🎓 Student Management System (SMS) – User Guide

Welcome to the **Student Management System (SMS)!**
This simple and user-friendly app helps you manage student records, including their academic modules and grades -all from a clean, local interface.

💻 System Requirements

To get started, make sure your system has the following:

- **Operating System**: Windows, Linux, or macOS
- **Python**: Version 3.x installed
- **Dependencies**:
    - Tkinter (comes built-in with Python)
    - CSV module (also built-in with Python)

✅ **No internet required** — everything runs on your computer.

🚀 Getting Started

1. Ensure Python 3 is installed on your machine.
2. Place the `main.py` file inside a folder.
3. Run the app using:
4. `python main.py`

   Or just double-click the file (if associated with Python).

🏠 Home Dashboard

Once the app opens, you'll see two main options:

- ➕ **Add Student**

- 📋 **View Students**

These are your main controls for adding and managing student data.

✚ Adding a New Student

To register a student:

1. Click **"Add Student"**.
2. Fill in the student's details:
   - Student ID
   - Name
   - Age
   - Course
   - Phone Number

📚 Add Modules and Grades

1. Enter:
   - Module Name
   - Grade (0 to 100)
2. Click **"Add Module"** – it will show up in a list below.
3. You can add multiple modules this way.
4. When finished, click **"Save Student"**.

☑ A confirmation message will let you know everything was saved successfully!

📋 Viewing and Managing Students

1. Click **"View Students"** to see all registered students.
2. Select any student to:
   - View their modules and grades
   - Add more modules
   - Update existing grades
   - Delete a specific module
   - Delete the entire student record
   - Calculate GPA
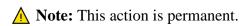   - Filtering students based on their Courses

📊 GPA Calculation

Use the **"Calculate GPA"** button to see a student's GPA. The system uses a 4.0 grading scale:

Marks	Grade Point
90–100	4.0
80–89	3.7
70–79	3.3
60–69	3.0
50–59	2.7
Below 50	0.0

✖ Deleting a Student

To remove a student and all their modules:

1. Go to **"View Students"**.
2. Click the student's row.
3. Press **"Delete Student"**.
4. Confirm the deletion.

⚠ **Note:** This action is permanent.

✏️ Updating Module Grades

1. Select a student.
2. Click on the module you want to change.
3. Enter the new grade and click **"Update"**.

🔍 Filtering Students by Course

To quickly find students enrolled in a specific course:

1. Under **"View Students"**.
2. At the top, you'll see a **dropdown menu** listing all the available courses (these are automatically collected from the student entries).
3. Select the course you want to filter by.
4. Click the **"Add Filter"** button.
5. Only students enrolled in the selected course will be displayed!

☑ This makes it super easy to focus on a particular course without scrolling through all students.

🛠 Error Handling

If something goes wrong (like empty fields or invalid input):

- A popup message will tell you what to fix.
- Correct the issue and try again.

📁 Data Storage

Your data is saved automatically to these files:

- `students.csv` — contains basic student info
- `modules.csv` — stores all module and grade records

You can open them in Excel or any spreadsheet app to view or back up your data.

💡 Tips for Best Use

- Double-check all entries before saving.
- Module grades must be numbers between 0 and 100.
- Avoid using duplicate Student IDs.

❓ Frequently Asked Questions (FAQ)

Q: Can I add modules to a student later?
☑ Yes! Just go to **"View Students"**, select the student, and add more modules.

Q: Can I change a student's name or phone number?
✖ Not at the moment. You'd need to delete and re-add the student.

Q: Does this program work offline?
☑ Absolutely! It works fully offline.

📞 Need Help?

If you run into problems or have questions, feel free to contact your system administrator or the developer.