# Physical Design

CourseTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| courseID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| courseName | VARCHAR | 30 |  | Secondary Key | yes (duplicates ok) | yes |  |
| duration | INT |  |  |  |  | yes |  |
| startDate | DATE |  |  |  |  | yes |  |
| endDate | DATE |  |  |  |  | yes |  |
| creditValue | SMALLINT |  |  |  |  | yes |  |
| invoiceID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| classID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |

Foreign Keys: invoiceID → CourseInvoiceTable

update cascade, delete restrict

classID → ClassTable

update cascade, delete restrict

CourseInvoiceTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| invoiceID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| invoiceDate | DATE |  |  |  |  | yes |  |
| amount | DECIMAL |  | 5,2 |  |  | yes |  |
| details | VARCHAR | 250 |  |  |  | no |  |

ClassTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| classID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| tutorID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| subject | VARCHAR | 30 |  |  |  | yes |  |
| scheduledTime | DATETIME |  |  |  |  | yes |  |

Foreign Key: tutorID → TutorTable

cascade update, delete restrict

TutorTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| tutorID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| tutorName | VARCHAR | 70 |  |  |  | yes |  |
| dateOfBirth | DATE |  |  |  |  | yes |  |
| nextOfKinID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| officeNumber | SMALLINT |  |  |  |  | yes |  |
| extensionNo | VARCHAR | 10 |  |  |  | yes |  |
| tutorAddress | VARCHAR | 100 |  |  |  | yes |  |
| tutorEmail | VARCHAR | 35 |  |  |  | no |  |
| natInsuranceNo | VARCHAR | 10 |  | Secondary Key | yes (no duplicates) | yes |  |

Foreign Key: nextOfKinID → NextOfKinTable

update cascade, delete restrict

StudentTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| studentID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| studentName | VARCHAR | 70 |  |  |  | yes |  |
| dateOfBirth | DATE |  |  |  |  | yes |  |
| nextOfKinID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| studentAddress | VARCHAR | 100 |  |  |  | yes |  |
| dateEnrolled | DATE |  |  |  |  | yes |  |
| studentEmail | VARCHAR | 35 |  |  |  | no |  |
| registered | TINYINT | 1 |  |  |  | yes |  |
| feeID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| attendance | DECIMAL |  | 5,2 |  |  | no | 0 to 100.00 |
| avgKnowledge | DECIMAL |  | 5,2 |  |  | no | 0 to 100.00 |
| studProgress | DECIMAL |  | 5,2 |  |  | no | 0 to 100.00 |

Foreign Keys: nextOfKinID → nextOfKinTable

update cascade, delete restrict

feeID → feeTable

update cascade, delete restrict

NextOfKinTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| nextOfKinID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| nextOfKinName | VARCHAR | 70 |  |  |  | yes |  |
| relationship | VARCHAR | 20 |  |  |  | yes |  |
| phoneNo | VARCHAR | 30 |  |  |  | yes |  |
| nextOfKinEmail | VARCHAR | 35 |  |  |  | no |  |

FeeTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| feeID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| paid | TINYINT | 1 |  |  |  | yes |  |

ResourceTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| resourceID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| resName | VARCHAR | 30 |  |  |  | yes |  |
| documentLink | VARCHAR | 50 |  |  |  | yes |  |

QuizTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| quizID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| quizName | TINYINT | 1 |  |  |  | yes |  |
| quizDate | DATE |  |  |  |  | yes |  |
| marksGained | SMALLINT |  |  |  |  | no |  |
| marksTotal | SMALLINT |  |  |  |  | yes |  |
| questionID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |

Foreign Key: questionID → QuestionTable

update cascade, delete restrict

QuestionTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| questionID | SMALLINT |  |  | Primary Key | yes (no duplicates) | yes | AutoNumber |
| question | VARCHAR | 250 |  |  |  | yes |  |
| answer | VARCHAR | 250 |  |  |  | yes |  |

QuizzesAssignedTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| studentID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| quizID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |

Foreign Keys: studentID → StudentTable

update cascade, delete restrict

quizID → QuizTable

update cascade, delete restrict

TutorCourseTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| tutorID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| courseID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |

Foreign Keys: tutorID → TutorTable

update cascade, delete restrict

courseID → CourseTable

update cascade, delete restrict

StudentCourseTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| studentID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| courseID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |

Foreign Keys: studentID → StudentTable

update cascade, delete restrict

courseID → CourseTable

update cascade, delete restrict

StudentResourceTable

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name | Data Type | Field  Size | Format | Key Type | Index | Required | Additional Constraints |
| studentID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |
| resourceID | SMALLINT |  |  | Foreign Key | yes (no duplicates) | yes |  |

Foreign Keys: studentID → StudentTable

update cascade, delete restrict

resourceID → ResourceTable

update cascade, delete restrict