

CSUF 332

Spring 2019 Database Structure Project

Instructor: Shawn Wang

Date: May 18th, 2019

Project Website: <http://ecs.fullerton.edu/~cs332t38/>

Server LogIn Info

Login: ssh [cs332t38@shell.ecs.fullerton.edu](ssh:cs332t38@shell.ecs.fullerton.edu)

Password for shell: a

MySQL LogIn Info

Login: mysql -h mariadb -u cs332t38 -p

Password: ahNg7aet

Nguyen Nguyen	CWID: 1545 Section: 01
Gregory Vasquez	CWID: 9646 Section: 02
Vincent Nguyen	CWID: 9656 Section: 02

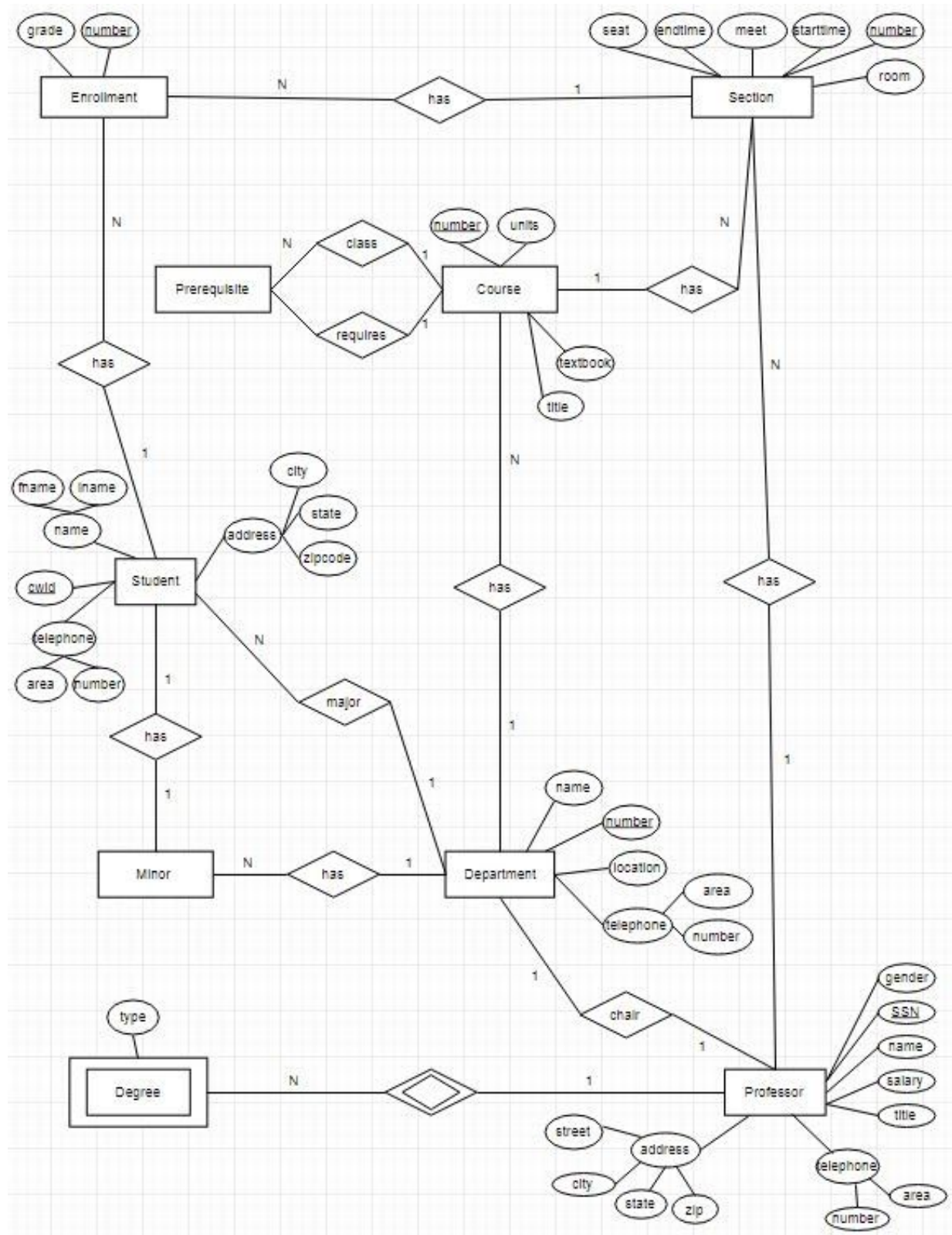


Figure 1: ER Diagram

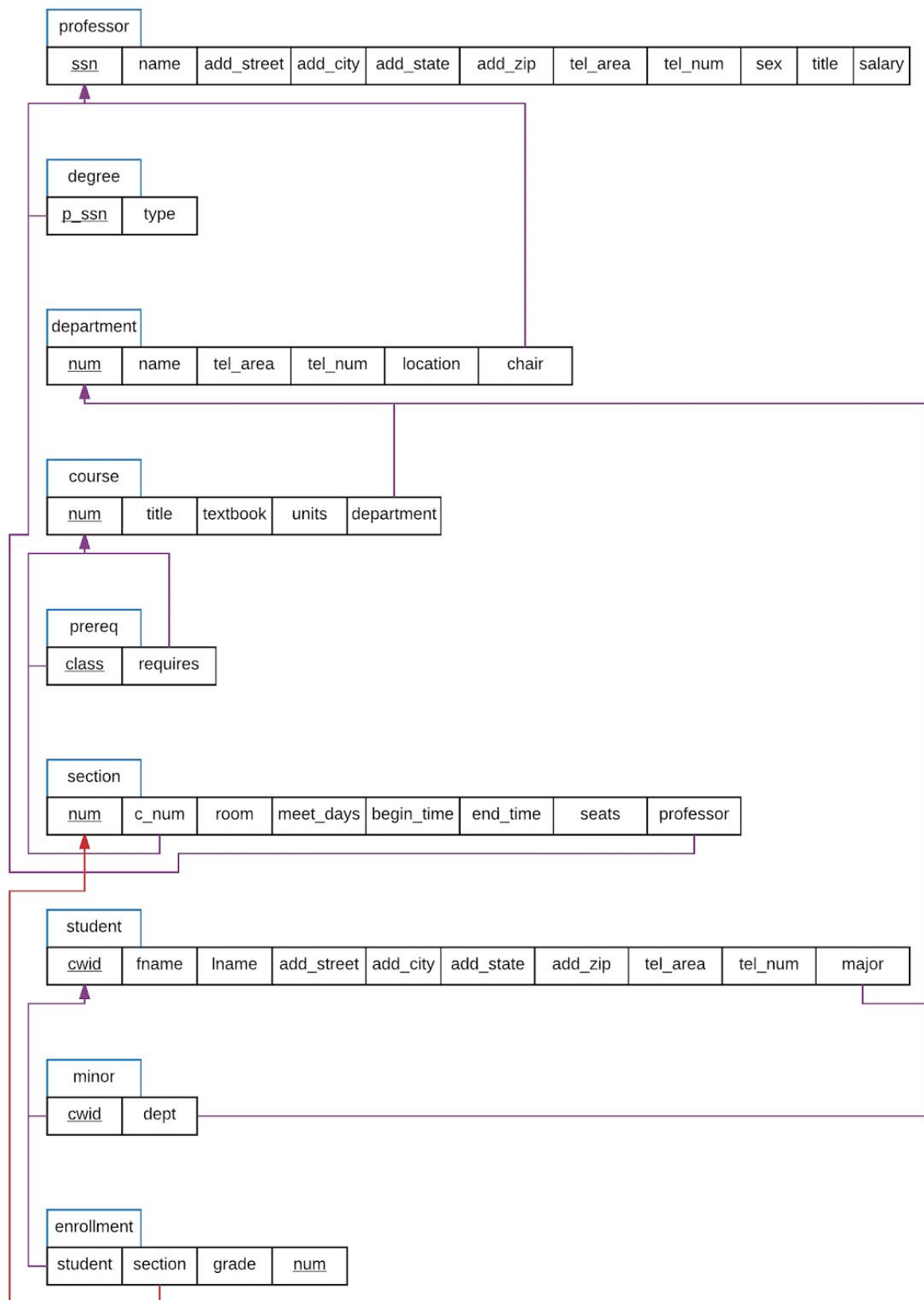


Figure 2: Relational Model

DDL Files

```
CREATE TABLE `Course` (  
  `Cnum` decimal(3,0) NOT NULL,  
  `Title` varchar(20) DEFAULT NULL,  
  `Textbook` varchar(20) DEFAULT NULL,  
  `Units` tinyint(4) DEFAULT NULL,  
  `DeptNum` decimal(5,0) DEFAULT NULL,  
  PRIMARY KEY (`Cnum`),  
  KEY `DeptNum` (`DeptNum`),  
  CONSTRAINT `Course_ibfk_1` FOREIGN KEY (`DeptNum`) REFERENCES `Department`  
  (`DNum`)  
)
```

```
CREATE TABLE `Student` (  
  `CWID` decimal(9,0) NOT NULL,  
  `Fname` varchar(20) DEFAULT NULL,  
  `Lname` varchar(20) DEFAULT NULL,  
  `Address` varchar(20) DEFAULT NULL,  
  `Phone` decimal(10,0) DEFAULT NULL,  
  `MajNo` decimal(5,0) DEFAULT NULL,  
  PRIMARY KEY (`CWID`),  
  KEY `MajNo` (`MajNo`),  
  CONSTRAINT `Student_ibfk_1` FOREIGN KEY (`MajNo`) REFERENCES `Department`  
  (`DNum`)  
)
```

```
CREATE TABLE `Degree` (  
  `ProfSSN` decimal(9,0) NOT NULL DEFAULT '0',  
  `DegreeType` varchar(45) NOT NULL,  
  PRIMARY KEY (`ProfSSN`, `DegreeType`),  
  CONSTRAINT `Degree_ibfk_1` FOREIGN KEY (`ProfSSN`) REFERENCES `Professor`  
  (`SSN`)  
)
```

```
CREATE TABLE `Department` (  
  `DNum` decimal(5,0) NOT NULL,  
  `DName` varchar(40) DEFAULT NULL,  
  `Location` varchar(40) DEFAULT NULL,
```

```

`Phone` decimal(10,0) DEFAULT NULL,
`Chairperson` decimal(9,0) DEFAULT NULL,
PRIMARY KEY (`DNum`),
KEY `Chairperson` (`Chairperson`),
CONSTRAINT `Department_ibfk_1` FOREIGN KEY (`Chairperson`) REFERENCES
`Professor` (`SSN`)
)

```

```

CREATE TABLE `Enrollment` (
  `StudentID` decimal(9,0) NOT NULL,
  `SectionNum` decimal(5,0) NOT NULL,
  `CourseNum` decimal(3,0) NOT NULL,
  `Grade` varchar(2) DEFAULT NULL,
  PRIMARY KEY (`StudentID`,`SectionNum`,`CourseNum`),
  KEY `SectionNum` (`SectionNum`),
  KEY `CourseNum` (`CourseNum`),
  CONSTRAINT `Enrollment_ibfk_1` FOREIGN KEY (`StudentID`) REFERENCES `Student`
(`CWID`),
  CONSTRAINT `Enrollment_ibfk_2` FOREIGN KEY (`SectionNum`) REFERENCES
`Section` (`SNum`),
  CONSTRAINT `Enrollment_ibfk_3` FOREIGN KEY (`CourseNum`) REFERENCES `Course`
(`Cnum`)
)

```

```

CREATE TABLE `Minor` (
  `Student` decimal(9,0) NOT NULL DEFAULT '0',
  `Department` decimal(5,0) NOT NULL DEFAULT '0',
  PRIMARY KEY (`Student`,`Department`),
  KEY `Department` (`Department`),
  CONSTRAINT `Minor_ibfk_1` FOREIGN KEY (`Student`) REFERENCES `Student`
(`CWID`),
  CONSTRAINT `Minor_ibfk_2` FOREIGN KEY (`Department`) REFERENCES `Department`
(`DNum`)
)

```

```

CREATE TABLE `Prerequisite` (
  `CourseNum` decimal(3,0) NOT NULL,
  `PreNum` decimal(3,0) NOT NULL,
  PRIMARY KEY (`CourseNum`,`PreNum`),

```

```

    CONSTRAINT `Prerequisite_ibfk_1` FOREIGN KEY (`CourseNum`) REFERENCES
`Course` (`Cnum`),
    CONSTRAINT `Prerequisite_ibfk_2` FOREIGN KEY (`CourseNum`) REFERENCES
`Course` (`Cnum`)
)

```

```

CREATE TABLE `Professor` (
  `SSN` decimal(9,0) NOT NULL,
  `Sex` enum('M','F') DEFAULT NULL,
  `Area` decimal(3,0) DEFAULT NULL,
  `7digit` decimal(7,0) DEFAULT NULL,
  `ZIP` decimal(5,0) DEFAULT NULL,
  `State` char(2) DEFAULT NULL,
  `City` varchar(20) DEFAULT NULL,
  `Street` varchar(20) DEFAULT NULL,
  `Title` varchar(4) DEFAULT NULL,
  `Name` varchar(40) DEFAULT NULL,
  `Salary` mediumint(9) DEFAULT NULL,
  PRIMARY KEY (`SSN`)
)

```

```

CREATE TABLE `Section` (
  `SNum` decimal(5,0) NOT NULL,
  `CNum` decimal(3,0) NOT NULL DEFAULT '0',
  `Room` varchar(7) DEFAULT NULL,
  `MeetDays` varchar(7) DEFAULT NULL,
  `BeginTime` time DEFAULT NULL,
  `EndTime` time DEFAULT NULL,
  `ProfSNN` decimal(9,0) DEFAULT NULL,
  `NumOfSeats` tinyint(4) DEFAULT NULL,
  PRIMARY KEY (`SNum`, `CNum`),
  KEY `CNum` (`CNum`),
  KEY `ProfSNN` (`ProfSNN`),
  CONSTRAINT `Section_ibfk_1` FOREIGN KEY (`CNum`) REFERENCES `Course`
(`Cnum`),
  CONSTRAINT `Section_ibfk_2` FOREIGN KEY (`ProfSNN`) REFERENCES `Professor`
(`SSN`)
)

```

index.html

```
<!DOCTYPE html>
<html>
<head>
<title> University Database</title>
</head>
<body style = "background:
url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California_State_University%2C_Fulle
rton_seal.svg) no-repeat; background-size: 100% 100%;">
<h1> University Database </h1>
<br>
<h2> Professor:</h2>
<form action="professor1.php" method="POST">
  Enter your Social Security Number:
  <br>
  <input type="text" name="sno" placeholder="Ex. 123456789"/>
  <br>
  <input type="submit" value="Submit">
</form>
<br>
<br>
<form action="professor2.php" method="POST">
<div> Enter the course number: </div>
<input type="text" name="courseNum" placeholder="Ex. 101"/>
<br>
<div> Enter the section number:</div>
<input type="text" name="profSecNum" placeholder="Ex. 1"/>
<br>
<input type="submit" value="Submit">
</form>
<br>
<br>
<h3> Student: </h3>
<form action = "student1.php" method = "POST">
<div> Enter a course number: </div>
<input type="text" name="studCourseNum" placeholder="Ex. 306"/>
<br>
<input type="submit" value="Submit">
</form>
<br>
<br>
<form action = "student2.php" method = "POST">
```

```

<div> Enter CWID: </div>
<input type="text" name="CWID" placeholder="Ex. 889000001"/>
<br>
<input type="submit" value="Submit">
</form>
<body>
</html>

```

professor1.php

```

<html>
<body style = "background:
url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California_State_University%2C_Fulle
rton_seal.svg) no-repeat; background-size: 100% 100%;">
<?php

```

```

$link = mysql_connect('ecsmysql','cs332t38','ahNg7aet');
if(!$link){
die('Could not connect!'.mysql_error());
}
echo 'Connected successfully<p>';

```

```

mysql_select_db('cs332t38',$link); // Connecting, Linking
$professorInput = $_POST["sno"];

```

```

$sqlTest = "SELECT Course.Title, Section.CNum, Section.Room, Section.MeetDays,
Section.BeginTime, Section.EndTime FROM Section INNER JOIN Course ON Section.CNum =
Course.Cnum WHERE ProfSNN = '{$_professorInput}'";
$resultTest = mysql_query($sqlTest);

```

```

echo "~~~~~";
echo "<br>";

```

```

while($array = mysql_fetch_assoc($resultTest))
{
    echo "Course: ";
    echo $array["Title"];
    echo "<br>";
    echo "Location: ";
    echo $array["Room"];
    echo "<br>";
    echo "Days: ";
    echo $array["MeetDays"];
}

```



```

        echo "<br>";
        echo "Start Time: ";
        echo $array["BeginTime"];
        echo "<br>";
        echo "End Time: ";
        echo $array["EndTime"];
        echo "<br>";
        echo "~~~~~";
        echo "<br>";
    }

```

```

mysql_close($link);
?>
</body>
</html>

```

professor2.php

```

<html>
<body style = "background:
url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California_State_University%2C_Fulle
rton_seal.svg) no-repeat; background-size: 100% 100%;">
<?php

```

```

$link = mysql_connect('ecsmysql','cs332t38','ahNg7aet');
if(!$link){
die('Could not connect!'.mysql_error());
}
echo 'Connected successfully<p>';

```

```

mysql_select_db('cs332t38',$link); // Connecting, Linking
$prof1 = $_POST["courseNum"];
$prof2 = $_POST["profSecNum"];

```

```

$sql = "SELECT Grade, COUNT(Grade) as gCount FROM Enrollment WHERE CourseNum =
'{$prof1}' AND SectionNum = '{$prof2}' Group by Grade";
$result= mysql_query($sql);

```

```

echo "Grade";
echo " ";
echo "Count";
echo "<br>";

```

```

echo "<br>";

while($array = mysql_fetch_assoc($result))
{
    echo $array["Grade"];
    echo ": ";
    echo $array["gCount"];
    echo "<br>";
}

mysql_close($link);
?>
</body>
</html>

```

student1.php

```

<html>
<body style = "background:
url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California_State_University%2C_Fulle
rton_seal.svg) no-repeat; background-size: 100% 100%;">
<?php

$link = mysql_connect('ecsmysql', 'cs332t38', 'ahNg7aet');
if(!$link){
die('Could not connect!'.mysql_error());
}
echo 'Connected successfully<p>';

mysql_select_db('cs332t38',$link);
$numInput = $_POST["studCourseNum"];

$sql = "SELECT SNum, Room, MeetDays, BeginTime, EndTime, NumOfSeats FROM Section
WHERE CNum = '{$numInput}'";
$result = mysql_query($sql);

echo "~~~~~";
echo "<br>";

while($row = mysql_fetch_assoc($result)) {
    echo "Section: ";
    echo $row["SNum"];
    echo "<br>";
    echo "Location: ";

```

```

        echo $row["Room"];
        echo "<br>";
        echo "Days: ";
        echo $row["MeetDays"];
        echo "<br>";
        echo "Start Time: ";
        echo $row["BeginTime"];
        echo "<br>";
        echo "End Time: ";
        echo $row["EndTime"];
        echo "<br>";
        echo "Students Enrolled: ";
        echo $row["NumOfSeats"];
        echo "<br>";
        echo "~~~~~";
        echo "<br>";
    }

```

```

mysql_close($link);
?>
</body>
</html>

```

student2.php

```

<html>
<body style = "background:
url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California_State_University%2C_Fulle
rton_seal.svg) no-repeat; background-size: 100% 100%;">
<?php

```

```

$link = mysql_connect('ecsmysql', 'cs332t38', 'ahNg7aet');
if(!$link) {
    die('Could not connect!'.mysql_error());
}
echo "Connected successfully<p>";

```

```

mysql_select_db('cs332t38', $link);
$cwidInput = $_POST["CWID"];

```

```

$sql = "SELECT Course.Title, Enrollment.Grade FROM Enrollment INNER JOIN Course ON
Enrollment.CourseNum = Course.Cnum WHERE StudentID = '{$cwidInput}'";
$result = mysql_query($sql);

```

```
echo "~~~~~";
echo "<br>";

while($row = mysql_fetch_assoc($result)) {
    echo "Course: ";
    echo $row["Title"];
    echo "<br>";
    echo "Grade: ";
    echo $row["Grade"];
    echo "<br>";
    echo "~~~~~";
    echo "<br>";
}

mysql_close($link);
?>
</body>
</html>
```

Screenshots of Sample Runs

Mainpage

University Database

Professor:

Enter your Social Security Number:

Ex. 123456789

Enter the course number:

Ex. 101

Enter the section number:

Ex. 1

Student:

Enter a course number:

Ex. 306

Enter CWID:

Ex. 889000001



Given the SSN of a professor

Professor:

Enter your Social Security Number:

Given the SSN of a professor (Output)

Connected successfully

~~~~~  
Course: Intro to Computer Sc  
Location: CS303  
Days: M/W  
Start Time: 01:00:00  
End Time: 01:50:00

~~~~~  
Course: Intro to Computer Sc
Location: CS209
Days: M/W
Start Time: 11:30:00
End Time: 12:45:00
~~~~~



Given the course number and section number

# Professor:

Enter your Social Security Number:

Enter the course number:

Enter the section number:

Given the course number and section number (Output)

---

Connected successfully

Grade Count

A: 3  
B: 1  
C: 1



Given the course number (for student)

**Student:**

Enter a course number:

Submit

Enter CWID:

Submit

Given the course number (Output)

Connected successfully

Section: 7  
Location: AC407  
Days: M/W  
Start Time: 08:00:00  
End Time: 09:45:00  
Students Enrolled: 30





Given the CWID

**Student:**

Enter a course number:

Enter CWID:

Given the CWID (Output)

Connected successfully

~~~~~  
Course: Intro to Computer Sc
Grade: A

~~~~~  
Course: File Structure & Dat  
Grade: A  
~~~~~

