Functional Requirements

1. **Student Enrollment**: Ability to enroll students into courses and programs.
2. **Student Information Management**: Store and manage personal details, academic records, and attendance for each student.
3. **Course Management**: Create, update, and delete courses offered by the school.
4. **Faculty Management**: Maintain records of faculty members, including qualifications and teaching assignments.
5. **Grade Management**: Record and update grades for student assessments.
6. **Attendance Tracking**: Record and monitor student attendance in classes.
7. **Schedule Management**: Generate and manage class schedules for students and teachers.
8. **User Authentication**: Implement user roles (students, teachers, administrators) with secure login functionality.
9. **Report Generation**: Generate various reports, such as grade reports, attendance reports, and enrollment statistics.
10. **Communication Tools**: Enable messaging between students, teachers, and administrators.
11. **Library Management**: Manage library resources, including book loans and returns.
12. **Extracurricular Activities**: Track student participation in extracurricular activities and clubs.
13. **Fee Management**: Manage tuition fees, payments, and outstanding balances.
14. **Parent Access**: Allow parents to view their child's academic records and attendance.
15. **Notifications System**: Send notifications for important events, deadlines, and announcements.
16. **Customizable Dashboards**: Provide users with personalized dashboards to view relevant information.
17. **Data Backup and Recovery**: Ensure regular backups of database data and mechanisms for recovery.

18. **Search Functionality**: Implement search capabilities for students, courses, and faculty.
19. **Compliance Tracking**: Maintain records to comply with educational regulations and accreditation standards.
20. **Integration with Other Systems**: Facilitate integration with other school management tools and platforms.

Non-Functional Requirements

1. **Performance**: The database should support concurrent access by multiple users with response times under 2 seconds for queries.
2. **Scalability**: The system should be able to handle an increasing number of users and data without performance degradation.
3. **Security**: Ensure data encryption, role-based access control, and compliance with data protection regulations (e.g., FERPA).
4. **Usability**: The user interface should be intuitive and easy to navigate for all user roles.
5. **Availability**: The system should have high availability with minimal downtime, ensuring access 24/7.