Phase A – Core School, Student, and Teacher Setup: Design Requirements

# 1. Overview

Phase A establishes the foundational infrastructure of the School Information System (SIS), enabling robust, flexible, and scalable management of schools, students, teachers, and core operations. This phase prioritizes operational efficiency, user experience, and interoperability, ensuring the platform is capable of supporting all subsequent phases without rework. It focuses on registration, scheduling, attendance, grading, and administrative controls, while allowing customization to meet district and individual school needs.

# 2. Goals & Objectives

• Deliver a flexible, role-based system that supports principals, vice principals, deans, teachers, specialists, and administrative staff.  
• Enable efficient student registration and data management, with secure, role-specific access controls.  
• Provide a scheduling engine that accommodates standard classes, specialist sessions, and approved pull-out programs.  
• Create a real-time attendance and grading system that is both teacher-friendly and parent-accessible.  
• Ensure the platform can evolve to meet future integration requirements without fundamental redesign.

# 3. Functional Requirements

## 3.1 User Roles & Permissions

• Principal: Full system access with override authority.  
• Vice Principal: Same as Principal except for certain system-level configuration rights.  
• Dean: Behavior, discipline, and limited academic access.  
• Administrative Staff: Configurable permissions, by default able to manage schedules, attendance, and student records.  
• Teacher: Class roster, attendance, grading, scheduling, and pull-out request approvals.  
• Specialist: Manage specialist calendars, request pull-out sessions, and track student attendance for those sessions.

## 3.2 Student Information Management

• Centralized student record with demographics, guardianship, medical alerts, learning accommodations.  
• Year-to-year record continuity without manual re-entry.  
• Historical academic performance archive.

## 3.3 Scheduling

• Core schedule creation by administrative staff.  
• Specialists can propose pull-out slots at any time; requests require teacher approval.  
• Teacher denial must include a reason and offer option to select alternate open slot from specialist’s calendar.  
• Specialist calendars allow simultaneous multiple students with configurable capacity.  
• Conflict detection: Only blocks when student’s schedule or specialist capacity is exceeded.

## 3.4 Attendance Tracking

• Attendance entry by teachers or authorized administrative staff.  
• Defaults to ‘Present’ unless marked as Absent or Tardy.  
• Specialist sessions have their own attendance logs feeding into overall attendance reports.

## 3.5 Grading System

• Flexible gradebook grouping: homework, tests, quizzes, projects, participation.  
• Teacher can enter grades within a grouping or assign grouping during entry.  
• Supports numeric, letter, and standards-based grading.  
• Immediate calculation of group and overall averages.

# 4. Non-Functional Requirements

• Security: Role-based access control with encryption in transit and at rest.  
• Scalability: Able to handle district-level deployments.  
• Performance: Sub-second response for common operations.  
• Usability: Designed for minimal clicks and logical workflows.  
• Audit Logging: All changes tracked with timestamp and user ID.

# 5. Dependencies

• Relies on authentication module (SSO preferred).  
• Requires initial district/school configuration before go-live.  
• Attendance and grade reporting must integrate with reporting modules in Phase E.

# 6. Acceptance Criteria

• All user roles can log in and perform allowed functions.  
• Schedule conflicts detected and resolved per defined rules.  
• Attendance defaults to present and exceptions are logged correctly.  
• Gradebook supports groupings and real-time calculation.  
• Historical data available after year rollover without loss.

# Appendix A: UI/UX Mockup Descriptions

1. \*\*Dashboard\*\* – Clean, minimal school-themed interface with role-specific widgets.  
2. \*\*Scheduling View\*\* – Color-coded weekly calendar with drag-and-drop for classes and pull-out requests.  
3. \*\*Gradebook Interface\*\* – Spreadsheet-like grid with inline editing, grouping filter dropdown.  
4. \*\*Attendance Screen\*\* – Quick mark interface with default ‘Present’ and one-click absent/tardy selection.  
5. \*\*Student Profile\*\* – Tabbed view for demographics, academics, attendance history, and notes.