptions:	AS-1, AS-5, AS-10, AS-12

2.5.7 UC-32 View Teaching Schedule

ID and Name:	UC-32 View Teaching Schedule		
Created By:	Vu Minh Hoang	Date Created:	7/11/2025
Primary Actor:	Teacher	Secondary Actor	None
Description:	A teacher views their teaching schedule to stay organized and prepare for classes.		
Trigger:	Teacher selects the “View Schedule” option in the teacher dashboard.		
Preconditions:	<p>PRE-1. The user has an active teacher account (BR-13).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains the teacher’s schedule data in the online database (AS-10).</p> <p>PRE-4. Class data is updated in real time (AS-12).</p> <p>PRE-5. The teacher has basic computer literacy to navigate the dashboard (AS-5).</p>		
Postconditions:	POST-1. The system displays the teacher’s teaching schedule.		

	POST-2. The schedule remains accessible until the teacher navigates away or logs out.
Normal Flow:	<p>Teacher logs into the system.</p> <p>Teacher navigates to the “View Schedule” section in the dashboard.</p> <p>The system retrieves and displays the teacher’s schedule, including class names, times, and locations from the database (AS-10).</p> <p>Teacher can filter or sort the schedule (e.g., by date or class).</p>
Alternative Flows:	1.1 No schedule data available → System displays a message: “No schedule available.”
Exceptions:	<p>1.0.E1 – System fails to retrieve schedule data (e.g., database offline) → System displays an error message and logs the issue (AS-10).</p> <p>1.0.E2 – User is not authorized (not a teacher) → System denies access and redirects to login page (BR-13).</p> <p>1.0.E3 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	High
Frequency of Use:	Daily by teachers to plan their activities.
Business Rules:	BR-13
Other Information:	<p>The schedule may include links to class details or related documents (BR-18).</p> <p>Network transmissions are encrypted (BR-10).</p>
Assumptions:	AS-1, AS-5, AS-10, AS-12

2.1.1 UC-33 View Salary

ID and Name:	UC-33 View Salary		
Created By:	MaiBNHE182269	Date Created:	15/06/2025

Primary Actor:	Teacher	Secondary Actors:	Staff
Description:	A teacher wants to view salary details, including payments and bonuses, to track their compensation.		
Trigger:	Teacher selects "View Salary" from their dashboard.		
Preconditions:	PRE-1. Teacher is logged in with an active account. PRE-2. Salary data for the teacher exists in the system.		
Postconditions:	POST-1. Salary details are displayed to the teacher. POST-2. Teacher can see payment history and bonus information.		
Normal Flow:	1. Teacher logs in and navigates to "View Salary". 2. System retrieves and displays salary details, including payment and bonus breakdowns. 3. Teacher reviews the information.		
Alternative Flows:	1. If salary data is missing, system displays "No salary records found."		
Exceptions:	System error retrieving salary data → System displays error message.		
Priority:	High		
Frequency of Use:	Monthly (or after each payroll cycle)		
Business Rules:	BR-10, BR-11, BR-23		
Other Information:	Salary information is confidential and encrypted in transmission.		
Assumptions:	AS-1, AS-3, AS-10		

2.1.1 UC-34_View Attended Class

ID and Name:	UC-34 View Attended		
Created By:	MaiBNHE182269	Date Created:	15/06/2025
Primary Actor:	Teacher	Secondary Actors:	
Description:	A teacher wants to view their attended classes to monitor teaching activity.		
Trigger:	Teacher selects "View Attended Classes" on the dashboard.		
Preconditions:	PRE-1. Teacher is logged in. PRE-2. Class attendance records exist.		
Postconditions:	POST-1. List of attended classes is displayed.		

	POST-2. Teacher can view class details.
Normal Flow:	1. Teacher logs in and selects “View Attended Classes”. 2. System retrieves and displays the teacher’s attended classes.
Alternative Flows:	1.1 If no classes are found, system displays “No attended classes.”
Exceptions:	1.0.E1 – System error retrieving class data → System displays error message.
Priority:	Medium
Frequency of Use:	Weekly
Business Rules:	BR-05, BR-23, BR-30
Other Information:	Class data updates in real time.
Assumptions:	AS-1, AS-3, AS-10, AS-12

2.1.1 UC-35_View Student in

ID and Name:	UC-01 Register Account		
Created By:	MaiBNHE182269	Date Created:	15/06/2025
Primary Actor:	Teacher	Secondary Actors:	
Description:	A teacher wants to view students in their class to support learning.		
Trigger:	Teacher selects “View Students” for a class.		
Preconditions:	PRE-1. Teacher is logged in. PRE-2. Valid class ID provided. PRE-3. Teacher is assigned to the class.		
Postconditions:	POST-1. List of students in the class is displayed.		
Normal Flow:	1. Teacher selects a class and chooses “View Students”. 2. System displays the list of students enrolled in that class.		
Alternative Flows:	1.1 If no students are enrolled, system displays “No students found.”		
Exceptions:	1.0.E1 – Invalid class ID → System displays error.		

Priority:	High
Frequency of Use:	Each class session
Business Rules:	BR-18, BR-23, BR-24
Other Information:	Student data is updated in real time.
Assumptions:	AS-1, AS-3, AS-10, AS-12, AS-16

2.1.1 UC-36_Manage Assignment

ID and Name:	UC-36 Manage Assignment		
Created By:	MaiBNHE182269	Date Created:	15/06/2025
Primary Actor:	Teacher	Secondary Actors:	Student
Description:	A teacher manages assignments so students have clear tasks and deadlines.		
Trigger:	Teacher selects “Manage Assignments” for a class.		
Preconditions:	PRE-1. Teacher is logged in. PRE-2. Teacher is assigned to the class. PRE-3. Valid class ID provided.		
Postconditions:	POST-1. Assignment list is updated for the class. POST-2. Students can view new or updated assignments.		
Normal Flow:	1. Teacher selects a class and “Manage Assignments”. 2. System displays existing assignments. 3. Teacher adds/edits/deletes assignments. 4. System updates assignment list and notifies students.		
Alternative Flows:	1.1 If assignment data is missing, system displays “No assignments found.”		
Exceptions:	1.0.E1 – Invalid class ID → System displays error.		
Priority:	High		
Frequency of Use:	Weekly		
Business Rules:	BR-18, BR-23, BR-26		
Other Information:	Assignment updates trigger dashboard notifications.		
Assumptions:	AS-1, AS-3, AS-10, AS-12, AS-16		

2.1.1 UC-37 View Attendance

ID and Name:	UC-37 View		
Created By:	MaiBNHE182269	Date Created:	15/06/2025
Primary Actor:	Teacher	Secondary Actors:	Student
Description:	A teacher wants to view attendance records to monitor student participation.		
Trigger:	Teacher selects “View Attendance” for a class.		
Preconditions:	PRE-1. Teacher is logged in. PRE-2. Valid class ID provided. PRE-3. Attendance data exists.		
Postconditions:	POST-1. Attendance records are displayed. POST-2. Teacher can identify students at risk.		
Normal Flow:	1. Teacher selects a class and “View Attendance”. 2. System displays attendance records for students.		
Alternative Flows:	1.1 If no attendance data, system displays “No attendance records found.”		
Exceptions:	1.0.E1 – Invalid class ID → System displays error.		
Priority:	High		
Frequency of Use:	Each class session		
Business Rules:	BR-23, BR-27		
Other Information:	Attendance below 80% triggers “At Risk” status.		
Assumptions:	AS-1, AS-3, AS-10, AS-12, AS-16		

2.1.1 UC-38 Request Change Class

ID and Name:	UC-38 Request Change		
Created By:	MaiBNHE182269	Date Created:	15/06/2025
Primary Actor:	Student	Secondary Actors:	Staff
Description:	A student requests a class change to switch if needed.		

Trigger:	Student selects “Request Change Class” in their dashboard.
Preconditions:	PRE-1. Student is logged in. PRE-2. Valid class IDs provided. PRE-3. Class data is up to date.
Postconditions:	POST-1. Change request is submitted to staff for approval. POST-2. Student is notified of the request status.
Normal Flow:	1. Student selects “Request Change Class”. 2. System displays available classes. 3. Student submits change request. 4. Staff reviews and approves/rejects the request. 5. System notifies student of the outcome.
Alternative Flows:	1.1 If no alternative classes available, system displays “No classes available.”
Exceptions:	1.0.E1 – Invalid class ID → System displays error.
Priority:	Medium
Frequency of Use:	Occasional (as needed)
Business Rules:	BR-03, BR-23, BR-25
Other Information:	System notifies affected parties if class is changed.
Assumptions:	AS-1, AS-3, AS-10, AS-12, AS-16

2.5.7 UC-39 View student schedule

ID and Name:	UC-39 View student schedule		
Created By:	Tran Huy Do	Date Created:	7/11/2025
Primary Actor:	Student	Secondary Actor	None
Description:	Students can view the schedule of each class for the week or the entire schedule of any class they have registered for.		
Trigger:	Student selects the “View Schedule” option in student dashboard.		

Preconditions:	<p>PRE-1. The user has an active student account (BR-13).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains the student's schedule data in the online database (AS-10).</p> <p>PRE-4. Class data is updated in real time (AS-12).</p> <p>PRE-5. The student has basic computer literacy to navigate the dashboard (AS-5).</p>
Postconditions:	<p>POST-1. The system displays the student class schedule.</p> <p>POST-2. The schedule remains accessible until the student navigates away or logs out.</p>
Normal Flow:	<p>Student logs in the system.</p> <p>Student navigates to the “View Schedule” section in the dashboard.</p> <p>The system retrieves and displays the student's schedule, including class names, times, and locations from the database (AS-10).</p> <p>Student can filter or sort the schedule (e.g., by date or class).</p>
Alternative Flows:	<p>1.1 No schedule data available → System displays a message: “No schedule available.”</p>
Exceptions:	<p>1.0.E1 – System fails to retrieve schedule data (e.g., database offline) → System displays an error message and logs the issue (AS-10).</p> <p>1.0.E2 – User is not authorized (not a student) → System denies access and redirects to login page (BR-13).</p> <p>1.0.E3 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	High
Frequency of Use:	Daily by student to plan their activities.
Business Rules:	BR-13

Other Information:	The schedule may include links to class details or related documents (BR-18). Network transmissions are encrypted (BR-10).
Assumptions:	AS-1, AS-5, AS-10, AS-12

2.5.7 UC-40 View student tuition

ID and Name:	UC-40 View student tuition		
Created By:	Tran Huy Do	Date Created:	7/11/2025
Primary Actor:	Student	Secondary Actor	None
Description:	Students can view unpaid and paid tuition for each class or course.		
Trigger:	Student selects the “View Tuition” option in student dashboard.		
Preconditions:	PRE-1. The user has an active student account (BR-13). PRE-2. The user is logged into the system with a stable internet connection and device (AS-1). PRE-3. The system contains the student’s tuition data in the online database (AS-10). PRE-4. Tuition data is updated in real time (AS-12). PRE-5. The student has basic computer literacy to navigate the dashboard (AS-5).		
Postconditions:	POST-1. The system displays the student class tuition. POST-2. The tuition remains accessible until the student navigates away or logs out.		
Normal Flow:	Student logs in the system. Student navigates to the “View Tuition” section in the dashboard.		

	<p>The system retrieves and displays the student's tuition, include class code, fee and times from the database (AS-10).</p> <p>Student can filter or sort the tuition (e.g., by date or classcode).</p>
Alternative Flows:	<p>1.1 No tuition data available → System displays a message: "No tuition available."</p>
Exceptions:	<p>1.0.E1 – System fails to retrieve tuition data (e.g., database offline) → System displays an error message and logs the issue (AS-10).</p> <p>1.0.E2 – User is not authorized (not a student) → System denies access and redirects to login page (BR-13).</p> <p>1.0.E3 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	High
Frequency of Use:	Daily by student to plan their activities.
Business Rules:	BR-13
Other Information:	<p>The tuition may include links to class details or related documents (BR-18).</p> <p>Network transmissions are encrypted (BR-10).</p>
Assumptions:	AS-1, AS-5, AS-10, AS-12

2.5.7 UC-41 View student attendance

ID and Name:	UC-41 View student attendance		
Created By:	Tran Huy Do	Date Created:	7/11/2025
Primary Actor:	Student	Secondary Actor	None

Description:	Students can check their attendance status by viewing their class schedule.
Trigger:	Student selects the “View Schedule” option in student dashboard.
Preconditions:	<p>PRE-1. The user has an active student account (BR-13).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains the student’s schedule and attendance data in the online database (AS-10).</p> <p>PRE-4. Attendance data is updated in real time (AS-12).</p> <p>PRE-5. The student has basic computer literacy to navigate the dashboard (AS-5).</p>
Postconditions:	<p>POST-1. The system displays the student class schedule.</p> <p>POST-2. The schedule remains accessible until the student navigates away or logs out.</p>
Normal Flow:	<p>Student logs in the system.</p> <p>Student navigates to the “View Schedule” section in the dashboard.</p> <p>The system retrieves and displays the student’s attendance status, including class names, times, and locations from the database (AS-10).</p> <p>Student can filter or sort the attendance (e.g., by date or class).</p>
Alternative Flows:	1.1 No attendance data available → System displays a message: “No attendance available.”

Exceptions:	1.0.E1 – System fails to retrieve attendance status data (e.g., database offline) → System displays an error message and logs the issue (AS-10). 1.0.E2 – User is not authorized (not a student) → System denies access and redirects to login page (BR-13). 1.0.E3 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).
Priority:	High
Frequency of Use:	Daily by student to plan their activities.
Business Rules:	BR-13
Other Information:	The attendance may include links to class details or related documents (BR-18). Network transmissions are encrypted (BR-10).
Assumptions:	AS-1, AS-5, AS-10, AS-12

2.5.7 UC-42 View student notification

ID and Name:	UC-42 View student notification		
Created By:	Tran Huy Do	Date Created:	7/11/2025
Primary Actor:	Student	Secondary Actor	None
Description:	Students can view notifications from the system about registration activities, assignment submissions, and interactions.		

Trigger:	Student selects the “View Notification” option in student dashboard.
Preconditions:	<p>PRE-1. The user has an active student account (BR-13).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains the student’s notification data in the online database (AS-10).</p> <p>PRE-4. Notification data is updated in real time (AS-12).</p> <p>PRE-5. The student has basic computer literacy to navigate the dashboard (AS-5).</p>
Postconditions:	<p>POST-1. The system displays the student notification.</p> <p>POST-2. The notification remains accessible until the student navigates away or logs out.</p>
Normal Flow:	<p>Student logs in the system.</p> <p>Student navigates to the “View Notification” section in the dashboard.</p> <p>The system retrieves and displays the student’s notification, including notice content, , times from the database (AS-10).</p> <p>Student can filter or sort the notification (e.g., by date or type).</p>
Alternative Flows:	<p>1.1 No notification data available → System displays a message: “No notification available.”</p>
Exceptions:	<p>1.0.E1 – System fails to retrieve notification data (e.g., database offline) → System displays an error message and logs the issue (AS-10).</p> <p>1.0.E2 – User is not authorized (not a student) → System denies access and redirects to login page (BR-13).</p> <p>1.0.E3 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>

Priority:	High
Frequency of Use:	Daily by student to plan their activities.
Business Rules:	BR-13
Other Information:	<p>The notification may include links to class details or related documents (BR-18).</p> <p>Network transmissions are encrypted (BR-10).</p>
Assumptions:	AS-1, AS-5, AS-10, AS-12

2.5.7 UC-43 Student submit assignment

ID and Name:	UC-43 Student submit assignment		
Created By:	Tran Huy Do	Date Created:	7/11/2025
Primary Actor:	Student	Secondary Actor	None
Description:	Students can submit assignments during the lessons that the teacher has assigned.		
Trigger:	Student selects the “View Class” option in student dashboard.		

Preconditions:	<p>PRE-1. The user has an active student account (BR-13).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains the student's class and assignment data in the online database (AS-10).</p> <p>PRE-4. Assignment data is updated in real time (AS-12).</p> <p>PRE-5. The student has basic computer literacy to navigate the dashboard (AS-5).</p>
Postconditions:	<p>POST-1. The system displays the student class assignment.</p> <p>POST-2. The assignment remains accessible until the student navigates away or logs out.</p>
Normal Flow:	<p>Student logs in the system.</p> <p>Student navigates to the "View Class" section in the dashboard.</p> <p>The system retrieves and displays the student's class and assignment, including class names, slot, content, and deadline from the database (AS-10).</p> <p>Student can filter or sort the assignment (e.g., by date or class).</p>
Alternative Flows:	<p>1.1 No assignment data available → System displays a message: "No assignment available."</p>

Exceptions:	<p>1.0.E1 – System fails to retrieve assignment data (e.g., database offline) → System displays an error message and logs the issue (AS-10).</p> <p>1.0.E2 – User is not authorized (not a student) → System denies access and redirects to login page (BR-13).</p> <p>1.0.E3 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	High
Frequency of Use:	Daily by student to plan their activities.
Business Rules:	BR-13
Other Information:	<p>The assginment may include links to class details or related documents (BR-18).</p> <p>Network transmissions are encrypted (BR-10).</p>
Assumptions:	AS-1, AS-5, AS-10, AS-12

2.5.7 UC-44 Student enroll class

ID and Name:	UC-44 Student enroll class		
Created By:	Tran Huy Do	Date Created:	7/11/2025
Primary Actor:	Student	Secondary Actor	None
Description:	Students can register for multiple classes in multiple terms and multiple grades.		

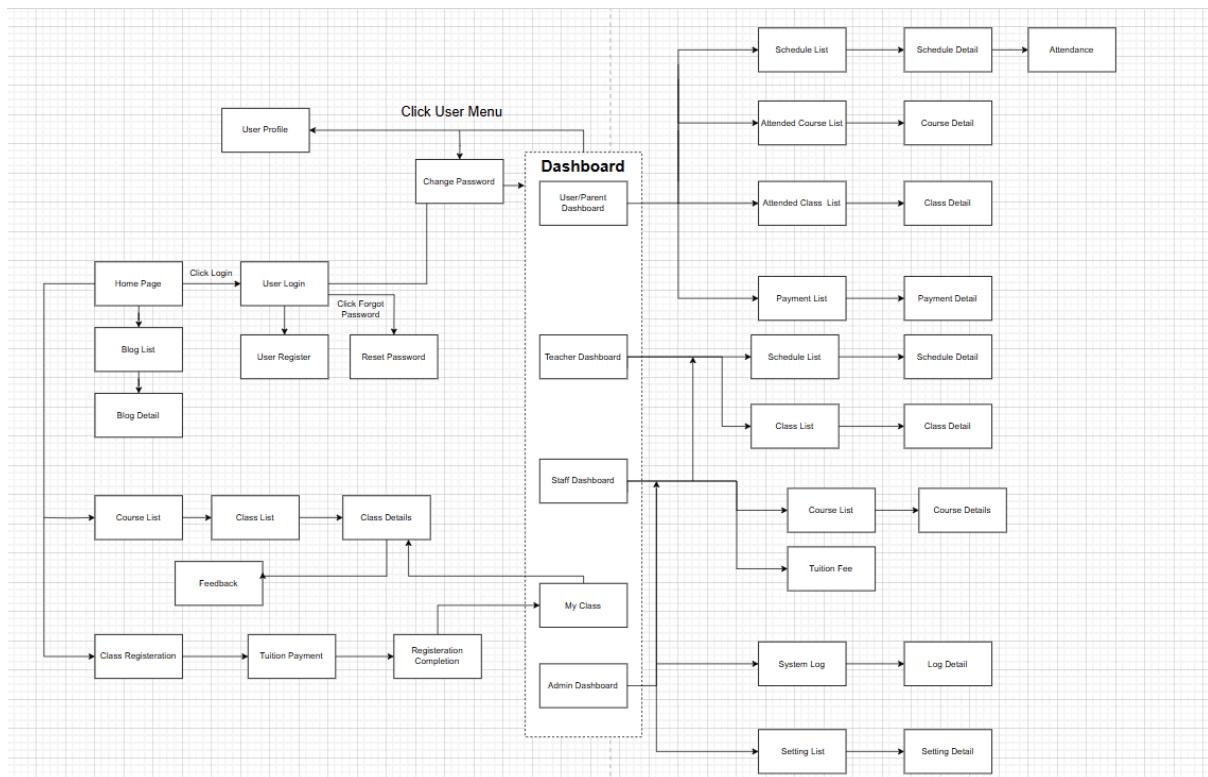
Trigger:	Student selects the “View Enroll Class” option in student dashboard.
Preconditions:	<p>PRE-1. The user has an active student account (BR-13).</p> <p>PRE-2. The user is logged into the system with a stable internet connection and device (AS-1).</p> <p>PRE-3. The system contains the student’s course and class in course data in the online database (AS-10).</p> <p>PRE-4. Assignment data is updated in real time (AS-12).</p> <p>PRE-5. The student has basic computer literacy to navigate the dashboard (AS-5).</p>
Postconditions:	<p>POST-1. The system displays the student enroll class.</p> <p>POST-2. The assignment remains accessible until the student navigates away or logs out.</p>
Normal Flow:	<p>Student logs in the system.</p> <p>Student navigates to the “View Enroll Class” section in the dashboard.</p> <p>The system retrieves and displays the student’s course and class in course, including class names, classcode, grade, course name, note, number of student in class, content, and create date from the database (AS-10).</p> <p>Student can filter or sort the class in course, course (e.g., by date or class).</p>
Alternative Flows:	<p>1.1 No course data available → System displays a message: “No course available.”</p> <p>1.2 No class in course data available -> System displays a message: “No class in course available.”</p>

Exceptions:	<p>1.0.E1 – System fails to retrieve course, class in course data (e.g., database offline) → System displays an error message and logs the issue (AS-10).</p> <p>1.0.E2 – User is not authorized (not a student) → System denies access and redirects to login page (BR-13).</p> <p>1.0.E3 – Internet connection unstable → System displays a connection error and prompts retry (AS-1).</p>
Priority:	High
Frequency of Use:	Daily by student to plan their activities.
Business Rules:	BR-13
Other Information:	<p>The course or class in course may include links to class details or related documents (BR-18).</p> <p>Network transmissions are encrypted (BR-10).</p>
Assumptions:	AS-1, AS-5, AS-10, AS-12

III. Functional Requirements

3.1. System Functional Overview

3.1.1 Screens Flow



3.1.2 Screen Descriptions

[Provide the descriptions for the screens in the Screens Flow above]

#	Feature	Screen	Description
1	Order Meals	Create Order	<<Screen Brief description>>
2	Order Meals	Change Order	
3	..		

3.1.3 Screen Authorization

Screen	Admin	Staff	Teacher	Student	Parent Of Student	Guest
Home Page						X
UI Course						X
UI Material						X
UI Learning						X
UI Blog						X
UI Introduction and Contact						X
User Login	X	X	X	X	X	

User Register		X	X	X	X	
Approve Registration	X					
Password Forgot	X	X	X	X	X	
User Profile	X	X	X	X	X	
Edit UserProfile	X	X	X	X	X	
Manage Course	X	X				
Manage Account	X					
Admin Dashboard	X					
Teacher Dashboard			X			
Manage Teacher	X					
Manage Student	X					
Manage Class List	X	X				
Staff Dashboard		X				

3.1.4 n-Screen Functions

I D	Feature	System Function	Description
1	Authorization Layer	Authorization	This feature authorization screen , link in url by user role.

3.2. Data model

3.2.1 Entity class diagram



3.2.2 Entity Description

#	Entity	Description
1	TaiKhoan	<p>Description: Account of the centre</p> <p>Primary key: ID_TaiKhoan</p> <p>Foreign key: ID_VaiTro</p>

2	VaiTro	Description: Roles in the system (e.g., admin, teacher, student, parent, staff) Primary key: ID_VaiTro
3	UserLogs	Description: User action logs Primary key: ID_Log Foreign key: ID_TaiKhoan
4	HoTro	Description: Support requests from users Primary key: ID_HoTro Foreign key: ID_TaiKhoan
5	Admin	Description: Administrator information of the system Primary key: ID_Admin Foreign key: ID_TaiKhoan
6	Staff	Description: Staff (employees, non-teachers) Primary key: ID_Staff Foreign key: ID_TaiKhoan
7	GiaoVien	Description: Teacher information Primary key: ID_GiaoVien Foreign keys: ID_TaiKhoan ID_TruongHoc
8	GiaoVien_LopHoc	Description: Assignment of teachers to classes Primary key: (ID_GiaoVien, ID_LopHoc) Foreign keys: ID_GiaoVien ID_LopHoc

9	LopHoc	Description: Class information Primary key: ID_LopHoc Foreign keys: ID_KhoaHoc ID_PhongHoc
10	KhoaHoc	Description: Course information Primary key: ID_KhoaHoc Foreign key: ID_Khoi
11	KhoiHoc	Description: School levels/grades Primary key: ID_Khoi
12	Blog	Description: Blog articles posted on the system Primary key: ID_Blog Foreign keys: ID_Khoi → KhoiHoc ID_PhanLoai → PhanLoaiBlog
13	PhanLoaiBlog	Description: Blog category/classification Primary key: ID_PhanLoai
14	PhongHoc	Description: Classroom information Primary key: ID_PhongHoc
15	LichHoc	Description: Class schedules Primary key: ID_Schedule Foreign keys: ID_LopHoc ID_SlotHoc ID_PhongHoc

16	DiemDanh	Description: Attendance records of students Primary key: ID_DiemDanh Foreign keys: ID_HocSinh ID_Schedule
17	SlotHoc	Description: Time slots for scheduling classes Primary key: ID_SlotHoc
18	TaoBaiTap	Description: Teacher-created assignments Primary key: ID_BaiTap Foreign keys: ID_GiaoVien ID_LopHoc
19	NopBaiTap	Description: Assignment submissions by students Primary key: (ID_HocSinh, ID_BaiTap) Foreign keys: ID_HocSinh ID_BaiTap
20	HocSinh	Description: Student information Primary key: ID_HocSinh Foreign keys: ID_TaiKhoan ID_TruongHoc
21	HocSinh_LopHoc	Description: Feedback and status for students in classes Primary key: ID_HSlopHoc Foreign keys: ID_LopHoc ID_HocSinh

22	DangKyLopHoc	Description: Student registration for classes Primary key: (ID_HocSinh, ID_LopHoc) Foreign keys: ID_HocSinh ID_LopHoc
23	HocPhi	Description: Tuition payment records Primary key: ID_HocPhi Foreign keys: ID_HocSinh ID_LopHoc
24	TruongHoc	Description: School information Primary key: ID_TruongHoc
25	HocSinh_Phuhuynh	Description: Relationship between students and parents Primary key: (ID_HocSinh, ID_Phuhuynh) Foreign keys: ID_HocSinh ID_Phuhuynh
26	PhuHuynh	Description: Parent/guardian information Primary key: ID_Phuhuynh Foreign key: ID_TaiKhoan
27	ThongBao	Description: Notifications for users Primary key: ID_ThongBao Foreign keys: ID_TaiKhoan → TaiKhoan ID_HocPhi → HocPhi
28	DangTaiLieu	Description: Materials uploaded by teachers Primary key: ID_Material Foreign keys: ID_GiaoVien ID_LoaiTaiLieu ID_MonHoc

29	MonHoc	Description: Subject information Primary key: ID_MonHoc
30	LoaiTaiLieu	Description: Document types Primary key: ID_LoaiTaiLieu

3.3.1 Home Page

1.1.1 Home Page 1.1

The screenshot shows the mobile version of the ELCentre website. At the top, there is a navigation bar with links for "Trang Chủ", "Khóa Học", "Tài Liệu Học", "Bài Viết", and "Giới Thiệu". Below the navigation bar is a search bar labeled "Tim Khóa Học" with a magnifying glass icon. The main content area features a large photograph of a classroom with desks and chairs. Below the photo, there is a section titled "Đăng Kí để được tư vấn" (Register to get consultation) with input fields for "Nhập Tên", "Nhập Email", "Nhập Số Điện Thoại", and "Nhập Năm Sinh", followed by a blue "ĐĂNG KÝ" button. There are four blue circular icons labeled "Slogan" below these fields. Further down, there is a section titled "CÁC GIÁO VIÊN NỔI BẬT" (Famous Teachers) showing five teacher profiles, each with a blue circular icon, "Họ và Tên Môn Học", and the number "5". Below this is a section titled "Lớp Học Nổi Bật" (Popular Classes) showing three class offerings, each with a blue circular icon, "Code Khóa Học", "Toán Nâng Cao", "Khối Học: 7", and the date range "Thời Gian học: 10-7-2025 -> 10-9-2025".

Field Name	Description
Trang Chủ and Logo	Click to redirect to Home page

<i>Login and Enroll</i>	
Đăng Nhập and Tham Gia Khóa học	Click to redirect to Login page
Search Bar and icon Search	Click to search for specific courses based on entered keywords
<i>Navigation bar</i>	
Khóa Học	Click to redirect to Course Page to view Courses
Tài Liệu Học	Click to redirect to Learning Materials to view Learning Materials
Bài Viết	Click to redirect to Post to view Post
Giới Thiệu	Click to redirect to Information about Centre to view Information about Centre
Slider	Click to button on slider to redirect to backlink that is added by admin in database
Enter Name, Email, Phone Number and BirthDate for Register	Fill Name, Email, PhoneNumber and BirthDate for Registering Consultant from Centre
<i>Slogan of Centre</i>	
Slogan	Provide Slogan of Centre and Commitment
<i>Centre's Specialised Teachers</i>	
Avatar	Provide Avatar and Name of Teacher
Môn Học	Provide Subject that Teacher takes charge of
<i>Centre's Achievements</i>	
Achievements	Show number of students, number of active courses and available courses of Centre
<i>Featured Class</i>	
Class Avatar	Provide Real Class Image and backlink to register class
Class Name	Provide Class Name to Select the class you want to enroll in: Basic or Advanced
Class Tuition	Provide Class Tuition for consideration

1.1.2 Home Page 1.2

• • •

ELCentre

TRUNG HỌC PHÔ THÔNG

Khối 10
Toán 10 lớp
Văn: 10 lớp
Các Môn Khác: 10 lớp

Khối 11
Toán 10 lớp
Văn: 10 lớp
Các Môn Khác: 10 lớp

Khối 12
Toán 10 lớp
Văn: 10 lớp
Các Môn Khác: 10 lớp

Khối Tổng Ôn
Toán 10 lớp
Văn: 10 lớp
Các Môn Khác: 10 lớp

TRUNG HỌC CƠ SỞ

Khối 6
Toán 10 lớp
Văn: 10 lớp
Các Môn Khác: 10 lớp

Khối 7
Toán 10 lớp
Văn: 10 lớp
Các Môn Khác: 10 lớp

Khối 8
Toán 10 lớp
Văn: 10 lớp
Các Môn Khác: 10 lớp

Khối 9
Toán 10 lớp
Văn: 10 lớp
Các Môn Khác: 10 lớp

BÀI VIẾT CỦA CHÚNG TÔI

19/06/2025

Khám Phá Toán Học
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc

19/06/2025

Khám Phá Toán Học
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc

19/06/2025

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19/06/2025

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[Trang Chủ](#) / [Về Chúng Tôi](#) / [Khóa Học](#) / [Liên Hệ](#)

About

Chúng tôi là

Contact us

Address

Gmail

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Field Name	Description
High-school Course Category	
Course Avatar	To Show The Grade and Course's Subject
Grade Name	Show the course for what grade and backlink to that grade
Subject Name	Show the course's subject for user choose to link to the available course

<i>Secondary-school Course Category</i>	
Course Avatar	To Show The Grade and Course's Subject
Grade Name	Show the course for what grade and backlink to that grade
Subject Name	Show the course's subject for user choose to link to the available course
<i>Blog Field</i>	
Blog Name	Provide Blogname and backlink to the blog page
Blog Description	Provide Blog Description
<i>Footer</i>	
Social Media and Contact to Centre	Provide Field for customer to contact with centre

1.1.3 Home Page Course

The screenshot shows the ELCentre website's home page. At the top, there is a navigation bar with links to Trang Chủ, Khóa Học (highlighted in red), Tài Liệu Học, Bài Viết, and Giới Thiệu. Below the navigation is the ELCentre logo. A search bar labeled "Tìm Kiếm Khóa Học" is present, along with a dropdown menu set to "--Tất cả khối học--" and a search button. To the right, there is a grid of course cards for "Toán 7" (Mathematics Grade 7). Each card includes a thumbnail, the subject name "Toán Học", and a "Xem Chi Tiết Khóa Học" (View Course Details) button. Below the grid, there is a sidebar with a "Phân Loại khóa học" section containing checkboxes for various subjects: Toán (6), Văn (3), Anh (8), Lý (3), Hóa (3), Sinh (3), Sứ (3), and Địa (3). At the bottom right of the grid, there are page navigation numbers: 1, 2, 3.

About



Chúng tôi là

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Field Name	Description
Find Courses	
Course Field	Fill the course's field to find wanted course
Find Course Button	Click button to find course
Filter Courses	
Course Name	Show all Courses Available
Tick Box	For user to filter wanted courses
List Courses	
Course Name	Provide Course's Name
View Details	Provide Backlink to the details of course
Pagination	Pagination for looking easier

1.1.4 Home Page Materials

The screenshot shows the ELCentre website's home page. At the top, there is a navigation bar with links for 'Trang Chủ', 'Khóa Học' (highlighted in red), 'Bài Viết', and 'Giới Thiệu'. A search bar labeled 'Tim Khóa Học' is also present. The main content area features a heading 'Tài Liệu Học Tập' with a sub-section 'Tất cả khối học--'. Below this, there are three rows of four items each, each featuring a thumbnail image of a mathematics textbook for grade 7 ('Toán 7') and the text 'Lorem Ipsum'. Each item has a 'Xem Chi Tiết' button below it. Navigation arrows at the bottom indicate there are three more pages of results.

The screenshot shows the website's footer. It includes sections for 'About' (with a logo and placeholder text 'Chúng tôi là'), 'Contact us' (with fields for Address, Gmail, and Phone Number), and 'Follow Us' (with social media icons for Facebook, Instagram, and YouTube).

Field Name	Description
Learning Materials	
Subject's Materials	Provide Subject's Name
Tick Box	For user to filter wanted courses
List Materials	
Subject Name	Provide Subject's Name
View Details	Provide Backlink to the details of Materials
Material's Type	Provide Type for Material

1.1.5 Home Page Post

The screenshot shows the ELCentre website's home page. At the top, there is a navigation bar with the ELCentre logo, a search bar labeled "Tìm Khóa Học", and a magnifying glass icon. Below the navigation bar, there are menu links: Trang Chủ, Khóa Học, Tài Liệu Học, Bài Viết, and Giới Thiệu. The main content area displays a list of three blog posts, each with a small image placeholder, a date (5 Jan 2024), a heading, and a brief description. A search bar at the bottom of the post list contains the text "-Tất cả Bài Viết--". Below the post list, there is a pagination bar with numbers 1, 2, 3, 4, 5, and a right arrow. At the very bottom of the page, there is a footer section with "About" and "ELCentre" branding, a "Chúng tôi là" section, a "Contact us" section with address, Gmail, and phone number information, and a "Follow Us" section.

Field Name	Description
Blog's Search Bar	
Blog's Field	Fill the blog's field to find wanted post
Search Button	Click button to find post
List Blogs	
Blog's Name	Provide Blog's Name
Content	Provide Content of the post
Đọc Thêm	Provide Backlink to the details of post
Pagination	Pagination for looking easier

1.1.6 Home Page Introduction and Contact

The screenshot shows the ELCentre website homepage. At the top, there is a navigation bar with the ELCentre logo, a search bar, and menu items: Trang Chủ, Khóa Học, Tài Liệu Học, Bài Viết, and Giới Thiệu. Below the navigation bar, there are two main sections: "THÔNG TIN VỀ CHÚNG TÔI" (Information about us) and "KẾT NỐI VỚI CHÚNG TÔI" (Connect with us). The "Information about us" section contains three boxes with icons and text: a location pin icon with "KM số 29 Đại Lộ Thăng Long, Hà Nội, Việt Nam"; an envelope icon with "g3swpelcentre@gmail.com"; and a phone icon with "0972178865". The "Connect with us" section contains four input fields: "Tên bạn" (Name), "mail@example.com" (Email), "Số điện thoại" (Phone number), and a large text area for "Nội dung bạn muốn nhắn nhủ" (Message you want to send). A blue "Gửi đến chúng tôi" (Send to us) button is located at the bottom of this section. At the bottom of the page, there is a footer with links for "About", "Chúng tôi là", "Contact us" (Address, Gmail, Phone Number), and "Follow Us".

Field Name	Description
Centre's Information	
Address Field	Provide Centre's Address
Gmail Field	Provide Centre's Gmail
Hotline	Provide Centre's Hotline
Contact with Centre	
Name Field	Fill the Name to contact with centre
Mail Field	Fill the Mail to contact with centre
Phone Number Field	Fill the Phone Number to contact with centre
Message	Fill the Message to contact with centre
Send Button	Send content to the centre

3.3.2. System Administration

2.2.1 Admin Dashboard

The screenshot displays the Admin Dashboard interface. On the left, a sidebar lists categories with red numbers indicating their count: 'Tổng quan' (1), 'Quản lý người dùng' (2, 3, 4), 'Quản lý tài chính' (5), 'Khóa học' (6), 'Hệ thống' (7), 'Khác' (8, 9, 10, 11). The main area shows four summary boxes: 'Tổng số học sinh đang học' (13) with 5 students, 'Tổng số giáo viên đang dạy' (13) with 5 teachers, 'Tổng số lớp học đang học' (13) with 5 classes, and 'Tổng số đơn đăng kí tư vấn chưa duyệt' (13) with 17 consultations. Below these are two tables: 'Thay đổi hệ thống' (14) listing recent system changes (e.g., password reset, account enable, update info) with details like ID, user, action, and date; and 'Yêu cầu hỗ trợ từ người dùng' (15) listing support requests (e.g., password change, account info update) with details like user, request, purpose, and status (Duyệt 18). At the bottom, there are two pie charts labeled 'Báo cáo điểm danh' (16) and 'Báo cáo mức độ hài lòng của học sinh', and a bar chart labeled 'Báo cáo thống kê doanh thu theo tháng'.

This screen allows the Administrator to:

- View total student are learning that have class at the center
- View total number of teachers teaching that have class at the center
- View total number of classes currently available at the center
- View total consultation from user not approved yet
- View total student are waiting for class to learn at the center
- View recent user activity on the system like someone changing password , update information ,
- View the require support from user : User want to support by admin with some problem about system
- View attendance today chart : Chart showing attendance of student today
- View student satisfied chart : Chart showing students satisfied or not after done in class
- View revenue chart by month : Chart is showing revenue of center by month

Field Description

Field Name	Description
(1)	Click to back the admin Dashboard
(2)	Click to go to the student management screen
(3)	Click to go to the teacher management screen
(4)	Click to go to the user's account management screen
(5)	Click to go to the tuition management screen
(6)	Click to go to the course management screen
(7)	Click to go to the setting management screen
(8)	Click to go to the approve consultation screen

(9)	Click to go to the notifications management screen
(10)	Click to go to the blog management screen
(11)	Click to log out the account , back to the home page screen
(12)	Click and choose to update information of account or change password of account
(13)	<p>View the total number of students currently attending classes at the center (students who have a class and are actively studying)</p> <p>View the total number of teachers currently teaching at the center (teachers who have a class to teach and are actively teaching)</p> <p>View the total number of classes currently active at the center</p> <p>View the total number of consultation requests that have not been approved</p> <p>View the total number of students waiting to be assigned to a class at the center</p>
(14)	View system requests made today, such as password changes, account information updates, etc., sorted by most recent and with the ability to filter by date
(15)	View user support requests over time that are still pending approval, such as class transfer requests, attendance corrections, etc.
(16)	Chart showing student satisfaction after each class session (real data from the database)
(17)	Pagination for the system request table

2.2.2 Manage Account Of User

The screenshot shows the 'Tài khoản' (Account) management screen. The main table has the following columns and data:

ID Tài khoản	Email	Họ và Tên	Vai Trò	Số điện thoại	Trạng thái	Hành động
1	gioavien1@example.com	VŨ Văn Chủ	Giáo Viên	0978009594	Hoạt động	Chi tiết
2	hocsinh1@example.com	VŨ Văn Chủ	Học Sinh	0911222333	Hoạt động	Chi tiết
3	phuhuynh1@example.com	VŨ Hoài Nam	Học Sinh	0900111222	Hoạt động	Chi tiết
3	nguyenvana@example.com	VŨ Văn Chủ	Phụ huynh	0912345678	Cấm hoạt động	Chi tiết
4	nguyenvan2@example.com	VŨ Văn Chủ	Giáo Viên	0987654321	Cấm hoạt động	Chi tiết
4	lethi3@example.com	VŨ Văn Chủ	Giáo Viên	0912345678	Cấm hoạt động	Chi tiết

Numbered callouts point to specific elements:

- 1: Search bar
- 2: Filter dropdown
- 3: Status filter dropdown
- 4: Column header for 'Email'
- 5: Action link for row 1
- 6: Action link for row 2
- 7: Action link for row 3
- 8: Back button
- 9: Pagination links

This screen allows the Administrator to:

- View List Of Account: View email , usertype , status , number of account user

On the screen, s/he can also

- Click to go to the admin dashboard screen
- Click to search the account of user
- Filter user by role : Teacher , Student , Parent Of Student
- Filter by Status : Active , Inactive
- View Details Account : Address , Phone Number , School , Subject ,
- Disable account if account is not use
- Update information of this account
- Click to go to the other page of account user
- Click to change admin account information or change password

Field Description

Field Name	Description
(1)	Click to search the account of user by email , phone number , name
(2)	Select to filter by role of account like Student , Parent Of Student , Teacher
(3)	Select to filter account by status like active or inactive
(4)	All information of account
(5)	Click to go to the screen have specific information of user

(6)	Click to disable or enable account of user
(7)	Click to go the the update information account of user screen
(8)	Click to back the admin DashBoard
(9)	Click to go to other pages of account user

2.2.3 Manage Teacher

ID Giáo Viên	Họ và Tên	Chuyên môn	Trường học	Lớp dạy trên trường	Số điện thoại	Trạng thái học tại EL Centre	Hành động
1	VŨ Văn Chủ	Toán	THPT Hà Nội	9A	0978009594	Đang dạy	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Thông báo
2	VŨ Văn Chủ	Lý	THPT Hà Nội	9A	0911222333	Đang dạy	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Thông báo
3	VŨ Văn Chủ	Hóa	THPT Hà Nội	9A	0900111222	Chờ dạy	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Thông báo
4	VŨ Văn Chủ	Sinh	THPT Hà Nội	9A	0912345678	Chờ dạy	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Thông báo
5	VŨ Văn Chủ	Sử	THPT Hà Nội	9A	0987654321	Chờ dạy	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Thông báo
6	VŨ Văn Chủ	Dĩa	THPT Hà Nội	9A	0912345678	Đã nghỉ	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Thông báo

This screen allows the Administrator to:

- View list of teachers : On screen admin can view Full name , phone number , status of teacher in center like are working or wait to leave work, course , class of teacher in school and school where teachers are working .

On the screen, s/he can also

- Click to go to the admin dashboard screen
- Click to go to another pages
- Click to view details information of teacher
- Click to view all of class of this teacher and view all students in this class
- Click to update information of this teacher
- Enter something to search teacher
- Select to filter teacher by course of teacher
- Click to choose update admin information or change password of admin account

Field Description

Field Name	Description
(1)	Enter something to search teacher like name , phone number
(2)	Filter teachers by course name like Math , ..
(3)	Filter teachers by their teaching status at the center, such as currently teaching, resigned, or waiting for a class.
(4)	View information of list teacher
(5)	Click to view , update details information of this teacher like school , class in school , top hot , phone number ,..
(6)	Click to view all class of this teacher , change class for teacher and view all student and some student information of this class
(7)	Click to send notification for this teacher
(8)	Click to back the admin dashboard
(9)	Click to go to the another pages
(10)	Click to active search , filter

2.2.4 Manage Student

EL CENTRE

Tổng quan

Dashboard

Quản lý người dùng

- Học sinh
- Giáo viên
- Tài khoản

Quản lý tài chính

- Học phí

Quản lý học tập

- Khóa học

Hệ thống

- Cài đặt

Khác

- Yêu cầu tư vấn
- Thông báo
- Blog
- Đăng xuất

Quản lý học sinh

Tất cả học sinh

Mã học sinh	Họ và Tên	Giới tính	Trú ở ng học	Lớp học trên trang	Số điện thoại	Trạng thái học tại El. Centre	Hành động
HS003	Vũ Văn Chủ	Nam	THPT Hà Nội	9A	0978009594	Đang học	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Học phí và Thông báo
HA001	Vũ Văn Chủ	Nam	THPT Hà Nội	9A	0911222333	Đang học	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Học phí và Thông báo
HS003	Vũ Văn Chủ	Nam	THPT Hà Nội	9A	0900111222	Chờ lớp	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Học phí và Thông báo
HS005	Vũ Văn Chủ	Nữ	THPT Hà Nội	9A	0912345678	Chờ lớp	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Học phí và Thông báo
HA003	Vũ Văn Chủ	Nữ	THPT Hà Nội	9A	0987654321	Chờ lớp	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Học phí và Thông báo
HS003	Vũ Văn Chủ	Nữ	THPT Hà Nội	9A	0912345678	Bã nghỉ	Chi tiết và chỉnh sửa Xem lớp và chuyển lớp Học phí và Thông báo

Tim kiếm... Lọc theo trạng thái học: Khóa học sinh: Q

1 2 3 10

9

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Quay lại trang chủ

This screen allows the Administrator to:

- View students list : On this screen , admin can view full name, student code , phone number , school and class in school , gender , status in center of student .

On the screen, s/he can also

- Click to go to the admin dashboard screen
- Enter to search student
- Click to go to another pages
- Filter user by status of student in center like waiting to class to learn , are learning , or leave learn
- View student details : Click to view student details information like address , ...
- View student class in center and change class of student in center
- Click to change information of this student
- View status tuition and send notification for this student
- Click to choose update admin information or change password of admin account

Field Description

Field Name	Description
(1)	Enter something to search student like name , phone number , student code
(2)	Filter students by enrollment batch (based on the student code).
(3)	Filter students by their study status at the center, such as currently studying, withdrawn, or waiting for a class.
(4)	View information of list student
(5)	Click to view , update details information of this student like school , class in school , phone number ,..
(6)	Click to view all class of this student , change class for student
(7)	Click to send notification for this student and view status tuition
(8)	Click to back the admin dashboard
(9)	Click to go to the another pages
(10)	Click to active search , filter

2.2.5 Manage Course screen

1

Tổng số khóa học: 7 Tổng số trang: 1.

MÃ KHÓA HỌC	TÊN KHÓA HỌC	MÔ TẢ	KHỐI	THỨ TỰ UU TIẾN	TRẠNG THÁI	ẢNH KHÓA HỌC	ACTION
MATH06	Toán	Khóa học Toán nâng c...	Lớp 6 (ID: 1)	1	Active		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
LIT06	Ngữ văn	Khóa học Văn lớp 6	Lớp 6 (ID: 1)	2	Active		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
SINH11	Sinh học	Khóa học Sinh học lớp...	Lớp 11 (ID: 6)	3	Active		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
LICH09	Lịch sử	Khóa học Lịch sử lớp 9	Lớp 9 (ID: 4)	4	Active		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
CONG06	Công nghệ		Lớp 6 (ID: 1)	0	<input type="button" value="Đã kết thúc"/>		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
SIN10	Sinh học		Lớp 10 (ID: 5)	0	<input type="button" value="Đang hoạt động"/>		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
SIN12	Sinh học		Lớp 12 (ID: 7)	0	<input type="button" value="Chưa bắt đầu"/>		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>

2

Danh sách khóa học

3 4 5 6 7 8 9 10

13 14 15 16

← Quay lại dashboard

17 18

19

20

Xác nhận xóa

Bạn có chắc muốn xóa khóa học này không?

21

Tổng số khóa học: 7 Tổng số trang: 1.

MÃ KHÓA HỌC	TÊN KHÓA HỌC	MÔ TẢ	KHỐI	TRẠNG THÁI	ẢNH KHÓA HỌC	ACTION	
MATH06	Toán	Khóa học Toán nâng c...	Lớp 6 (ID: 1)	1	Active		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
LIT06	Ngữ văn	Khóa học Văn lớp 6	Lớp 6 (ID: 1)	2	Active		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
SINH11	Sinh học	Khóa học Sinh học lớp...	Lớp 11 (ID: 6)	3	Active		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
LICH09	Lịch sử	Khóa học Lịch sử lớp 9	Lớp 9 (ID: 4)	4	Active		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
CONG06	Công nghệ		Lớp 6 (ID: 1)	0	<input type="button" value="Đã kết thúc"/>		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
SIN10	Sinh học		Lớp 10 (ID: 5)	0	<input type="button" value="Đang hoạt động"/>		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>
SIN12	Sinh học		Lớp 12 (ID: 7)	0	<input type="button" value="Chưa bắt đầu"/>		<input type="button" value="Xem chi tiết"/> <input type="button" value="Xóa"/> <input type="button" value="Sửa"/> <input type="button" value="Xem lớp"/>

← Quay lại dashboard

Field Name	Description
(1)	Display total course and total page
(2)	Click to go to addCourse.jsp page
(3)	Click to refresh manageCourse.jsp
(4)	Click to input name of course
(5)	Click to select status of course
(6)	Click to select class of course

(7)	Click to select priority of course
(8)	Click to select day start of course
(9)	Click to select day end of course
(10)	Click to find course
(11)	Display course list
(12)	Click to sort by attribute
(13)	Click to view more information of course
(14)	Click to delete course
(15)	Click to go to upadateCourse.jsp page
(16)	Click to go to manageClass.jsp page
(17)	Click to go to adminDashBoard
(18)	Click to choose page (pagination)
(19)	Click to return to top
(20)	Click to cancel key deletion
(21)	Click to confirm course deletion

2.2.6 AddCourse screen

Thêm khóa học

The screenshot shows a form titled "Thêm khóa học". The fields are numbered 1 through 11:

- 1: Chọn khối học (Select Block)
- 2: Chọn tên môn học (Select Course Name)
- 3: Mã khóa học (tự động) (Generated Course Code)
- 4: Mô tả (Description)
- 5: Thời gian bắt đầu (Start Date)
- 6: Thời gian kết thúc (End Date)
- 7: Ghi chú (Notes)
- 8: Chọn file (Select File)
- 9: Thứ tự ưu tiên (Priority)
- 10: Thêm (Add)
- 11: Đóng lại (Close)

Field Name	Description
(1)	Click to select ID_KhoiHoc
(2)	Click to select name of course
(3)	Course code is automatically generated
(4)	Click to input description of class
(5)	Click to select time begin
(6)	Click to select time end

(7)	Click to input note
(8)	Click to input image
(9)	Click to input priority of course
(10)	Click to add course
(11)	Click to return manageCourse.jsp page

2.2.7 UpdateCourse screen

The screenshot shows a form titled "Cập nhật khóa học" (Update Course). The form contains the following fields:

- ID khóa học: 5 (lớp 10)
- Tên khóa học: (empty)
- Sinh học: (empty)
- Mã khóa học: SIN10
- Mô tả: (empty) **1**
- Thời gian bắt đầu: 07/04/2025 **2**
- Thời gian kết thúc: 18/08/2025 **3**
- Ghi chú: (empty) **4**
- Trạng thái: Dang hoạt động **5**
- Hình ảnh hiện tại: (Thumbnail of a person) **6**
- Tải lên hình ảnh mới (Tùy chọn): (File upload input) **6**
- Thứ tự: 7 **7**
- Cập nhật **8**
- Quay lại **9**

Field Name	Description
(1)	Click to change description of class
(2)	Click to change time begin
(3)	Click to change time end
(4)	Click to change note
(5)	Click to change status of course
(6)	Click to change image of course
(7)	Click to change priority of course
(8)	Click to updateCourse
(9)	Click to return manageCourse.jsp page

2.2.8 ManageClasses

Trang quản lý lớp học cho khối lớp: 6								
1	2	3	4	5	6	7	8	9
Tổng số lớp học: 3 Trang số trang: 1	(Hỗ trợ lớp học mới) Lớp mới Thêm tên hoặc mã Tất cả trạng thái Tất cả giáo viên Tất cả học sinh Tất cả thời gian Cách							
MÃ LỚP HỌC	TÊN LỚP HỌC	SĨ SỐ	THỜI GIAN HỌC	THỨ TỰ UY TÍN	TRẠNG THÁI	12	13	14
10	11	0	2023-07-17 14:00:00 - 16:00 (Phòng 100) 2023-07-18 08:00:00 - 11:00 (Phòng 110)	0	Chưa học	Đã học	Đã học	Đã học
THG08	Trần Hằng Cát A	0	2023-07-19 10:00:00 - 12:00 (Phòng 101) 2023-07-19 13:30:00 - 15:30 (Phòng 101) 2023-07-22 13:00:00 - 15:00 (Phòng 101)	0	Chưa học	Đã học	Đã học	Đã học
TOAH08A	Trần Hằng Cát C	18	2023-06-10 7:00:00 - 9:00 (Phòng 101)	1	Đang học	Đã học	Đã học	Đã học

Xác nhận sửa									
Bạn có chắc chắn sửa tên học này không?									
MÃ LỚP HỌC	TÊN LỚP HỌC	Số lượng	THỜI GIAN	TRẠNG THÁI	ACTION				
THCA08	Tuyển Sinh Cao B	0	2023-07-17 14:00:00 - 16:00 (Phòng 100) 2023-07-18 08:00:00 - 11:00 (Phòng 11)	0	<button>Chỉnh sửa</button>	<button>Xóa</button>	<button>Đã xem xét và khen ngợi</button>		
THCA08	Tuyển Sinh Cao A	0	2023-07-09 17:00:00 - 20:00 (Phòng 10) 2023-07-15 17:00:00 - 20:00 (Phòng 10) 2023-07-12 17:00:00 - 20:00 (Phòng 10)	0	<button>Chỉnh sửa</button>	<button>Xóa</button>	<button>Đã xem xét và khen ngợi</button>		
THANDA	Tuyển Sinh Cao	18	2023-09-12 10:00:00 - 09:00 (Phòng 12)	1	<button>Chỉnh sửa</button>	<button>Xóa</button>	<button>Đã xem xét và khen ngợi</button>		

Field Name	Description
(1)	Display total class and total page
(2)	Click to go to addClass.jsp page
(3)	Click to refresh manageClass.jsp
(4)	Click to input name of class
(5)	Click to select status of class
(6)	Click to select name of teacher
(7)	Click to select fee of class
(8)	Click to select priority of class
(9)	Click to find class

(10)	Display class list
(11)	Click to sort by attribute
(12)	Click to view more information of class
(13)	Click to delete class
(14)	Click to go to updateClass.jsp page
(15)	Click to go to manageClassDetail.jsp page
(16)	Click to go to adminDashBoard
(17)	Click to choose page (pagination)
(18)	Click to return to top
(19)	Click to cancel key deletion
(20)	Click to confirm course deletion

2.2.9 Add Class Screen

The screenshot shows a web-based form titled "Thêm lớp học". The form contains the following fields and controls:

- Field 1: Input field for the name of the new class.
- Field 2: Input field for the class code, which is automatically generated.
- Field 3: A dropdown menu for selecting the course ID.
- Field 4: Input field for the maximum number of students in the class.
- Field 5: Input field for the minimum number of students in the class.
- Field 6: Input field for the note or description of the class.
- Field 7: Input field for the fee of the class.
- Field 8: A dropdown menu for selecting the priority level.
- Field 9: A dropdown menu for selecting the teacher assigned to the class.
- Field 10: A blue "Lưu" (Save) button.
- Field 11: A blue "Hủy" (Cancel) button.
- Field 12: A blue "Trở về" (Back) button.
- Field 13: A blue "Tiếp theo" (Next) button.
- Field 14: A blue "Xóa" (Delete) button.
- Field 15: A blue "Tải lại" (Refresh) button.

Field Name	Description
(1)	Click to input name of new class
(2)	Class code is automatically generated
(3)	Display infor ID_Course and ID_Khoi
(4)	Click to input max number of student in class
(5)	Click to input min number of student in class
(6)	Click to input note of class
(7)	Click to input fee of class
(8)	Click to upload picture
(9)	Click to select priority of class

(10)	Click to select day learn of class
(11)	Click to select SLotlearn of class
(12)	Click to select Room of class
(13)	Click to remove (day,slot,room)
(14)	Click to add new (day,slot,room)
(15)	Click to add class
(16)	Click to return manageClass.jsp page

2.2.10 Update Class Screen

Field Name	Description
(1)	Display information of class cannot update
(2)	Class code is automatically generated
(3)	Click to change max number of student in class
(4)	Click to change min number of student in class
(5)	Click to change note of class
(6)	Click to change fee of class
(7)	Click to change upload picture
(8)	Click to change priority of class
(9)	Click to change day learn of class
(10)	Click to change SLotlearn of class
(11)	Click to change Room of class
(12)	Click to remove (day,slot,room)
(13)	Click to add new (day,slot,room)

(14)	Click to update class
(15)	Click to return manageClass.jsp page

2.2.11 View Class Information

Chi tiết lớp học

Thông tin giáo viên

Chưa có giáo viên được phân công.

[Thêm giáo viên](#) 1

Danh sách học sinh

HocSinhList size: 0

Chưa có học sinh nào trong lớp.

[Thêm học sinh](#) 2

[← Quay lại danh sách](#) 3

Chi tiết lớp học

Thông tin giáo viên

Họ và tên:	Đàm Quang Trung
Số điện thoại:	0987654321
Chuyên môn:	Toán học
Trường học:	Trường THPT Nguyễn Trãi - Ba Đình
Ảnh đại diện:	

[Thay đổi giáo viên](#) 4

Học sinh đã được thêm vào lớp thành công!

Danh sách học sinh

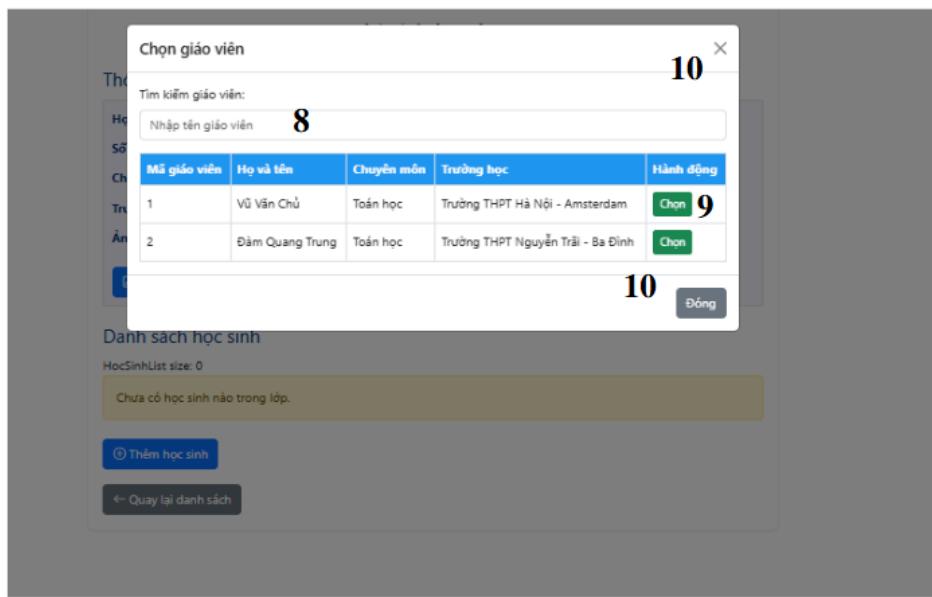
HocSinhList size: 2

Họ và tên	Giới tính	SDT phụ huynh	Trường học	Hành động
Nguyễn Văn A	Nam	0900111222	Trường THPT Hà Nội - Amsterdam	Xóa
Trần Thị B	Nữ	0900333444	Trường THPT Hà Nội - Amsterdam	Xóa

[Thêm học sinh](#) 5

[← Quay lại danh sách](#) 6

7

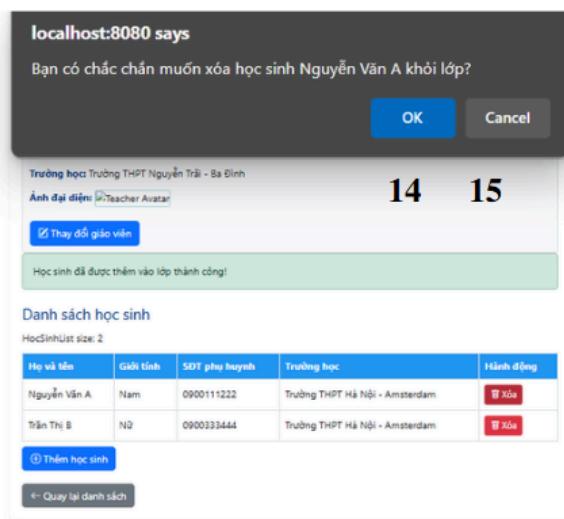


Thêm học sinh

Tìm kiếm học sinh:

Nhập tên học sinh: **11**

Mã học sinh	Họ và tên	Ngày sinh	Trường học	Hành động
1	Nguyễn Văn A	2008-03-15	Trường THPT Hà Nội - Amsterdam	Thêm 12
2	Trần Thị B	2007-09-10	Trường THPT Hà Nội - Amsterdam	Thêm
4	Lê Thị B	2011-08-22	Trường THPT Hà Nội - Amsterdam	Thêm
5	Nguyễn Văn A	2010-05-15	Trường THPT Nguyễn Trãi - Ba Đình	Thêm
6	Lê Thị B	2011-08-22	Trường THPT Nguyễn Trãi - Ba Đình	Thêm
7	Phạm Quang Duy	2011-06-17	Trường THPT Hà Nội - Amsterdam	Thêm
8	Phạm Quang Duy	2012-05-13	Trường THPT Nguyễn Trãi - Ba Đình	Thêm
9	Phạm Quang Duy	2012-06-21	Trường THPT Chuyên Chu Văn An	Thêm
10	Phạm Quang Duy	2010-09-27	Trường THPT Nguyễn Trãi - Ba Đình	Thêm
11	Phạm Quang Duy	2009-10-21	Trường THPT Hà Nội - Amsterdam	Thêm
12	Phạm Quang Duy	2010-10-11	Trường THPT Nguyễn Trãi - Ba Đình	Thêm
13	Phạm Quang Duy	2013-09-01	Trường THPT Hà Nội - Amsterdam	Thêm
14	Phạm Quang Duy	2013-07-29	Trường THPT Chuyên Chu Văn An	Thêm



Field Name	Description
(1)	Click to display table addTeacher
(2)	Click to display table
(3)	Click to back manageClass.jsp page
(4)	Display information of teacher
(5)	Click to change teacher
(6)	Display information of teacher
(7)	Click to move out
(8)	Click to input name of teacher
(9)	Click to choose student Click button to add teacher
(10)	Click to back viewClass.jsp
(11)	Click to input name of student
(12)	Click to add student
(13)	Click to back viewClass.jsp
(14)	Click to reject move out student
(15)	Click to accept move out student

3.3.3. Student

3.1.1 Student Dashboard

Xin chào Nguyễn Văn A,  

Student dashboard

Lớp học đã đăng ký

STT	Tên Lớp học	Khóa Học	Thời gian	Ghi chú
1	 Toán 9	Toán	09/06/2023	
2	 Lý 12	Lý	09/06/2023	
3	 Hóa 11	Hóa	09/06/2023	
4	 Văn 10	Văn	09/06/2023	

1 2 3 4 5 6

Thông báo

Đăng xuất

Thông báo

Học phí của bạn đã nộp hoàn tất

Bạn có buổi học bị vắng mặt vào ngày 11 tháng 6.

Lịch học sắp diễn ra

Thứ 6 Ngày 13 : Toán 1 Slot 2

3.1.2 Student enroll class

Xin chào Nguyễn Văn A,

Đăng ký học

Chọn khóa học

STT	Tên khóa học	Mô tả	Thời gian	Action
1	Toán	Khóa học Toán	aa/vv/200a đến aa/vv/200a	Xem các lớp học trong khóa
2	Lý	Khóa học vật lý	aa/vv/200a đến aa/vv/200a	Xem các lớp học trong khóa
3	Hóa	Khóa học hóa học	aa/vv/200a đến aa/vv/200a	Xem các lớp học trong khóa
4	Văn	Khóa học văn học	aa/vv/200a đến aa/vv/200a	Xem các lớp học trong khóa

1 2 3 4 5 6

- [Trang chủ](#)
- [**Đăng kí hoc**](#)
- [Lớp học](#)
- [Lịch học](#)
- [Học phí](#)
- [Thông báo](#)
- [Tài khoản](#)
- [Đăng xuất](#)

Field Name	Description
(1)	Click to display table addTeacher
(2)	Click to display table
(3)	Click to back manageClass.jsp page
(4)	Display information of teacher
(5)	Click to change teacher
(6)	Display information of teacher
(7)	Click to move out
(8)	Click to input name of teacher
(9)	Click to choose student Click button to add teacher
(10)	Click to back viewClass.jsp
(11)	Click to input name of student
(12)	Click to add student
(13)	Click to back viewClass.jsp
(14)	Click to reject move out student
(15)	Click to accept move out student

3.1.2.1 Student enroll class detail

Xin chào Nguyễn văn A,  

Thông báo

Tìm kiếm thông báo 

Sđt	Nội dung	Thời gian	Tình trạng	Action
1	Yêu cầu tham gia lớp học Toán 9	aa/ vv/ 200a	Đang chờ xem xét	Xem chi tiết
2	Yêu cầu thay đổi lớp học Toán 10	aa/ vv/ 200a	Thông qua xem xét	Xem chi tiết
3	Yêu cầu chuyển lịch học	aa/ vv/ 200a	Bị từ chối	Xem chi tiết
4	Thông báo 4	aa/ vv/ 200a	Đang chờ xem xét	Xem chi tiết

[1](#) [2](#) [3](#) [4](#) [5](#) [6](#)

Trang chủ

Đăng ký học

Lớp học

Lịch học

Học phí

Thông báo

Tài khoản

Đăng xuất

3.1.3 Student Change class

Xin chào Nguyễn Văn A,  

Các lớp học đang tham gia

Tìm kiếm tên lớp học 

STT	Tên lớp học	Giáo viên chủ nhiệm	Thời gian	Action
1	Toán 10	Vũ Văn Chủ	aa/ vv/ 200a	Xem chi tiết Đổi lớp học Bỏ lớp
2	Toán 9	Vũ Văn Chủ	aa/ vv/ 200a	Xem chi tiết Đổi lớp học Bỏ lớp
3	Lý 11	Vũ Văn Chủ	aa/ vv/ 200a	Xem chi tiết Đổi lớp học Bỏ lớp
4	Hóa 12	Vũ Văn Chủ	aa/ vv/ 200a	Xem chi tiết Đổi lớp học Bỏ lớp
5	Hóa 10	Vũ Văn Chủ	aa/ vv/ 200a	Xem chi tiết Đổi lớp học Bỏ lớp
6	Văn 9	Vũ Văn Chủ	aa/ vv/ 200a	Xem chi tiết Đổi lớp học Bỏ lớp

1 2 3 4 5 6



Trang chủ

Đăng kí học

Lớp học

Lịch học

Học phí

Thông báo

Tài khoản

Đăng xuất

Đổi lớp học

Xin chào Nguyễn văn A,



Tim kiếm tên lớp học

Lớp học muôn đổi:

STT	Tên lớp học	Giáo viên chủ nhiệm	Thời gian	Action
1	Toán 10	Vũ văn chủ	aa/ vv/ 200a	Xem chi tiết Đổi lớp học Bỏ lớp

Chọn lớp học cần đổi sang :

STT	Tên lớp học	Giáo viên chủ nhiệm	Thời gian	Action
1	Toán 10	Vũ văn chủ	aa/ vv/ 200a Admin aa/ vv/ 200a	Xem chi tiết Đổi lớp học
2	Toán 9	Vũ văn chủ	aa/ vv/ 200a Owner	Xem chi tiết Đổi lớp học
3	Lý 11	Vũ văn chủ	aa/ vv/ 200a	Xem chi tiết Đổi lớp học
4	Hóa 12	Vũ văn chủ	aa/ vv/ 200a Admin aa/ vv/ 200a	Xem chi tiết Đổi lớp học
5	Hóa 10	Vũ văn chủ	aa/ vv/ 200a Admin aa/ vv/ 200a	Xem chi tiết Đổi lớp học
6	Văn 9	Vũ văn chủ	aa/ vv/ 200a Owner	Xem chi tiết Đổi lớp học

1 2 3 4 5 6



Trang chủ

Thông báo

Xin chào Nguyễn văn A,



Đăng ký học

Tìm kiếm thông báo

Lớp học

Lịch học

Học phí

Thông báo

Tài khoản

Đăng xuất

Số	Nội dung	Thời gian	Tình trạng	Action
1	Yêu cầu đổi lớp học	aa/ vv/ 200a	Đang chờ xem xét	<button>Xem chi tiết</button>
2	Yêu cầu thay đổi lớp học Toán 10	aa/ vv/ 200a	Thông qua xem xét	<button>Xem chi tiết</button>
3	Yêu cầu chuyển lịch học	aa/ vv/ 200a	Bị từ chối	<button>Xem chi tiết</button>
4	Thông báo 4	aa/ vv/ 200a	Đang chờ xem xét	<button>Xem chi tiết</button>

[1](#) [2](#) [3](#) [4](#) [5](#) [6](#)

3.2.4 Student view attendance and schedule

Xin chào Nguyễn văn A, 

Tên giáo viên

Tình trạng điểm danh

Ngày kết thúc

Số sổ

Hủy **Đổi lớp** Hủy đăng kí

Thứ ba	Thứ tư	Thứ năm	Thứ sáu
TOÁN	VĂN	ANH	TOÁN
HÓA	LÝ	SINH	HÓA
TOÁN	ANH	SỨ	TOÁN
LÝ	SINH	ĐỊA	GL

3.3.4. System Teacher

4.1.1 Teacher Dashboard

ELCentre

Tổng Quan

Dashboard

Quản lý học tập

Lớp Học

Điểm Danh

Lịch Học

Upload tài liệu học

Thông Báo

Blog

Logout

TEACHER DASHBOARD

Bell

Tổng số lớp học đang giảng dạy
10

Tổng số học sinh đang giảng dạy
10

Lương thưởng hàng tháng
10

Thời Khóa Biểu Tuần Này

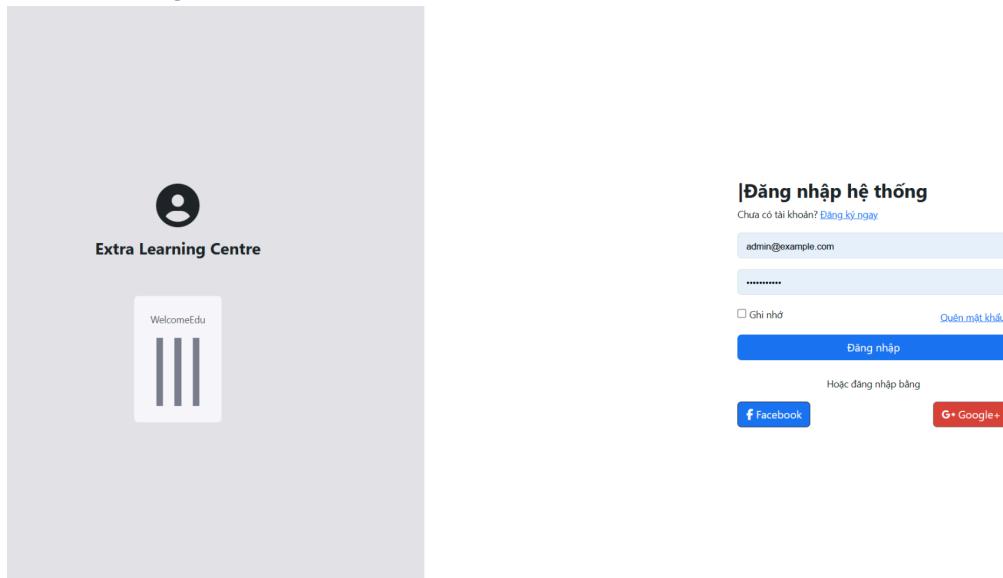
Ngày Học	Cà Hoc	Thời Gian	Lớp Học	Ghi Chú
05/01/2024	1	7:00 đến 9:00	Toán Nâng Cao	Toán sáng thứ Hai
05/01/2024	1	7:00 đến 9:00	Văn Học Nâng Cao	Toán sáng thứ Hai
05/01/2024	2	9:00 đến 11:00	Văn Học Nâng Cao	Toán sáng thứ Năm
05/01/2024	2	9:00 đến 11:00	Toán Nâng Cao	Toán sáng thứ Năm

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Field Name	Description
User Name	
Teacher Name	Provide Teacher's Name
Avatar	Click to return to reset password
Navigation Bar	
Class Manage	Click to request to page attended classes
Attendance Manage	Click to request to check attendance for student
Schedule View	Click to view Schedule for teaching
Upload material	Click to upload materials for specified class
Student Manage	Click to view student that the teacher taught
Notification	Click to view Notification from the centre

3.3.5. System

5.1.1 Login



The screenshot shows the login interface for the Extra Learning Centre. On the left, there's a sidebar with a user icon, the text 'Extra Learning Centre', and a 'WelcomeEdu' section with three vertical bars. The main area has a title 'Đăng nhập hệ thống' (Login system). It contains input fields for 'Email' (with placeholder 'admin@example.com') and 'Password'. There are checkboxes for 'Ghi nhớ' (Remember) and 'Quên mật khẩu?' (Forgot password?). A blue button labeled 'Đăng nhập' (Login) is at the bottom. Below it, text says 'Hoặc đăng nhập bằng' (Or log in via) followed by two social media icons: 'Facebook' and 'Google+'.

Field Name	Description
Login Field	
Login Email	Enter your login account email
Login Password	Enter your login account password
Create new account	Clicks to go to new account registration page
Forgot password	Clicks to go to forgot password page
Login button	Clicks to go to home page
Login remember session	Allow to remember login sessions
Footer	
Login Social Media <Comming soon>	Provide Social Account Login Features

5.1.2 Forgot Password



Khôi phục mật khẩu
Bạn cần nhập email để bắt đầu quá trình đặt lại mật khẩu.

| **Quên mật khẩu**
Trở lại [trang đăng nhập](#)

Nhập email của bạn
Nhập số điện thoại đã đăng ký

Xác minh tài khoản



Khôi phục mật khẩu
Bạn cần nhập email để bắt đầu quá trình đặt lại mật khẩu.

| **Quên mật khẩu**
Trở lại [trang đăng nhập](#)

Đặt lại mật khẩu cho: do2@gmail.com
Mật khẩu mới
Xác nhận mật khẩu

Đặt lại mật khẩu

Field Name	Description
Register Field	
Login button	Click to go to login page
Forgot email	Input email forgot account
Forgot phone	Input phone forgot account
Check information account	Check information account if true so come to reset password page
Input new password update	Input new password to reset password account
Confirm password	Confirm password to check duplicate
Reset password button	Click to update new password

5.1.3 User profile

Xin chào Nguyễn Văn A,

Hồ sơ người dùng

Ảnh hồ sơ

Họ và tên
Nguyen Van A

Email
A@gmail.com

Ngày sinh

Địa chỉ

Trường học

Giới tính

Số điện thoại phụ huynh

Giới thiệu bản thân

Tải lên ảnh của bạn
Ảnh của bạn phải ở định dạng jpg hoặc png

Chọn ảnh Xóa ảnh

Hủy Lưu hồ sơ

Field Name	Description
(1)	Click to return to dashboard page
(2)	Click view menu useuser
(3)	Choose image to upload profile
(4)	Remote image profile
(5)	Edit full name
(6)	Edit email
(7)	Edit date of birth
(8)	Edit school
(9)	Edit sex
(10)	Edit parent phone
(11)	Edit about me
(12)	Save change
(13)	Not change

IV. Non-Function Requirement

4.1. External Interfaces

4.1.1. User Interface

- The system must support popular web browsers such as Chrome, Firefox, Edge, and Safari.
- The website must be responsive and accessible on desktops, tablets, and mobile devices.
- The interface should be user-friendly and intuitive for students, parents, and teachers.

4.1.2. Integration with External Software

- The system should integrate with email services to send notifications, registration confirmations, and important announcements.
- Integration with online payment gateways (e.g., Momo, ZaloPay, Internet Banking) is required to allow students/parents to pay tuition fees.
- The system should support future integration with student management or grading systems if needed.

4.1.3. External Hardware

- No special hardware is required beyond standard web servers and user devices.

4.2. Quality Attributes

4.2.1 Usability

- New users (students or parents) should be able to learn and perform basic operations (account registration, course enrollment, viewing schedules) within 15 minutes.
- The interface will use clear Vietnamese language and provide user guides for all main features.
- The system will comply with common GUI standards (e.g., Microsoft GUI standards) to ensure consistency in color schemes, fonts, and layouts.
- Online support (FAQ or live chat) will be available to assist users.
- The website must be easily accessible on both desktop and mobile devices.

4.2.2 Reliability

- Availability: The system must be available at least 99.5% of the time during operating hours (7:00 AM to 10:00 PM daily).
- Mean Time Between Failures (MTBF): At least 500 hours.
- Mean Time To Repair (MTTR): No more than 2 hours for critical failures.
- Accuracy: All data related to schedules, grades, and student information must be 100% accurate.
- Bug/Defect Rate: No more than 1 critical bug per 10,000 lines of code (1 bug/KLOC). A critical bug is defined as one that causes data loss or renders a main function unusable.
- Bug Resolution: Minor bugs that do not affect core functions must be fixed within 3 business days.

4.2.3 Performance

- Response Time: All major operations (login, registration, viewing schedules) must respond within 2 seconds.
- Throughput: The system must support at least 200 concurrent users without interruption.
- Capacity: The system must be able to store at least 10,000 user accounts and 1,000 courses.
- Resource Utilization: RAM and CPU usage should not exceed 70% of server capacity under maximum load.

4.2.4 Security

- All personal, account, and academic data must be encrypted both at rest and in transit.
- The system must implement clear user roles and permissions (admin, teacher, student, parent).
- Login must use two-factor authentication (2FA) or CAPTCHA to prevent bots.
- Daily backups must be performed, with the ability to restore data when necessary.

4.2.5 Maintainability

- Source code must be well-documented and follow standard coding conventions.
- The system architecture should allow for easy updates, expansion, or bug fixes.
- Comprehensive documentation must be provided for deployment, operation, and maintenance.

4.2.4 Portability

- The system must be deployable on various server platforms (Windows, Linux).

- Data migration to new systems should be straightforward if future upgrades or infrastructure changes are required.