

TRIBHUWAN UNIVERSITY
Institute of Engineering
Purwanchal Campus

Educational Management Information System (EMIS)

Annual Report

Fiscal Year 2082 / 2083 (B.S.)

Website: www.ioepc.edu.np

"Towards a Fully Integrated, Responsive and Self-Sustainable Campus Information System"

*Prepared by
EMIS Cell, Purwanchal Campus*

Executive Summary — FY 2082/83

Fiscal Year 2082/83 has been a landmark year for the EMIS Cell of Purwanchal Campus. Building on the foundation laid by the EMIS Guidelines, 2020, the cell has delivered a wide portfolio of integrated digital systems covering academic operations, library services, examinations, admissions, finance, infrastructure and student welfare. This report documents the projects completed during the fiscal year, the initiatives currently in progress, and the planned next steps — all aligned with the campus's vision of a fully functional, responsive and self-sustainable information system. All EMIS services and academic information are centrally accessible through the official campus portal: www.ioepc.edu.np

In total, seventeen major systems have been rolled out into production this year, ranging from the routine and attendance tracking portal used daily by faculty and section heads, to the migration of the campus library from the legacy Luniva system to KOHA, the launch of an in-house exam management system with automated seat-planning and invigilator assignment, the deployment of a private DSpace repository for e-library content, and the successful completion of the centralized networking project. Several additional systems — including a GPU allocation platform for AI/ML coursework, classroom and lab surveillance, and centralized server management — are in their final stages of implementation.

These initiatives have collectively reduced manual workload across departments, improved data accuracy, eliminated several physical-presence requirements for students, and substantially expanded the digital footprint of the campus.

FY 2082/83 At a Glance

17+	3+	7
Projects Completed	Projects In Progress	Departments Served

EMIS Guidelines, 2020

Educational Information Management System (EMIS) is the system for processing information for management of education in the campus. EMIS system infrastructure should be functionally integrated such that the system is always data-ready, responsive to information queries of any sort and self-sustainable.

For the management of the campus information and improvement of education system therewith, an EMIS cell had been established (Annex.) appointing an EMIS focal person (Annex.), which is now upgraded and expanded to include expert members in relevant area.

The major objective of this cell is to establish and maintain a fully functional, integrated, self-sustainable and responsive EMIS system for the campus with all necessary infrastructure and personnel and establish guidelines for efficient data collection, management, analysis and publication.

Now, therefore, this “Educational Management Information System (EMIS) Guidelines, 2020” has been prepared.

1. Preliminary

- 1) This guideline makes provisions for EMIS infrastructure planning and implementation; coordination of data collection activities; archiving and maintaining thus collected campus records; methods for statistical analysis of campus records; data sharing and publication of campus information.
- 2) The provisions in this guideline are mandatory to all stakeholders.
- 3) It will be responsibility of EMIS Cell for implementing these guidelines whereas it will be the responsibility of all campus departments to comply with and co-ordinate with EMIS Cell for the implementation of these guidelines.
- 4) This guideline may be updated in the future to include necessary modifications, additions and abrogation.

2. Objectives

The objectives of this EMIS Guidelines, 2020 are to

- 1) Prepare a fully functional framework for the EMIS Cell; enlisting its member components; their scope and responsibilities.

- 2) Define scope and confidentiality of campus data and prepare guidelines for sharing or publication of information.
- 3) Mandate rules and regulations for accountability in case of breach of information.
- 4) Make provisions for procurement of required EMIS infrastructure and/or employ consultancy services for the improvement of EMIS services.
- 5) Make decision-making analysis, user satisfaction, information access, the content of information quality, decision speed, and decision quality.

3. EMIS Cell

3.1 For the management of the campus information and improvement of education system therewith, an EMIS cell had been established with an EMIS focal person.

3.2 With the objective to migrate towards a fully integrated, technologically advanced, responsive EMIS system, EMIS cell shall now be upgraded and expanded to include additional expert members of relevance.

Composition of the EMIS Cell

Position	Role
Head, EMIS Cell	Chairperson
EMIS Coordinator	Member Secretary
IT Expert	Member
Data Analyst	Member

3.5 The major roles of the EMIS Cell will mostly be EMIS infrastructure planning and implementation; consultancy services; coordination of data collection activities; archiving and maintaining thus collected campus records; statistical analysis of campus records; data sharing and publication of campus information.

4. EMIS Head: Scope and Responsibilities

4.1 EMIS Head shall be appointed by the Campus Chief for a tenure of two years on the basis of expertise in related field, Information and Communication Technology, having at least Master’s degree or with minimum experience of five years.

4.2 EMIS Head shall nominate EMIS Cell Members to be appointed by the Campus Chief for a tenure of two years. The criterion for selection of EMIS Members will mainly be expertise and experience in related field, Information and Communication Technology as well as academic qualification.

- 4.3 The EMIS Head shall be the responsible and authoritative person of the EMIS Cell with privilege to access or demand data/ information from any department, store, library, finance section, examination section and administration.
- 4.4 He must understand and categorize confidentiality level for every piece of information as defined in this guideline. He must ensure or make necessary provisions to maintain secrecy and therefore, will also be answerable in event of leakage/ misuse of confidential information.
- 4.5 He shall make decisions regarding procurement of infrastructure or seeking consultancy services for EMIS system, after consultations with EMIS Cell members and submit proposal to the Campus Chief for approval.
- 4.6 All information queries or demands for information from within campus departments or external agencies or general public must be addressed to EMIS Head. He shall provide the required information if available or direct to collect information from the concerned department. Similarly, campus data meant for publication should be obtained through EMIS Head.
- 4.7 Detail mechanisms for data collection, archiving and maintenance or seek consultancy services for such purpose and direct subsequent actions.
- 4.8 Identify areas of analysis of available data and detail statistical methods for such analysis or seek consultancy services for such purpose and direct subsequent actions.

5. EMIS Coordinator

- 5.1 EMIS Coordinator shall be nominated by EMIS Head and appointed by the Campus Chief for a period of two years on the basis of relevance of field, at least a Master's degree in Information and Communication technology or a minimum experience of three years in related field.
- 5.2 He shall work on the directions of EMIS Head and will mainly be responsible for co-ordination of data collection activities from various departments of the campus: administration, finance, examination, student groups and all departments of the campus; creating mechanisms and necessary arrangements for archiving, maintaining and accessing records.
- 5.3 He shall nominate or recommend staff or personnel at each campus department for data administrator purpose, to be appointed by the campus chief, who will be performing data collection and archiving activities directly on his directions. The basis for nomination will be experience and expertise in relevant area, mainly computer operation and administration.
- 5.4 He shall make necessary arrangements for conducting technical training sessions to data administrators, staff and personnel.

5.5 He shall make suggestions regarding methods or approaches for the improvement of EMIS services.

6. IT Expert

6.1 IT Expert shall be nominated by EMIS Head and appointed by the Campus Chief for a period of two years on the basis of relevance of field, at least a Master’s degree in Information and Communication technology or a minimum experience of three years in related field.

6.2 He should be proficient with all EMIS infrastructure, their operation and administration and if required, will be trained accordingly. He shall be responsible for managing necessary resources for keeping the EMIS system infrastructure fully functional and always operational; for repair and maintenance.

6.3 He shall be responsible for training data administrators, staff and personnel regarding EMIS services.

6.4 He shall make suggestions to the EMIS Head regarding infrastructure additions or upgrades for improvement of EMIS system.

7. Data Analyst

7.1 Data Analyst shall be nominated by EMIS Head and appointed by the Campus Chief for a period of two years on the basis of relevance of field, at least a Master’s degree in relevant area or a minimum experience of three years in related field.

7.2 His major responsibility is to identify areas of analysis and statistical tools for such analysis and perform such statistical analysis on campus data.

7.3 He shall be reporting observable results of statistical analysis of campus data to the EMIS Head, which may be published or archived for internal use.

8. EMIS Workflow

All EMIS related activities are collectively known as EMIS services. The EMIS workflow comprises the following stages, working in a continuous feedback loop:

Collection	Processing	Analysis	Publication
Distribution	Dissemination	Application	Feedback

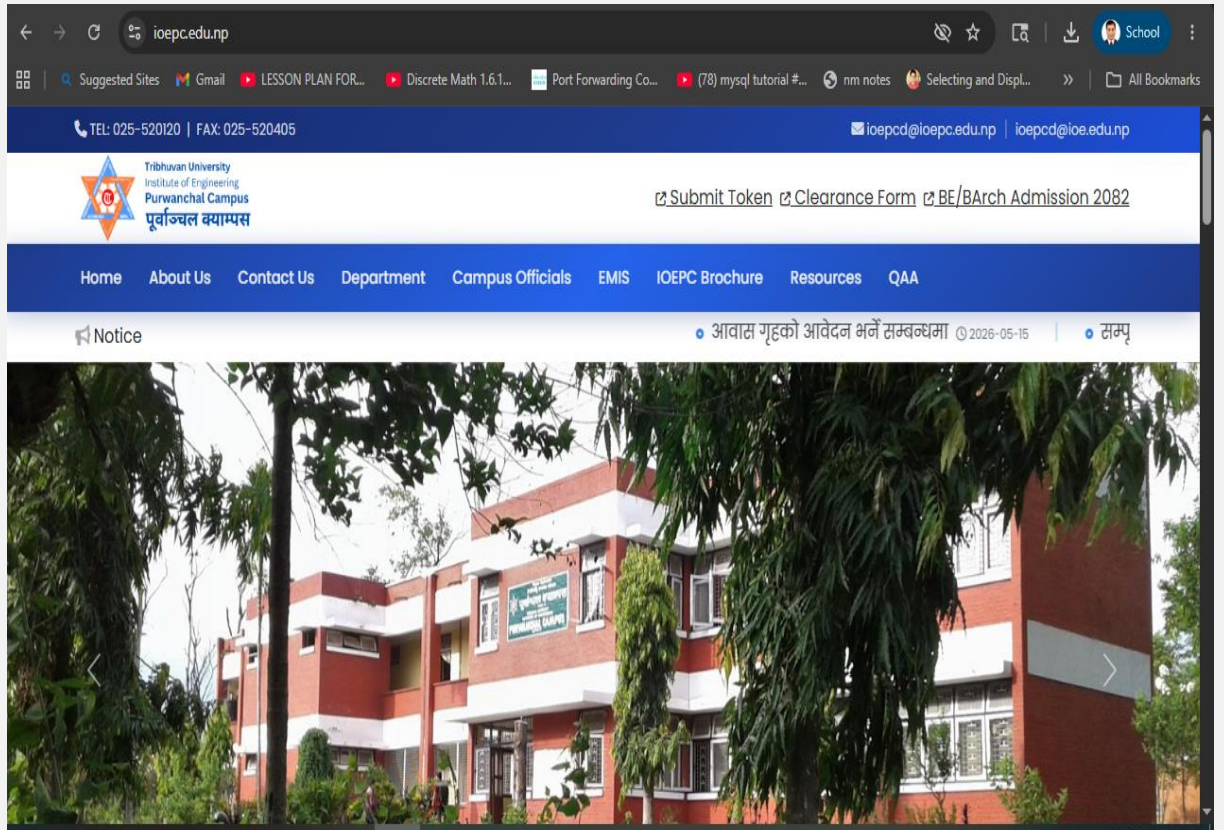
9. EMIS Components Implementation

The following components form the backbone of the existing EMIS system at Purwanchal Campus. These have been continuously maintained, upgraded and integrated into newer workflows during FY 2082/83.

- **Library software**
- **Web App for Students attendance and routine**
- **Academic Insight System**
- **Feedback portal**
- **Finance software**
- **HR Portal**
- **Online admission software**
- **Exam section software**
- **E-hajiri (Biometric Attendance)**
- **Campus-owned Virtual Server**
- **Automatic creation of ID Card**
- **G-Suite Account for every concerned stakeholder**
- **New B.E./M.E. students Admission software module**
- **Internet (Optical fibers) to every section**

The official website of Purwanchal Campus serves as the central digital gateway for students, faculty, staff and stakeholders. The portal provides access to academic notices, EMIS services, online admission, examination systems, library resources, finance-related services and campus information through an integrated web platform. The homepage reflects the campus's ongoing digital transformation initiative towards a fully responsive and self-sustainable Educational Management Information System(EMIS).website Screen-shots: <https://www.ioepc.edu.np>

01



Projects Completed — FY 2082/83

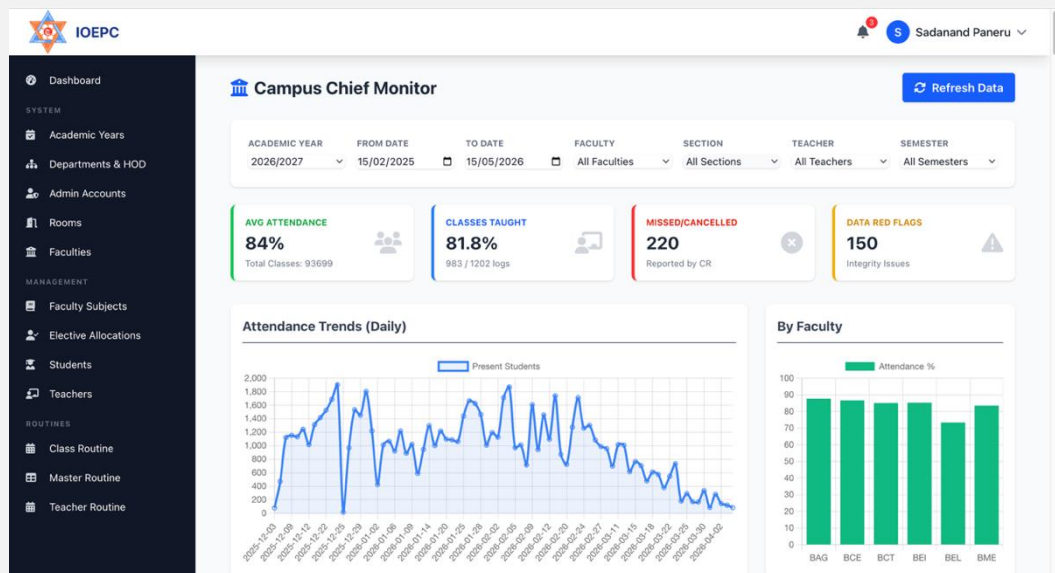
During FY 2082/83, the EMIS Cell, in collaboration with the campus IT team and department coordinators, delivered the following systems into full production. Each entry below summarises the scope, key features and the operational impact of the system.

❖ Routine Management & Teaching-Tracking Portal STATUS: COMPLETED

A web portal where the Campus Chief, Vice Chief, and section heads (Cr/Vice Cr) can log in and flag each scheduled class as either "Taught" or "Not Taught". The teacher concerned is required to take that day's class attendance on the same day — no back-dated or future-dated entries are permitted, which enforces real-time accuracy. The system also supports downloads of the Master Routine, Department-wise Routine, individual Teacher Routine, and personal routines, giving every stakeholder one-click access to their schedule.

Project Link / Screenshots: <https://routine.ioepc.edu.np/admin/analytics/attendance>

01



02

❖ **Voucher / Token Submission & Auto-Validation System STATUS: COMPLETED**

Students no longer need to physically visit the campus to submit fee tokens. The system allows students to upload their bank voucher / token number through their user account; the backend automatically validates the payment against the bank records and posts the confirmed token to the campus finance system. This has eliminated queues during fee-deposit windows and provides a clean audit trail for the finance section.

Project Link / Screenshots: <https://voucher.ioepc.edu.np/admin>

SN	Student	Token	Roll	Amount (Rs.)	Payment ID	Voucher	Confirmation	Status	Action
1	ANISH GUPTA	262208	PUR076BCT014	1,700	1741			Pending	Approve
2	PALLAVI BAN	271871	PUR077BAG032	1,000	2300			Approved	—
3	PALLAVI BAN	271870	PUR077BAG032	1,700	2299			Pending	Approve
4	DIPESH YADAV	269508	PUR076BEL016	1,000	1598			Pending	Approve
5	DIPESH YADAV	269515	PUR076BEL016	1,000	1593			Pending	Approve
6	DIPESH YADAV	269521	PUR076BEL016	1,700	1591			Pending	Approve
7	DIPESH YADAV	269525	PUR076BEL016	1,000	1588			Pending	Approve
8	NIKHIL KUMAR GUPTA	271479	PUR076BME058	1,700	2093			Pending	Approve

03

❖ **Bulk ID Card Printing System STATUS: COMPLETED**

An end-to-end workflow for batch generation and printing of student and staff ID cards. The system pulls verified records directly from the admission and HR databases, renders cards using the campus template, and supports bulk export to the printer — replacing the earlier card-by-card manual process and substantially cutting turnaround time at the start of every academic session.

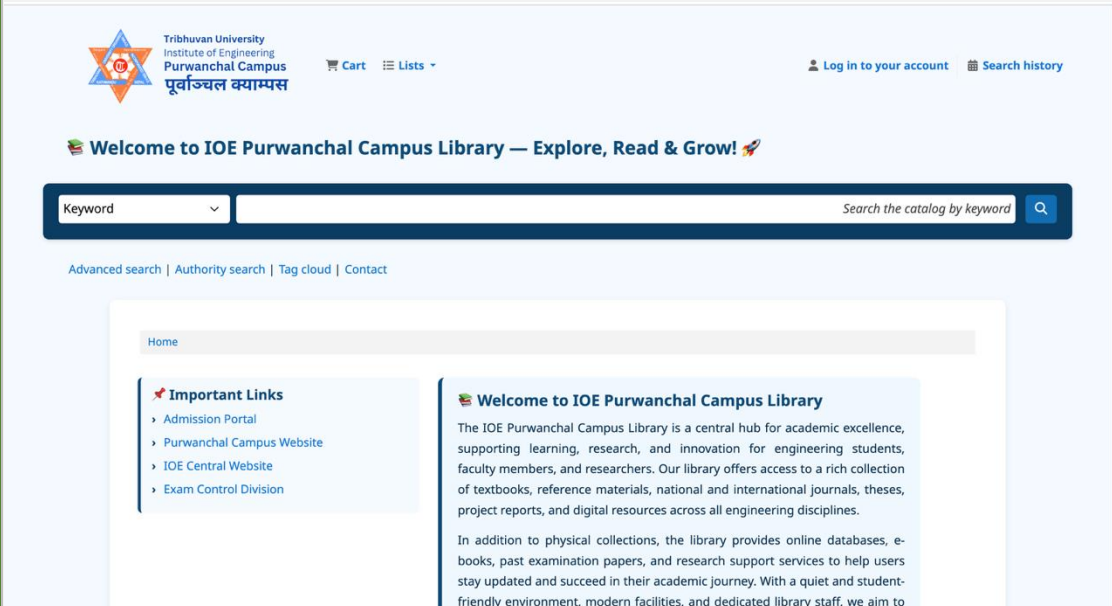
Project Link / Screenshots: <https://cards.ioepc.edu.np/index.php>

04

❖ **Library Migration — Luniva to KOHA (Full Customization) STATUS: COMPLETED**

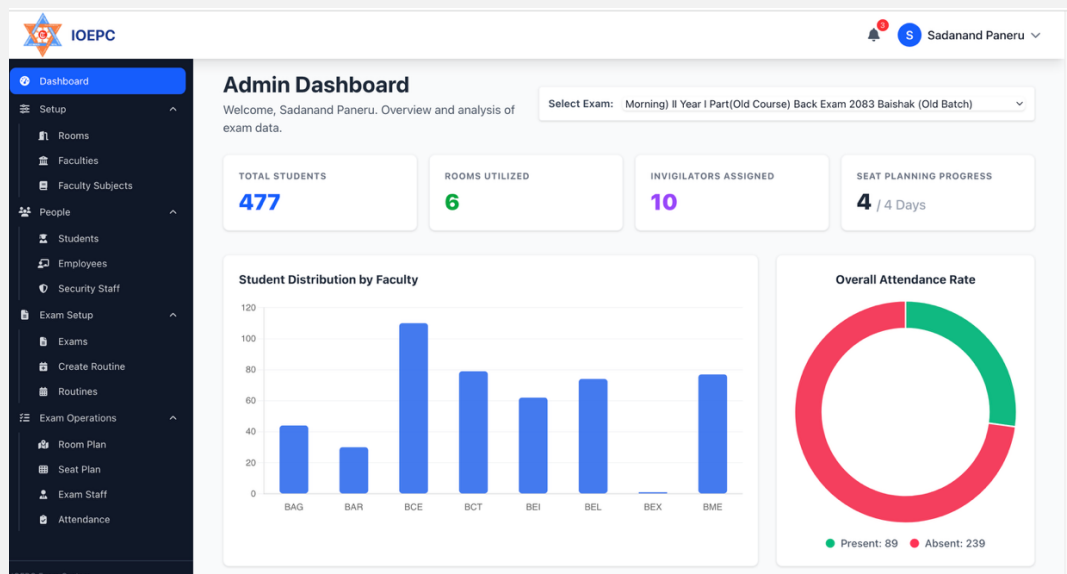
The campus library has been fully migrated from the legacy Luniva-based system to KOHA, the open-source integrated library system. The migration includes full customisation of the OPAC (Online Public Access Catalogue) — branding, search behaviour, faceting — along with circulation rules, patron categories, item types, MARC frameworks and other preferences tailored to the campus's collection. The new platform gives students and faculty a modern, searchable, mobile-friendly catalogue with reservation and self-service features.

Project Link / Screenshots: <https://library.ioepc.edu.np/>



05

❖ **Exam Management System with Auto Seat-Planning STATUS: COMPLETED**



An in-house exam management module that takes a simple triplicate input (subject / room / candidate list) and automatically generates the seat plan and invigilator assignment,

factoring in room capacity, student attendance records and faculty availability. The system also produces all official letters — invigilation duty letters, room allotment notices, candidate lists and seating charts — ready for signature and dispatch. This has reduced exam-planning effort from days to minutes.

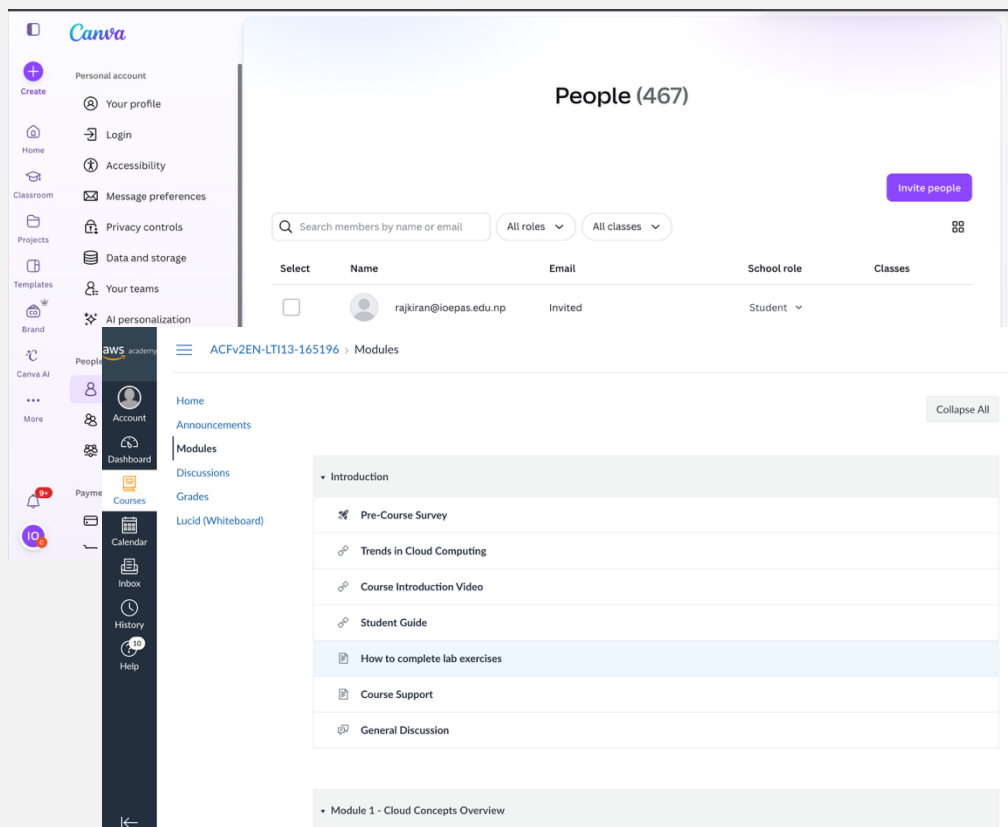
Project Link / Screenshots: <https://exam.ioepc.edu.np/dashboard/admin>

❖ **Canva Educator & AWS Cloud LMS — Learning & Teaching Platform STATUS: COMPLETED**

A combined learning-and-teaching initiative rolled out for both staff and students. The campus has onboarded onto Canva Educator, providing every faculty member and enrolled student with full access to Canva's premium design, presentation and collaboration tools for classroom material, project posters, reports and student assignments — with campus-branded templates and shared team folders. In parallel, an AWS-based Learning Management System has been deployed for hands-on labs on cloud computing, networking, databases and DevOps; students log in to their own AWS Academy / sandbox accounts to run real cloud workloads as part of coursework, with usage quotas, lab guides and instructor dashboards built in. Training sessions for staff (Canva for educators, AWS fundamentals) and structured lab modules for students are conducted on a rolling basis.

Project Link / Screenshots: <https://awsacademy.instructure.com/courses/165196/modules - module 2159237>

06



07

❖ **Online Admission Form Submission Portal STATUS: COMPLETED**
 A complete online admission system that allows prospective students to fill the admission form, upload required documents, pay the application fee and receive an instant submission confirmation — all without visiting the campus. The system feeds verified applications directly into the admission section's review queue, removing redundant data entry.

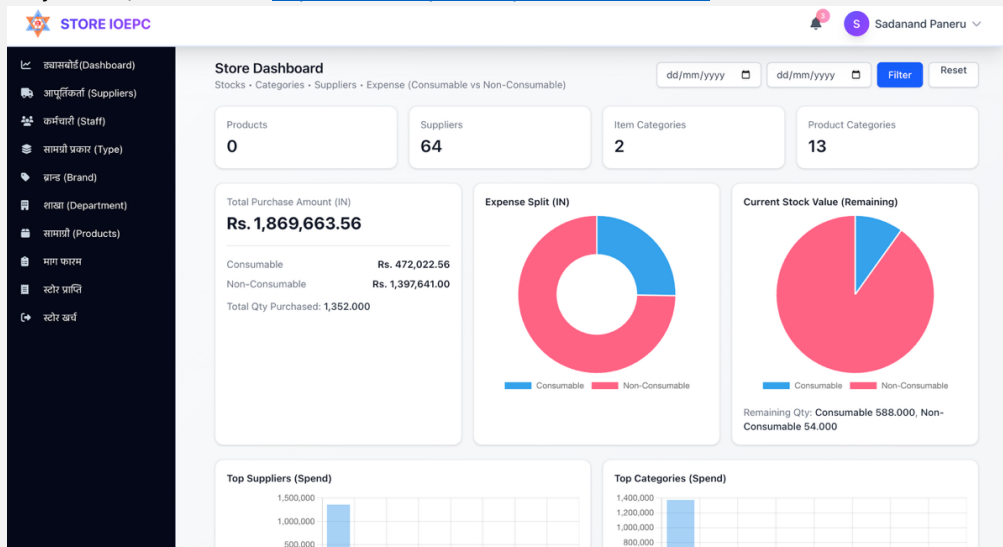
08

❖ **Hostel Allocation System (Dynamic Rank-Based) STATUS: COMPLETED**
 Students fill a single hostel-application form and the system dynamically calculates each applicant's rank using the campus's hostel-allocation criteria (academic merit, distance from home, gender quota, special categories, etc.). The ranked list is then used to allocate hostel seats transparently. This has removed manual list preparation and the disputes that came with it.

09

❖ **Store Management System (Purchase Order to Issue) STATUS: COMPLETED**
 A full store-management module covering the lifecycle of every item: purchase-order generation, goods-received entry, stock keeping, issue / store-out transactions and disposal. Overall analytics — consumption trends, low-stock alerts, department-wise utilisation, vendor performance — are surfaced on a dashboard for the store keeper and the administration.

Project Link / Screenshots: <https://store.ioepc.edu.np/admin/dashboard>

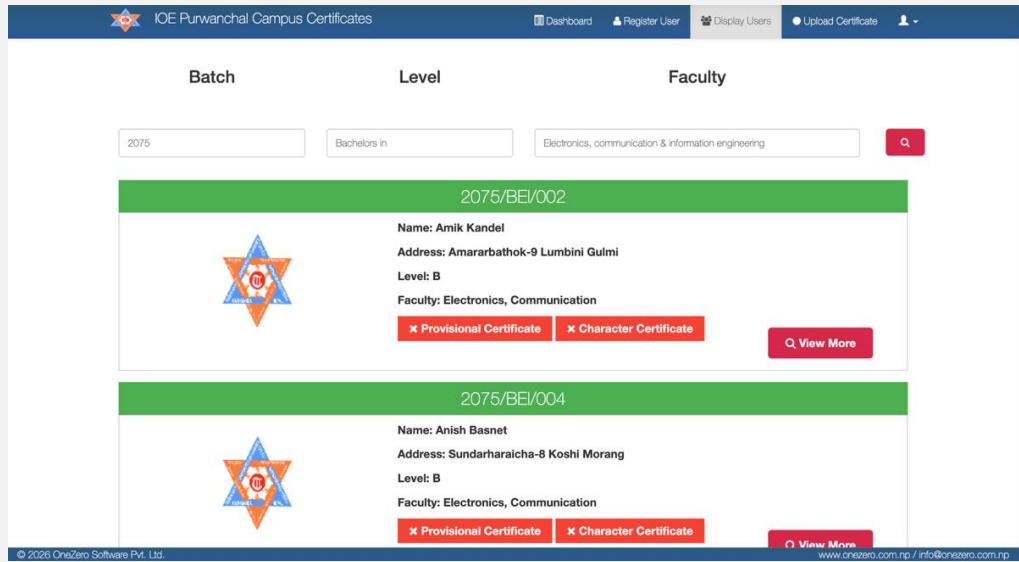


10

❖ **Certificate Generation & Graduate Tracking STATUS: COMPLETED**

On-request generation of campus certificates (character, transcript, provisional, migration, etc.) directly from the student information system. Once a student is marked as graduated, the system also tracks the graduate's status — employment, further studies, contact information — building a longitudinal alumni database useful for outcome reporting and accreditation.

Project Link / Screenshots: <https://certificate.ioepc.edu.np/displayUser.php>



11

❖ **Automatic Clearance Form Generation STATUS: COMPLETED**

When a student initiates a no-dues / clearance request, the system automatically queries every relevant section — library, hostel, store, finance, departments — and assembles the clearance form with the current status of each. Pending dues are flagged for action so the student knows exactly what to settle, and signing officers only need to verify and approve.

Project Link / Screenshots:



12

❖ **Private DSpace Repository for E-Library STATUS: COMPLETED**

The campus now hosts its own private DSpace instance — a digital repository for e-library resources, theses, project reports, faculty publications and lecture material. Access is controlled by user role, so that internal-only content remains within the campus network while open content can be exposed publicly.

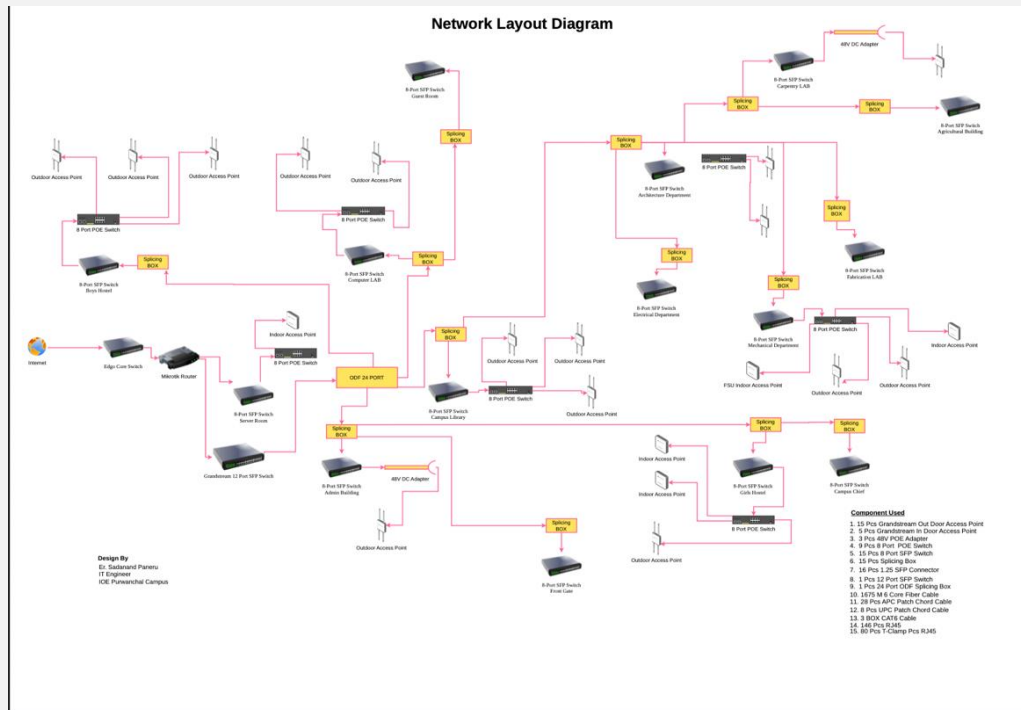
Project Link / Screenshots: <https://elibrary.ioepc.edu.np/>

The screenshot shows the homepage of the IOE Purwanchal Campus eLibrary. At the top, there is a navigation bar with the university logo and a 'Log in to your account' link. The main header is dark blue with the text 'IOE PURWANCHAL CAMPUS eLibrary' and a 'Log in' button. Below the header, there are three columns of statistics: 'Departments 7', 'Digital materials 38', and 'Access Login required'. The 'ABOUT' section describes the campus digital library services, mentioning that it supports academic learning by organizing digital materials like books, papers, theses, reports, class notes, and project references. It also states that students and teachers can browse the protected catalog after login, while administrators manage accounts and public online resource links. The 'ACCESS' section indicates that an account is required and that student and teacher accounts are created by the library administrator, with a 'Log in to eLibrary' button. The 'FREE ONLINE RESOURCES' section lists recommended external links.

13

❖ **Centralized Networking STATUS: COMPLETED**

The campus-wide centralized networking project has been completed successfully. Every academic block, lab and administrative section is now on a unified, managed network with consistent IP planning, VLAN segmentation and central monitoring — providing the backbone for every other EMIS system listed in this report.



14

❖ **IOE Bachelor & MSc Entrance Examinations STATUS: COMPLETED**

: The campus successfully conducted the IOE Bachelor's and MSc entrance examinations, handling candidate registration, admit-card generation, seating, invigilation and result processing using the in-house exam management tools developed earlier in the year.

15

❖ **Centralized Accounting System STATUS: IN USE — FY 2082/83**

From this fiscal year, the campus has adopted a centralized accounting system that consolidates all financial transactions — fee receipts, vouchers, vendor payments, salaries, departmental budgets and ledger entries — into a single platform. Account heads across departments now post to one unified chart of accounts, giving the finance section a real-time, auditable view of campus finances and removing the reconciliation gaps that arose from running parallel books.

16

❖ **Centralized Attendance System STATUS: IN USE — FY 2082/83**

A campus-wide attendance platform brought into use this fiscal year, integrating staff biometric attendance, Department heads, the administration and the EMIS Cell can monitor attendance across faculties and programs in real time, with consistent reporting, leave tracking and exception handling — replacing the earlier mix of department-level registers and standalone biometric exports.

11. Projects in Progress

The following projects are actively under development. Most of these are in the final stages of testing or rollout and are expected to enter production in the early part of the next fiscal year.

01

❖ **GPU Allocation System (Time-Shared, Remote Access) STATUS: IN PROGRESS — FINAL STAGE**

A scheduling and access platform that lets students and researchers reserve GPU time on the campus's compute servers and connect remotely. Allocation is on a time-sharing basis so that the available GPU resources are fairly distributed across users, with queuing, usage logs and quota controls. The system is in its final stage of completion and will support AI/ML coursework, final-year projects and faculty research.

02

❖ **Classroom & Lab Surveillance System STATUS: IN PROGRESS**

An IP-camera-based surveillance system covering classrooms and laboratories, with centralized recording and role-based viewing. Designed primarily for examination integrity, lab equipment safety and incident review, with retention and access policies aligned to the EMIS confidentiality guidelines.

03

❖ **Centralized Server Management STATUS: IN PROGRESS**

A unified administration layer for all campus servers — virtualization hosts, application servers, database servers, storage and backup nodes — with a single pane for monitoring, patching, backup verification and access control. Reduces administrative load and improves uptime and security posture across the EMIS estate.

12. Impact & Achievements Summary

The combined effect of this year's deliveries is a measurable shift in how the campus operates: most routine administrative interactions — fee submission, hostel application, clearance, certificate request, internship application, exam planning — are now digital, traceable and auditable. The library has moved to a modern open-source platform; the network spine that connects every section is complete; and the foundation for compute-intensive teaching and research (GPU access, central server management) is being put in place.

Coverage by Functional Domain

Functional Domain	Systems Delivered / In Progress	Status
Academic Operations	Routine Mgmt., Teaching-Tracking, Attendance Rule, Centralized Attendance	Completed
Examinations	Exam Mgmt., Seat Plan, Invigilation, IOE Entrances, Marksheet Aggregation & Performance Audit	Completed
Library	KOHA Migration + OPAC Customization, DSpace E-Library	Completed
Admissions	Online Admission Portal, Hostel Allocation	Completed
Finance	Voucher / Token Auto-Validation, Centralized Accounting	Completed
Student Services	ID Card Bulk Printing, Certificates, Clearance	Completed
Store / Procurement	PO-to-Issue Store Mgmt. with Analytics	Completed
Infrastructure	Centralized Networking	Completed
Teaching & Learning	Canva Educator (Staff & Students), AWS Cloud LMS (Hands-On Labs)	Completed
Compute & Research	GPU Allocation (Time-Shared, Remote)	In Progress
Security & Ops	Classroom / Lab Surveillance, Central Server Mgmt.	In Progress

Key Benefits Realised

- Real-time class-level visibility for the campus administration via the routine and teaching-tracking portal.
- Removal of physical-presence requirements for fee submission, admission, hostel and clearance workflows.
- Dramatic reduction in turnaround time for ID cards, certificates, exam planning and store transactions.
- Migration of the library to a modern, open-source, customisable platform with a campus-branded OPAC.
- Private, role-controlled e-library through the campus's own DSpace instance.
- A unified, managed campus network providing a reliable spine for every EMIS service.
- Foundations in place for AI/ML teaching and research through time-shared, remotely accessible GPU resources.

- Campus-wide access to Canva Educator for staff and students, and an AWS-based LMS giving students hands-on cloud-computing labs as part of regular coursework.
- Adoption of centralized accounting and centralized attendance from FY 2082/83, giving the administration a single, real-time view of campus finances and attendance across all departments.
- Data-driven academic review through the in-house Marksheet Aggregation & Performance Audit system — segregating marks by batch, faculty, programme and category, and surfacing pass/fail rates and performance trends for planning and accreditation.

13. Future Work — Planning

Building on the FY 2082/83 deliveries, the following strategic initiatives have been identified for the next planning horizon:

Initiative	Description
Integrated ERP Management for Campus	A single, unified ERP layer that consolidates finance, HR, admissions, examinations, library, store and student services into one platform with shared identity and reporting.
Enhancing Internet Service	Bandwidth upgrades, redundant links and improved Wi-Fi coverage across academic blocks, labs and hostels to support online learning and research workloads.
Preparation for ICT-Based Teaching & Learning	Smart classrooms, course-management systems, lecture-capture and a campus-wide LMS rollout to formalise blended and online learning modalities.
Enhancing Student Admission Software	Deeper integration of the online admission portal with merit ranking, document verification, fee gateways and the hostel allocation system for a single end-to-end admission journey.

14. Closing Note

The progress documented in this report reflects the sustained effort of the EMIS Cell, the campus IT team, departmental coordinators and the campus leadership. Every system listed above has been built with the EMIS Guidelines, 2020 as its operating frame — with data confidentiality, role-based access, accountability and auditability designed in from the start.

As the campus enters FY 2083/84, the focus will shift toward deeper integration across these systems, an ERP-grade data backbone, and ICT-led teaching-learning — continuing the EMIS Cell's mandate of a fully functional, integrated, self-sustainable and responsive information system for Purwanchal Campus.



Head, EMIS Cell

Purwanchal Campus, IOE, Tribhuwan University

Presentation Summary — Key Points

Suggested talking points for the FY 2082/83 EMIS presentation:

- Landmark year: 17+ systems delivered, 3+ in progress, 7 departments served.
- Routine management portal: real-time class monitoring + daily student attendance by faculty.
- Student services fully online: fees, admissions, hostel, ID cards, clearance, certificates.
- Modern library: Luniva → KOHA migration + private DSpace e-library repository.
- In-house exam system: auto seat-planning + Marksheet Aggregation & Performance Audit.
- Centralized Accounting and Centralized Attendance adopted campus-wide.
- Future-ready infrastructure: centralized networking done; Canva Educator + AWS LMS live; GPU allocation in final stage.
- FY 2083/84 roadmap: campus ERP, better internet/Wi-Fi, ICT smart classrooms, deeper admission integration.