

Based on the features of business flow, services and user interactions that are expected from the application in the given business scenario, below functional and non-functional requirements are extrapolated. The final database ideally must fulfill both sets of requirements.

Functional Requirements:

Requirement number	Description
REQ001	Enable Students to retrieve a list of available courses.
REQ002	Design database tables such that their relationships comply with normalization stages 1NF, 2NF and possibly 3NF.
REQ003	<p>Create below tables:</p> <ul style="list-style-type: none"> • Admins • Teachers • Courses • Students • Results
REQ004	<p>Allow only 'Admins' to:</p> <ul style="list-style-type: none"> • Set the 'availability' of courses <ul style="list-style-type: none"> ○ Possible values: 'Y' and 'N' • Assign 'Teachers' to the courses
REQ005	<p>Allow 'Teachers' to assign grade to students.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • <i>Pass</i> • <i>Fail</i>

REQ006	Set Privileges for users:		
	Table	User	Privileges
	Admins	admin	View
	Teachers	teacher	View
		admin	View
	Courses	admin	View, modify
		teacher	View
	Students	teacher	View
	Results	teacher	View, modify

Non-functional Requirements:

Requirement number	Description
REQ001	Perform Database backups.
REQ002	Maintain failover mechanisms during downtime
REQ003	Ensure database is designed within the allocated budget and IT resources
REQ004	Performance of the system should be analyzed against parameters like speed during peak hours and during batch updates, lower response time and higher throughput.
REQ005	Explore the possibility of cloud-based database design considering budget constraints and small data size.
REQ006	Ensure Security standards to protect the database from unauthorized access and data breaches, e.g. using encryption
REQ007	Vertical Scalability is to be ensured since the data size is small.