



INVITATION TO BID

The Western Mindanao State University, through its Bids and Awards Committee (BAC), is inviting PhilGEPS registered suppliers to apply for eligibility and to submit bids for the item mentioned hereunder:

Name of Project: **ADOPTION OF DIGITAL LEARNING PLATFORM THROUGH ICT MODERNIZATION (VIRTUALIZED INFRASTRUCTURE AND CAMPUS INFORMATION SYSTEM)**

Approved Budget Cost: **Php 376,395,432.77**

Purchase Request No.: **PR 26-02-072**

Closing Date: **August 18, 2026 9:30 AM**

Delivery Period: **Sixty (60) Calendar Days**

Bid Docs: **Php 50,000.00**

1.) One (1) lot of VIRTUALIZED INFRASTRUCTURE

1.0 PROJECT DESCRIPTION

The project involves the supply, delivery, installation, configuration, testing, and commissioning of a fully integrated, enterprise-grade Virtualized Infrastructure that will serve as the central digital backbone of the University Smart Campus.

The infrastructure shall support all core systems:

- .University Student Information System (USIS)
- .Transcript of Records Management System (TORMS)
- .University Document Management System (UDMS)
- .University Inventory Management System (UIMS)
- .University Finance Management System (UFMS)
- .University Library Management Information System (ULMIS)

The infrastructure shall enable real-time integration, high availability, scalability, and secure data processing across all systems.

2.0 OBJECTIVES

The project aims to:

- .Establish a high-performance, scalable data center infrastructure
- .Support >/-5,000 concurrent users during peak operations
- .Enable API-driven Smart Campus Architecture
- .Provide centralized virtualization and resource management
- .Ensure data integrity, interoperability, and system availability
- .Support real-time synchronization across all systems
- .Ensure compliance with:
 - .RA 10173 (Data Privacy Act)
 - .COA and CHED standards

3.0 SCOPE OF WORK

The supplier shall provide:

3.1 Modular Data Center Infrastructure

- .Rack systems and containment
- .Precision cooling
- .UPS and power protection
- .Intelligent PDUs
- .Environmental and infrastructure monitoring system

3.2 Network Infrastructure (Leaf-Spine Architecture)

- .High-speed switches for east-west traffic
- .Support for microservices and API traffic
- .Network segmentation and QoS

3.3 Hyperconverged Infrastructure (HCI)

- .Enterprise-grade compute, storage, and virtualization platform
- .Support for:

- Virtual Machines (VMs)
- Container workloads (Kubernetes-ready)
- .High availability clustering
- .Live migration (zero downtime)

3.4 Enterprise Integration Enablement

The infrastructure shall support:

- .API Gateway / ESB deployment
- .RESTful API communication
- .Event-driven architecture



.Real-time data synchronization (Aligned with UIS integration requirements)

3.5 Storage and Data Management

.Tiered storage architecture:

-SSD (databases: USIS, UFMS)

-HDD/Object storage (UDMS, TORMS)

.Backup and disaster recovery

.Data replication capability

3.6 Identity and Access Management

.Support Single Sign-On (SSO)

.Integration with:

-LDAP / Active Directory

-OAuth-based authentication

3.7 Unified Monitoring System

.Infrastructure + application monitoring

.API monitoring and logging

.Real-time dashboards

.Alerts and notifications (SMS, email)

3.8 Security and Compliance

.End-to-end encryption (data at rest and in transit)

.Role-Based Access Control (RBAC)

.Audit logs and traceability

.Compliance with Data Privacy Act

4.0 TECHNICAL REQUIREMENTS

4.1 General Requirements

The solution shall:

.Be brand-neutral ("or equivalent")

.Use open standards (snmp, rest api, tcp/ip)

.Support multi-vendor interoperability

.Be modular and scalable

Include full installation, testing, and commissioning

4.2 Workload Capacity Requirements

The infrastructure shall support:

SYSTEM	REQUIREMENT
USIS	>/-5,000 concurrent users
TORMS	High-speed record retrieval
UDMS	OCR + document storage
UIMS	Real-time inventory processing
UFMS	Financial transactions + reporting
ULMIS	RFID + OPAC + analytics

4.3 Performance Requirements

.Response time: .High availability: >/- 99.9% uptime

.Load balancing support

.Auto-scaling capability

4.4 High Availability and Redundancy Requirements

The infrastructure shall support:

.N+1 redundancy for critical components (power, cooling, network)

.Redundant network paths in leaf-spine architecture

.Failover capability for HCI cluster nodes

.No single point of failure in core infrastructure design

4.5 Disaster Recovery and Business Continuity

The infrastructure shall support:

.Backup and restore mechanisms

.Snapshot-based recovery

.Data replication capability for future disaster recovery site

.Configurable Recovery Time Objective (RTO) and Recovery Point Objective (RPO)

5.0 DELIVERABLES

The supplier shall deliver:

.Fully installed and operational infrastructure

.Configured virtualized environment per system

.API-ready and SSO-enabled environment

.Backup and disaster recovery configuration

.Monitoring dashboards

.Training and documentation

.Test and acceptance reports



6. IMPLEMENTATION PERIOD

.120-180 calendar days

7.0 Warranty and Support

The supplier shall provide a minimum of three (3) years comprehensive warranty covering all hardware, software, and services, including:

.24/7 technical support

.Preventive and corrective maintenance

.Replacement of defective components

.System updates and security patches

8.0 SERVICE LEVEL AGREEMENT (SLA)

Category	Requirement
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System Availability	>/- 99.9% uptime
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Critical Incident Response Resolution Time	5 Days
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9.0 TRAINING AND DOCUMENTATION

The supplier shall conduct structured training sessions including:

.At least three (3) sessions for administrators

.At least two (2) sessions for IT operations staff

.Hands-on system training

Training shall include:

.HCI platform management

.Network configuration and monitoring

.Infrastructure monitoring system

.Incident response and troubleshooting

10.0 DATA OWNERSHIP

All configurations, system setups, and documentation shall be:

.Fully owned by the University

.Transferable without vendor restrictions

11.0 ACCEPTANCE CRITERIA

The project shall be accepted only upon:

.Successful completion of UAT

.Full compliance with technical specifications

.No critical defects

.Complete documentation turnover

1.) 4 units Server Rack

SERVER RACK SYSTEM

The supplier shall design, supply, deliver, install, test, and commission a modular data center infrastructure to support the University's Virtualized Infrastructure Environment.

The solution shall include:

.IT racks and containment system

.Precision cooling system

.Power protection (UPS)

.Intelligent power distribution units (PDU)

.Environmental monitoring and management system

.Emergency ventilation system

.Integration with centralized monitoring platform

The system must be fully operational, scalable, and interoperable with existing and future systems.

The proposed solution shall:

.Be brand-neutral and compliant with "or equivalent" principle

.Use open standards and interoperable protocols (SNMP, Modbus, TCP/IP, REST API)

.Support multi-vendor integration

.Be scalable and modular

.Include complete installation, configuration, testing, and commissioning

.Include training and documentation

.Include minimum three (3) years warranty and support consistent with overall project warranty requirements.

.Provide 24/7 technical support capability

A. RACK AND CONTAINMENT SYSTEM

The supplier shall provide a minimum of four (4) IT racks and one (1) infrastructure rack.

Specifications:

.Standard 19-inch rack system, minimum 42U height

.Rack width: 600mm to 800mm

.Rack depth: minimum 1000mm, suitable for enterprise equipment

.Front and rear doors: lockable, perforated steel or tempered glass



.Load capacity: suitable for enterprise IT equipment

.Cable management:

-Top and/or bottom cable entry

-Support for high-density structured cabling

.Grounding and bonding provision

.Support for rack-level access control system (RFID/key/web-based or equivalent)

.Support for environmental monitoring sensors (temperature, humidity, etc.)

.Support for visual status indicators (optional)

System Configuration:

.Minimum of four (4) IT racks

.One (1) dedicated infrastructure rack for power, monitoring, and control systems

.Infrastructure components may be pre-installed or modular, provided they support open standards and interoperability

B. PRECISION COOLING SYSTEM

The supplier shall provide a precision cooling system suitable for a modular data center environment, ensuring stable temperature and humidity conditions for mission-critical IT equipment.

The system shall be:

.Energy-efficient

.Scalable and modular

.Compatible with rack-based or row-based deployment

.Interoperable with centralized monitoring systems

The precision cooling system shall meet the following minimum requirements:

.Designed for continuous operation (24/7)

.Capable of maintaining recommended data center environmental conditions (temperature and humidity)

.Support variable cooling capacity based on load demand

.Use high-efficiency components (compressor/fans or equivalent technologies)

Support energy-saving operation modes

.Designed to minimize power consumption while maintaining performance

.Optimized airflow design for uniform air distribution

.Configurable for front-to-back or contained airflow systems

.Equipped with high-efficiency heat exchange mechanism

.Capable of controlling:

-Temperature

-Humidity

.Support automatic regulation based on sensor feedback

The cooling system shall:

.Include an intelligent controller

.Support:

-Real-time monitoring

-Alarm notifications

-Fault detection

.Be accessible via:

-Local interface and/or

-Remote access (web-based or equivalent)

.Support integration via: Open protocols (e.g., SNMP, Modbus, TCP/IP, or equivalent)

The system shall provide:

-High/low temperature alarms

-System fault alarms

-Airflow or filter-related alerts

-Automatic protection mechanisms against abnormal operating conditions

.Support humidification and/or dehumidification functions

.Automatic humidity control based on environmental conditions

C. Power Protection System (UPS)

The supplier shall provide a reliable and high-quality Uninterruptible Power Supply (UPS) system to support mission-critical equipment, including data center infrastructure, network and communication systems, and other sensitive electronic devices.

1. General Requirements

.Designed for continuous operation (24/7)

.Suitable for data center and virtualized infrastructure environments

.Scalable and modular architecture

.Capable of providing stable and uninterrupted backup power

2. Capacity and Configuration

.Minimum capacity: 20kVA / 20kW (or equivalent)



.Configuration:

- Rack-mounted, modular, or equivalent form factor compatible with standard racks
- Support for parallel or redundant operation

.Input/Output:

- Three-phase input and output (or equivalent suitable for system requirements)

3. UPS Technology and Performance

.True online double-conversion UPS (or equivalent)

.High power factor (>/- 0.9 preferred)

.Efficiency:

- >/- 95% under normal operation
- Higher efficiency in energy-saving mode (if available)

.Provides:

- Stable voltage and frequency regulation
- Protection against power disturbances and interruptions

4. Battery System

.Integrated or external battery system

.Provides sufficient runtime for:

- Safe shutdown of equipment, or
- Transition to alternative power source

.Supports:

- Battery monitoring and protection
- Expandable or scalable battery capacity

5. Monitoring and Control

.Intelligent monitoring and control capabilities

.Real-time display of Load status, Battery condition, Input/output parameters

.Alarm and notification features for Power failure, Battery status, System faults

.Communication interfaces supporting SNMP, Modbus, TCP/IP, REST API or equivalent

6. Protection Features

.Protection against: Power interruption, Overload, Short circuit, Overvoltage and undervoltage, Battery-related faults

7. Compliance Standards

Compliance with internationally recognized standards (or equivalent), such as:

.General safety requirements: EN62040-1/IEC62040-1

.EMC requirements: EN62040-2/IEC62040-2 (Class C2)

.Method of specifying the performance and test requirements: EN62040-3/IEC62040-3(VFI SS 111)

.Safety of information technology equipment, including electrical business equipment: EN60950

.Energy star certified

D. Power Distribution Units (PDU)

The supplier shall provide intelligent Power Distribution Units (PDUs) to support reliable and efficient power distribution within the rack system.

1. General Requirements

. Each rack shall be equipped with dual PDUs for redundancy or load distribution

.Compatible with standard data center rack systems and suitable for continuous operation

2. Monitoring and Metering

.Real-time monitoring of electrical parameters such as voltage, current, power (kW), energy consumption (kWh), and power factor

.Support for branch-level or outlet-level metering, as applicable

3. Control Features

.Remote on/off control of individual outlets

.Sequential startup and shutdown configuration

4. Management and Interface

.Secure remote administration via web-based interface or equivalent

.Integration with rack-level or centralized monitoring system

5. Alerts and Notifications

.Configurable alerts for power events, threshold breaches, and system faults

.Notification via email, SMS, or system dashboard

6. Logging and Reporting

.Logging of user authentication, configuration changes, and power events

.Support for monitoring history and reporting

7. Integration and Interoperability

.Support for open protocols such as SNMP, Modbus, TCP/IP, REST API, or equivalent

.Capable of integration with infrastructure monitoring system, Smart Campus platform, and



other third-party systems

E. Infrastructure Monitoring System

The supplier shall provide a centralized infrastructure monitoring and management system capable of monitoring, controlling, and reporting the status of data center facilities and equipment.

1. General Requirements

.Real-time monitoring and management of infrastructure systems

.Integration support for:

-Power systems (UPS, PDU) --

-Cooling systems

-Environmental sensors

-Security and access systems

.Scalable and modular architecture to accommodate future expansion

.Accessible via Local interface and/or Web-based remote access

2. Monitoring Capabilities

.Electrical parameters (voltage, current, power, etc.)

.Environmental conditions Temperature, Humidity, Water leak detection

.Equipment status (UPS, cooling, PDU, etc.)

.Access and security status

3. Sensors and Data Collection

.Support integration of environmental and operational sensors, including but not limited to:

-Temperature sensors

-Humidity sensors

-Door/access sensors

-Water leak detection sensors

.Allow flexible and scalable deployment of sensors based on system requirements

4. Alerts and Notifications

.Configurable alarm and notification mechanisms

.Alerts for Environmental thresholds, Equipment faults, Power events

.Notification channels may include Email, SMS, System dashboard alerts

5. Data Logging and Reporting

.Maintain historical logs of monitored parameters and events

.Provide report generation capabilities for operational and audit purposes

.Allow export of reports in standard formats

6. Integration and Interoperability

.Support integration using open standards and protocols, such as SNMP, Modbus, TCP/IP, REST API or equivalent

.Be capable of integration with Smart Campus systems and other third party platforms

7. User Access and Security

.Support user authentication and role-based access control

.Maintain logs of user activities and system changes

8. Access Features

The system may support integration with rack-level or facility-level access control systems.

Access control may include:

-Card-based access

-Key-based access

-Remote authorization

F. Emergency Ventilation Fan System

The supplier shall provide an emergency ventilation system integrated within the rack or enclosure to support thermal management during abnormal operating conditions.

.The system shall automatically activate in response to high-temperature conditions or alarms

.Capable of rapid heat dissipation within the enclosed space to prevent overheating of equipment

.Designed to mitigate temperature rise and provide sufficient time for personnel to respond to system faults

.Integrated with the infrastructure monitoring system for alarm triggering and status monitoring

G. IT Management

The monitoring system shall be capable of integration with a centralized data center management platform to support:

.Multi-site data center monitoring and management

.Integration with surveillance and security systems

.Unified dashboard for infrastructure visibility

The system shall support integration using open standards and APIs, ensuring compatibility



with third-party platforms.

H. In-built Power distribution (switchboard)

The system shall include a power distribution switchboard to support safe and efficient electrical distribution.

- .Supports single or multiple power feed configuration

- .Includes surge protection device

- .Equipped with a Digital Power Meter (DPM) or equivalent

The power meter shall be capable of measuring:

- .Frequency

- .Phase current and average current

- .Phase and line voltage

- .Active, reactive, and apparent power

- .Power factor

The system shall support real-time monitoring and integration via open protocols.

2.) 2 units Leaf Switch

LEAF SWITCH (DATA CENTER / CAMPUS AGGREGATION)

The supplier shall provide two (2) Layer 2/Layer 3 managed Ethernet switches suitable for data center leaf or campus aggregation deployment.

1. General and Interfaces

- .Layer 2 and Layer 3 managed switch, rack-mountable (1U or equivalent)

- .Minimum interfaces: 48 × 10G/25G SFP+ ports (or equivalent) and 4 × 40G or 100G uplink ports

2. Performance and Reliability

- .Non-blocking architecture with switching capacity of >/- 800 Gbps and low latency suitable for data center use

- .Redundancy through dual hot-swappable power supplies and cooling fans

3. Network Features

- .Layer 2 support including VLAN (802.1Q), link aggregation, and spanning tree protocols

- .Layer 3 capabilities including static routing and dynamic routing (e.g., OSPF or equivalent)

- .Security features such as 802.1X, RADIUS/TACACS+, ACLs, DHCP snooping or equivalent, and port security

4. Quality of Service

- .Traffic classification and prioritization (802.1p, DSCP or equivalent), with queue management and traffic shaping

5. Management and Integration

- .Management via CLI, SSH, and web-based interface, with support for SNMP (v1/v2c/v3) and API-based management (REST or equivalent)

- .Compatible with network monitoring systems and supports integration using standard protocols

6. Physical and Compliance

- .Operating temperature: 0°C to 45°C (or equivalent)

- .Compliance with CE, FCC, RoHS, or equivalent standards

Includes additional high-speed transceivers, redundancy configuration, and capacity expansion to support increased east west traffic and virtualization workloads

3.) 2 units Spine Switch

SPINE SWITCH (AGGREGATION / CORE)

The supplier shall provide two (2) high-performance Layer 3 switches suitable for aggregation or spine deployment in a data center or campus network.

Specifications:

- .Switch Type: High-performance Layer 3 spine (aggregation/core) switch

- .Port Configuration: Minimum: 24-32 × 40G or 100G ports (or equivalent)

- .Throughput: >/- 2.0 Tbps switching capacity (non-blocking)

- .Latency: Low latency suitable for enterprise/data center applications

- .MAC Address Table: >/- 64,000 entries

- .Routing Protocols: Static routing and dynamic routing (e.g., OSPF or equivalent)

- .IPv6 Support: IPv4/IPv6 dual stack

- .High Availability: Dual hot-swappable power supplies and fans

- .Security Features: ACLs, RADIUS/TACACS+, and port-based security controls

- .Management Interfaces: CLI (SSH), SNMP (v1/v2c/v3), Web UI, REST API or equivalent

- .Quality of Service (QoS): Traffic prioritization (802.1p, DSCP or equivalent)

- .Form Factor: 1U-2U rack mount

- .Operating Temperature: 0°C to 45°C (or equivalent)

- .Compliance: CE, FCC, RoHS or equivalent standards

Includes enhanced backbone capacity, additional uplinks, redundancy configuration, and support for scalable leaf-spine architecture to ensure high availability and performance.



4.) 6 units Server Compute Nodes

SERVER COMPUTE NODES (HCI)

The supplier shall provide six (6) server compute nodes configured for a hyperconverged infrastructure (HCI) environment, including installation, configuration, and integration.

Specifications:

Hardware

- .Dual processor server (e.g., Intel Xeon or equivalent)
- .Minimum 24 cores per processor
- .Minimum 768 GB RAM per node
- .Network interfaces: minimum 4 × 10GbE SFP+ ports
- .System disks: minimum 2 × 480GB SSD (RAID-configurable)
- .Storage: minimum total usable capacity of 60TB for the cluster
- .Redundant power supply

Software / HCI Platform

The solution shall provide a software-defined infrastructure platform integrating:

- .Compute virtualization
- .Storage virtualization
- .Network virtualization (or equivalent capability)
- .Centralized management

Functional Capabilities

- .Live migration of virtual machines without service interruption
- .Automated health monitoring and diagnostics
- .Resource scheduling and load balancing
- .Centralized management interface
- .High availability and fault tolerance

Integration

- .Compatible with heterogeneous enterprise environments
- .Supports integration with existing systems

Licensing

- .Includes perpetual licenses for virtualization and management software

Compliance and Standards

- .Compliance with recognized standards such as:
 - ISO/IEC 27001 (or equivalent)
 - Other relevant security and data protection standards

Support and Services

- .Installation, configuration, and commissioning
- .Knowledge transfer and training
- .Technical support and warranty

5.) Training/Knowledge Transfer

TRAINING AND KNOWLEDGE TRANSFER

Specifications

- .Administrator-level training (mandatory)
- .Hands-on operational training
- .Knowledge transfer sessions for IT personnel

Deliverables

- .Training Materials (manuals, slides)
- .Attendance Records
- .Training Completion Report

Training must be hands-on and role-based, ensuring internal staff can independently operate and maintain the system

6.) Project Management

PROJECT MANAGEMENT

Specifications:

- .Establish project governance structure
- .Develop detailed project implementation plan and schedule
- .Coordinate with end-users, TWG, and stakeholders
- .Monitor project progress, risks, and issues

Deliverables

- .Approved Project Management Plan (PMP)
- .Implementation timeline (Gantt Chart)
- .Weekly/Monthly Progress Reports
- .Risk and Issue Log
- .Project Completion Report

7.) Installation and Configuration Services

INSTALLATION AND CONFIGURATION



Specifications

.Installation of:

- Rack and infrastructure components
- Power systems (UPS, PDU)
- Cooling systems
- Network devices (Leaf/Spine)
- Server compute nodes

.Configuration of:

- Network topology
- HCI cluster
- Storage pools
- Management systems

Deliverables

.Installation Checklist and Report

.Configuration Documentation (network, server, storage)

.As-built diagrams

All configurations must follow industry best practices and be documented for future maintenance and audit purposes.

8.) Deployment and Implementation

DEPLOYMENT AND IMPLEMENTATION

Specifications

.Deployment of virtualized infrastructure environment

.Creation and configuration of virtual machines

.Integration of:

- Compute, storage, and network layers
- Monitoring and management systems

Deliverables

.Fully operational HCI environment

.Deployment documentation

.System integration report

Deployment must ensure minimal service disruption and readiness for production workloads.

Deployment and implementation cost is aligned with the installation scope to avoid duplication of services while ensuring full system integration and operational readiness

9.) OS Hardening Services

SECURITY HARDENING SERVICES

Specifications

.Implementation of baseline security configurations:

- Operating system hardening
- Hypervisor security configuration
- Network security policies

.Application of:

- Access controls
- Patch updates
- Security policies

Deliverables

.Security Hardening Checklist

.Compliance Report

.System Security Configuration Documentation

Security hardening shall follow recognized standards (e.g., ISO 27001, CIS benchmarks, or equivalent) and must be reasonable in cost relative to scope.

10.) Data Analytics

INFRASTRUCTURE ANALYTICS AND REPORTING

The supplier shall provide analytics and reporting capabilities integrated with the infrastructure monitoring and virtualization platform to support operational visibility, performance analysis, and capacity planning.

Specifications

.Provide dashboards and analytics for:

- Resource utilization (CPU, memory, storage)
- Network performance
- Power and environmental monitoring

.Support:

- Historical data analysis
- Trend analysis and forecasting
- Capacity planning

.Generate:



- Operational reports
- Performance reports
- Incident and alert reports
- .Integrate with:
 - Infrastructure Monitoring System
 - Hyperconverged Infrastructure (HCI) platform
 - Network devices (Leaf and Spine switches)

Deliverables

- .Configured analytics dashboards
- .Standard and customizable reports
- .Performance and capacity planning reports
- .Documentation for analytics configuration and usage

The analytics component shall be limited to infrastructure monitoring, performance optimization, and capacity planning, and shall not include enterprise business analytics or unrelated data processing systems.

11.) Testing and Validation Services

TESTING AND VALIDATION

Specifications

- .Functional testing of all components
- .Performance testing (compute, storage, network)
- .Failover and redundancy testing
- .Security validation testing

Deliverables

- .Test Plan
- .Test Results Report
- .Signed User Acceptance Test (UAT)

Testing must include high availability and failover scenarios to ensure system resilience.

SERVICE LEVEL AGREEMENT (SLA)

1. Service Levels and Support

- .Define severity levels (Critical, High, Medium, Low) with corresponding response and resolution times.
- .Provide 24×7 support for critical incidents affecting core infrastructure, including:
 - HCI cluster
 - Network backbone (Leaf-Spine)
 - Power and cooling systems
- .Provide remote support and on-site support as required based on incident severity.
- .Establish clear escalation procedures up to vendor principal or OEM support.
- .Monitor warranty, licenses, and support coverage, with proactive renewal notification at least 60 days before expiry.

2. Incident Management and Response

- .All incidents shall be logged in a ticketing or service desk system with:
 - Timestamp
 - Severity classification
 - Description and impact
 - Resolution details

.The supplier shall adhere to the following minimum service targets:

Severity	Description	Response Time	Resolution Time
Critical	Full system outage/		major service disruption
High	Partial service degradation	Medium	Non-critical
issue	Low Minor issue / request		

.Provide continuous updates until resolution and ensure proper closure of tickets.

3. Preventive Maintenance and System Health

- .Conduct preventive maintenance at least quarterly, including:
 - Hardware inspection (servers, switches, UPS, cooling)
 - Firmware and software updates
 - System performance checks
- .Maintain system health through:
 - Continuous monitoring
 - Resource utilization checks (CPU, memory, storage)
 - Environmental monitoring (temperature, power, humidity)

4. Training and Knowledge Transfer

- .Provide administrator-level and hands-on training for IT personnel.
- .Include training on:
 - HCI platform management
 - Network configuration and monitoring



- Infrastructure monitoring system
- Incident response procedures
- .Deliver:
 - Training materials
 - Manuals and documentation
 - Operational guides
 - .Conduct refresher sessions when major updates or upgrades occur.
- 5. Testing and Acceptance
 - Before final acceptance, the supplier shall conduct:
 - .Infrastructure functionality testing
 - .Network connectivity and performance testing
 - .HCI cluster validation and failover testing
 - .Monitoring system verification
 - .Security validation and hardening checks
 - .User Acceptance Testing (UAT)
 - Final acceptance shall be issued only upon successful completion of all required tests
- 6. Ownership, Licensing, and Turnover
 - .All licenses (perpetual or subscription) shall be registered under the University.
 - .All configurations, documentation, and system outputs shall be owned by the University.
 - .Upon completion or termination, the supplier shall turn over:
 - Administrator credentials
 - Configuration backups
 - Documentation
 - System access details
 - .No system component shall cease functioning due to failure of the supplier to manage licensing obligations within contract scope.
- 7. Vendor Qualifications and Support Capability
 - .Minimum three (3) years of experience in:
 - Data center infrastructure
 - Virtualized environments (HCI)
 - Enterprise networking
 - .Proven capability to support:
 - Multi-year maintenance
 - Enterprise-level deployments
 - .Availability of qualified technical personnel and escalation support.
- 8. Scope of Monitoring and Operations
 - The infrastructure shall support monitoring of:
 - .Virtualized servers (CPU, memory, storage, VM status)
 - .Network devices (Leaf and Spine switches, traffic, utilization)
 - .Power systems (UPS, PDU, electrical parameters)
 - .Cooling systems and environmental sensors
 - .Infrastructure monitoring and analytics platform
- 9. Infrastructure Operations Functions
 - 9.1 Monitoring and Alerting
 - .Configure centralized monitoring dashboards
 - .Set thresholds for:
 - Performance
 - Capacity
 - Security events
 - .Alerts shall be delivered via:
 - Dashboard
 - Email
 - SMS (if applicable)
 - 9.2 Incident Handling
 - .Immediate logging and classification of incidents
 - .Root cause analysis for major incidents
 - .Documentation of corrective actions
 - 9.3 Capacity and Performance Management
 - .Monitor resource utilization trends
 - .Provide recommendations for scaling
 - .Generate periodic capacity reports
- 10. Warranty Requirements
 - .All equipment supplied under this project shall be brand new, unused, and of current production models.
 - .All equipment shall be covered by manufacturer warranty.



.Warranty period shall be not less than three (3) years for ICT equipment, unless otherwise specified.

.The supplier shall repair or replace defective equipment without additional cost to the university during the warranty period.

ABC:Php 62,595,432.77

2.) One (1) lot of CAMPUS INFORMATION SYSTEM

1.) UNIVERSITY STUDENT INFORMATION SYSTEM (ENROLLMENT SYSTEM)

End-User: MISTO, VPAA, OSA, Guidance, Health, Scholarship Offices

1.0 GENERAL REQUIREMENTS:

The University Student Information System (USIS) shall provide a centralized, enterprise-grade platform for managing the full lifecycle of student academic information and enrollment operations across the University

The system shall support the following core institutional processes:

- .admissions and applicant management
- .student registration and enrollment
- .curriculum and academic program management
- .class scheduling and section management
- .student academic records and grades management
- .billing, tuition assessment, and payment processing
- .clearance and graduation eligibility processing
- .academic reporting and institutional analytics

The system shall support multi-campus operations and integrate with other University enterprise systems.

The system shall comply with the following national regulations and standards:

- .Republic Act 10173 - Data Privacy Act of 2012
- .Commission on Higher Education (CHED) policies and reporting requirements
- .ISO 9001:2015 Quality Management System requirements
- .COA audit and financial reporting standards

The system shall be designed to support large-scale enrollment operations, with the capacity to support at least 5,000 concurrent users during peak enrollment periods and maintain stable performance during high transaction volumes.

The system must be delivered with the following service and contractual requirements:

1.1 Software Design & Development

The supplier shall design and implement a secure, scalable, modular, and enterprise-grade Student Information System.

The system shall:

- .be web-based and accessible using modern browsers
- .support centralized academic and student information management
- .support multi-campus and multi-department operations
- .implement modular system architecture to support future Smart Campus expansion
- .support RESTful API integration with University enterprise systems
- .support configurable workflow automation for academic and administrative processes
- .return standard system queries within three (3) seconds under normal operating conditions

All communications between users and the system shall be encrypted using secure communication protocols.

1.2 Perpetual License Fee

The system shall include a perpetual enterprise software license granting the University unlimited lifetime usage rights.

The license shall include:

- .unlimited internal users
- .full administrative access and configuration rights
- .no recurring subscription fees except support and maintenance services

1.3 Installation and Configuration Services

The supplier shall:

- .install and deploy the system on University-approved infrastructure
- .support on-premise or hybrid cloud deployment
- .configure system components including:
 - user accounts and roles
 - enrollment workflows
 - academic structure and curriculum
 - financial configurations
 - system security policies

The supplier shall perform full system configuration verification prior to system acceptance.

1.4 User Workflow Integration



The system shall support University operational workflows including:

- .admissions and applicant evaluation
- .student enrollment processing
- .curriculum and academic program management
- .student records management
- .billing and payment transactions
- .clearance processing and graduation evaluation

The system shall support configurable workflow approvals for:

- .enrollment validation
- .subject adjustments
- .clearance approvals
- .financial transactions

1.5 Training and Knowledge Transfer

The supplier shall conduct at least five (5) structured training sessions for:

- .Registrar Office personnel
- .Accounting and Cashier staff
- .College and department representatives
- .Faculty members
- .System administrators and IT staff

Training materials shall include:

- .user manuals
- .system administration manuals
- .video tutorials and training documentation

1.6 Post-Implementation Documentation

The supplier shall provide complete documentation including:

- .system architecture documentation
- .database schema documentation
- .system configuration documentation
- .workflow diagrams
- .user manuals
- .system administration guides
- .cybersecurity and data protection procedures

1.7 Testing and Commissioning

The supplier shall perform:

- .system testing
- .integration testing
- .performance testing
- .User Acceptance Testing (UAT)

The system shall be considered accepted only after successful completion of UAT and formal acceptance by the University.

1.8 Data Migration Planning & Consultancy Services

The supplier shall:

- .conduct data assessment and migration planning
- .migrate existing student and enrollment records from legacy systems
- .validate data integrity and completeness prior to system deployment

Migration shall include:

- .student profiles
 - .academic history and grades
 - .enrollment records
 - .financial records related to tuition and fees
- Migration shall include validation reports confirming data integrity and completeness

1.9 Project Management

The supplier shall provide project management services covering planning, implementation, deployment, and project completion.

The supplier shall:

- .assign a dedicated Project Manager and implementation team
- .coordinate project activities with University stakeholders
- .ensure adherence to the project timeline and deliverables

The supplier shall submit:

- .project implementation plan
- .project schedule (Gantt chart)
- .weekly project progress reports

1.10 Three Years (3) Support & Maintenance

The supplier shall provide three (3) years warranty, technical support, and system updates.

.Support services shall include:



- .bug fixes
- .security patches
- .system performance optimization
- .helpdesk with Service Level Agreement (SLA)

SLA requirements:

- .response time: within 4 hours
- .resolution time: 24-48 hours depending on issue severity

1.11 Data Ownership and Intellectual Property Rights

All deliverables under this project shall be owned exclusively by the University.

This shall include, but not be limited to:

- .Source code
- .Database and data structures
- .System configurations and settings
- .Custom modules, enhancements, and integrations
- .application programming interfaces (APIs)
- .system and technical documentation

The supplier shall:

- .provide full source code turnover prior to final system acceptance
- .ensure that all deliverables are free from third-party ownership restrictions, licensing limitations, or proprietary constraints that would prevent the University from using, modifying, or enhancing the system
- .grant the University full rights to use, modify, maintain, and further develop the system without requiring additional permissions or fees

All intellectual property rights arising from the project shall be transferred to the University upon final acceptance and full payment.

No additional licensing fees shall be required for the continued use, modification, or expansion of the system.

1.12 Smart Campus Integration and Interoperability Requirements

The System shall be fully integrated into the University Smart Campus Architecture and shall comply with the following:

.The System shall support centralized API-based integration through a University Enterprise Integration Layer (API Gateway / ESB).

.The System shall expose and consume secure RESTful APIs for interoperability with all University Information Systems.

.The System shall support real-time data synchronization using event-driven or API-based mechanisms.

.The System shall integrate with the following core systems:

- Student Information / Enrollment System
- Finance Management System
- Inventory Management System
- Document Management System
- Library Management System
- Smart Campus Portal

.The System shall support Single Sign-On (SSO) using centralized authentication services (LDAP, Active Directory, or OAuth-based).

.The System shall log all integration transactions and maintain audit trails for cross-system data exchanges.

.The System shall ensure data consistency, integrity, and validation across all systems

1.13 Centralized Clearance Integration

The System shall integrate with a Central Clearance Management Service of the University.

The System shall:

- .validate user clearance status in real time
- .report deficiencies (financial, library, property, academic, etc.)
- .prevent transactions when clearance requirements are not satisfied

Clearance statuses shall include:

- .Cleared
- .With Deficiency
- .Conditionally Cleared

The System shall synchronize clearance data with:

- .Finance (financial obligations)
- .Library (borrowed materials)
- .Inventory (property accountability)
- .Student Services (disciplinary, medical, etc.)

1.14 Unified Notification and Alert Mechanism

The System shall integrate with the University Notification Service and shall:



.send real-time notifications via:

- system dashboard
- email
- SMS

.support configurable alerts for:

- approvals
- deficiencies
- transactions
- system events
- .allow role-based notification preferences
- .maintain notification logs for audit purpose

1.15 Master Data Governance (Student Information)

The System shall serve as the single source of truth for all student-related data across the University.

The System shall:

- .maintain the official student profile, academic records, enrollment status, and academic history
- .assign and manage unique Student Identification Numbers
- .prevent duplication of student records across all systems
- .synchronize student data updates in real time to all connected systems
- .enforce data validation, standardization, and integrity rules

All other University systems shall consume student data from this System via API and shall not maintain conflicting or duplicate records

2. FUNCTIONAL SPECIFICATIONS:

2.1 Enterprise Student Management Dashboard

The system shall provide a real-time, role-based dashboard that processes and displays academic, financial, operational, and student services data across all University units.

2.1.1 MISTO (IT / System Administration Dashboard)

The system shall:

- .process system logs, audit trails, and user activity records
- .monitor system performance including response time, uptime, and concurrent users
- .track system integrations including RFID, SMS, Queue Management System, and payment gateways
- .detect system errors, failed transactions, and security incidents

The system shall display:

- .active users and concurrent sessions
- .system uptime and performance indicators
- .system errors and failed transactions
- .integration status of connected systems
- .security alerts and unusual system activities

2.1.2 Office Of Academic Affairs Dashboard

The system shall:

- .process enrollment records, curriculum data, schedules, and faculty assignments
- .analyze academic performance including grades, completion rates, and failures
- .evaluate class utilization and subject demand

The system shall display:

- .enrollment distribution by program, year level, and section
- .class utilization rates and available slots
- .subject demand and scheduling conflicts
- .academic performance indicators (passing rate, failure rate, completion rate)
- .faculty workload and teaching assignments

2.1.3 Office Of Student Affairs (Osa) Dashboard

The system shall:

- .process disciplinary cases, complaints, and incident records
- .track student organization accreditation and compliance
- .monitor student participation in activities and programs
- .process RFID logs and student ID issuance records

The system shall display:

- .number of active, pending, and resolved disciplinary cases
- .classification of offenses and incident trends
- .list and status of accredited student organizations
- .student participation and engagement metrics
- .RFID activity logs and ID issuance status

2.1.4 Guidance Office Dashboard



The system shall:

- .process counseling sessions, psychological testing results, and case records
- .track referrals, follow-ups, and shifting exam records
- .identify students requiring intervention

The system shall display:

- .number of counseling sessions conducted
- .active and resolved counseling cases
- .students identified as at-risk
- .pending follow-ups and referrals
- .psychological testing statistics

2.1.5 Scholarship and Financial Assistance Dashboard

The system shall:

- .process scholarship applications, eligibility validation, and financial assistance records
- .track sponsor billing, receivables, and fund utilization
- .monitor student assistant deployment and assignments

The system shall display:

- .total number of scholars by category
- .scholarship fund utilization and allocation
- .receivables from sponsors
- .student assistant deployment status
- .scholarship eligibility and compliance status

2.1.6 Health Services Dashboard

The system shall:

- .process medical records, consultations, diagnoses, and treatments
- .track health program participation and medical compliance
- .monitor medical clearance and referrals

The system shall display:

- .number of consultations conducted
- .common illnesses and health trends
- .students with medical alerts or chronic conditions
- .medical clearance status
- .emergency cases and hospital referrals

2.1.7 Cross-Unit And Executive Dashboard

The system shall:

- .process unified student profiles combining academic, financial, medical, and behavioral data
- .integrate clearance data across academic, financial, guidance, health, and OSA units
- .process queue, appointment, and service transaction data
- .process financial transactions including collections, balances, and receivables

The system shall display:

- .student lifecycle status from admission to graduation
- .unified clearance status across all offices
- .real-time queue status and service turnaround time
- .financial overview including collections and outstanding balances
- .alerts for pending actions including:
 - unpaid balances
 - pending counseling
 - medical requirements
 - disciplinary cases
- .referral tracking across offices including pending and completed actions

2.1.8 Dashboard Functional Capabilities

The system shall:

- .provide role-based dashboard views per office
- .support drill-down from summary data to detailed records
- .allow filtering by program, department, year level, and date range
- .support real-time data updates and synchronization
- .allow export of dashboard reports in PDF, Excel, and CSV formats

2.2 User Profile Management

The system shall support profile management for:

- .students
- .faculty members
- .administrative staff

The system shall allow users to:



- .update personal information
- .manage account credentials

- .enable multi-factor authentication (MFA)

The system shall maintain audit logs of user activities

2.3 Bulletin & Communication Management

The system shall provide communication tools allowing administrators to:

- .publish announcements
- .distribute institutional notices
- .create surveys and polls
- .send alerts and notifications to students and faculty

Notifications may be delivered through:

- .system portal
- .email
- .SMS integration

2.4 Academic Structure and Organizational Management

The system shall support configuration of the University academic structure including:

- .school profile and branding
- .academic year and term schedules
- .colleges and departments
- .organizational roles and signatories
- .grade display formats and grading schemas

2.5 Admission Management Module

The system shall digitize the entire admission process including:

- .online application forms
- .requirements submission
- .admission evaluation and acceptance
- .Creation of student accounts with automatic permanent or temporary IDs.
- .Facility to merge a duplicate student account (including all its transactions) into the original account so that the duplicate account can then be deleted.
- .Identification for New, Freshman, Returnee, Shiftee, Graduating, Transferee, Cross Enrollee, Foreigner, etc.
- .scheduling of examinations and interviews
- .applicant status tracking portal

Applicants shall be able to monitor application status through a self-service portal.

2.6 Curriculum and Academic Program Management

The system shall allow management of:

- .degree programs and academic tracks
- .course prerequisites and co-requisites
- .Automatically evaluate students based on their respective curriculum
- .Automatic crediting of internal and equivalent subjects
- .System assisted crediting of external subjects (from other schools)
- .curriculum versioning for CHED and accreditation compliance
- .curriculum duplication for efficient setup

2.7 Section & Schedule Management

The system shall support:

- .creation and modification of class sections
- .Use class codes (separated by space entered in one line only) for irregular students
- .assignment of schedules, rooms, and instructors
- .automatic detection of schedule conflicts
- .Encoding of enrolled subjects by block section for regular students
- .Adding and dropping of subjects with automatic reassessment
- .Transfer students from one class to another or subjects of student to another section
- .replication of schedules across academic terms
- .Automatically finds available schedules for the problematic subjects of student
- .generation of schedule utilization reports

2.8 Student Records & Requirements Management

The system shall maintain a centralized repository of student academic records including:

- .academic history
- .Entry of grades by teacher or registrar through network
- .course completions
- .documentary requirements.

The system shall generate academic reports including:

- .grade reports
- .student academic standing
- .transcript data



.Viewing and printing of Student Profile

The system shall:

- .support bulk import of student records
- .Saves student performance, absences, and violations
- .Controlled editing of grades through authorization and privilege
- .manage academic records and grade histories
- .track documentary requirements
- .manage scholarship and voucher tagging
- .generate requirement compliance reports

2.9 Enrollment Adjustment Management

The system shall support enrollment modification processes including:

- .adding subjects
- .dropping subjects
- .section transfers

The system shall enforce configurable deadlines and approval workflows.

2.10 Clearance Management

The system shall:

- .manage student clearance processes across multiple offices
- .support configurable multi-step clearance workflows
- .notify students of deficiencies and pending approvals
- .generate clearance reports and dashboards.

2.11 Accounts & Role-Based Access Control

The system shall implement Role-Based Access Control (RBAC) and identity management.

The system shall:

- .define user roles and permissions
- .secure sensitive student data
- .allow temporary or permanent account suspension
- .maintain detailed system audit logs

2.12 Fee, Payment , Assessment and Arrears Management

The system shall support comprehensive management of tuition fees, assessments, payments, scholarships, and receivables

2.12.1 Fee and Assessment Configuration

The system shall:

- .create and manage tuition fee templates
- .maintain a user-defined Chart of Accounts including:
 - account code
 - description
 - account type
 - parent account
 - subsidiary and ordering
- .define fees with attributes including:
 - code and description
 - fee type (tuition, miscellaneous, laboratory, other fees)
 - collection or income account
 - fund classification
 - priority level
- .manage funds, banks, and bank accounts
- .configure assessment criteria based on:
 - level, department, course, and year
 - student classification (new, old, freshman, transferee, returnee, shiftee, graduating, foreigner, etc.)
- .support special assessment cases including:
 - no tuition
 - single subject enrollment
 - late enrollment
 - adding and dropping of subjects
- .configure assessment computation based on:
 - per unit
 - per subject
 - per hour
 - fixed amount
 - packaged fees
- .allow authorized overriding of individual assessments
- .automatically include laboratory and other charges for applicable subjects

2.12.2 Payment Terms and Assessment Processing



The system shall:

- .define down payment requirements by level, department, course, or year
- .support installment payment plans
- .distribute previous balances across scheduled payments
- .configure collection periods aligned with academic terms (e.g., preliminary, midterm, final)
- .automatically generate assessment upon enrollment
- .automatically reassess student accounts when fees are updated or corrected
- .track outstanding balances and arrears
- .generate automated payment reminders

2.12.3 Scholarship, Discounts, and Government Grants Integration

The system shall:

- .manage user-defined scholarships and discount classifications
- .support both internal and external scholarship programs (e.g., UniFAST or equivalent)
- .allow automatic validation of qualified grantees
- .define scholarship parameters including:
 - maximum units
 - tuition and fee coverage
 - fixed or percentage-based discounts
- .encode scholarship grantees with automatic computation of benefits
- .support multiple scholarships or discounts per student
- .distribute sponsor payments to applicable student accounts
- .automatically update sponsor receivables and ledger accounts
- .generate reports including:
 - list of grantees
 - summary of scholarships and discounts
 - detailed distribution of discounts across fee types
 - summary of collected fees

2.12.4 Financial Monitoring and Reporting

The system shall generate financial reports including:

- .student account balance reports
- .accounts receivable reports
- .delinquency and aging reports
- .reports on uncharged or missed laboratory and professional fees

2.13 Cashier and Payment Processing

The system shall support comprehensive cashiering and payment processing functions for student financial transactions.

2.13.1 Cashier Operations

The system shall allow the cashier to:

- .configure collection periods (e.g., preliminary, midterm, final examinations) with defined dates
- .automatically reassess student accounts when fees are updated or corrected
- .generate financial reports including:
 - detailed assessment reports (fees in columns)
 - enrollment and assessment summaries
 - assessment by fee type
 - summary by department
 - assessment and collection reports
- .support integration with smartcard/RFID readers for student identification
- .automatically compute required payments for down payment and examination periods
- .automatically detect applicable payment periods based on the student's latest transaction
- .automatically distribute payments across assessed and adjusted fees
- .process payments through:
 - cash
 - bank transactions
 - online payment gateways
- .record and monitor promissory notes
- .issue official receipts
- .process refunds and payment adjustments
- .generate statements of account and cashier transaction reports

2.13.2 Online Payment Processing

The system shall support online payment processing with the following capabilities:

- .provide predefined payment types (e.g., tuition, miscellaneous fees, penalties) for faster transaction processing
- .display clear and categorized payment options for ease of use



- .allow uploading of payment proof (e.g., GCash, bank transfer) for verification and reconciliation
- .provide an administrator approval interface for validation of uploaded payments
- .integrate with smartcard/RFID systems for student identification
- .support payment categories such as:
 - tuition fees
 - miscellaneous and other school fees
 - library fines and other penalties
- .integrate with secure online payment gateways (e.g., DragonPay or BSP-accredited equivalent)
- .automatically update student portal with payment status and outstanding balances

2.14 Student Portal

The system shall:

- .Task Calendar: A calendar view showing deadlines and scheduled activities
- .Time Tracking: Displays the real-time countdown to assigned activity deadlines thereby enabling students to efficiently manage their time and assignments.
- .Real-Time Grading: Grade assignments as they are submitted, providing instant feedback
- .Integrated to the Faculty Evaluation Portal: automatically displays the evaluation questionnaire per faculty (no printing of evaluation questionnaires)

2.15 Faculty Portal

The system shall:

- .Integrated to the Class Scheduling Wizard: automatically displays student information such name, ID # and course (no re-encoding).
- .Entry of grades by teacher through network
- .Supports input raw scores online or pen-and-paper activities. Date when the entry is made automatically recorded.
- .Supports input multiple grading codes
- .Supports override raw scores or final grade
- .Automatically assigns remarks to students: passed, failed, incomplete, etc.
- .Supports input of required signatories to the final grade report
- .Supports generation of final grade report in PDF or Excel showing the grade per student as well as the required signatories
- .Integrated to the Registrar's Module: automatically sends the final grades to the Registrar (no re-encoding of grades on the Registrar's Module)

2.16 Faculty Assessment Portal

The system shall:

- .Supports set up of evaluation questions and stores them in a questions data bank.
- .Supports user-defined codes per type of teacher evaluation
- .Supports scheduling of teacher evaluation
- .Supports generation of report evaluation report

2.17 Administrator Portal

The system shall:

- .Supports sending a mass SMS message to enrolled students and may be filtered according to year level, educational level, department, course, section, etc.
- .Supports sending a mass SMS message to parents, guardians or sponsors of enrolled students, and may be filtered according to year level, educational level, department, course, section, etc

2.18 Student Support Services Integration Module

The System shall provide a fully integrated Student Support Services Module that digitizes and automates processes of the following external student service units:

- .Guidance and Counseling Center
- .University Health Services Center
- .Scholarship Office
- .Office of Student Affairs (OSA)

The module shall support workflow-based processing, inter-office coordination, and real-time student service tracking.

2.18.1 Guidance & Counseling Services Module

The system shall:

A. Psychological Testing Management

- .schedule psychological testing activities per college
- .manage test administration, scoring, and result encoding
- .generate psychological test reports
- .allow controlled release of results with consultation

B. Counseling Services Workflow



- .allow students to request counseling (online or walk-in encoding)
- .support intake interview documentation
- .record counseling sessions and case notes
- .enable referral to specialists (psychologist, medical doctor, etc.)
- .track follow-up sessions and case resolution

C. Shifting Exam Processing

- .online application for shifting exam
- .requirements tracking and validation
- .exam scheduling and payment tagging
- .result release with counseling integration
- .endorsement tracking to:

- originating college
- receiving college
- admission office

2.18.2 University Health Services Module

The system shall:

A. Student Medical Records Management

- .maintain electronic health records (EHR) of students
- .store consultation, diagnosis, and treatment history
- .track chronic conditions and medical alerts

B. Consultation & Clinical Services

- .manage outpatient consultation records
- .record prescriptions, treatments, and referrals
- .track emergency cases and hospital referrals

C. Pre-Enrollment & Compliance Health Checks

- .manage medical assessment for freshmen and transferees
- .enforce health clearance before enrollment

D. Health Programs Monitoring

- .track participation in:

- drug testing
- HIV screening
- dental and medical exams
- .generate health statistics and reports

2.18.3 Scholarship & Student Financial Assistance Module

The system shall:

A. Scholarship Application & Validation

- .accept scholarship applications (internal/external)
- .validate eligibility based on:
 - grades
 - income classification
 - program criteria

B. Grant Management

- .manage multiple scholarships per student
- .automate discount application to tuition
- .track sponsor billing and receivables

C. Student Assistant (SA) / Work Program Integration

- .manage student assistant applications
- .track:
 - requirements submission
 - interviews and evaluation
 - deployment to offices
- .support approval workflow:
 - CJPC - Screening Committee - VPSAS - President

D. Reports

- .list of scholars and grantees
- .utilization of funds
- .deployment and assignment reports

2.18.4 Office Of Student Affairs (OSA) Module

A. Student Discipline Management System

The system shall:

- .allow filing of complaints (faculty/staff/student)
- .manage case lifecycle:
 - complaint intake
 - investigation
 - committee deliberation



- decision approval
- support Student Disciplinary Tribunal (SDT) workflow
- .record sanctions and disciplinary history
- .generate case reports

B. Student Organization Management

- .online application for new organizations and renewal
- .submission and validation of requirements
- .workflow routing:

- OSA - VPSAS - Legal Office - President
- .issuance of Certificate of Accreditation

C. Student ID Management (Integrated with RFID)

- .application for new ID
- .replacement of lost/damaged ID
- .verification against OSA records
- .integration with:

- RFID system
- cashier (payment validation)
- ID printing unit

D. Student Activity & Engagement Monitoring

- .track student participation in:
- organizations
- events
- disciplinary programs
- .integrate with student profile and clearance system

2.18.5 Cross-Office Workflow Integration

The system shall enable end-to-end inter-office coordination, including:

A. Clearance Integration

- .automatically check student status from:
- Guidance (pending counseling cases)
- Health (medical clearance)
- Scholarship (financial obligations)
- OSA (disciplinary cases)

B. Unified Student Profile

- .consolidate data from all units into one record:
- academic
- medical
- behavioral
- financial
- co-curricular

C. Referral System

- .allow one office to refer a student to another:
- OSA - Guidance (behavioral case)
- Guidance - Health (medical/mental case)
- Health - Guidance (mental health referral)

D. Notification Integration

- .automated alerts for:
- counseling schedules
- medical appointments
- disciplinary notices
- scholarship updates

3.0 ENTERPRISE DATA BACKUP AND DISASTER RECOVERY REQUIREMENTS

The system shall implement enterprise data protection including:

- .automated daily incremental backups
- .weekly full backups
- .off-site backup storage(Provide By WMSU Server)
- .disaster recovery procedures for system restoration
- .Source code Turn-over

The system shall ensure data integrity verification and secure recovery processes.

4.0 HARDWARE INFRASTRUCTURE AND STUDENT SERVICES EQUIPMENT

4.1 Student Information System Workstations (20 Units)

The supplier shall provide dedicated workstations to support all operational units of the Student Information Management System, including:

- .Office of the Registrar and Enrollment Units
- .Guidance and Counseling Center
- .University Health Services Center



- .Office of Student Affairs (OSA)
- .Scholarship and Student Financial Assistance Office
- .System Administration and IT Units

These workstations shall be used for:

- .student enrollment and registration processing
- .academic records management and grading
- .counseling, psychological testing, and case management
- .medical records and health service monitoring
- .student discipline, organization, and activity management
- .scholarship processing and financial assistance tracking
- .system administration, reporting, and analytics

Each workstation shall include:

Specifications:

- .Processor: minimum 12 cores and 16 threads, at least 3.0 GHz base clock speed
- .Graphics Processing Unit (GPU): integrated or dedicated GPU with at least 4GB VRAM
- .Memory: at least 16GB DDR4/DDR5 RAM (expandable to 32GB or higher)
- .Storage: at least 512GB NVMe SSD
- .Display: at least 24" Full HD IPS monitor suitable for multi-window operations
- .Power Protection: minimum 1000VA Line-Interactive UPS with AVR
- .Connectivity: Gigabit LAN, Wi-Fi capable
- .Accessories: keyboard and optical mouse . 313,800,000.00/lot. Total of 313,800,000.00
- of .Furniture:

-Ergonomic Office Chair

-Office Work Table

4.2 Queue Management and Slip Printing System (Complete Package)

The supplier shall provide an integrated Queue Management and Slip Printing System to support efficient delivery of student services across the University, including the Office of the Registrar, Office of Student Affairs (OSA), Health Services, and Guidance Offices.

The system shall automate queuing, ticket generation, and service flow management to improve operational efficiency and reduce waiting time.

The system shall include the following components:

- .Thermal receipt printers
- .Queue display monitors
- .Counter calling devices
- .Queue management software with dashboard

The system shall:

- .generate queue numbers for student transactions
- .print queue tickets, appointment slips, and confirmations
- .display real-time queue status on monitors
- .allow staff to call and manage queue numbers
- .provide analytics and reports on service time and volume
- .integrate with the Student Information Management System (SIMS)

4.2.1 Thermal Receipt Printer (Slip / Ticket Printer) (10 units)

The supplier shall provide thermal receipt printers for printing student transaction slips.

Specifications:

- .Print Method: Direct Thermal Printing
- .Print Speed: at least 200 mm/sec
- .Resolution: at least 203 dpi
- .Paper Width: 80 mm
- .Auto Cutter: Automatic cutter
- .Interface: USB + LAN
- .Command Support: ESC/POS or equivalent
- .Print Head Life: at least 150 km
- .Cutter Life: at least 1.5 million cuts

4.2.2 Queue Display System (5 units)

The supplier shall provide display systems for real-time queue monitoring.

Specifications:

- .Display: at least 43" LED screen
- .Resolution: Full HD or higher
- .Connectivity: HDMI/LAN
- .Wall-mount capable

4.2.3 Counter Calling System (Staff Terminal) (5 units)

The supplier shall provide counter calling devices for staff.

Specifications:

- .Desktop or tablet-based interface



.With calling software
.Audio notification capability
4.2.4 Queue Management Software
The supplier shall provide software for queue control and analytics.

- Features:
- .queue ticket generation
 - .real-time queue monitoring dashboard
 - .counter assignment and control
 - .reporting and analytics
 - .integration with SIMS
- 4.3 Network and Security Infrastructure

The supplier shall provide:

- .enterprise-grade firewall with intrusion prevention system (IPS)
- .managed network switches
- .secure LAN/WAN connectivity
- .network monitoring and alerting tools

5.0 SERVICE LEVEL AGREEMENT (SLA) AND SYSTEM PERFORMANCE REQUIREMENTS

The supplier shall provide Service Level Agreement (SLA) commitments covering system performance, support services, and operational reliability.

5.1 Support and Maintenance Coverage

The supplier shall provide three (3) years of warranty and technical support starting from the official system acceptance date

Support services shall include:

- .provision of system updates and enhancements
- .security patches and vulnerability mitigation
- .bug fixes and issue resolution
- .system performance monitoring and optimization
- .helpdesk or ticketing system for incident reporting and support requests

5.2 Performance and Response Standards

The system and the supplier shall comply with the following measurable performance standards:

Category	Requirement
Support Ticket	Initial response within 48 hours
Response Time	
Issue Resolution Time	Resolution with 5 Days, depending on severity
Concurrent Users	System must support at least 5,000 concurrent users during peak enrollment periods

5.3 System Availability and Data Protection

To ensure operational continuity and data integrity, the following requirements shall be implemented:

- .automated daily incremental backups
- .weekly full system backups
- .off-site storage of backup data for disaster recovery
- .system deployment on high-availability server infrastructure
- .encrypted user communications
- .support for Multi-Factor Authentication (MFA)

6.0 SYSTEM ACCEPTANCE AND DELIVERABLES

The University Student Information System shall only be considered fully delivered and accepted after the supplier successfully completes the following acceptance requirements:

6.1 System Acceptance Testing

The system must pass the following validation procedures:

- .System Testing
- .Integration Testing
- .Performance Testing
- .Security Configuration Verification
- .User Acceptance Testing (UAT)

User Acceptance Testing shall be conducted with representatives from the following offices:

- .Office of the University Registrar
- .Accounting and Cashier Offices
- .Academic Departments
- .Information Technology Office

6.2 Data Migration Validation



The supplier shall demonstrate successful migration of legacy data including:

- .student profiles
- .academic records and grade history
- .enrollment records
- .financial account records.

Migration reports shall confirm data completeness, accuracy, and integrity.

6.3 Performance Validation

The system shall demonstrate operational capability under peak load conditions including:

- .support for at least 5,000 concurrent users
- .compliance with the 3-second system response requirement.

6.4 Documentation and Knowledge Transfer

Prior to final acceptance, the supplier shall deliver:

- .system architecture documentation
- .database schema documentation
- .system administration manuals
- .user manuals
- .cybersecurity and backup procedures.

The supplier shall conduct all required training and knowledge transfer sessions for University personnel. / . Total of

of 2.) **TRANSCRIPT OF RECORDS MANAGEMENT SYSTEM**

End-User: Registrar Office

1.0 GENERAL REQUIREMENTS:

The University Transcript of Records Management System (TORMS) shall provide a centralized, secure, and automated enterprise platform for the management, processing, verification, and

issuance of official academic records including:

- .Transcript of Records (TOR)
- .Certifications
- .Academic credentials
- .Student academic history
- .Alumni records

The system shall support the operational processes of the University Registrar's Office, including:

- .academic records consolidation
- .transcript generation and verification
- .document request processing
- .certification issuance
- .alumni records management
- .integration with institutional academic systems

The TORMS shall be fully integrated with the University Smart Campus Information Systems, including:

- .Enrollment System
- .Student Information System
- .Finance / Accounting System
- .University Document Management System
- .University Portal

The system shall comply with the following regulations and standards:

- .Philippine Data Privacy Act (RA 10173)
- .CHED academic records policies
- .ISO 9001:2015 Quality Management System
- .COA government records audit requirements.

The system must be delivered with the following service and contractual requirements:

1.1 Software Design & Development

The supplier shall design and implement a secure, scalable, and enterprise-grade Transcript of Records Management System.

The system shall:

- .provide web-based access through modern web browsers
- .support multi-campus and multi-college deployment
- .support modular architecture for future Smart Campus expansion
- .support Application Programming Interface (API) integration with other university information systems
- .ensure system scalability to support future institutional digital services
- .support real-time data synchronization with other University enterprise systems
- .support at least 500 concurrent users
- .return system queries and transcript retrieval results within three (3) seconds under



normal operating conditions

- .support database optimization and indexing mechanisms for efficient retrieval of large academic records datasets
- .support load balancing capability when deployed in multi-server environments
- .maintain system availability of at least 99.5% uptime excluding scheduled maintenance

1.2 Perpetual License Fee

The system shall include a perpetual enterprise software license granting the University lifetime usage rights.

The license shall include:

- .unlimited internal users
- .full administrative control
- .unlimited academic records storage within deployed infrastructure
- .no recurring subscription cost except for support and maintenance services.

1.3 Installation and Configuration Services

The supplier shall:

- .install and deploy the system on University-approved infrastructure
- .support deployment through on-premise servers or secure cloud infrastructure
- .configure the following:

- user accounts and role-based access control (RBAC)
- transcript templates and document formats
- academic program structures
- approval workflows
- system security settings
- authentication and identity management policies.

The system shall support:

- .multi-level user roles, including Registrar administrators, Registrar staff, academic coordinators, system administrators, students, and alumni users
- .strong password policies and account lockout mechanisms for failed login attempts
- .optional Multi-Factor Authentication (MFA) for privileged system users.

The supplier shall perform system configuration verification prior to system acceptance

1.4 User Workflow Integration

The system shall implement workflows aligned with Registrar operations, including:

- .transcript request processing
- .academic records verification
- .transcript approval and release
- .certification generation
- .alumni record access and validation.

The system shall support:

- .configurable approval hierarchies
- .digital workflow routing
- .automated request tracking
- .integration with the University portal for online student services.
- .interoperability with the Enrollment System, Student Information System, Finance Management System, and Document Management System
- .real-time synchronization of student academic records and transcript data across University enterprise systems

1.5 Training and Knowledge Transfer

The supplier shall conduct structured training sessions for:

- .Registrar's Office personnel
- .Records management staff
- .Alumni relations staff
- .System administrators
- .IT system administrators

Training materials shall include:

- .user manuals
- .system administration guides
- .video tutorials
- .operational procedures documentation.

1.6 Post-Implementation Documentation

The supplier shall provide complete documentation including:

- .system architecture documentation
- .database schema
- .workflow diagrams
- .system administration manuals
- .user manuals



- .disaster recovery procedures
- .data privacy compliance documentation.

1.7 Testing and Commissioning

The supplier shall conduct:

- .system testing
- .integration testing
- .performance testing
- .security testing
- .User Acceptance Testing (UAT)

The system shall be accepted only after successful completion of UAT and formal approval by the University.

1.8 Data Migration Planning & Consultancy Services

The supplier shall:

- .conduct assessment of existing academic records
- .migrate legacy records from:
 - .student databases
 - .spreadsheet records
 - .archived digital records
- .support digitization of historical academic records
- .perform data validation and reconciliation before system go-live

1.9 Project Management

The supplier shall provide Project Management Services covering planning, implementation, deployment, and completion of the TORMS.

The supplier shall:

- .assign a dedicated Project Manager and technical implementation team
- .coordinate project activities with the University
- .submit the following documents:
 - .project implementation plan
 - .project schedule (Gantt chart)
 - .weekly progress reports
 - .risk management plan

1.10 Three Years (3) Support & Maintenance

The supplier shall provide:

- .three (3) years warranty
- .technical support services
- .system updates and upgrades
- .security patches
- .performance optimization

Support services shall include:

- .helpdesk
- .defined Service Level Agreement (SLA):
 - .response time: within 4 hours
 - .issue resolution: within 24-48 hours

1.11 Data Ownership and Intellectual Property Rights

The University shall retain full ownership of all system data, including but not limited to student records, academic records, transcripts, certifications, alumni data, and all related information stored within the system.

All system configurations, customizations, workflows, and databases developed or implemented under this project shall be the exclusive property of the University.

For custom-developed components, the University shall have full rights to use, modify, and maintain the system for institutional purposes.

The supplier shall not restrict access to system data, nor impose limitations that prevent the University from extracting, backing up, or migrating its data at any time

1.12 Smart Campus Integration and Interoperability Requirements

The System shall be fully integrated into the University Smart Campus Architecture through a centralized Enterprise Integration Layer.

The System shall:

- .support secure RESTful API-based integration with all University Information Systems
- .connect through a centralized API Gateway or Enterprise Service Bus (ESB)
- .support real-time data synchronization across systems
- .ensure interoperability with:
 - Enrollment System
 - Finance Management System
 - Inventory Management System
 - Document Management System



- Library Management System
- University Portal
- .support Single Sign-On (SSO) using centralized authentication services (LDAP, Active Directory, or OAuth-based)
- .maintain audit logs for all cross-system transactions
- .ensure consistency, validation, and integrity of shared data across systems

1.13 Centralized Clearance Integration

The System shall integrate with a Central Clearance Management Service of the University.

The System shall:

- .validate user clearance status in real time
- .report deficiencies (financial, library, property, academic, etc.)
- .prevent transactions when clearance requirements are not satisfied

Clearance statuses shall include:

- .Cleared
- .With Deficiency
- .Conditionally Cleared

The System shall synchronize clearance data with:

- .Finance (financial obligations)
- .Library (borrowed materials)
- .Inventory (property accountability)
- .Student Services (disciplinary, medical, etc.)

1.14 Unified Notification and Alert Mechanism

The System shall integrate with the University Notification Service and shall:

- .send real-time notifications via:
 - system dashboard
 - email
 - SMS
- .notify users on:
 - request status updates
 - deficiencies and clearance issues
 - payment verification
 - approval and release status
- .support configurable notification rules and role-based alerts
- .maintain notification logs for audit and monitoring purposes

1.15 Master Data Governance

The System shall recognize the Enrollment System as the single source of truth for student academic and profile data.

The System shall:

- .retrieve student data from the Enrollment System via API
- .prevent duplication of student records
- .synchronize updates across all connected systems

The System shall implement unique identifiers including Student ID and Transaction Reference Numbers for traceability

2 FUNCTIONAL SPECIFICATIONS:

2.1 Academic Records Integration Module

The system shall integrate with the University academic systems and automatically synchronize:

- .student profile information
- .program and curriculum records
- .grades and academic history
- .enrollment records

The system shall:

- .support secure API-based data exchange with University enterprise systems
- .perform automated data validation and synchronization
- .ensure data consistency across all integrated systems.
- .support future integration with Smart Campus digital credential verification services and institutional analytics platforms.

The System shall retrieve all academic records, grades, curriculum data, and enrollment history from the Enrollment System via secure API.

The System shall not allow manual encoding or modification of academic records outside authorized integration workflows.

All academic data shall remain consistent with the Enrollment System at all times

2.2 Transcript of Records Generation Module

The system shall support automated generation of official transcripts.

The system shall:



- .generate official Transcript of Records (TOR) in the approved University format
- .support secure digital signature validation of authorized Registrar officials
- .embed QR Code or secure verification code in each transcript for authenticity validation
- .support secure printing of transcripts with controlled access authorization
- .maintain transcript version control to prevent unauthorized modification
- .maintain complete transcript issuance history including print logs and digital issuance records

The system shall support digital transcript verification through an online verification service that allows authorized parties such as employers, institutions, and government agencies to validate the authenticity of issued transcripts.

The verification service shall:

- .allow validation using QR code or verification reference number
- .display limited transcript verification details without exposing confidential student information
- .record verification attempts for audit purposes

2.3 Certification and Academic Document Issuance Module

The system shall allow generation and issuance of academic certifications including:

- .certification of enrollment
- .certification of graduation
- .certification of academic standing
- .certification of units earned

The system shall:

- .support configurable certification templates
- .maintain document issuance logs
- .allow digital verification of issued certifications

2.4 Academic Computation and Academic Standing Module

The system shall automatically compute:

- .General Weighted Average (GWA)
- .academic standing
- .eligibility for graduation
- .Latin honors classification.

The system shall generate reports including:

- .GWA per student
- .honor graduates per program
- .academic performance reports.

2.5 Transcript Request and Tracking Module

The system shall support online transcript and certification requests, including local and foreign (international) certification requests, through the University portal.

2.5.1 Request Initiation and Classification Module

The system shall:

- .allow students and alumni to submit transcript and certification requests through the University portal
- .support requests for:
 - Transcript of Records (TOR)
 - academic certifications
 - foreign-use certifications (e.g., CAV, authentication, apostille-ready documents, and other international academic credentials)
- .allow classification of requests as:
 - local request
 - foreign/international request
- .capture additional required information for foreign requests, including:

- destination country
- purpose of request (employment, study, migration, etc.)
- requesting institution or agency

2.5.2 Document Submission and Validation Requirements Module

The system shall enforce document submission policies for Transcript of Records (TOR) requests after graduation, as follows:

- .for first-time TOR requests after graduation, the system shall:
 - require submission and verification of primary physical documents at the Registrar's Office, such as:
 - clearance documents
 - official request forms
 - other University-required credentials--
 - allow uploading of secondary supporting documents through the portal, including:
 - promissory notes



authorization letters (for representatives)

valid identification documents

-tag the request as "First Request - With Physical Document Requirement"

-require Registrar validation and confirmation before processing begins

.for succeeding TOR requests, the system shall:

-no longer require submission of primary physical documents, provided prior validation has been completed

-allow fully online request processing

-retain previously submitted and validated records for reference

The system shall:

.maintain document submission history for each student/alumni

.support digital tagging of compliance status (e.g., cleared, pending, verified)

.prevent processing of first requests without required validation of physical documents

.allow Registrar staff to encode or confirm receipt of physical documents in the system

2.5.3 Clearance Validation and Eligibility Control Module

The System shall integrate with the University Central Clearance Management Service.

The System shall:

.retrieve clearance status in real time from the centralized clearance system

.validate the following clearance components:

-financial obligations (Finance System)

-library accountability (Library System)

-property accountability (Inventory System)

-academic and administrative requirements (Enrollment and Student Services Systems)

.assign clearance status as:

-Cleared

-With Deficiency (with detailed breakdown)

-Conditionally Cleared

.prevent processing of requests when clearance status is "With Deficiency" unless conditionally approved

.log all clearance validation transactions for audit purposes

The System shall not implement independent clearance computation logic, and shall rely exclusively on the centralized clearance service

2.5.4 Workflow Control and Processing Logic Module

The system shall implement a controlled, rule-based workflow, ensuring that:

.requests shall only proceed when ALL of the following are satisfied:

-required documents submitted and validated

-clearance status is verified or conditionally approved

-payment is confirmed or properly authorized

.the system shall enforce a configurable, rule-based workflow that includes key stages such as request submission, validation, clearance verification, payment verification, processing approval, and release, while allowing the University to modify workflow steps as needed.

.support separate workflows for foreign certification requests, including extended validation steps

.log all workflow transitions for audit purposes

2.5.5 General Request Processing Features Module

The system shall:

.allow uploading of supporting documents such as:

-valid identification (e.g., passport)

-authorization letters

-promissory notes

-agency or embassy requirements

.track request status in real time

.notify users of request progress

.generate request transaction logs

.support configurable workflows for different request types

The system shall also:

.provide automated email or portal notifications for request status updates

.allow tracking of request status including pending, processing, approved, and released status

.support extended processing timelines and prioritization options for foreign certification requests

.generate unique tracking/reference numbers for all requests

.maintain complete logs of all requests, including foreign certification and international credential requests



.maintain service logs to monitor average processing time

2.5.6 Reporting and Monitoring Module

The system shall generate performance and compliance reports including:

- .number of requests processed per period
- .average processing time per request
- .backlog of pending transcript requests
- .foreign certification request statistics (volume, destination countries, processing timelines)
- .clearance deficiency reports
- .payment collection and verification reports

2.6 Payment Verification and Financial Control Module

The system shall enforce strict payment validation prior to document processing and release.

The system shall:

- .integrate in real time with the University Finance / Accounting System
 - .automatically compute applicable fees based on:
 - type of request (TOR, certification, foreign use)
 - urgency/priority processing
 - number of copies requested
 - .support multiple payment channels, such as:
 - cashier payment validation
 - online payment gateways
 - bank payment confirmation
 - .assign payment status:
 - Unpaid
 - Pending Verification
 - Paid/Verified
 - .prevent:
 - processing of requests without payment confirmation
 - release of documents without verified payment
 - .support attachment and validation of:
 - proof of payment
 - official receipts
 - .allow conditional processing for:
 - approved promissory notes, subject to Registrar and Finance approval
 - .maintain complete payment transaction logs linked to each request
- #### 2.7 Alumni Records Management Module
- The system shall maintain a centralized alumni database containing:
- .alumni personal profiles
 - .academic records
 - .graduation details
 - .employment information.
- ##### 2.7.1 Alumni Data Management
- The system shall support:
- .alumni data updating through secure portal access
 - .alumni profile management, including:
 - contact information
 - employment details
 - professional credentials
 - .alumni search, filtering, and reporting
 - .alumni engagement monitoring
- ##### 2.7.2 Employment Tracing and Alumni Tracer Functionality
- The system shall provide a comprehensive Alumni Tracer and Employment Tracking Module to support institutional reporting, accreditation, and graduate outcome analysis.
- The system shall:
- .allow alumni to update employment information through the portal, including:
 - employment status (employed, unemployed, self-employed, etc.)
 - job title and position
 - employer/company name
 - industry sector
 - employment location (local or international)
 - date of employment
 - .support periodic alumni tracer surveys, including:
 - customizable survey forms
 - batch survey distribution via email or portal notifications
 - automated reminders for non-respondents



.track key employability indicators such as:

- employment rate per program
- time-to-employment after graduation
- alignment of job with academic program

.allow uploading of supporting documents (optional), such as:

- employment certificates
- contracts or appointment documents

2.7.3 Tracer Study and Analytics

The system shall:

.generate Alumni Tracer Study Reports required for:

- CHED reporting
- accreditation (e.g., AACCUP, PACUCOA)
- institutional planning and curriculum improvement

.provide analytics including:

- employment distribution by program
- top hiring industries
- geographic employment distribution (local vs international)
- salary range distribution (optional and configurable)
- .support longitudinal tracking of alumni employment progression over time

2.7.4 Integration and Data Synchronization

The system shall:

.link alumni tracer data with:

- academic program records
- graduation data
- transcript and certification records

.support integration with:

- University Alumni Office systems
- Career Services or Placement Office (if applicable)
- .ensure real-time or scheduled synchronization of alumni data

2.7.5 Security and Privacy Compliance

The system shall:

.ensure all alumni and employment data are handled in compliance with:

- Data Privacy Act of 2012 (RA 10173)
- .allow alumni to control visibility of certain personal and employment information
- .implement consent-based data collection for tracer studies

2.7.6 Reporting and Monitoring

The system shall generate reports including:

- .alumni employment rate reports
- .tracer study response rates
- .employment statistics per college/program
- .international employment tracking reports
- .alumni engagement reports

2.8 Audit Trail and System Activity Monitoring

The system shall maintain complete, tamper-proof, and non-editable audit logs of all system activities including:

- .transcript generation
- .grade creation and modifications (including all changes to academic records)
- .document issuance
- .system access
- .transcript printing and downloads

Audit logs shall capture:

- .user ID and full name
- .user role (e.g., Registrar staff, Academic Coordinator, System Administrator)
- .date and time (with system timestamp)
- .action performed
- .affected record (student, subject, document, or transaction reference)

For grade-related transactions, the system shall implement enhanced audit trail requirements, including:

- .recording of original grade value and modified grade value
- .mandatory entry of reason/justification for grade modification prior to submission
- .capture of complete subject/course details and student information
- .support for attachment of supporting documents (e.g., approved grade change forms)
- .maintenance of full version history of grades, allowing retrieval of all previous values
- .enforcement of role-based access control, restricting grade modification to authorized personnel only



- .implementation of multi-level approval workflows for grade changes, where applicable
- .automatic logging of approval actions and decision history
- .prevention of deletion or alteration of any grade-related audit records

The system shall support:

- .real-time monitoring of suspicious activities, including unusual or repeated grade modifications
- .automated alerts or notifications for potential unauthorized or high-risk actions
- .generation of comprehensive audit reports, including:
 - .system activity logs
 - .grade modification history reports
 - .user activity tracking reports
- .audit reporting for compliance with:
 - .Commission on Higher Education (CHED) requirements
 - .Commission on Audit (COA) audit standards
 - .Data Privacy Act of 2012 (RA 10173)

2.9 Management Reporting and Analytics Module

The system shall generate management reports including:

- .number of transcripts issued per college and academic program
- .certification requests per period
- .transcript processing time statistics
- .alumni records statistics
- .academic performance summaries

The system shall support generation of institutional academic reports required for:

- .University administration
- .Commission on Higher Education (CHED) reporting
- .institutional planning and analytics.

Reports shall be exportable in PDF, docx, and spreadsheet formats.

2.10 Archiving and Records Lifecycle Management Module

The system shall provide a comprehensive Archiving and Records Lifecycle Management Module to ensure secure, long-term preservation, retrieval, and compliance management of academic records and documents.

2.10.1 Archiving Capabilities

The system shall:

- .support long-term digital archiving of:
 - Transcript of Records (TOR)
 - certifications and academic documents
 - student academic history
 - alumni records
 - supporting documents (e.g., authorization letters, promissory notes, clearance records)
- .implement automated archiving policies, including:
 - archiving of inactive or completed records after a defined period
 - configurable retention schedules based on University policies
- .maintain immutable archived records, preventing unauthorized modification or deletion

2.10.2 Records Classification and Indexing

The system shall:

- .classify archived records based on:
 - student/alumni profile
 - academic program and year
 - document type
 - request type (local or foreign)
- .provide advanced indexing and metadata tagging, including:
 - document reference number
 - date of issuance
 - document status
- .support fast and efficient search and retrieval of archived records

2.10.3 Retention and Compliance Management

The system shall:

- .support configurable records retention policies, including:
 - minimum retention period (e.g., 10 years or as required by CHED/COA)
 - permanent archiving for critical academic records
- .enforce automated retention rules, including:
 - archival
 - restricted access
 - disposal eligibility (subject to approval)



.generate records retention and disposal reports for compliance

2.10.4 Secure Storage and Data Protection

The system shall:

.store archived records in a secure, encrypted repository

.implement:

-data encryption at rest and in transit

-access control and role-based permissions

.support redundant storage and backup mechanisms to prevent data loss

.ensure archived records are protected against:

-unauthorized access

-accidental deletion

-data corruption

2.10.5 Access Control and Retrieval

The system shall:

.allow controlled access to archived records based on user roles

.provide:

-view-only access for authorized users

-restricted access for sensitive records

.maintain audit logs of all access and retrieval activities

.support on-demand retrieval and reactivation of archived records when needed

2.10.6 Integration with Other Modules

The Archiving Module shall integrate with:

.Transcript Generation Module

.Certification Issuance Module

.Audit Trail Module

.Document Management System

.Backup and Disaster Recovery System

The system shall ensure that:

.all finalized and released documents are automatically archived

.all archived records are linked to audit trails and transaction history

2.10.7 Digitization and Historical Records Support

The system shall:

.support digitization and archiving of historical academic records

.allow bulk upload and indexing of:

-scanned documents

-legacy academic records

.support OCR (Optical Character Recognition) for searchable archived documents

2.10.8 Reporting and Monitoring

The system shall generate reports including:

.archived records inventory

.retention status reports

.archival and retrieval activity logs

.storage utilization reports

2.11 Dashboard and Monitoring Module

The system shall provide a role-based, real-time Dashboard and Monitoring Module to support operational monitoring, decision-making, and compliance reporting.

The system shall:

.provide dashboards for:

-Registrar administrators and staff

-University management

-Alumni/Career Services (for tracer data)

.display real-time key performance indicators (KPIs)

.support filtering by date, academic year, program, and request type

.allow drill-down from summary data to detailed records

The Dashboard Module shall provide visualization of operational and management data and shall not duplicate report generation functionalities defined in other modules.

2.11.1 TOR and Certification Monitoring

The system shall display:

.total number of requests and status distribution (pending, processing, approved, released)

.average processing time and backlog of requests

.local vs foreign request statistics

.clearance and payment status (cleared/deficient, paid/unpaid)

.request trends and processing bottlenecks

2.11.2 Alumni Tracer and Employment Monitoring

The system shall display:



- .total graduates, respondents, and employment rate
- .employment status distribution and job alignment
- .employment data by program, industry, and location (local/international)
- .tracer survey response rates and trends

2.11.3 Compliance and Activity Monitoring

The system shall:

- .display system activity and audit-related indicators
- .monitor grade modification activities and user actions
- .generate alerts for:
 - suspicious activities
 - delayed processing
 - incomplete clearance or unpaid requests

2.11.4 Visualization and Reporting

The system shall:

- .present data using charts, tables, and summary indicators
- .support export of reports in PDF and spreadsheet formats
- .support scheduled and on-demand report generation

2.11.5 Integration and Performance

The system shall:

- .integrate with all core modules (requests, audit trail, alumni tracer, payment, clearance, archiving)
- .ensure real-time data synchronization
- .load dashboards within three (3) seconds under normal conditions

3.0 ENTERPRISE DATA BACKUP AND DISASTER RECOVERY REQUIREMENTS

The system shall implement enterprise-level data protection mechanisms.

The system shall:

- .perform daily incremental backups
- .perform weekly full system backups
- .support off-site or secondary backup storage
- .support automated backup verification mechanisms
- .support system restoration procedures in case of system failure or data loss.

The disaster recovery capability shall:

- .restore critical system services within acceptable Recovery Time Objectives (RTO)
- .ensure preservation and integrity of official academic records and transcripts.

4.0 HARDWARE INFRASTRUCTURE REQUIREMENTS

The supplier shall provide the necessary infrastructure required for system deployment.

4.1 Digitization Equipment for Historical Academic Records (15 Units)

The supplier shall provide high-speed document scanners capable of:

- .automatic document feeder (ADF)
- .duplex scanning
- .archival quality scanning
- .high-volume digitization

4.2 High-End Multimedia Workstations (15 Units)

The supplier shall provide fifteen (15) high-performance multimedia workstations suitable for document digitization, records processing, OCR operations, and multimedia content processing required for the Transcript of Records Management System.

Specifications:

- .Processor: minimum 16 cores and 24 threads, at least 3.0 GHz Base clock speed
- .Graphics Processing Unit (GPU): at least 8GB Graphics (GPU)
- .Memory: at least RAM 64GB DDR5 6000MT/s (Dual Channel)
- .Storage: at least 1TB NVMe PCIe Gen5 SSD
- .Display: at least 32" 4K IPS Panel or equivalent professional display suitable for document digitization and image viewing
- .Power Protection: 1500VA Line-Interactive UPS with AVR
- .Accessories: Ergonomic mechanical keyboard, high-precision optical mouse
- .With Ergonomic Office Chair
- .With Ergonomic PC Table

4.3 Network and Security Infrastructure

The system shall support secure network connectivity and protection of sensitive academic records.

The system shall implement:

- .encrypted communication protocols for all system transactions
- .integration with University firewall and network security infrastructure
- .secure authentication mechanisms for all system users
- .protection against unauthorized access to academic records



.system monitoring for network and service availability.
Sensitive data including academic records and transcripts shall be protected through industry standard encryption during transmission and storage.

The system shall also support:

- .secure HTTPS communication using TLS encryption protocols
- .integration with University identity management systems where applicable
- .secure user authentication for students and alumni accessing transcript services through the University portal.

5.0 SERVICE LEVEL AGREEMENT (SLA) AND SYSTEM PERFORMANCE REQUIREMENTS

The supplier shall provide Service Level Agreement (SLA) commitments covering system performance, operational reliability, and technical support services for the University

Transcript of

Records Management System.

5.1 Support and Maintenance Coverage

The supplier shall provide three (3) years of warranty and technical support beginning from the official system acceptance date.

Support services shall include:

- .system updates and enhancements
- .security patches and vulnerability mitigation
- .bug fixes and technical issue resolution
- .system performance monitoring and optimization
- .provision of a helpdesk for incident reporting and support requests.

5.2 Performance and Response Standards

The system and the supplier shall comply with the following measurable performance standards:

Category	Requirement
Support Ticket Response Time	Initial response within 48 hours
Issue Resolution Time	Resolution within 5 Days, depending on issue severity
Concurrent Users	System must support at least 500 concurrent users without performance degradation

The supplier shall implement a severity-based incident classification, including Critical, High, Medium, and Low priority incidents.

Critical incidents (system downtime or major functionality failure) shall require immediate response and resolution within agreed timelines.

The SLA shall include service credits or penalties for non-compliance with agreed response time, resolution time, and system availability commitments.

5.3 System Availability and Data Protection

To ensure operational continuity and data integrity, the following requirements shall be implemented:

- .automated daily incremental backups
- .comply with the Backup and Disaster Recovery requirements defined under Section 3.0.
- .off-site storage of backup data for disaster recovery
- .deployment on high-availability server infrastructure
- .encrypted user communications using secure protocols
- .support for Multi-Factor Authentication (MFA) for privileged users.

6.0 SYSTEM ACCEPTANCE AND DELIVERABLES

The University Transcript of Records Management System shall only be considered fully delivered and accepted after the supplier successfully completes the following acceptance requirements.

6.1 System Acceptance Testing

The system must pass the following validation procedures:

- .System Testing
- .Integration Testing
- .Performance Testing
- .Security Configuration Verification
- .User Acceptance Testing (UAT)

User Acceptance Testing shall be conducted with representatives from the following offices:

- .Office of the University Registrar
- .Accounting Office
- .Alumni Relations Office
- .Information Technology Office



6.2 Data Migration Validation

The supplier shall demonstrate successful migration of legacy data including:

- .student academic records
- .historical transcript data
- .certification records
- .alumni records.

Migration validation reports shall confirm data completeness, accuracy, and integrity.

6.3 Performance Validation

The system shall demonstrate operational capability under expected system load conditions including:

- .support for at least 500 concurrent users
- .compliance with the 3-second system response requirement
- .stable system performance during peak academic records processing periods.

6.4 Documentation and Knowledge Transfer

Prior to final system acceptance, the supplier shall deliver the following documentation:

- .system architecture documentation
- .database schema documentation
- .system administration manuals
- .user manuals
- .cybersecurity and backup procedures.

The supplier shall conduct all required training and knowledge transfer sessions for University personnel.

The supplier shall provide full system turnover materials, including source code (for custom developed components where applicable), database structure, and technical documentation necessary for system maintenance and future enhancements.

3.) DOCUMENT MANAGEMENT SYSTEM

End-User: Records and Archives Office

1.0 GENERAL REQUIREMENTS:

The University Document Management System (UDMS) shall provide a centralized enterprise platform for the management, storage, monitoring, retrieval, retention, and archival preservation of University records and documents throughout their lifecycle.

The system shall cover:

- Receipt of records
- Registration and encoding
- Digitization and scanning
- Classification and indexing
- Records inventory
- Monitoring of document status
- Controlled access and release
- Retention and disposition
- Archival preservation

The system shall support the operational processes of the Records and Archives Office including document receiving, registration, classification, inventory management, request processing, and archival management.

The system shall comply with:

- Philippine Data Privacy Act (RA 10173)
- National Archives of the Philippines (NAP) General Circular No. 5
- ISO 9001:2015 Clause 7.5 (Control of Documented Information)
- COA and CHED records retention policies

The system must be delivered with the following service and contractual requirements:

1.1 Software Design & Development

The provider shall design and implement a secure, scalable, and enterprise-grade Document and Records Management System.

The system shall:

- Support centralized management of university records
- Provide web-based access through standard browsers
- Support multi-office and multi-campus deployment
- Provide modular architecture allowing future expansion
- Support Application Programming Interface (API) integration with other University information systems
- Ensure system scalability to support future Smart Campus modules and additional users.
- Support at least 500 concurrent users accessing the platform simultaneously.
- Return indexed search results within three (3) seconds under normal operating conditions.



1.2 Perpetual License Fee

The system shall include a perpetual enterprise software license granting the University lifetime usage rights.

The license shall include unlimited internal users, full administrative control, unlimited document repository within deployed infrastructure.

The license shall not require recurring subscription fees except for maintenance and technical support services.

1.3 Installation and Configuration Services

The supplier shall:

- Install and deploy the system on University-approved infrastructure.

- Support deployment through on-premise servers, or cloud infrastructure.

- Configure:

 - user accounts and access permissions

 - document classification and retention schedules

 - document routing workflows

 - approval hierarchies

 - system security settings.

- Perform system configuration verification prior to system acceptance.

1.4 User Workflow Integration

The System shall implement workflows that match the University's records management operations including:

- receiving and registration of incoming records

- document routing and approval processes

- request and release of records

- digitization and indexing of paper-based records

- archival transfer and records disposal procedures.

The system shall support configurable approval hierarchies and workflow routing.

The system shall support integration with:

- the official University portal

- internal communication systems

- document submission channels such as email and online portals.

1.5 Training and Knowledge Transfer

The supplier shall conduct at least five (5) structured training sessions for the following user groups:

- Records and Archives Office personnel

- Administrative office users

- Records coordinators of departments

- System administrators

- IT system administrators

Training materials shall include:

- user manuals

- system administration guides

- video tutorials

1.6 Post-Implementation Documentation

The supplier shall provide complete system documentation including:

- system architecture documentation

- database schema

- workflow diagrams

- user manuals

- system administration manuals

- disaster recovery procedures.

Documentation shall include guidelines for data privacy compliance and records management policies.

1.7 Testing and Commissioning

The supplier shall perform the following tests:

- system testing

- integration testing

- performance testing

- User Acceptance Testing (UAT).

The system shall be considered accepted only after successful completion of UAT and formal acceptance by the University.

1.8 Data Migration Planning & Consultancy Services

The supplier shall:

- .Conduct records assessment and migration planning.

- .Migrate existing digital records including:



.scanned documents

.PDF files

.archived electronic records.

The System shall support Optical Character Recognition (OCR) for scanned documents.

The Supplier shall perform data validation and verification prior to system go-live.

1.9 Project Management

The Supplier shall provide Project Management Services for the planning, implementation, deployment, and completion of the University Document Management System.

The Supplier shall:

- assign a dedicated Project Manager and implementation team
- coordinate all project activities with the University
- ensure that the system is implemented according to the approved project plan and schedule.

The supplier shall submit:

- project implementation plan
- project schedule (Gantt chart)
- weekly progress reports

1.10 Three Years (3) Support & Maintenance

The supplier shall provide:

- Three (3) years of warranty, technical support, and system updates.
- Support services including bug fixes, security patches, performance tuning, and system monitoring.
- A helpdesk with defined Service Level Agreement (SLA) for response and resolution times (response within 48 hours).

1.11 Data Ownership and Intellectual Property Rights

All system data, records, metadata, configurations, and digital assets generated, stored, or processed by the University Document Management System (UDMS) shall be the exclusive property of the University.

All custom-developed components, including but not limited to source code, system configurations, database structures, workflows, and integrations developed specifically for the University, shall be fully owned by the University upon project completion.

The Supplier shall ensure full turnover of all source code, system documentation, configurations, and administrative access credentials prior to final system acceptance.

The system shall be delivered without any technical, contractual, or licensing restrictions that would prevent the University from maintaining, modifying, or transferring the system to another provider in the future.

1.12 Smart Campus Integration and Interoperability Requirements

The System shall be fully integrated into the University Smart Campus Architecture and shall comply with the following:

. The System shall support centralized API-based integration through a University Enterprise Integration Layer (API Gateway / ESB).

.The System shall expose and consume secure RESTful APIs for interoperability with all University Information Systems.

.The System shall support real-time data synchronization using event-driven or API-based mechanisms.

.The System shall integrate with the following core systems:

- Student Information / Enrollment System
- Finance Management System
- Inventory Management System
- Document Management System
- Library Management System
- Smart Campus Portal

.The System shall support Single Sign-On (SSO) using centralized authentication services (LDAP, Active Directory, or OAuth-based).

.The System shall log all integration transactions and maintain audit trails for cross-system data exchanges.

.The System shall ensure data consistency, integrity, and validation across all systems.

1.13 Unified Notification and Alert Mechanism

The System shall integrate with the University Notification Service and shall:

.send real-time notifications via:

- system dashboard
- email
- SMS
- support configurable alerts for:
- approvals



- deficiencies
- transactions
- system events
- .allow role-based notification preferences
- .maintain notification logs for audit purposes

2. FUNCTIONAL SPECIFICATIONS:

2.1 Records Receiving and Registration Module

The System shall:

- record all incoming records received through physical submission or official digital channels.
- capture the following metadata:
 - document title
 - document type
 - originating office
 - receiving office
 - date received
 - document date
 - subject or keywords
 - confidentiality classification
 - retention category.

Integrated E-Signatures: Built-in digital signing (e.g., DocuSign or PNKI integration) for internal approvals, eliminating the need to print and re-scan signed documents

Mobile App with Offline Mode: A dedicated mobile interface for administrators to approve requests on the go, with local caching for low-connectivity areas.

- automatically generate a unique system reference number for each record

2.2 Document Digitization and Scanning Module

The System shall:

- support scanning of paper-based documents in PDF/A format.--
- link scanned documents to the corresponding electronic record entry.
- support OCR processing to allow searchable scanned documents.
- provide quality verification tools for scanned documents.

2.3 Records Classification Module

The System shall classify records based on NAP General Circular No. 5 categories including:

- .Administrative records
- .Financial and property records
- .Legal and contractual records
- .Academic and instructional records
- .Personnel records
- .Student and support records
- .Institutional governance records.

Each classification shall include assigned retention periods and disposition actions.

2.4 Records Inventory Management Module

The System shall automatically generate records inventories organized by:

- office
 - record series
 - year
 - classification category
 - retention schedule
- The inventory shall include:
- reference number
 - title
 - inclusive dates
 - file volume
 - format (physical or digital)
 - storage location
 - retention status

The System shall support records disposal management within the inventory module, including:

- tagging of records as "For Disposal," "Pending Approval," "Approved for Disposal," or "Disposed"
- automatic identification of records eligible for disposal based on approved retention schedules
- generation of Disposal Lists grouped by office, record series, and disposal date
- support for batch disposal processing with reference to disposal authority and



schedule- capture of disposal details including:

- .disposal method (shredding, pulping, deletion, etc.)
- .disposal date
- .approving authority
- .witnesses (if applicable)
- .remarks or notes
- automatic update of inventory status once records are disposed
- maintenance of a permanent Disposal Register / Disposal Log for audit and compliance purposes
- generation of Certificate of Disposal / Destruction Reports compliant with National Archives of the Philippines (NAP) requirements
- retention of disposal metadata and logs even after record deletion for audit traceability

2.5 Records Request and Release Module

The System shall:

- allow authorized users to request records through the digital portal.--

- record request details including:

requesting office

requesting user

request date and time

purpose of request

approving authority.

- maintain a system log of all document release transactions

2.6 Records Lifecycle Management Module

The System shall manage records through the following lifecycle stages:

- Active Records

- Semi-active Records

- Inactive Records

- Archived Records

- Disposed Records

The system shall:

- automatically update record status based on retention triggers

- display lifecycle status in record listings and dashboards

- generate alerts for records due for archival transfer or disposal.

2.7 Operational Reporting and Dashboard Module

The System shall generate management reports including:

- records received per office

- records released per office

- records by classification category

- records due for archiving

- records due for disposal

- average processing time of records requests

- backlog and pending records requests.

Reports shall be exportable in PDF and spreadsheet formats.

2.8 Archival Records Management Module

The System shall:

- manage permanent records designated for archival preservation in accordance with National Archives of the Philippines (NAP) General Circular No. 5.--

- maintain a dedicated archival digital repository for permanent institutional records.

support the following archival processes:

validation of records classified as permanent

separation of permanent records from temporary records

documentation of archival transfers

generation of permanent records inventory.

- ensure that archival records remain accessible for authorized users while being protected from modification.

2.9 Analytical Monitoring and Performance Metrics Module

The System shall provide a centralized management dashboard for records monitoring and analytics.

The dashboard shall generate reports including:

- total records received per month or year

- records received by document type (Memo, Travel Order, Special Order, MOA, MOU, etc.)

- records received by originating office

- records released per period

- records per status (pending, released, archived).

The System shall also generate operational analytics including:



- average records processing time--
- volume of records handled per staff
- monitoring of pending and backlog records.

Reports shall be exportable in PDF and spreadsheet formats.

2.10 ISO 9001 Document Control Module

The System shall support ISO 9001:2015 Clause 7.5 - Control of Documented Information.

The System shall:

- maintain controlled documents required for University processes including:
 - policies and procedures
 - manuals and work instructions
 - official issuances and memoranda
 - forms and templates
 - institutional reports.
- implement document control functions including:
 - document version control
 - document review and approval workflows
 - identification of document owner and responsible office
 - revision history tracking.
- ensure that only the current approved version of documents is available for operational use.
- maintain complete revision history for audit purposes.

2.11 Personal Employee Records Access Module

The System shall provide individual user accounts for University employees.

The System shall allow employees to view their authorized personal records including:

- appointment documents
- travel orders
- special orders
- designation documents
- other authorized personnel records.

Access shall be:

- view-only by default
 - subject to approval for downloading or printing.
- The System shall log all access to personal records.

2.12 Confidential Records Protection Module

The System shall support classification of records based on confidentiality level including Public, Internal, Confidential, Highly Confidential / Restricted.

The System shall:

- enforce role-based access control for confidential records
- restrict bulk download and unauthorized sharing of sensitive records
- implement secure document transmission when releasing records through digital channels

2.13 Audit Trail and Records Activity Monitoring Module

The System shall maintain complete and non-editable audit logs of all system activities including:

- viewing of records
- downloading or printing of records
- release of documents
- document modifications
- workflow approvals.

The audit logs shall capture:

- user ID
- date and time of action
- action performed
- record reference number.

Audit reports shall be available for administrative review and compliance audits.

2.14 Records Compliance and Retention Monitoring Module

The System shall monitor compliance with approved records retention and disposition schedules.

The System shall:

- generate reports of records due for archiving--
- generate reports of records due for disposal
- maintain a permanent records inventory
- generate alerts for records approaching retention deadlines.

The System shall support records disposal workflows requiring proper authorization and documentation prior to deletion or destruction.



The System shall ensure that no record can be permanently deleted without an approved disposal workflow, including multi-level authorization and audit trail recording.

2.15 User Roles for System Tracking & Monitoring

To ensure total accountability, the system must track every interaction. Below is the recommended Access Control & Tracking Matrix:

User Role	System Permissions	Tracking/ Audit Responsibilities
Super Administrator	Full system access, configures workflows, manages user account	Monitors system health and tracks all permission changes or overrides
Records Manager	Final approval for disposition, manages retention schedules.	Tracks "Final Destruction" or "Permanent Archive" actions; monitors department compliance quotas
Digitization to Officer	Uploads, scans, and performs OCR/indexing	Tracked via "Batch ID" monitor scanning speed error rates, and quality control (QC) history
Department Reviewer	Reviews/Approves documents within their specific office	Monitors "Time-to-Approval" metrics and tracks comments/revisions made during the workflow
Standard User (Employee)	Uploads personal docs, view/requests authorized records	Activity log tracks all "Views," "Downloads," and "Search Queries" to unauthorized data harvesting
Internal Auditor	Read-only acces to all logs and audit trails	Regularly reviews the "System Access Logs" for anomalies, failed login attempts, or downloads

3.0 ENTERPRISE DATA BACKUP AND DISASTER RECOVERY REQUIREMENTS:

The System shall implement enterprise-level data protection mechanisms to ensure the integrity, security, and availability of University records.

The System shall:

- implement automated data backup mechanisms for system databases and document repositories.
- support daily incremental backups and weekly full system backups.
- allow backup copies to be stored in separate secure storage locations or backup servers.
- support system restoration procedures to recover system data in case of system failure or data loss.
- maintain data integrity verification mechanisms to ensure that backup files are complete and recoverable.
- support disaster recovery procedures that enable restoration of system services within a reasonable time frame after a system failure.
- ensure that backup and recovery processes protect confidential and sensitive records in compliance with RA 10173 and University data protection policies.

4.0 HARDWARE INFRASTRUCTURE AND DIGITIZATION EQUIPMENT

The supplier shall provide the necessary hardware infrastructure and equipment required for the deployment and operation of the University Document Management System.

The infrastructure shall support enterprise document storage, digitization, and system operations.

The supplier shall provide:

4.1 High-Speed Document Scanners (4 units)

- high-speed document scanners for digitization of physical records.

The scanners shall support:

- automatic document feeder (ADF)--
- duplex scanning capability
- high-resolution scanning suitable for archival records
- scanning speeds appropriate for high-volume document digitization.

4.2 High-End Multimedia Workstations (30 Units)

The supplier shall provide dedicated workstations for Records and Archives Office personnel responsible for scanning, indexing, and managing digitized records. The workstations shall



support document scanning operations, OCR processing, metadata tagging and document indexing.

Specifications:

- .Processor: minimum 16 cores and 24 threads, at least 3.0 GHz Base clock speed
- .Graphics Processing Unit (GPU): at least 8GB Graphics (GPU)
- .Memory: at least RAM 64GB DDR5 6000MT/s (Dual Channel)
- .Storage: at least 1TB NVMe PCIe Gen5 SSD
- .Display: at least 32" 4K IPS Panel or equivalent professional display suitable for document digitization and image viewing
- .Power Protection: 1500VA Line-Interactive UPS with AVR
- .Accessories: Ergonomic mechanical keyboard, high-precision optical mouse
- .With Ergonomic Office Chair
- .With Ergonomic PC Table

4.3 E-Signature & Authentication

To support the "Integrated E-Signatures" feature, the following hardware must be provided for administrative and records-handling offices:

.Electronic Signature Pads (10 Units):

- Display: Minimum 5-inch backlit Transflective LCD for high visibility.----
- Resolution: At least 1024 x 600 pixels to ensure signature clarity.
- Pen Type: Active battery-less pressure-sensitive pen with at least 2048 pressure levels.
- Security: AES 256-bit encryption for secure transmission of biometric signature data.
- Connectivity: USB 2.0/3.0 with "Plug-and-Play" compatibility for the UDMS web interface.

4.4 Network and Security Infrastructure

The system shall support secure connectivity and system protection including:

- secure network access to the document management system
- firewall integration and secure access controls
- monitoring of system availability and network connectivity.

5.0 SERVICE LEVEL AGREEMENT (SLA) AND SYSTEM PERFORMANCE REQUIREMENTS

The supplier shall provide Service Level Agreement (SLA) commitments covering system performance, operational reliability, and support services.

5.1 Support and Maintenance Coverage

The supplier shall provide three (3) years warranty and technical support starting from the official system acceptance date.

Support services shall include:

- .software updates and enhancements
- .security patches and vulnerability mitigation
- .bug fixes and issue resolution
- .system performance monitoring and optimization
- .helpdesk or ticketing system for incident reporting

5.2 Performance and Response Standards

Category	Requirement
Support Ticket Response Time	Initial response within 48 hours
Issue Resolution Time	Resolution within 5 Days depending on severity
Concurrent Users	Minimum 500 concurrent users
Auditability	Every document action (View, Edit, Delete, Move) must be logged with a timestamp and User ID

5.3 Security and Data Protection

The system shall support:

- .encrypted communications
- .role-based access control
- .multi-factor authentication
- .audit trail logging
- .secure backup and recovery mechanisms

6.0 SYSTEM ACCEPTANCE AND DELIVERABLES

The University Document Management System shall only be considered delivered and accepted after successful completion of the following:

6.1 System Acceptance Testing

The system must pass:

- .system testing



- .integration testing
- .performance testing
- .security configuration verification
- .User Acceptance Testing (UAT).

UAT shall involve:

- .Records and Archives Office
- .Administrative offices
- .Internal Audit Office
- .Information Technology Office.

6.2 Data Migration Validation

The supplier shall demonstrate successful migration of existing records including:

- .scanned documents
- .institutional records
- .administrative records
- .personnel records.

Migration reports shall verify data completeness and integrity.

6.3 Performance Validation

The system shall demonstrate operational capability under production conditions including:

- .support for at least 500 concurrent users
- .compliance with 3-second query response time.

6.4 Documentation and Knowledge Transfer

Prior to final acceptance, the supplier shall deliver:

- .system architecture documentation
- .database schema documentation
- system administration manuals
- .user manuals
- .cybersecurity and backup procedures.

4.) INVENTORY MANAGEMENT SYSTEM

End-User: Supply Office

1.0 General Requirements:

The University Inventory Management System (UIMS) shall provide a centralized, enterprise-grade platform for managing supplies, materials, equipment, fixed assets, consumables, land, land improvements, and biological assets throughout their lifecycle.

The system shall support:

- .Inventory registration and catalog management
- .Warehouse and stock monitoring
- .Receiving, issuance, and transfers
- .Property accountability tracking
- .Asset lifecycle management
- .Inventory auditing and reconciliation
- .Supplier/vendor management
- .Management of Land, Land Improvements, and Biological Assets in accordance with COA and GAM.
- .Reporting and analytics

The system shall support the operational processes of the University Supply Office, including procurement receipt verification, inventory control, issuance of supplies to offices, monitoring of property custodians, maintenance tracking, and disposal of unserviceable assets.

The system shall comply with:

- .Commission on Audit (COA) Property and Inventory regulations
- .Government Accounting Manual (GAM) provisions on property management .Philippine Data Privacy Act (RA 10173)
- .relevant CHED and government asset management guidelines

The system must be delivered with the following service and contractual requirements:

1.1 Software Design & Development

The supplier shall design, develop, and implement a secure, scalable, and enterprise-grade Inventory Management System (UIMS) for the University.

The system shall:

- .support centralized management of supplies, materials, equipment, fixed assets, land, land improvements, and biological assets
- .provide web-based access through standard web browsers without requiring additional client-side installation
- .support multi-office and multi-campus deployment with user-defined departments, offices, locations, and classification structures
- .support multiple users with configurable Role-Based Access Control (RBAC) and user defined access levels



- .manage inventory of consumable and non-consumable materials, including stock-in, stock-out, returns, and adjustments
- .monitor inventory balances, including beginning balance, stock-in, stock-out, adjustments, and ending balances
- .provide a modular and scalable system architecture to support future Smart Campus expansion
- .generate reports in PDF and spreadsheet formats with user-defined page size and orientation
- .generate COA-compliant reports, including but not limited to:
 - Stock Inventory Reports
 - Property Ledger Cards
 - Inventory Custodian Slip (ICS)
 - Property Acknowledgment Receipt (PAR)
 - Report on the Physical Count of Property, Plant, and Equipment (RPCPPE)
 - Inventory and Inspection Report of Unserviceable Property (IIRUP)
 - Waste Materials Report (WMR)
- .support secure Application Programming Interface (API) integration with other University systems
- .support integration with procurement, finance, accounting, human resource, and document management systems
- .implement Multi-Factor Authentication (MFA) for system access
- .maintain immutable audit logs for all transactions and user activities

The system shall support at least 500 concurrent users accessing the platform simultaneously.

The system shall process standard inventory transactions with a response time not exceeding three (3) seconds under normal operating conditions.

1.2 Perpetual License Fee

The system shall include a perpetual enterprise software license granting the University lifetime rights to use the system.

The license shall include:

- .unlimited internal users
- .full administrative access and configuration control
- .unlimited inventory database records within deployed infrastructure

The license shall not require recurring subscription fees except for maintenance and technical support services.

The system shall not be subject to vendor lock-in conditions.

1.3 Installation and Configuration Services

The supplier shall:

- .install, deploy, and configure the system on University-approved infrastructure (on premise or cloud)
- .ensure compatibility with existing University ICT infrastructure
- .configure system modules based on Supply Office operational requirements

Configuration shall include:

- .user accounts and access permissions
- .inventory classification structures (including PPE, Semi-Expendable, Land, Biological Assets)
- .warehouse locations and storage areas
- .asset tagging configuration
- .approval workflows and authorization hierarchies
- .system security settings

The supplier shall conduct configuration validation and user sign-off prior to system acceptance.

1.4 User Workflow Integration

The system shall support the complete operational workflow of the University Supply Office, including:

- .recording and verification of delivered items from procurement
- .warehouse storage and stock monitoring
- .issuance of supplies to requesting offices
- .generation and tracking of Inventory Custodian Slip (ICS) and Property Acknowledgment Receipt (PAR)
- .assignment and tracking of assets to property custodians
- .monitoring of asset transfers between offices
- .monitoring of repair and maintenance activities
- .disposal and condemnation of unserviceable property

The system shall:



- .support configurable approval workflows and authorization levels
- .enforce accountability tracking per user and custodian
- .support secure API-based integration with other University systems

1.5 Training and Knowledge Transfer

The provider shall conduct comprehensive system training programs for:

- .Supply Office personnel
- .warehouse and inventory custodians
- .property custodians from different offices
- .system administrators from the ICT Office

Training shall include:

- .at least three (3) sessions for end-users
- .at least two (2) sessions for system administrators
- .hands-on system exercises
- .user manuals and operational guides
- .administrator manuals
- .training videos and documentation

1.6 Post-Implementation Documentation

The supplier shall provide complete documentation including:

- .system architecture documentation
- .database schema documentation
- .system administration manuals
- .user manuals
- .disaster recovery procedures
- .data privacy and security compliance documentation.
- .source code documentation and API documentation

All documentation shall comply with RA 10173 (Data Privacy Act) and University ICT standards.

1.7 Testing and Commissioning

The system shall undergo the following testing procedures:

- .system testing
- .integration testing
- .performance testing
- .security testing
- .User Acceptance Testing (UAT) with the Supply Office.

Acceptance criteria shall include:

- .full compliance with all functional and technical requirements
- .successful completion of UAT with formal sign-off
- .no unresolved critical or high-severity defects

The system shall be officially accepted only after successful completion of all required tests.

1.8 Data Migration Planning & Consultancy Services

The provider shall assist the University in migrating legacy inventory and property records including:

- .existing inventory registers
- .asset inventory lists
- .historical supply transactions
- .property accountability records.

The system shall:

- .support digitization and OCR processing of legacy documents
- .ensure data validation, cleansing, and reconciliation during migration
- .retain historical data for at least five (5) years

1.9 Project Management

The provider shall assign a dedicated project management team responsible for project implementation and coordination with the University.

Project management deliverables shall include:

- detailed project implementation plan
- Gantt chart and timeline
- milestone deliverables
- weekly progress reports
- periodic coordination meetings
- project risk management plan

1.10 Three Years (3) Support & Maintenance

The provider shall provide three (3) years of system support and maintenance, including:

- bug fixes and software updates
- security patches
- system optimization and performance tuning



-helpdesk support.

1.11 Data Ownership and Intellectual Property Rights

All deliverables under this project shall be owned exclusively by the University.

This shall include, but not be limited to:

- .Source code
- .Database and data structures
- .System configurations and settings
- .Custom modules, enhancements, and integrations
- .application programming interfaces (APIs)
- .system and technical documentation

The supplier shall:

- .provide full source code turnover prior to final system acceptance
- .ensure that all deliverables are free from third-party ownership restrictions, licensing limitations, or proprietary constraints that would prevent the University from using, modifying, or enhancing the system
- .grant the University full rights to use, modify, maintain, and further develop the system without requiring additional permissions or fees

All intellectual property rights arising from the project shall be transferred to the University upon final acceptance and full payment.

No additional licensing fees shall be required for the continued use, modification, or expansion of the system.

1.12 Smart Campus Integration and Interoperability Requirements

The System shall be fully integrated into the University Smart Campus Architecture and shall comply with the following:

.The System shall support centralized API-based integration through a University Enterprise Integration Layer (API Gateway / ESB).

.The System shall expose and consume secure RESTful APIs for interoperability with all University Information Systems.

.The System shall support real-time data synchronization using event-driven or API-based mechanisms.

.The System shall integrate with the following core systems:

- Student Information / Enrollment System
- Finance Management System
- Inventory Management System
- Document Management System
- Library Management System
- Smart Campus Portal

.The System shall support Single Sign-On (SSO) using centralized authentication services (LDAP, Active Directory, or OAuth-based).

.The System shall log all integration transactions and maintain audit trails for cross-system data exchanges.

.The System shall ensure data consistency, integrity, and validation across all systems.

1.13 Centralized Clearance Integration

The System shall integrate with a Central Clearance Management Service of the University.

The System shall:

- .validate user clearance status in real time
- .report deficiencies (financial, library, property, academic, etc.)
- .prevent transactions when clearance requirements are not satisfied Clearance statuses shall include:

- .Cleared
- .With Deficiency
- .Conditionally Cleared

The System shall synchronize clearance data with:

- .Finance (financial obligations)
- .Library (borrowed materials)
- .Inventory (property accountability)
- .Student Services (disciplinary, medical, etc.)

1.14 Unified Notification and Alert Mechanism

The System shall integrate with the University Notification Service and shall:

- .send real-time notifications via:
 - system dashboard
 - email
 - SMS
- .support configurable alerts for:
 - approvals



- deficiencies
- transactions
- system events
- .allow role-based notification preferences
- .maintain notification logs for audit purposes

2.0 FUNCTIONAL SPECIFICATIONS:

2.1 Item Master Catalog Management

The system shall provide a centralized item master database containing:

- .unique item identification codes
- .item descriptions and specifications
- .unit of measure
- .inventory classification and category
- .supplier/vendor information
- .fund source classification

The system shall:

- .support bulk import of item data using Excel or CSV formats
- .enforce standardized naming conventions and classification structures
- .maintain audit logs for all item master modifications

2.2 Warehouse and Storage Management Module

The system shall manage multiple inventory storage locations including:

- .central warehouse
- .departmental storage rooms
- .laboratories and specialized storage areas
- .equipment and asset storage facilities

The system shall:

- .support storage location mapping, including warehouse, room, shelf, and bin levels
- .track inventory movement across locations in real-time
- .maintain audit logs for all stock movements

2.3 Inventory Monitoring and Control Module

The system shall support real-time monitoring of inventory levels across university locations.

The system shall:

- .display stock balances, reserved inventory, issued supplies, and pending requests
- .provide dashboard visualization of inventory status
- .support predictive analytics for inventory trends and consumption

2.4 Stock Level Management Module

The system shall allow configuration of:

- .minimum stock levels
- .maximum stock levels
- .reorder thresholds
- .safety stock parameters.

The system shall:

- .automatically generate alerts for low stock levels and reorder requirements
- .support automated generation of purchase requests or replenishment recommendations

2.5 Inventory Transactions Module

The system shall record all inventory transactions including:

- .receiving of delivered items
- .issuance of supplies to offices
- .stock transfers between offices
- .item returns
- .inventory adjustments
- .disposal of inventory items

The system shall also support procurement-linked transactions, including:

- .recording and tracking of Material Requisitions (MR) initiated by requesting offices
- .generation and monitoring of Purchase Orders (PO) issued by the Procurement Office
- .recording of Reports of Delivery (RD) and inspection results
- .automatic matching of PO, delivery, and received quantities
- .validation of delivered items against approved purchase orders and specifications

The system shall:

- .maintain a complete and immutable audit trail for all transactions
- .enforce transaction approval workflows (MR ? PO ? Delivery ? Inventory)
- .associate each transaction with a responsible user or custodian
- .prevent over-delivery or unauthorized receipt beyond approved PO quantities
- .prevent processing of payment or inventory posting without validated inspection and acceptance records

2.6 Asset Lifecycle Management Module



The system shall manage the lifecycle of fixed assets including:

- .asset acquisition
- .asset tagging and identification (barcode, QR code, or RFID)
- .assignment to property custodians
- .office transfers and reassignment
- .repair and maintenance tracking
- .asset disposal and condemnation

The system shall:

- .assign a unique asset identification number to each asset
- .support depreciation computation based on GAM (e.g., straight-line method)
- .track asset valuation, accumulated depreciation, and book value
- .support insurance tracking (e.g., GSIS coverage where applicable)

2.7 Physical Inventory and Audit Module

The system shall support periodic physical inventory verification.

The system shall:

- .support barcode and QR code scanning for asset verification
- .support mobile-based inventory validation
- .reconcile physical inventory with system records
- .generate discrepancy and variance reports
- .maintain audit logs of all inventory activities

The system shall support:

- .GPS geo-tagging during physical inventory
- .user-based tracking of audit activities

2.8 Inventory Reporting and Analytics Module

The system shall generate operational and management reports including:

- .inventory stock reports
- .supply consumption reports
- .asset inventory reports
- .asset depreciation reports
- .inventory valuation reports

The system shall also generate:

- .Inventory Custodian Slip (ICS) registry
- .Property Acknowledgment Receipt (PAR) registry
- .Land and Land Improvements register
- .Biological Asset inventory reports
- .Custodian accountability reports
- .Material Requisition (MR) Reports
- .Purchase Order (PO) Monitoring Reports
- .Delivery and Receiving Reports
- .PO vs Delivery Variance Reports

Reports shall be exportable in:

- .PDF format
- .spreadsheet formats (e.g., Excel)

2.9 Mobile Application Functional Requirements

The University Inventory Management System shall include a mobile application module to support field-based inventory operations and real-time asset verification across University facilities.

The mobile application shall function as an integrated component of the Inventory Management System and shall support the following capabilities:

2.9.1 Real-Time Physical Inventory Verification

The mobile application shall enable inventory personnel to perform real-time physical inventory counting using barcode, QR code, or RFID scanning.

The system shall allow the inventory committee to:

- .scan asset tags and automatically retrieve corresponding asset records from the inventory database
- .compare scanned items with the official asset registry during the physical inventory process
- .generate discrepancy alerts for missing, unrecorded, or mismatched assets
- .support the generation of inventory verification records consistent with the Report on the Physical Count of Property, Plant, and Equipment (RPCPPE) required by the Commission on Audit (COA).

2.9.2 Offline Inventory Capture and Data Synchronization

The mobile application shall support offline operational capability to allow inventory activities in locations with limited or no internet connectivity.

The system shall:



- .allow inventory data to be captured locally on the device during offline operation
- .store scanned asset information securely on the device
- .automatically synchronize locally stored records with the central system once network connectivity is restored
- .prevent duplicate data synchronization through transaction validation controls.

2.9.3 Asset Discovery and Registration

The mobile application shall allow authorized users to record assets discovered during physical inspection that are not yet registered in the inventory database.

The system shall support:

- .creation of provisional asset entries during field inspection
- .capture of asset description, serial number, location, and responsible office
- .tagging of assets as "Found During Inventory Verification" pending validation by the Supply Office

2.9.4 Asset Condition Documentation

The mobile application shall allow inventory personnel to document the physical condition of assets during inspection.

The system shall support:

- .capturing and attaching photographs of assets using the mobile device camera
- .recording asset condition classifications such as operational, defective, damaged, or unserviceable
- .attaching photographic documentation to support Inventory and Inspection Report of Unserviceable Property (IIRUP) records.

2.9.5 Digital Property Accountability Confirmation

The mobile application shall support digital acknowledgment of issued property by authorized personnel.

The system shall allow:

- .authorized employees to confirm receipt of equipment or supplies through digital acknowledgment on the mobile device
- .electronic capture of signatures or confirmation records
- .automatic linkage of digital acknowledgments to the corresponding Inventory Custodian Slip (ICS) or Property Acknowledgment Receipt (PAR) records.

2.9.6 Rugged Handheld Mobile Inventory Devices

The supplier shall provide enterprise-grade rugged handheld mobile devices suitable for field inventory operations.

The devices shall meet the following minimum specifications:

- .Operating System: Android 11 or higher (enterprise-supported)
- .Scanning Capability: dedicated 1D/2D barcode imager
- .Durability: minimum IP65/67 rating and 6-foot drop resistance
- .Battery: hot-swappable or extended battery capacity for full-day operation
- .Connectivity: Wi-Fi, cellular (4G/5G), and Bluetooth

The mobile devices shall support integration with the Inventory Management System through secure wireless connectivity.

2.9.7 Integration with Inventory Management Infrastructure

The mobile inventory application shall support integration with the hardware and system infrastructure of the Inventory Management System.

The system shall support:

- .wireless communication with barcode or QR code label printers for on-site printing of replacement asset tags
- .integration with optional RFID scanning accessories for bulk asset identification
- .synchronization of scanned asset records with the central inventory database.

2.9.8 Audit Logging and Compliance Monitoring

The mobile system shall maintain complete and verifiable audit logs of all inventory activities.

The system shall record the following information for each inventory transaction:

- .user identification
- .date and time of transaction
- .scanned asset identification number
- .asset location and verification result
- .inventory activity performed.

The audit logs shall support inventory verification and audit processes required by the Commission on Audit (COA).

2.9.9 Location Verification and Security

The mobile system shall support mechanisms to verify the location of assets during inventory operations.

The system shall support:

- .automatic capture of location information when inventory verification is conducted



.recording of asset location data for validation of asset placement.

All data transmitted between the mobile application and the central system shall be encrypted using secure communication protocols in compliance with the Data Privacy Act of 2012 (RA 10173).

2.10 Property Classification and Special Asset Management Module

The system shall support classification and management of all government property types.

2.10.1 Land Management

- .record land title, location, and area
- .capture acquisition details and legal attributes
- .support GIS/GPS-based location tracking
- .classify land as non-depreciable assets

2.10.2 Land Improvements

- .track infrastructure and site improvements
- .link improvements to parent land assets
- .support valuation and depreciation (if applicable)

2.10.3 Biological Assets

- .classify biological assets (livestock, plantations, etc.)
- .support group-based tracking
- .monitor growth, valuation, and lifecycle

2.10.4 Property Categorization

The system shall classify assets into:

- .Land
- .Land Improvements
- .Property, Plant, and Equipment (PPE)
- .Semi-Expendable Property
- .Biological Assets

2.11 Property Accountability and Clearance Management Module

The system shall ensure full accountability of government property.

2.11.1 PAR Integration

- .automatic generation of Property Acknowledgment Receipts (PAR)
- .linkage of PAR to asset, custodian, and office
- .support digital and printed formats
- .capture electronic signatures

2.11.2 ICS Tracking

- .automatic generation of Inventory Custodian Slip (ICS)
- .tracking of semi-expendable items per user

2.11.3 Custodian Lifecycle Management

- .tracking of assignment, transfer, and return of assets
- .maintenance of historical custodian records

2.11.4 Clearance and Exit Management

- .generation of clearance reports
- .identification of unreturned assets
- .optional integration with HR systems

2.12 Procurement and Delivery Integration Module

The system shall integrate inventory operations with procurement processes.

2.12.1 Material Requisition (MR) Management

The system shall:

- .allow offices to create and submit Material Requisitions (MR)
- .support approval workflows for requisitions
- .track status of MR (Draft, Submitted, Approved, Fulfilled, Cancelled)
- .link MR to inventory availability and procurement actions

2.12.2 Purchase Order (PO) Integration

The system shall:

- .record and track Purchase Orders (PO) issued by the Procurement Office
- .link PO to corresponding MR and supplier/vendor
- .track PO status (Issued, Partially Delivered, Completed, Cancelled)
- .store supplier details, delivery schedules, and quantities

2.12.3 Report of Delivery (RD) and Inspection

The system shall:

- .record Reports of Delivery (RD) upon receipt of items
- .support inspection and acceptance workflows
- .validate delivered items against PO specifications and quantities
- .support partial deliveries and backorders
- .flag discrepancies (over-delivery, under-delivery, damaged items)

2.12.4 Inventory Integration



The system shall:

- .automatically update inventory records upon accepted delivery
- .prevent inventory posting without validated delivery records
- .maintain traceability from MR ? PO ? Delivery ? Inventory

3.0 ENTERPRISE DATA BACKUP AND DISASTER RECOVERY REQUIREMENTS

The system shall implement enterprise-level data protection mechanisms to ensure system availability and data integrity.

The system shall:

- .implement automated data backup for databases and inventory records
- .support daily incremental backups and weekly full system backups
- .support offsite backup storage
- .provide system restoration procedures for disaster recovery.

Backup and recovery mechanisms shall comply with University data protection policies and RA 10173.

The system shall meet the following recovery objectives:

- .Recovery Point Objective (RPO): ? 24 hours
- .Recovery Time Objective (RTO): ? 8 hours

4.0 HARDWARE INFRASTRUCTURE AND INVENTORY MANAGEMENT EQUIPMENT

The supplier shall provide all necessary hardware infrastructure required for the deployment, operation, and sustainability of the Inventory Management System.

All hardware shall be:

- .brand new and enterprise-grade
- .compatible with the system requirements
- .covered by a minimum of three (3) years warranty
- .inclusive of installation, configuration, and testing

4.1 Asset Tagging and Identification Equipment

The supplier shall provide equipment for inventory asset tagging including:

- .barcode printers
- .QR code label printers
- .handheld barcode scanners
- .optional RFID asset tracking devices.

All equipment shall:

- .support high-volume printing and scanning operations
- .be compatible with the system and mobile application
- .support real-time data capture and synchronization
- .include necessary consumables for initial deployment (labels, ribbons, etc.)

4.2 Inventory Management Workstations (5 Units)

The supplier shall provide dedicated workstations for Supply Office personnel responsible for:

- .inventory encoding
- .asset tagging and scanning
- .indexing and records management
- .OCR processing and digitization
- .archival records management

4.3 High-End Workstations (5 Units)

The supplier shall provide five (5) high-performance workstations (or equivalent) with the following minimum specifications:

- .Processor: minimum 16 cores and 24 threads, at least 3.0 GHz Base clock speed
- .Graphics Processing Unit (GPU): at least 8GB Graphics (GPU)
- .Memory: at least RAM 64GB DDR5 6000MT/s (Dual Channel)
- .Storage: at least 1TB NVMe PCIe Gen5 SSD
- .Display: at least 32" 4K IPS Panel or equivalent professional display suitable for document digitization and image viewing
- .Power Protection: 1500VA Line-Interactive UPS with AVR
- .Accessories: Ergonomic mechanical keyboard, high-precision optical mouse
- .With Ergonomic Office Chair and Ergonomic PC Table

4.4 Document Scanners (5 Units)

The supplier shall also provide high-speed document scanners with the following features:

- .Automatic Document Feeder (ADF) for batch processing
- .duplex scanning capability (simultaneous front and back scanning)
- .high-resolution output suitable for archival purposes
- .compatibility with OCR and document management systems

4.5 Network and Security Infrastructure

The system shall support secure connectivity including:

- .secure network access
- .firewall integration



- .system monitoring and access control mechanisms
- .intrusion detection and prevention
- .role-based network access control

5.0 SERVICE LEVEL AGREEMENT (SLA)

The supplier shall provide a comprehensive Service Level Agreement (SLA) to ensure system performance, availability, and support.

5.1 Core SLA Requirements

The system shall meet the following minimum service levels

Category	Requirement	Target Metric
Response Time	Technical Support	
Engagement		initial report
Capacity	User Load	>/- 500 concurrent users
Maintenance	Support Coverage	3 years
Training	Knowledge Transfer	Comprehensive for Supply Office and ICT personnel

5.2 Incident Severity and Resolution

The supplier shall adhere to the following incident management standards

Severity	Definition	Response Time
Critical (P1)	System inaccessible to all users	48 hour
Low (P4)	Minor issues or enhancements	5 day

5.3 SLA Enforcement and Penalties

Failure to meet SLA requirements shall result in:

- .service credits
 - .payment deductions
 - .applicable contractual penalties
- Repeated or prolonged SLA violations may constitute grounds for contract termination.

5.4 Technical SLA Requirements

The supplier shall:

- .define and enforce resolution time commitments based on severity classification
- .perform monthly database integrity checks to ensure data consistency and prevent orphaned or mismatched records
- .implement backup procedures in accordance with Section 3.0, including:
 - daily incremental backups
 - weekly full backups
 - Recovery Point Objective (RPO) ? 48 hours
- .provide quarterly security patches and bi-annual system updates
- .ensure full source code turnover prior to final system acceptance

5.5 Compliance and Audit Support

The supplier shall:

- .provide technical support during annual audits conducted by the Commission on Audit
- .assist in data extraction, reconciliation, and reporting as required by COA

5.6 Security and System Assurance

The supplier shall:

- .conduct annual Vulnerability Assessment and Penetration Testing (VAPT)
- .ensure compliance with the Republic Act No. 10173
- .implement data protection, encryption, and access control mechanisms
- .support audit trail export for COA inspection.

5.7 System Sustainability and Maintenance

The supplier shall:

- .implement a data archival strategy to maintain system performance over long-term use (5+ years)
- .ensure system scalability for increasing data volume and users
- .provide continuous system optimization

5.8 Hardware Support and Replacement

The supplier shall:

- .provide Next Business Day (NBD) on-site replacement for defective hardware components
- .ensure availability of spare parts and support services
- .minimize downtime of critical equipment

6.0 COMPLIANCE AND FUNCTIONAL GOVERNANCE REQUIREMENTS

6.1 COA/GAM Reporting Compliance

The system shall automatically generate the following standard government reports:

- .Inventory Custodian Slip (ICS)



- .Property Acknowledgment Receipt (PAR)
- .Report on the Physical Count of Property, Plant, and Equipment (RPCPPE)
- .Inventory and Inspection Report of Unserviceable Property (IIRUP)
- .Waste Materials Report (WMR)

6.2 Financial and Accounting Integration

The system shall integrate with accounting processes and support:

- .automatic depreciation computation using the Straight-Line Method in accordance with GAM
- .automated reconciliation between Supply Office records and Accounting Office ledgers
- .generation of asset lifecycle and lapsing schedules, including:
 - book value
 - accumulated depreciation
 - remaining useful life

6.3 Disposal and Appraisal Management

The system shall support a structured disposal workflow, including:

- .identification and tagging of unserviceable property
- .appraisal value recording and comparison with acquisition cost
- .tracking of disposal method, including:
 - public bidding
 - donation
 - destruction

6.4 Technical Requirements for Inventory Cleansing

The system shall support COA-compliant inventory cleansing activities, including:

- .mobile inventory application for real-time asset validation
- .support for barcode, QR, and RFID-based scanning
- .synchronization of mobile devices with the central system

6.5 Accountability and Insurance Tracking

The system shall:

- .support integration or tracking of government insurance coverage (e.g., GSIS) for highvalue assets
- .track property accountability per custodian, including assignment history
- .support clearance generation for personnel with outstanding property accountability.

5.) UNIVERSITY FINANCE MANAGEMENT SYSTEM

End-User: Finance and Budget Office

1.0 GENERAL REQUIREMENTS:

.The University Finance Management System (UFMS) shall provide an integrated enterprise financial management platform that automates the University's financial processes including Budget Management, Procurement Financial Monitoring, Accounting Operations, Accounts Payable, Accounts Receivable, Cashiering, Payroll Financial Integration, and Point-of-Sale Transactions.

.The system shall provide real-time financial information, accurate financial reporting, and ensure compliance with national government financial regulations and auditing standards.

.The System shall support the University's Smart Campus digital transformation initiative by integrating financial operations across all University units.

.The System shall provide an automated notification and alert mechanism to support timely processing, monitoring, and approval of financial transactions.

.The system must be delivered with the following service and contractual requirements:

1.1 Software Design & Development

The System shall:

.Provide a web-based enterprise Finance Management System accessible through standard web browsers.

.Support multi-user access with at least 300 concurrent users.

.Implement a modular architecture consisting of:

- Budget Management Module
- Procurement Financial Monitoring Module
- Accounting Module
- Accounts Payable Module
- Accounts Receivable Module
- Cashiering Module
- Point-of-Sale Module
- Financial Reporting Module.

.Support Application Programming Interface (API) integration with other University information systems.

.Ensure system scalability to support future Smart Campus modules and additional users.

.Support at least 300 concurrent users with a response time of not more than three (3) seconds for standard transactions.



1.2 Perpetual License Fee

The supplier shall provide:

- .A perpetual enterprise license allowing the University to use the system indefinitely.
- .The license shall support unlimited internal users within the University.
- .The license shall not require recurring subscription fees except for maintenance and technical support services.

1.3 Installation and Configuration Services

The supplier shall:

- .Install and deploy the system on University-approved infrastructure.
- .Support deployment via On-premise servers, or cloud infrastructure.
- .Configure:

- user accounts and access permissions
- financial transaction workflows
- approval hierarchies
- system security settings.

1.4 User Workflow Integration

The System shall implement workflows that match the University's financial operations including:

- .BAC procurement cycle
- .Budget preparation and obligation processes
- .Accounting procedures based on Government Accounting Manual (GAM)
- .Cashiering and collection operations
- .Inventory and property accountability
- .Disbursement and payment workflows.

The System shall support configurable approval hierarchies for financial transactions.

The System shall support integration with:

- .DBM eBudget system
- .DBM Budget and Treasury Management System (BTMS)
- .COA reporting processes
- .COA Electronic New Government Accounting System (ENGAS)
- .Authorized banking platforms for electronic payments.

The System shall support data export, import, or interoperability mechanisms that allow synchronization or reconciliation with existing government accounting systems to ensure consistency of financial data and avoid duplication of accounting records.

1.5 Training and Knowledge Transfer

The supplier shall conduct at least five (5) structured training sessions for the following user groups:

- .Budget Office personnel
- .Accounting Office personnel
- .Cashier Unit personnel
- .Finance administrators
- .IT system administrators.

Training materials shall include:

- .user manuals
- .system administration guides
- .video tutorials

1.6 Post-Implementation Documentation

The supplier shall provide complete system documentation including:

- .system architecture documentation
- .database schema
- .workflow diagrams
- .user manuals
- .system administration manuals
- .disaster recovery procedures.

Documentation shall include guidelines for COA audit compliance.

1.7 Testing and Commissioning

The supplier shall perform the following tests:

- .system testing
- .integration testing
- .performance testing
- .User Acceptance Testing (UAT).

The System shall be considered accepted only after successful completion of UAT and formal acceptance by the University.

1.8 Data Migration Planning & Consultancy Services

The supplier shall:



- .Conduct data assessment and migration planning.
- .Migrate at least five (5) years of historical financial data including:
 - budget records
 - accounting transactions
 - procurement financial records
 - receivables and payables records.
- .Perform data validation and reconciliation before system go-live.

1.9 Project Management

- .The Supplier shall provide Project Management Services for the planning, implementation, deployment, and completion of the University Finance Management System.
- .The Supplier shall assign a dedicated Project Manager and implementation team responsible for coordinating all project activities with the University.
- .The Project Manager shall ensure that the system is implemented according to the approved project plan, schedule, and technical specifications.
- .The supplier shall submit project implementation plan, project schedule (Gantt chart), weekly progress reports.

1.10 Three Years (3) Support & Maintenance

- .Must provide 3 years of warranty, technical support, and system updates.
- .Must include bug fixes, security patches, and performance tuning.
- .Must include a helpdesk/ticketing system with defined SLA (response and resolution times).

1.11 Data Ownership and Intellectual Property Rights

All deliverables under this project shall be owned exclusively by the University.
This shall include, but not be limited to:

- .Source code
- .Database and data structures
- .System configurations and settings
- .Custom modules, enhancements, and integrations
- .application programming interfaces (APIs)
- .system and technical documentation

The supplier shall:

- .provide full source code turnover prior to final system acceptance
- .ensure that all deliverables are free from third-party ownership restrictions, licensing limitations, or proprietary constraints that would prevent the University from using, modifying, or enhancing the system
- .grant the University full rights to use, modify, maintain, and further develop the system without requiring additional permissions or fees

All intellectual property rights arising from the project shall be transferred to the University upon final acceptance and full payment

No additional licensing fees shall be required for the continued use, modification, or expansion of the system.

1.12 Smart Campus Integration and Interoperability Requirements

The System shall be fully integrated into the University Smart Campus Architecture and shall comply with the following:

- .The System shall support centralized API-based integration through a University Enterprise Integration Layer (API Gateway / ESB).
- .The System shall expose and consume secure RESTful APIs for interoperability with all University Information Systems.
- .The System shall support real-time data synchronization using event-driven or API-based mechanisms.

.The System shall integrate with the following core systems:

- Student Information / Enrollment System
- Finance Management System
- Inventory Management System
- Document Management System
- Library Management System
- Smart Campus Portal

.The System shall support Single Sign-On (SSO) using centralized authentication services (LDAP, Active Directory, or OAuth-based).

.The System shall log all integration transactions and maintain audit trails for cross-system data exchanges.

.The System shall ensure data consistency, integrity, and validation across all systems.

1.13 Centralized Clearance Integration

The System shall integrate with a Central Clearance Management Service of the University.



The System shall:

- .validate user clearance status in real time
- .report deficiencies (financial, library, property, academic, etc.)
- .prevent transactions when clearance requirements are not satisfied Clearance statuses shall include:

- .Cleared
- .With Deficiency
- .Conditionally Cleared

The System shall synchronize clearance data with:

- .Finance (financial obligations)
- .Library (borrowed materials)
- .Inventory (property accountability)
- .Student Services (disciplinary, medical, etc.)

1.14 Unified Notification and Alert Mechanism

The System shall integrate with the University Notification Service and shall:

- .send real-time notifications via:
 - system dashboard
 - email
 - SMS
- .support configurable alerts for:
 - approvals
 - deficiencies
 - transactions
 - system events
- .allow role-based notification preferences
- .maintain notification logs for audit purposes

2. FUNCTIONAL SPECIFICATIONS:

2.1 Budget Management

The System shall:

- .Support preparation of the Annual Procurement Plan (APP).
- .Support preparation of the Work and Financial Plan (WFP).
- .Allow budget loading using UACS codes.
- .Generate the following budget documents:
 - Obligation Request Status (ORS)
 - Budget Utilization Request Status (BURS).
- .Monitor:
 - budget allocations
 - obligations
 - allotment utilization.
- .Automatically validate Purchase Requests (PR) against available budget allocations.
- .Record budget realignment transactions with complete audit trail.

2.2 General Ledger

The System shall:

- .Maintain a comprehensive and fully integrated General Ledger for all financial transactions
- .Support a Government Accounting Manual (GAM)-compliant Chart of Accounts
- .Allow configuration of the Chart of Accounts, including:
 - Account code
 - Description
 - Account type
 - Parent account hierarchy
 - Contra accounts
 - Subsidiary tagging
 - Ordering and classification
- .Allow configuration of fees and income accounts, including:
 - Code and description
 - Type (e.g., tuition, miscellaneous, laboratory, other income, non-assessable, non-school-related)
 - Collection/income account mapping
 - Fund classification
 - Nature of collection
 - Priority level
- .Allow configuration of:
 - Accounts for allotments and obligations
 - Funds (e.g., General Fund, Trust Fund, IGP, Grants)



- Banks and bank accounts
- .Support multi-fund accounting, including:
 - General Fund
 - Trust Fund
 - Income Generating Projects (IGP)
 - Grants
- .Record and process the following transactions:
 - Journal Entries and Journal Entry Vouchers (JEV)
 - Vouchers Payable
 - Cash and check disbursements
 - Check issuance, encashment, cancellation, and other bank transactions
- .Generate financial summaries and reports, including:
 - Breakdown and summary of obligations
 - Statement of Allotments, Obligations, and Balances (SAOB)
- .Maintain subsidiary ledgers for:
 - Employees
 - Students
 - Other relevant entities
- .Allow authorized administrators to configure and update accounting structures and policies, including:
 - Chart of accounts
 - Financial reporting classifications
 - Transaction categories
 - Policy parameters
- without requiring software redevelopment
- .Support future updates and compliance with:
 - Government Accounting Manual (GAM)
 - Commission on Audit (COA) guidelines
 - Department of Budget and Management (DBM) policies
- .Ensure all General Ledger transactions are:
 - Properly classified and validated
 - Fully traceable through audit logs
 - Integrated with other financial modules

2.3 Financial Reporting

The System shall generate the following reports:

- .Financial Statements
 - Income Statement
 - Balance Sheet
 - Trial Balance
 - Cash Flow Statement
 - .Government Financial Reports
 - Budget and Financial Accountability Reports (BFAR)----
 - Budget Execution Documents (BED)
 - Statement of Allotments, Obligations and Balances (SAOB)
 - Status of Appropriations
 - Status of Allotment Releases
 - .Monitoring Reports
 - Accounts Payable Monitoring
 - Accounts Receivable Monitoring
 - Aging of Accounts
 - Collection Reports by Cashier
 - Daily Collection Reports
 - Disbursement Reports
 - .Accounting Reports
 - General Journal
 - Special Journals
 - General Ledger
 - Subsidiary Ledger
 - Bank Reconciliation Report
 - Depreciation Schedule
 - Amortization Report
- ### 2.4 User Access Control
- The System shall:
- .Implement role-based access control.
 - .Allow administrators to assign user roles and permissions.



- .Restrict access to system modules according to assigned roles.
 - .Maintain complete and non-editable audit logs of all financial transactions, user activities, approvals, and system configuration changes.
 - .Provide audit reporting and monitoring capabilities required for review by the Commission on Audit (COA) Resident Auditor and COA Information Technology Audit Teams.
 - .Ensure traceability of all financial transactions from initiation to approval and posting in accordance with COA auditing requirements.
- 2.5 Procurement Module Vendor Management:
The System shall maintain a vendor database containing:
- .vendor identification information
 - .contact details
 - .payment terms
 - .vendor transaction history.
- 2.6 Procurement Module Purchase Order Management
The System shall:
- .Generate Purchase Orders (PO).
 - .Track purchase order approval workflow.
 - .Validate procurement transactions against available budget allocations.
 - .Integrate with the inventory management system to update stock levels upon receipt of goods.
- 2.7 Procurement Module Receiving and Inspection
The System shall:
- .Record receipt of goods based on approved Purchase Orders (PO)
 - .Verify delivered quantities and item condition
 - .Generate Inspection and Acceptance Reports (IAR)
 - .Automatically update the Inventory Management System upon acceptance, including:
 - Recording items as inventory or assets
 - Updating stock quantities, location, and unit cost
 - Assigning stock numbers or property/asset tags
 - .Ensure all transactions are linked to procurement records and are traceable for audit purposes
- 2.8 Procurement Module Accounts Payable & Cheque Management
The System shall provide an Accounts Payable and Cheque Management module to support the processing of supplier payments and disbursement transactions.
- 2.8.1 The System shall:
- .process vendor invoices for approved procurement transactions
 - .perform three-way matching of the following documents prior to payment processing:
 - Purchase Order (PO)
 - Receiving Report / Inspection and Acceptance Report (IAR)
 - Vendor Invoice
 - .generate Commission on Audit (COA) compliant Disbursement Vouchers (DV)
 - .support payment methods including:
 - cheque payments
 - electronic fund transfer (EFT)
 - bank transfer and electronic payment systems
 - .maintain reconciliation and monitoring of vendor accounts and outstanding liabilities.
- 2.8.2 Cheque Maker and Management Utility
The System shall provide a Cheque Maker and Management utility to support secure cheque preparation and disbursement operations.
- .Automated Cheque Preparation
The system shall automatically populate cheque details-including Payee, Amount in Words (auto-converted from figures), Amount in Figures, and Date-based on approved Disbursement Vouchers (DV).
 - .Template Customization
The system shall support configurable cheque printing templates to ensure proper alignment with cheque formats of authorized banking institutions.
 - .Sequential Control
The system shall automatically track and assign the next available cheque number based on the selected bank account and fund source (e.g., General Fund, Trust Fund).
 - .Batch Printing
The system shall support batch processing and printing of multiple cheques simultaneously to support high-volume disbursements.
 - .Security and Access Control
The system shall:



- restrict cheque printing access to authorized personnel through role-based access control (RBAC)

- maintain a digital Cheque Register recording issued, cancelled, and voided cheques

- maintain a non-editable audit trail of cheque transactions.

- .Bank Reconciliation Integration

The system shall automatically link issued cheques with the Bank Reconciliation module to enable monitoring of cheque status, including outstanding and cleared cheques.

2.9 Accounts Receivable & Cashiering

The System shall:

- .Record receivables from:

- student tuition and fees

- grants

- other university income.

- .Maintain individual student account records integrated with the Student Information System.

- .Generate Official Receipts (OR).

- .Integrate with the ARIS Cashiering System.

- .Provide real-time monitoring of collections and outstanding receivables.

2.10 Point-of-Sale (POS) Module Product and Service Catalog

The System shall maintain a product and service catalog including product descriptions, pricing, tax settings, discount configurations.

2.11 Point-of-Sale (POS) Module Sales Transactions

The System shall:

- .record POS transactions

- .support cash, card, and electronic payments

- .generate sales receipts and invoices.

2.12 Point-of-Sale (POS) Module Inventory Management

The System shall:

- .track inventory levels in real time

- .generate inventory reports

- .automatically trigger purchase requests when stock levels reach predefined thresholds.

3.0 ENTERPRISE BACKUP AND DISASTER RECOVERY REQUIREMENTS

The University Finance Management System shall implement enterprise-level data protection mechanisms to ensure the integrity, security, and availability of financial data and transaction records.

The System shall:

- implement automated backup mechanisms for system databases and financial records.

- support daily incremental backups and weekly full system backups of financial databases.

- allow backup copies to be stored in secure secondary storage locations or backup servers.

- support system restoration procedures to recover financial data in case of system failure or data loss.

- maintain data integrity verification mechanisms to ensure that backup files are complete and recoverable.

- support disaster recovery procedures that enable restoration of system services within a reasonable time frame after a system failure.

- ensure that backup and recovery processes protect sensitive financial information in compliance with COA auditing requirements and applicable data protection regulations.

4.0 SYSTEM INFRASTRUCTURE REQUIREMENTS

The supplier shall ensure that the University Finance Management System operates on enterprise-grade infrastructure capable of supporting financial transaction processing, reporting, and data storage.

The system infrastructure shall support multi-user financial operations across University offices.

The supplier shall provide recommended infrastructure specifications for the deployment and operation of the system.

4.1 Network and Security Infrastructure

The system shall support secure connectivity and system protection mechanisms including:

- secure network access to the Finance Management System

- integration with University network security controls

- monitoring of system availability and connectivity

- protection of financial data through appropriate access control mechanisms.

4.2 Financial Operations Workstations (35 Units)

The supplier shall provide dedicated workstations for financial operations, supporting Accounting, Budget, Cashiering, and Disbursement units.



These workstations shall be used for:

- .financial transaction processing
- .disbursement and cheque preparation
- .financial reporting and reconciliation
- .monitoring of procurement and budget transactions

Each workstation shall include:

Specifications:

- .Processor: minimum 16 cores and 24 threads, at least 3.0 GHz Base clock speed
- .Graphics Processing Unit (GPU): at least 8GB Graphics (GPU)
- .Memory: at least RAM 64GB DDR5 6000MT/s (Dual Channel)
- .Storage: at least 1TB NVMe PCIe Gen5 SSD
- .Display: at least 32" 4K IPS Panel or equivalent professional display suitable for document digitization and image viewing
- .Power Protection: 1500VA Line-Interactive UPS with AVR
- .Accessories: Ergonomic mechanical keyboard, high-precision optical mouse
- .With Ergonomic Office Chair
- .With Ergonomic PC Table

4. 3 Specialized Secure MICR Printer (for Cheque Maker - 4 units)

The supplier shall provide specialized MICR printers to support cheque printing for disbursement operations.

The printers shall support:

MICR Capability

- .printing of cheque routing and account numbers using MICR toner (iron oxide)
- .support for E-13B and CMC-7 MICR fonts

Security Features

- .secure paper tray locks to protect blank cheque stock
- .automated alerts if non-MICR cartridges are installed
- .capability to print anti-fraud security watermarks

System Integration

The printers shall integrate with the Cheque Maker and Disbursement module of the UFMS.

5.0 SERVICE LEVEL AGREEMENT AND SYSTEM PERFORMANCE

The supplier shall provide Service Level Agreement (SLA) support covering system performance, maintenance services, and technical assistance for a minimum period of three (3) years.

5.1 System Performance Requirements

The University Finance Management System shall meet the following minimum performance standards:

- .Support at least three hundred (300) concurrent users performing financial transactions.
- .Maintain system availability of at least ninety-nine percent (99%) during operational hours, excluding scheduled maintenance.
- .Ensure system scalability to support future Smart Campus integrations and increased transaction volume.

5.2 Helpdesk and Technical Support

The supplier shall provide:

- .a dedicated helpdesk for reporting incidents and technical issues.
- .technical assistance through remote support and on-site support when required.
- .system monitoring and troubleshooting services.

5.3 Incident Response and Resolution Time

The supplier shall adhere to the following service response standards:

Severity Level	Description	Response Time
Critical	System unavailable or major functionality failure	48 hours
Low	Minor issues or enhancement requests	5 Days

5.4 System Updates and Maintenance

The supplier shall provide:

- .regular system updates and patches
- .security updates to protect financial data
- .performance tuning and system optimization
- .preventive maintenance services.

6.0 SYSTEM ACCEPTANCE AND DELIVERABLES

The supplier shall deliver a fully operational University Finance Management System including software deployment, configuration, integration, training, and documentation.



6.1 Project Deliverables

The supplier shall deliver the following:

- .fully deployed UFMS platform
- .configured financial modules and workflows
- .integrated external systems and APIs
- .migrated historical financial data
- .system documentation and manuals
- .training completion for designated University personnel.

6.2 Testing and Validation Deliverables

The supplier shall provide the following during implementation:

- .system testing reports
- .integration testing results
- .performance testing results
- .User Acceptance Testing (UAT) documentation.

6.3 Data Migration Deliverables

The supplier shall submit:

- .data migration plan
- .validation and reconciliation reports
- .confirmation of successful migration of at least five (5) years of historical financial data.

6.4 Documentation Deliverables

The supplier shall submit the following documentation:

- .system architecture documentation
- .database schema documentation
- .workflow and process diagrams
- .user manuals
- .system administration manuals
- .backup and disaster recovery procedures.

6.5 Final System Acceptance

Final system acceptance shall occur after:

- .successful completion of system testing
- .successful completion of User Acceptance Testing (UAT)
- .verification that all required modules and integrations are operational.

The University shall issue a Certificate of Final Acceptance upon confirmation that the system meets all technical and functional requirements.

6.) UNIVERSITY LIBRARY MANAGEMENT INFORMATION SYSTEM

End-User: University Library

1.0 GENERAL SYSTEM REQUIREMENTS:

The University Library Management Information System (ULMIS) shall be a comprehensive, webbased, and integrated platform designed to automate the management of library services, resources, and collections.

The system shall support:

- catalog management and bibliographic processing compliant with MARC21 standards
- circulation management through Online Public Access Catalog (OPAC)
- management of both physical and electronic resources
- access to institutional research materials and digital resources
- library analytics and reporting
- secure and scalable system architecture.
- maintain a comprehensive audit trail capturing all user activities including login, transactions, record updates, deletions, and administrative actions

The system shall support the University's Smart Campus digital transformation initiative by integrating library operations with institutional information systems and providing digital access to library services.

The system must support multi-user concurrent access, high availability, and scalable deployment.

The system must be delivered with the following service and contractual requirements:

1.1 Software Design & Development

The System shall:

- Provide a web-based enterprise Library Management System accessible through standard web browsers.
- Support multi-user access with at least 300 concurrent users.
- Implement a modular architecture consisting of:
 - .Dashboard and Monitoring Module
 - .Catalog Management Module
 - .Item and Inventory Management Module



- .User Management Module
- .Circulation Management Module
- .Online Public Access Catalog (OPAC)
- .Digital Repository Module
- .Digital Resources Management Module
- .RFID Library Automation Module
- .Self-Service Library Kiosk Module
- .Queue Management Module
- .Reporting and Analytics Module
- .Notification System Module.
- Support Application Programming Interface (API) integration with other University information systems.
- Ensure system scalability to support future Smart Campus modules.
- Support at least 300 concurrent users with a response time not exceeding three (3) seconds for standard transactions

1.2 Perpetual License Fee

The supplier shall provide:

- a perpetual enterprise license allowing the University to use the system indefinitely.
- the license shall support unlimited internal users within the University.
- the license shall not require recurring subscription fees except for support and maintenance services.

1.3 Installation and Configuration Services

The supplier shall:

- install and deploy the system on University-approved infrastructure.
- support deployment via on-premise servers, hybrid or cloud infrastructure.
- configure:

user accounts and access permissions

library circulation policies

cataloging workflows

RFID integration

system security settings

1.4 User Workflow Integration

The System shall implement workflows aligned with library operations including:

- cataloging and classification of resources
- borrowing and returning of materials
- reservation and circulation monitoring
- digital repository submissions
- electronic resource access.

The System shall support integration with:

- Academic Records Information System (ARIS)--
- Human Resource Information System (HRIS)
- University authentication services (LDAP / Active Directory) Smart Campus portal.

The System shall support Single Sign-On (SSO) authentication.

1.5 Training and Knowledge Transfer

The supplier shall conduct at least five (5) structured training sessions for the following user groups: librarians, library administrators, IT system administrators, faculty users, student assistants.

Training materials shall include user manuals, administration manuals, training videos.

1.6 Post-Implementation Documentation

The supplier shall provide complete documentation including:

- system architecture documentation
- database schema
- workflow diagrams
- user manuals
- administration manuals
- disaster recovery procedures.

1.7 Testing and Commissioning

The supplier shall perform:

- system testing
- integration testing
- performance testing
- security testing
- User Acceptance Testing (UAT).

Final system acceptance shall occur only after successful completion of UAT.

1.8 Data Migration Planning & Consultancy Services



The Supplier shall provide comprehensive data migration services to transfer existing library data from the University's current library system into the new University Library Management Information System (ULMIS).

The migration process shall ensure that all relevant historical and operational data are transferred accurately while maintaining data integrity, completeness, and consistency.

1.8.1 Scope of Data Migration

The Supplier shall migrate all relevant data from the existing library system, including but not limited to the following:

1. Bibliographic Records

The Supplier shall migrate all bibliographic records including:

- .books
- .journals and periodicals
- .theses and dissertations
- .audiovisual materials
- .electronic resources.

The migration shall preserve bibliographic metadata fields including:

- .title
- .author
- .publication information
- .ISBN/ISSN
- .subject headings
- .classification numbers
- .keywords and descriptors.

Bibliographic metadata must be converted and validated to ensure compliance with:

- .MARC21 bibliographic format
- .Dublin Core metadata schema where applicable.

2. Item and Holdings Records

The Supplier shall migrate item-level information associated with bibliographic records.

The migrated item records shall include:

- .barcode identifiers
- .RFID identifiers where available
- .call numbers
- .shelf locations
- .acquisition dates
- .item status.

3. User Accounts

4. Circulation History

The Supplier shall migrate circulation transaction records including:

- .borrowing transactions
- .return transactions
- .renewal records
- .reservation records
- .overdue records
- .penalty records.

The migration shall preserve historical circulation records to allow the University to maintain complete transaction history.

5. Digital Repository Records

1.8.2 Data Integrity and Verification

The Supplier shall ensure that:

- .all records are transferred accurately
- .relationships between records are preserved
- .no data is lost during migration.

The vendor shall provide verification reports including:

- .number of records migrated
- .number of records rejected
- .validation results.

1.8.3 Documentation and Deliverables

The Supplier shall provide the following migration documentation:

- .Data migration plan
- .Data mapping document
- .Migration test reports
- .Data validation reports
- .Final migration report

All documentation shall be submitted to the University prior to project acceptance.

1.9 Project Management



The supplier shall provide Project Management Services to oversee implementation of the Library Management System.

The supplier shall:

- assign a dedicated Project Manager--
- submit project implementation plan and Gantt chart
- conduct regular progress reporting
- coordinate with the University Technical Working Group.

1.10 Three Years (3) Support & Maintenance system updates

The supplier shall provide three (3) years warranty and technical support, including:

- system updates
- bug fixes
- security patches
- helpdesk support with defined SLA.

1.11 Data Ownership and Intellectual Property Rights

All deliverables under this project shall be owned exclusively by the University.

This shall include, but not be limited to:

- .Source code
- .Database and data structures
- .System configurations and settings
- .Custom modules, enhancements, and integrations
- .application programming interfaces (APIs)
- .system and technical documentation

The supplier shall:

- .provide full source code turnover prior to final system acceptance
- .ensure that all deliverables are free from third-party ownership restrictions, licensing limitations, or proprietary constraints that would prevent the University from using, modifying, or enhancing the system
- .grant the University full rights to use, modify, maintain, and further develop the system without requiring additional permissions or fees

All intellectual property rights arising from the project shall be transferred to the University upon final acceptance and full payment

No additional licensing fees shall be required for the continued use, modification, or expansion of the system.

1.12 Smart Campus Integration and Interoperability Requirements

The System shall be fully integrated into the University Smart Campus Architecture and shall comply with the following:

- .The System shall support centralized API-based integration through a University Enterprise Integration Layer (API Gateway / ESB).
- .The System shall expose and consume secure RESTful APIs for interoperability with all University Information Systems.
- .The System shall support real-time data synchronization using event-driven or API-based mechanisms.

.The System shall integrate with the following core systems:

- Student Information / Enrollment System
- Finance Management System
- Inventory Management System
- Document Management System
- Library Management System
- Smart Campus Portal

.The System shall support Single Sign-On (SSO) using centralized authentication services (LDAP, Active Directory, or OAuth-based).

.The System shall log all integration transactions and maintain audit trails for cross-system data exchanges.

.The System shall ensure data consistency, integrity, and validation across all systems.

1.13 Centralized Clearance Integration

The System shall integrate with a Central Clearance Management Service of the University.

The System shall:

- .validate user clearance status in real time
- .report deficiencies (financial, library, property, academic, etc.)
- .prevent transactions when clearance requirements are not satisfied

Clearance statuses shall include:

- .Cleared
- .With Deficiency
- .Conditionally Cleared

The System shall synchronize clearance data with:



- .Finance (financial obligations)
 - .Library (borrowed materials)
 - .Inventory (property accountability)
 - .Student Services (disciplinary, medical, etc.)
- 1.14 Unified Notification and Alert Mechanism

The System shall integrate with the University Notification Service and shall:

- .send real-time notifications via:
 - system dashboard
 - email
 - SMS
- .support configurable alerts for:
 - approvals
 - deficiencies
 - transactions
 - system events
- .allow role-based notification preferences
- .maintain notification logs for audit purposes

2.0 FUNCTIONAL REQUIREMENTS

2.1 Dashboard and Monitoring Module

The system shall provide a role-based dashboard accessible to authorized users including librarians, administrators, and system administrators.

The system shall:

Display real-time operational metrics including:

- .number of items currently borrowed
- .number of overdue materials
- .active users
- .reservation statistics.
- Display analytics on:
 - .most searched keywords
 - .most borrowed resources
 - .peak library usage periods.
- Allow users to customize dashboard widgets according to role.

Allow exporting dashboard data to PDF, Excel, CSV.

Allow administrators to configure which indicators appear on the dashboard.

2.2 Catalog Management Module

The system shall provide tools for authorized library staff to create, edit, and manage bibliographic records.

The system shall:

- .Support bibliographic metadata using:
 - MARC21 standard
 - Dublin Core schema.
- .Allow authorized users to:
 - create bibliographic records
 - edit bibliographic records
 - delete bibliographic records.
- .Allow bulk import of bibliographic records using:
 - CSV files
 - Excel files
 - MARC files.
- .Provide authority control features for:
 - authors
 - subjects
 - publishers.
- .Allow catalogers to batch update or delete multiple records.
- .Prevent deletion of records that are linked to active circulation items.
- .Maintain version history of catalog record updates.

2.3 Item and Inventory Management

The system shall manage individual physical items associated with bibliographic records.

The system shall:

- .Create item-level records containing:
 - item barcode or RFID tag
 - call number
 - shelf location
 - item status.
- .Track item status including:



- available
- checked-out
- reserved
- lost
- damaged
- under repair
- .Record complete circulation history for each item.
- .Support batch processing of item check-in and check-out.
- .Support inventory audit using barcode or RFID scanning devices.
- .Generate inventory discrepancy reports.

2.4 User Management Module

The system shall provide tools for managing user accounts.

The system shall:

.Allow creation of user accounts for:

- students
- faculty
- staff
- alumni.

.Automatically synchronize user accounts through integration with:

- Academic Records Information System (ARIS)
- Human Resource Information System (HRIS).

.Support Single Sign-On (SSO) integration using:

- LDAP
- Active Directory
- OAuth-based authentication.

.Assign user roles and permissions including:

- librarian
- student
- faculty
- system administrator.

.Provide each user with a digital library card accessible via web or mobile interface.

2.5 Circulation Management Module

The system shall automate circulation services including borrowing and returning library materials.

The system shall:

.Allow authorized staff or self-service kiosks to:

- check out items
- check in items.

.Allow users to renew borrowed items through:

- OPAC
- self-service kiosks.

.Allow users to reserve items currently checked out.

.Automatically update item status after each transaction.

.Automatically compute overdue penalties based on configurable rules.

.Generate notifications for:

- due dates
- overdue items
- reservation availability.

.Maintain a complete log of circulation transactions.

2.6 Online Public Access Catalog (OPAC)

The system shall provide an Online Public Access Catalog accessible to users via web browsers and mobile devices.

The system shall allow users to search library resources using:

- .keyword
- .title
- .author
- .subject
- .call number
- .publication year.

The system shall allow users to:

- .Filter search results by:
 - resource type
 - availability
 - publication year
 - language.



- .Save search results.
- .Create reading lists.
- .Export citations in standard formats including:
 - APA
 - MLA.
- .Submit interlibrary loan requests if enabled.

2.7 Digital Repository Module

The system shall provide a digital repository for storing and accessing institutional research outputs.

The repository shall support:

- .theses
- .dissertations
- .faculty publications
- .research reports
- .multimedia resources
- .conference papers
- .institutional documents.

The system shall:

- .Allow authorized staff to upload digital files.--
- .Allow users to search digital materials using metadata or full-text search.
- .Support controlled access to restricted research materials.
- .Record download statistics for digital items.

2.8 Digital Resources Management Module

The system shall manage access to licensed and subscribed electronic resources..

The system shall support:

- .electronic books
- .electronic journals
- .online academic databases
- .open-access resources
- .multimedia learning resources

The system shall:

- .Allow librarians to register electronic resources with metadata.--
- .Allow linking of electronic resources to OPAC search results.
- .Support authentication methods including:

- IP authentication
- proxy access
- Single Sign-On.

.Record usage statistics including:

- downloads
- views
- user access patterns.

2.9 Embedded Multidisciplinary E-Library Portal

The system shall provide a unified E-Library Portal that allows users to access digital resources and institutional research materials through a single interface.

The E-Library portal shall:

- .Provide unified search across
 - digital repository
 - electronic databases
 - OPAC resources
- .Allow users to search by

- keyword
- author
- subject
- publication year.

.Allow viewing or downloading of digital materials based on access permissions.

The portal shall provide:

- digital reading interface
- resource discovery tools
- usage analytics.

2.10 RFID Library Automation Module

The system shall support integration with RFID hardware.

The system shall:

- .Register RFID tags associated with library items.----
- .Allow automated check-in and check-out using RFID readers.
- .Support RFID security gates for theft detection.



- .Allow inventory scanning using handheld RFID devices.
- .Automatically update item status after RFID transactions.

2.11 Self-Service Library Kiosk Module

The system shall support self-service kiosks.

The Self-Service Library Kiosk:

Shall allow users to:

- .borrow materials
- .return materials
- .view borrowing history
- .check account status--

Must be connected to the university network:

- .LAN connection
- .secure WiFi
- .VPN if remote access is used

Real-time connectivity ensures instant database updates.

Must run a specialized user interface application that allows:

- .login
- .scan books
- .perform transactions
- .display user information
- .This software communicates with the LMIS server.

Must support:

- .student ID verification
- .role-based access
- .encrypted communication
- .transaction logging

Must update the central LMIS database in real time.

Must allow Library administrators to manage kiosks from the LMIS, to include:

- .enable/disable kiosk
- .view transaction logs
- .monitor usage
- .configure borrowing rules
- .update kiosk software
- Must include security considerations such as:
 - .auto logout after inactivity
 - .secure user authentication
 - .restricted operating system access
 - .anti-tampering hardware
 - .transaction audit logs

The system shall utilize the self-service kiosks specified under Section 4.0.

2.12 Interactive Library Resource Locator

The system shall support an interactive library map that assists users in locating materials.

The system shall:

- .Display the physical layout of the library.--
- .Show shelf locations for selected resources.
- .Indicate real-time availability of materials.
- .Allow users to search for items and display navigation guidance.
- The library shall include an interactive digital board for locating resources.

Minimum specifications:

- .55-inch interactive display
- .touchscreen capability
- .4K resolution
- .integrated library floor map
- .wall-mounted installation.

2.13 Queue Management System

The system shall manage queues for library services.

The system shall:

- .Issue digital queue numbers.
- .Display queue status on display screens.
- .Allow librarians to call queue numbers through a service interface.
- .Provide analytics on queue waiting times and service efficiency.

2.14 Reporting and Analytics Module

The system shall provide a reporting module capable of generating operational and statistical reports.

The system shall generate reports including:



- .circulation statistics
- .most borrowed materials
- .collection usage statistics
- .acquisition reports
- .user activity statistics
- .digital resource usage.

The system shall:

- .Allow filtering of reports by date range, user category, and material type.
- .Provide graphical visualizations including charts and graphs.--
- .Allow scheduled report generation.
- .Allow export of reports in PDF, Excel, CSV

2.15 Notification System

The system shall support automated notifications to library users and administrators through multiple communication channels.

The system shall support the following notification channels:

- .email notifications
- .SMS notifications
- .in-system alerts.

The system shall generate notifications for the following events:

- .item due date reminders
- .overdue item alerts
- .reservation availability notifications
- .account updates
- .system announcements.

Authorized administrators shall be able to configure notification templates and schedules.

The system shall maintain a log of all notifications sent for auditing and monitoring purposes.

3.0 ENTERPRISE BACKUP AND DISASTER RECOVERY REQUIREMENTS

The University Library Management Information System shall implement enterprise-level data protection mechanisms to ensure the integrity, security, and availability of library data, digital resources, and transaction records.

The system shall support automated backup and disaster recovery mechanisms to protect library collections, bibliographic records, digital repository content, and user transaction data.

The System shall:

- implement automated backup mechanisms for system databases and digital repository records.
- support daily incremental backups and weekly full system backups of the library database and digital repository.
- allow backup copies to be stored in secure secondary storage locations or backup servers.
- support backup of the following critical system components:
 - .bibliographic records
 - .item and holdings records
 - .circulation transactions
 - .user account information
 - .digital repository files
 - .system configuration settings.
- support system restoration procedures to recover data in case of system failure, data corruption, or hardware malfunction.
- maintain data integrity verification mechanisms to ensure that backup files are complete and recoverable.
- support disaster recovery procedures that allow restoration of system services within an acceptable recovery time after system failure.
- ensure that backup and recovery processes comply with the University's information security policies and the Data Privacy Act of 2012 (RA 10173).
- support secure storage and protection of backup files to prevent unauthorized access, alteration, or loss of sensitive information.

4.0 ICT INFRASTRUCTURE, EQUIPMENT, AND SMART LIBRARY FACILITIES

The supplier shall provide all necessary ICT infrastructure, equipment, smart library facilities, and related installation works required for the full implementation of the University Library Management

Information System. All equipment shall be brand-new, unused, and of current production models.

4.1 High-End Multimedia Workstations (20 Units)

Specifications:

- .Processor: minimum 16 cores and 24 threads, at least 3.0 GHz Base clock speed



- .Graphics Processing Unit (GPU): at least 8GB Graphics (GPU)
 - .Memory: at least RAM 64GB DDR5 6000MT/s (Dual Channel)
 - .Storage: at least 1TB NVMe PCIe Gen5 SSD
 - .Display: at least 32" 4K IPS Panel or equivalent professional display suitable for document digitization and image viewing
 - .Power Protection: 1500VA Line-Interactive UPS with AVR
 - .Accessories: Ergonomic mechanical keyboard, high-precision optical mouse
 - .With Ergonomic Office Chair
 - .With Ergonomic PC Table
- 4.2 Collaborative Study Pods (2 Units)
- Each study pod shall include:
- .U-shaped modular seating arrangement
 - .center table suitable for laptop use
 - .provision for mounting a 55-inch display monitor
 - .integrated power outlets and USB charging ports.
- The furniture materials shall be:
- .commercial-grade upholstery
 - .high-density foam cushioning
 - .reinforced steel or hardwood frame.
- Please see attached for Figure 1: Pods U-shaped
- 4.3 Acoustic Study Pods (3 Units)
- The supplier shall provide three (3) acoustic study pods designed for individual study or virtual meetings.
- Each pod shall include:
- .sound-insulated panels
 - .integrated ventilation system
 - .LED lighting
 - .desk surface for laptop use
 - .electrical outlets and USB charging ports
- The acoustic insulation shall reduce ambient noise levels for private study activities
- Please see attached for Figure 2: 3pods Acoustic Study Pods
- 4.4 Smart Study Carrels (15 Units)
- The supplier shall provide fifteen (15) smart study carrels.
- Each carrel shall include:
- .individual desk workspace
 - .integrated LED lighting
 - .built-in electrical outlets
 - .wireless charging capability
 - .ergonomic seating.
- The study carrels shall support extended individual study sessions
- Please see attached for Figure 3: Smart Carrels
- 4.5 Library Social Lounge Area
- The supplier shall provide one (1) modular lounge seating set designed for flexible library activities including group discussions and informal learning.
- The furniture shall allow rearrangement of seating configurations to support library events and collaborative learning activities
- Please see attached for Figure 4: High-End Multimedia Workstations (20 Units) With Chair and Table
- 4.6 Self-Service Library Kiosk (2 Units)
- The supplier shall provide self-service library kiosks designed to support automated borrowing, returning, and user account access integrated with the University Library Management Information System (ULMIS).
- Each kiosk shall include the following minimum specifications:
- .Display:
 - minimum 21-24-inch industrial-grade touchscreen display
 - multi-touch capability
 - .Processing Unit: embedded computer or mini-PC capable of running kiosk application software
 - .Scanning Devices:
 - integrated barcode scanner and/or RFID reader
 - capable of reading library materials and user IDs
 - .Printer: built-in thermal receipt printer for transaction slips
 - .Connectivity:
 - LAN and/or secure WiFi connectivity
 - real-time synchronization with the LMIS database



.Security Features:

- secure user authentication
- encrypted communication
- auto logout after inactivity
- tamper-resistant enclosure

.Power Protection: with appropriate Uninterruptible Power Supply (UPS)

.Physical Structure: durable, commercial-grade kiosk enclosure suitable for continuous public use

4.7 RFID Library Automation System

The supplier shall provide a complete RFID Library Automation System fully integrated with the University Library Management Information System (ULMIS) to support efficient circulation, inventory management, and security of library materials.

The RFID system shall include the following components:

4.7.1 RFID Tags

- .RFID tags for library materials (books and other resources)
- .compatible with international library RFID standards
- .durable and suitable for long-term use

4.7.2 RFID Staff Workstation Readers

- .desktop RFID readers for circulation desk operations
- .capable of reading multiple items simultaneously
- .integrated with the LMIS circulation module

4.7.3 RFID Self-Service Integration

- .RFID-enabled integration with self-service kiosks
- .supports automated borrowing and returning transactions

4.7.4 RFID Security Gates

- .anti-theft detection gates installed at library exits
- .real-time alarm for unauthorized removal of materials
- .compatible with RFID tags used in the system

4.7.5 Handheld RFID Readers

- .portable RFID scanners for inventory and shelf management
- .capable of rapid scanning of multiple items
- .supports inventory audit and discrepancy detection

4.7.6 RFID System Integration

- .full integration with the Library Management Information System
- .automatic updating of item status during RFID transactions
- .support real-time synchronization with the central database

4.8 Interactive Library Resource Locator Display (1 Unit)

The supplier shall provide an interactive digital display system designed to assist users in locating library resources through an integrated visual navigation interface connected to the University Library Management Information System (ULMIS).

The system shall include both hardware and software components for real-time resource location and navigation.

Each unit shall have the following minimum specifications:

.Display:

- minimum 55-inch commercial-grade interactive touchscreen display
- multi-touch capability (minimum 10 touch points)
- 4K Ultra HD resolution
- high brightness suitable for continuous indoor public use

.Processing Unit:

- embedded computer or mini-PC capable of running interactive mapping software

.Software Integration:

- fully integrated with the OPAC and inventory system --
- capable of displaying real-time item availability and shelf location
- supports search by title, author, subject, and keyword

.Mounting and Installation:

- wall-mounted or floor-standing installation
- secure and tamper-resistant mounting structure

.Connectivity:

- LAN and/or secure WiFi connectivity
- real-time synchronization with the LMIS database

.Power Protection: with appropriate Uninterruptible Power Supply (UPS)

.Physical Design: commercial-grade enclosure suitable for continuous public use

4.9 ICT-ENABLING INFRASTRUCTURE AND INTERIOR WORKS

The supplier shall perform limited interior and infrastructure works necessary for the installation, deployment, and operation of the University Library Smart Campus systems,



including digital learning spaces, multimedia workstations, and smart study areas.
.These works shall be considered incidental to the implementation of the University Library Management Information System and Smart Library facilities.
.The works shall be limited to modifications required to support ICT infrastructure, electrical systems, and smart learning environments.

4.9.1 Site Preparation

The supplier shall perform necessary site preparation works including:

- .removal of existing partitions and obsolete fixtures
- .floor surface preparation and debris disposal
- .preparation of designated areas for smart study spaces and multimedia workstations.

4.9.2 Electrical and Data Infrastructure

The supplier shall install electrical and network infrastructure necessary to support the Smart Library system.

The works shall include:

- .structured data cabling (Cat6/Cat7)
- .electrical outlets for multimedia workstations and kiosks
- .network access points
- .electrical supply for servers and digital equipment.

4.9.3 Interior Acoustic Improvements

The supplier shall provide acoustic interior improvements required to support multimedia learning spaces.

The works may include:

- .acoustic flooring materials
- .acoustic wall panels or partitions
- .sound-tempered glass partitions for multimedia rooms.

These improvements shall enhance the usability of the Smart Study Spaces and multimedia facilities.

4.9.4 Environmental and Cooling Requirements

The supplier shall ensure adequate environmental conditions for ICT equipment including:

- .ventilation improvements
- .cooling provisions for multimedia workstations
- .temperature control for server equipment where applicable.

5.0 SERVICE LEVEL AGREEMENT (SLA) AND SYSTEM PERFORMANCE REQUIREMENTS

The supplier shall provide a Service Level Agreement (SLA) that defines system performance standards, maintenance obligations, and technical support commitments for the University Library Management Information System.

5.1 System Performance Standards

The system shall meet the following performance requirements:

- .support at least 300 concurrent users
- .process standard transactions within three (3) seconds
- .provide high availability for library operations
- .ensure real-time database updates for circulation transactions and self-service kiosks.

5.2 System Availability

The system shall maintain 99% system availability excluding scheduled maintenance periods. Scheduled maintenance activities shall be coordinated with the University Library and IT Office.

5.3 Technical Support and Maintenance

The supplier shall provide three (3) years of support and maintenance including:

- .software updates
- .security patches
- .bug fixes
- .system performance optimization
- .technical troubleshooting assistance.

5.4 Incident Response and Resolution

The supplier shall comply with the following incident response targets:

Severity	Description	Response Time
High	Core module failure	< 48 hours
Medium	Non-critical system issue	< 5 business day

5.5 Backup and Disaster Recovery

The system shall support:

- .daily incremental backups
- .restoration of bibliographic records, digital repository content, and user transactions.weekly full system backups



Backup procedures shall cover:

- .bibliographic records
- .user accounts
- .circulation transactions
- .digital repository files.

All backup procedures shall comply with RA 10173 Data Privacy Act.

6.0 SYSTEM ACCEPTANCE AND DELIVERABLES

The system shall undergo formal testing and acceptance prior to full operational deployment.

6.1 Testing Requirements

The supplier shall conduct the following testing activities:

- .functional testing
- .integration testing
- .performance testing
- .security testing
- .User Acceptance Testing (UAT).

6.2 User Acceptance Testing (UAT)

The University Technical Working Group (TWG) shall conduct User Acceptance Testing to verify compliance with all functional and technical requirements.

The supplier shall provide testing documentation including:

- .test plan.
- .test cases
- .test results.

6.3 System Acceptance Criteria

The University shall accept the system upon:

- .successful completion of UAT
- .validation of system performance requirements
- .verification of all functional modules
- .successful data migration.

6.4 Project Deliverables

The supplier shall deliver the following:

- .fully operational University Library Management Information System
- .RFID library automation infrastructure
- .server and storage infrastructure
- .digital repository and e-library platform
- .system documentation and user manuals
- .training materials
- .data migration reports
- .final implementation report

ABC:Php 313,800,000.00

The criteria to be used for the eligibility check of the prospective bidders, examination and evaluation of bids, post qualification and all matters relevant to this procurement shall be in accordance with Republic Act No. 12009 (New Government Procurement Act) and its Implementing Rules and Regulations.

Interested bidders may obtain further information from WMSU BAC Secretariat regarding the checklist of eligibility and technical requirements and Evaluation Criteria (Eligibility Checklist and Evaluation Criteria indicated in the Philippine Bidding Documents (PBDs) can be downloaded in the associated components of this Invitation to Bid).

IMPORTANT NOTICE FOR BIDDERS:

1. Bidding papers may be acquired starting July 18 to August 18, 2026, from the BAC Office or download from agency website (www.wmsu.edu.ph) and PhilGEPS website. The WESTERN MINDANAO STATE UNIVERSITY shall allow the bidder to present its proof of payment for the Bidding Documents fees before the submission of their bids, pursuant to the latest Guidelines issued by the GPPB, in the amount of Fifty Thousand Pesos (Php.50,000.00). (Please attached the machine copy of the Official Receipt)

2. All bidders are required to post a Bid Security, at least Two (2%) Percent of the ABC in the form of Cash, Cashier's Check or Manager's Check or may submit Bid Securing Declaration. Bids without Bid Security will not be considered.

3. The Bidder shall prepare an original of the Eligibility Documents & Technical Components and original of Financial Proposal and clearly mark each "ORIGINAL – ELIGIBILITY DOCUMENTS and TECHNICAL COMPONENTS", and "ORIGINAL – FINANCIAL PROPOSAL", respectively. Bidders shall submit one (1) set of the first and second



components of its bid. State the unit price of each item and the total bid price and also state the shortest time of delivery and submit your proposal duly signed by your representative in a sealed envelope. Failure to submit any of the eligibility documents, technical components and financial proposal during bid opening will result in disqualification.

4. Pre-Bid Conference will be on August 3, 2026 9:30 AM at Procurement Conference Office, Ground Floor Administration Building, WMSU, Zamboanga City and/or through video conferencing or webcasting via Zoom, which shall be open to prospective bidders.

5. Bid Submission will be on or before August 18, 2026 9:30 AM. through Manual Submission.

6. Bid opening shall be on August 18, 2026 9:30 AM. at Procurement Conference Office, Ground Floor Administration Building, WMSU, Zamboanga City. Bids will be opened in the presence of the Bidders representatives who choose to attend at the address above. Late bids shall not be accepted.

7. The contract will be awarded to the bidder who submits the Most Economically Advantageous Responsive Bid (MEARB)

8. Price validity shall be for a period of 120 calendar days.

9. Bidders shall submit original brochures showing certifications of the product being offered.

10. Warranty shall be for a period of Six (6) months for supplies and materials. One (1) year for equipment, from date of acceptance by WESTERN MINDANAO STATE UNIVERSITY.

11. Bids received in excess of the ABC shall be automatically rejected at Bid Opening.

The WESTERN MINDANAO STATE UNIVERSITY reserves the right to reject any or all Bids and to accept the bid most advantageous to the government, and to award the contract by lot, if warranted.