1. Entity Identification:

**students**

* student\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* first\_name (VARCHAR(50), NOT NULL)
* last\_name (VARCHAR(50), NOT NULL)
* dob (DATE, NOT NULL)
* email (VARCHAR(100), UNIQUE, NOT NULL)
* phone (VARCHAR(15))
* major (VARCHAR(100))

**courses**

* course\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* course\_name (VARCHAR(100), NOT NULL)
* department\_id (INT, FOREIGN KEY REFERENCES Department(department\_id))
* syllabus (TEXT)
* grading\_scheme (TEXT)

**departments**

* department\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* department\_name (VARCHAR(100), NOT NULL)
* building\_id (INT, FOREIGN KEY REFERENCES Building(building\_id))

**faculties**

* faculty\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* first\_name (VARCHAR(50), NOT NULL)
* last\_name (VARCHAR(50), NOT NULL)
* email (VARCHAR(100), UNIQUE, NOT NULL)
* phone (VARCHAR(15))
* department\_id (INT, FOREIGN KEY REFERENCES Department(department\_id))

**professors** (inherits Faculty)

* faculty\_id (INT, PRIMARY KEY, FOREIGN KEY REFERENCES Faculty(faculty\_id))
* rank (VARCHAR(50))

**lecturers** (inherits Faculty)

* faculty\_id (INT, PRIMARY KEY, FOREIGN KEY REFERENCES Faculty(faculty\_id))
* contract\_end\_date (DATE)

**teaching\_assistants** (inherits Faculty)

* faculty\_id (INT, PRIMARY KEY, FOREIGN KEY REFERENCES Faculty(faculty\_id))
* supervisor\_id (INT, FOREIGN KEY REFERENCES Professor(faculty\_id))

**enrollments**

* enrollment\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* student\_id (INT, FOREIGN KEY REFERENCES Student(student\_id))
* course\_id (INT, FOREIGN KEY REFERENCES Course(course\_id))
* semester (VARCHAR(20))

**assignments**

* assignment\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* course\_id (INT, FOREIGN KEY REFERENCES Course(course\_id))
* title (VARCHAR(100), NOT NULL)
* description (TEXT)
* due\_date (DATE)

**quizzes**

* quiz\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* course\_id (INT, FOREIGN KEY REFERENCES Course(course\_id))
* title (VARCHAR(100), NOT NULL)
* date (DATE)

**exams**

* exam\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* course\_id (INT, FOREIGN KEY REFERENCES Course(course\_id))
* title (VARCHAR(100), NOT NULL)
* date (DATE)

**projects**

* project\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* course\_id (INT, FOREIGN KEY REFERENCES Course(course\_id))
* title (VARCHAR(100), NOT NULL)
* description (TEXT)
* submission\_date (DATE)

**grades**

* grade\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* enrollment\_id (INT, FOREIGN KEY REFERENCES Enrollment(enrollment\_id))
* assignment\_id (INT, FOREIGN KEY REFERENCES Assignment(assignment\_id))
* quiz\_id (INT, FOREIGN KEY REFERENCES Quiz(quiz\_id))
* exam\_id (INT, FOREIGN KEY REFERENCES Exam(exam\_id))
* project\_id (INT, FOREIGN KEY REFERENCES Project(project\_id))
* grade (DECIMAL(5,2))

**research\_projects**

* research\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* title (VARCHAR(100), NOT NULL)
* description (TEXT)
* lead\_faculty\_id (INT, FOREIGN KEY REFERENCES Faculty(faculty\_id))
* start\_date (DATE)
* end\_date (DATE)

**publications**

* publication\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* title (VARCHAR(100), NOT NULL)
* publication\_date (DATE)
* authors (TEXT)
* journal (VARCHAR(100))
* conference (VARCHAR(100))
* book (VARCHAR(100))
* research\_id (INT, FOREIGN KEY REFERENCES Research Project(research\_id))

**grants**

* grant\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* title (VARCHAR(100), NOT NULL)
* amount (DECIMAL(10,2))
* funding\_agency (VARCHAR(100))
* start\_date (DATE)
* end\_date (DATE)

**resources**

* resource\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* resource\_type (VARCHAR(50), NOT NULL)
* description (TEXT)
* availability (BOOLEAN)

**library\_books**

* book\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* title (VARCHAR(100), NOT NULL)
* author (VARCHAR(100))
* isbn (VARCHAR(20), UNIQUE)
* available\_copies (INT)

**journals**

* journal\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* title (VARCHAR(100), NOT NULL)
* issn (VARCHAR(20), UNIQUE)
* volume (VARCHAR(20))
* issue (VARCHAR(20))

**digital\_resources**

* resource\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* title (VARCHAR(100), NOT NULL)
* url (VARCHAR(255), UNIQUE)

**student\_organizations**

* organization\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* organization\_name (VARCHAR(100), NOT NULL)
* description (TEXT)

**clubs**

* club\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* club\_name (VARCHAR(100), NOT NULL)
* description (TEXT)

**athletic\_teams**

* team\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* team\_name (VARCHAR(100), NOT NULL)
* description (TEXT)

**facilities**

* facility\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* facility\_name (VARCHAR(100), NOT NULL)
* description (TEXT)

**buildings**

* building\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* building\_name (VARCHAR(100), NOT NULL)
* location (VARCHAR(100))

**financial\_transactions**

* transaction\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* transaction\_date (DATE)
* amount (DECIMAL(10,2))
* transaction\_type (VARCHAR(50))

**tuitions\_fees**

* tuition\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* student\_id (INT, FOREIGN KEY REFERENCES Student(student\_id))
* amount (DECIMAL(10,2))
* payment\_date (DATE)

**scholarship**

* scholarship\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* student\_id (INT, FOREIGN KEY REFERENCES Student(student\_id))
* amount (DECIMAL(10,2))
* awarded\_date (DATE)

1. Attribute Definition:

<https://dbdiagram.io/d/Academy-66bda7208b4bb5230e2dcb17>

