

## User Manual for University Administration Manager Program

Name: Javier Strang, Jordan Strang PSU ID: JJS7850, XJS5074

### 1. Introduction

Welcome to the University Administration Manager Program. This program has been designed to help university administrators manage administrative tasks related to students, courses, and faculty. This document provides detailed instructions on how to set up the system as well as using all of its public interfaces.

### System Overview

The system consists of:

- A Graphical User Interface (GUI) designed in VSCode for interacting with the program.
  - A database hosted in MySQL accessible using DataGrip.
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### 2. System Setup

#### GitHub Repository

1. Click this link to access the GitHub repository: <https://github.com/Jordan-Strang/431W-Stage-III>

#### DataGrip

1. Click this link: <https://www.jetbrains.com/datagrip/download/#section=windows> and download DataGrip.
2. Choose a subscription plan best suited for you.
3. Download the “431wproject” folder in the GitHub repository which holds the database used in this application.
4. Import the database into DataGrip.
5. The tables used in this application are as follows:

5.1. studentInformation = {studentID, stuFirstName, stuLastName, major, year, GPA}

5.2. courseInformation = {courseID, courseName, courseCode, creditHours, *departmentID*<sup>FK\_department</sup>, *instructorID*<sup>FK\_instructorInformation</sup>}

5.3. instructorInformation = {instructorID, insFirstName, insLastName, *departmentID*<sup>FK\_department</sup>}

5.4.  $\text{studentEnrollment} = \{\text{studentID}^{FK\_studentInformation}, \text{departmentID}^{FK\_department}\}$

5.5.  $\text{department} = \{\text{departmentID}, \text{college}, \text{discipline}\}$

5.6.  $\text{financialAid} = \{\text{studentID}^{FK\_studentInformation}, \text{paymentStatus}, \text{amountDue}\}$

5.7.  $\text{housingStatus} = \{\text{StudentID}^{FK\_studentInformation}, \text{HousingStatus}, \text{Building}\}$

5.8.  $\text{studentContact} = \{\text{StudentID}^{FK\_studentInformation}, \text{PhoneNumber}, \text{EmailAddress}\}$

## MySQL

1. Click this Link: <https://www.mysql.com/downloads/> and download MySQL if you want to host the database yourself.

## VSCode

1. Click this link: <https://code.visualstudio.com/download> and download VSCode to be able to run this application.

## Running the Application

1. Go to the Github repository: <https://github.com/Jordan-Strang/431W-Stage-III> and download both “University\_Admin\_Manager.py” and “.env”.
  2. Open both “University\_Admin\_Manager.py” and “.env” in VSCode.
  3. While having “University\_Admin\_Manager.py” open you will need to install four extensions.
    - 3.1. Type “pip install tkinter” into the terminal without the quotations.
    - 3.2. Type “pip install customtkinter” into the terminal without the quotations.
    - 3.3. Type “pip install mysql-connector-python” into the terminal without quotations.
    - 3.4. Type “pip install python-dotenv” into the terminal without quotations.
  4. Navigate to the file “.env” and change the information of dbHost, dbUser, dbPassword, dbPort, and dbName. Change this information to your database hosting credentials.
  5. Navigate back to “University\_Admin\_Manager.py” and press the run code button in the top right corner.
  6. A window will pop up named “University Administration Manager.” Congratulations you are now able to use the application! Read further about specific functionalities you can use in this application.
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### 3. Detailed Usage of Public Interfaces

#### 3.1 Adding a New Student

This allows you to add a new student to the system including all of their information.

1. Navigate to the heading labeled “Insert Student Information.”
  2. To the right of “Enter Student ID:” enter the students ID into the text box, this must be six digits long, otherwise an error will occur. (e.g 111110)
  3. To the right of “Enter First Name:” enter the students first name into the text box. (e.g John)
  4. To the right of “Enter Last Name:” enter the students last name into the text box. (e.g Doe)
  5. To the right of “Enter Major:” enter the students major into the text box. (e.g CMPSC)
  6. To the right of “Enter Year:” enter the students academic year they are currently in into the text box. (e.g 1)
  7. To the right of “Enter GPA:” enter the students current GPA into the text box. (e.g 3.5)
  8. Click the blue button labeled “Add Student.”
  9. If adding the student is successful a message will display above the blue button labeled “Add Student” displaying that the addition was successful.
  10. If adding the student is not successful a message will display above the blue button labeled “Add Student” displaying the error that has occurred.
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#### 3.2 Removing a course

This allows you to remove a course offering as well. WARNING: any students enrolled in the course you remove will be dropped from that course as well.

1. Navigate to the heading labeled “Remove Course.”
  2. To the right of “Enter Course ID to be Removed:” enter the course ID of the course you wish to be removed from the offerings into the text box. This ID must be six digits long. (e.g 123450)
  3. Click the blue button labeled “Remove Course.”
  4. If removing the course is successful a message will display above the blue button labeled “Remove Course” displaying that the removal was successful.
  5. If removing the course is not successful a message will display above the blue button labeled “Remove Course” displaying the error that has occurred.
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### 3.3 Updating a students information

This allows you to update a students information that is in the system. WARNING: all text boxes must be filled out even if that information stays the same.

1. Navigate to the heading labeled "Update Student Information."
  2. To the right of "Enter Student ID to Update:" enter the students ID into the text box, this must be six digits long, otherwise an error will occur. (e.g 111110)
  3. To the right of "Enter New First Name:" enter the students first name into the text box. (e.g John)
  4. To the right of "Enter New Last Name:" enter the students last name into the text box. (e.g Doe)
  5. To the right of "Enter New Major:" enter the students major into the text box. (e.g CMPSC)
  6. To the right of "Enter New Year:" enter the students academic year they are currently in into the text box. (e.g 1)
  7. To the right of "Enter New GPA:" enter the students current GPA into the text box. (e.g 3.5)
  8. Click the blue button labeled "Update Student Information."
  9. If the update of the students information is successful a message will display above the blue button labeled "Update Student Information" displaying that the addition was successful.
  10. If updating the students information is not successful a message will display above the blue button labeled "Update Student Information" displaying the error that has occurred.
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### 3.4 GPA Report

This allows you to generate a report of all enrolled students GPA's.

1. Navigate to the heading labeled "Generate GPA Report."
  2. Click the blue button labeled "Generate GPA Report."
  3. Above the blue button a report of every enrolled students GPA along with their full names, student IDs, majors, and year. The list is sorted from highest GPA to lowest GPA.
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### 3.5 Remove an Enrolled Student

This allows you to remove a student from the system. WARNING: all information linked to this student such as financial information and course enrollment will also be removed.

1. Navigate to the heading labeled "Remove Student."
  2. To the right of "Enter Student ID to be removed:" enter the students ID into the text box, this must be six digits long, otherwise an error will occur. (e.g 111110)
  3. Click the blue button labeled "Remove Student."
  4. If removing the student is successful a message will display above the blue button labeled "Remove Student" displaying that the removal was successful.
  5. If removing the student is not successful a message will display above the blue button labeled "Remove Student" displaying the error that has occurred.
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### 3.6 Creating a New Course Offering

This allows you to create a new course to be offered.

1. Navigate to the heading labeled "Insert Course Information."
  2. To the right of "Enter Course ID:" enter the course ID into the text box, this must be six digits long, otherwise an error will occur. (e.g 123450)
  3. To the right of "Enter Course Name:" enter the course name into the text box. (e.g CMPSC)
  4. To the right of "Enter Department ID:" enter the department ID into the text box, this must be four digits long, otherwise an error will occur. (e.g 1210)
  5. To the right of "Enter Credit Hours:" enter the courses credit hours into the text box. (e.g 3)
  6. To the right of "Enter Instructor ID:" enter the instructor ID of the instructor that will teach this course into the text box, this must be five digits long, otherwise an error will occur. (e.g 21310)
  7. Click the blue button labeled "Add Course."
  8. If adding the course is successful a message will display above the blue button labeled "Add Course" displaying that the addition was successful.
  9. If adding the course is not successful a message will display above the blue button labeled "Add Course" displaying the error that has occurred.
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### 3.7 Course Offering Report

This allows you to generate a report on all courses offered at the university.

1. Navigate to the heading labeled “Generate Courses Report.”
  2. Click the blue button labeled “Generate Courses Report.”
  3. Above the blue button a report of every course offered at the university will be displayed with their course name, course code, and credit hours.
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### 3.8 Student Enrollment in a Course Report

This allows you to generate a report of all the students enrolled in a specific course.

1. Navigate to the heading labeled “Generate Enrolled Courses Report.”
  2. To the right of “Enter Course ID:” enter the course ID into the text box, this must be six digits long, otherwise an error will occur. (e.g 123450)
  3. Click the blue button labeled “Generate Enrolled Courses Report.”
  4. Above the blue button a report of all the students enrolled in a specific course will be displayed along with their student ID, student name, and the course name and code that the report is being generated for.
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### 3.9 Student Information Report

This allows you to generate a report of a specific student's information.

1. Navigate to the heading labeled “Generate Student Information Report.”
  2. To the right of “Enter Student ID:” enter the student ID into the text box, this must be six digits long, otherwise an error will occur. (e.g 111110)
  3. Click the blue button labeled “Generate Student Information Report.”
  4. Above the blue button a report of all the student's information will be displayed with their student ID, student name, major, year, GPA, housing status, payment status, amount due, contact information, and enrolled courses.
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### 3.10 Student Housing Report

This allows you to generate a report of the financial information for all the students enrolled in the university.

1. Navigate to the heading labeled “Generate Housing Status Report.”
  2. Click the blue button labeled “Generate Housing Status Report.”
  3. Above the blue button a report of every student's housing status will be displayed with their student ID, student name, year, housing status, and building.
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### 3.11 Student Financial Report

This allows you to generate a report of the financial information for all the students enrolled in the university.

4. Navigate to the heading labeled “Generate Students Financial Information Report.”
  5. Click the blue button labeled “Generate Students Financial Information Report.”
  6. Above the blue button a report of every student's financial information will be displayed with their student ID, student name, year, payment status, and the amount due.
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### 3.12 Instructor Information Report

This allows you to generate a report of the financial information for all the students enrolled in the university.

1. Navigate to the heading labeled “Generate Instructor Information Report.”
  2. Click the blue button labeled “Generate Instructor Information Report.”
  3. Above the blue button a report of every instructor that teaches at the university will be displayed with their instructor ID, instructor name, college, and discipline.
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### 3.13 Enroll a Student in Courses

This allows you to enroll student in one or multiple courses.

1. Navigate to the heading labeled “Enroll Student in Courses.”
2. To the right of “Enter Student ID:” enter the student's ID you wish to enroll courses for into the text box, this must be six digits long, otherwise an error will occur. (e.g 111110)

3. To the right of “Enter Course ID:” enter the course ID of the course you want the student to be enrolled in into the text box, if there are multiple courses separate each code by a comma (e.g 123450, 123451), course IDs must be six digits long, otherwise an error will occur. (e.g 123450)
4. Click the blue button labeled “Enroll Student.”
5. If the enrollment of the student is successful a message will display above the blue button labeled “Enroll Student” displaying that the enrollment was successful.
6. If the enrollment of the student is not successful a message will display above the blue button labeled “Enroll Student” displaying the error that has occurred.