1. **Use Case Name**
2. **Actors**
3. **Preconditions & Postconditions**
4. **Brief Description**
5. **User Scenarios**
6. (At the end) a **Use Case Diagram**

**✅ Use Case List**

**🟦 Use Case 1: User Registration & Login**

* **Actors:** Student, Teacher, Chairman
* **Precondition:** User is not logged in
* **Postcondition:** User is authenticated and redirected to their dashboard
* **Description:** Handles registration, login, and role-based access
* **User Scenario:**
  + A student signs up using their ID and password
  + A teacher registers and awaits admin approval
  + Chairman logs in with admin credentials

**🟦 Use Case 2: Group Formation**

* **Actors:** Student
* **Precondition:** Student is logged in and not already in a group
* **Postcondition:** Group is created and saved in the system
* **Description:** A student creates a group and sends invite to another student
* **User Scenario:**
  + Student A sends a group request to Student B
  + Student B accepts, and the group is finalized

**🟦 Use Case 3: CGPA Submission & Group Ranking**

* **Actors:** Student, Chairman
* **Precondition:** Group is created
* **Postcondition:** Group CGPA is calculated and stored
* **Description:** Group CGPA (higher CGPA among two) is used for sorting
* **User Scenario:**
  + Group CGPA is auto-calculated from student profile
  + Chairman views the sorted list

**🟦 Use Case 4: Submit Teacher Preferences**

* **Actors:** Student
* **Precondition:** Group is created and logged in
* **Postcondition:** Preference list is saved
* **Description:** Groups choose up to 3 teachers in ranked order
* **User Scenario:**
  + Group submits a preference list of teachers for thesis supervision

**🟦 Use Case 5: Supervisor Allocation**

* **Actors:** Chairman
* **Precondition:** Groups and preferences exist
* **Postcondition:** Supervisors are assigned respecting quota
* **Description:** Automatically or manually assigns teachers to groups
* **User Scenario:**
  + Group 1 (top CGPA) is matched to Teacher A (available)
  + Group 2 is assigned to next preferred teacher

**🟦 Use Case 6: Task Assignment**

* **Actors:** Teacher
* **Precondition:** Group is assigned to the teacher
* **Postcondition:** Task is visible to the group
* **Description:** Teachers create thesis tasks with instructions and deadlines
* **User Scenario:**
  + Teacher assigns “Literature Review” task with deadline

**🟦 Use Case 7: Task Submission**

* **Actors:** Student
* **Precondition:** Task is assigned
* **Postcondition:** Task is submitted and stored
* **Description:** Students submit deliverables for evaluation
* **User Scenario:**
  + Group uploads report before deadline

**🟦 Use Case 8: Task Evaluation**

* **Actors:** Teacher
* **Precondition:** Group has submitted a task
* **Postcondition:** Marks and feedback saved
* **Description:** Teacher evaluates work and assigns scores
* **User Scenario:**
  + Teacher gives 80/100 for submitted task

**🟦 Use Case 9: Final Thesis Marking**

* **Actors:** Teacher
* **Precondition:** Final evaluation ready
* **Postcondition:** Final mark saved
* **Description:** Teacher submits group’s final mark out of 100
* **User Scenario:**
  + Teacher finalizes mark: Group gets 85/100

**🟦 Use Case 10: Notification System**

* **Actors:** All
* **Precondition:** Trigger event (task assigned, group assigned, etc.)
* **Postcondition:** Notification sent to relevant users
* **Description:** Notify users about status updates
* **User Scenario:**
  + Student is notified when teacher assigns new task

**🟦 Use Case 11: Admin Dashboard & Manual Override**

* **Actors:** Chairman
* **Precondition:** System in operational state
* **Postcondition:** Admin can override assignments
* **Description:** Chairman can reassign supervisors, manage users
* **User Scenario:**
  + Chairman reassigns Group X to Teacher Y in special case

**🗂 Summary Table of Use Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Name | Actors | Preconditions | Postconditions |
| User Registration & Login | Student, Teacher, Chairman | Not logged in | Redirected to dashboard |
| Group Formation | Student | Logged in, not in group | Group created |
| CGPA Submission & Ranking | Student, Chairman | Group created | Group sorted by CGPA |
| Submit Teacher Preferences | Student | Group formed | Preference list saved |
| Supervisor Allocation | Chairman | Preferences submitted | Supervisor assigned |
| Task Assignment | Teacher | Group assigned | Task visible to group |
| Task Submission | Student | Task exists | Submission saved |
| Task Evaluation | Teacher | Task submitted | Feedback & marks saved |
| Final Thesis Marking | Teacher | Tasks evaluated | Final mark saved |
| Notification System | All | Trigger event | Notification sent |
| Admin Override | Chairman | Allocation done | Data manually modified |

**📊 Use Case Diagram**

Here’s a text-based version of the use case diagram layout. If you want a visual version (PDF or PNG), I can generate that as well.

+------------------+

| Chairman |

+------------------+

|

+-------------------------------+------------------------------+

| | |

v v v

[Supervisor Allocation] [View Sorted Group List] [Override Assignment]

|

|

[Set Supervisor Limits]

+------------------+

| Teacher |

+------------------+

|

+-------------------------------+------------------------------+

| | |

v v v

[Assign Tasks] [Evaluate Tasks] [Submit Final Marks]

+------------------+

| Student |

+------------------+

|

+-------------------------------+------------------------------+

| | |

v v v

[Form Group] [Submit Preferences] [Submit Task Deliverables]

+--------------------------+

| Notification System |

+--------------------------+

|

v

[Send notification to Student/Teacher/Chairman]

**✅ Next Step**

Would you like a **visual version of this use case diagram** (drawn) or perhaps:

* System flow diagram?
* ERD (Entity Relationship Diagram)?
* Class Diagram for development?

Let me know how you’d like to proceed!