

User Guide - Grade Recording System

by

Rajeev Kumar Gautam

2016

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Abstract

Multiple Institutes are partnering with IIT Bombay to offer blended MOOCs. Students will study the online course on IITBombayX, and will also study the same course normally in their Institute. Final grade will be based on the composite performance of students, in the online assessment, and in the tests/exams at the Institute. This system will help teachers of engineering colleges in India for assessment of blended MOOCs. The teachers from various institutes participating in the blended MOOCs, will be able to generate a composite mark sheet for the particular course by giving certain weightage to online assessment along with their regular university assessment. For example, a certain portion of online assessment, say 20% to 30% can get incorporated in final university exam grading. This system can also be integrated with Moodle for generation of the grade report.

Chapter 1

Functional Requirements of Proposed System

1.1 Main objective

Given the course marks of students, the system will generate an automated grade sheet based on the course policy. Along with this, it has the option of integrating Blended MOOCs marks based on instructor's choice.

1.2 Consolidation of proposed functionality

1.2.1 Admin's Role

- Admin will be created at the time of system installation.
- There will be only one Admin credential.
- It can add various department in system.
- Admin can deactivate/reactivate department.
- It can add courses in the department.
- It can also deactivate/reactivate courses.
- Admin will do mapping of various courses to various instructors at the beginning of each semester.

- Admin can add/remove instructor.

1.2.2 Instructor's Role

- Instructor can view all the courses registered against his/her name in current semester as well as past semesters.
- Instructor will insert course grading policy of his/her registered course at the beginning of current semester.
- Instructor can not modify course grading policy.
- System will import marks of students from LMS like-Moodle or it can browse marks in the form of a CSV file from the local machine for specific locally conducted assignments.
- Instructor has choice to incorporate Blended MOOCs weightage for final composite mark sheet.
- Instructor can give priority to some assignment conducted on Blended MOOCs.

1.3 Typical use cases

1.3.1 Admin Role

The admin will be responsible for maintaining the system within the institute after installation. Figure 3.1 shows the responsibility of the admin. For example, admin will register the session and also assign semester course for teacher.

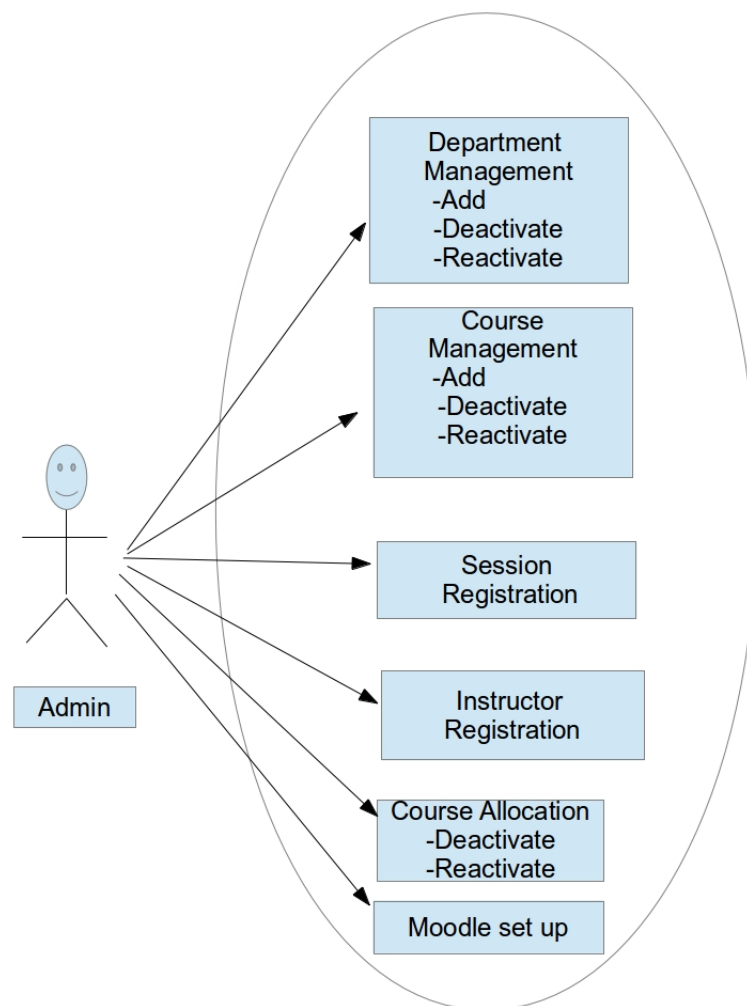


Figure 1.1: Admin Role

1.3.2 Teacher Role

The teacher will maintain local marks of students in the system and download MOOC marks in the form of CSV from IITBombayX and generate a composite mark sheet of local marks and MOOC marks.

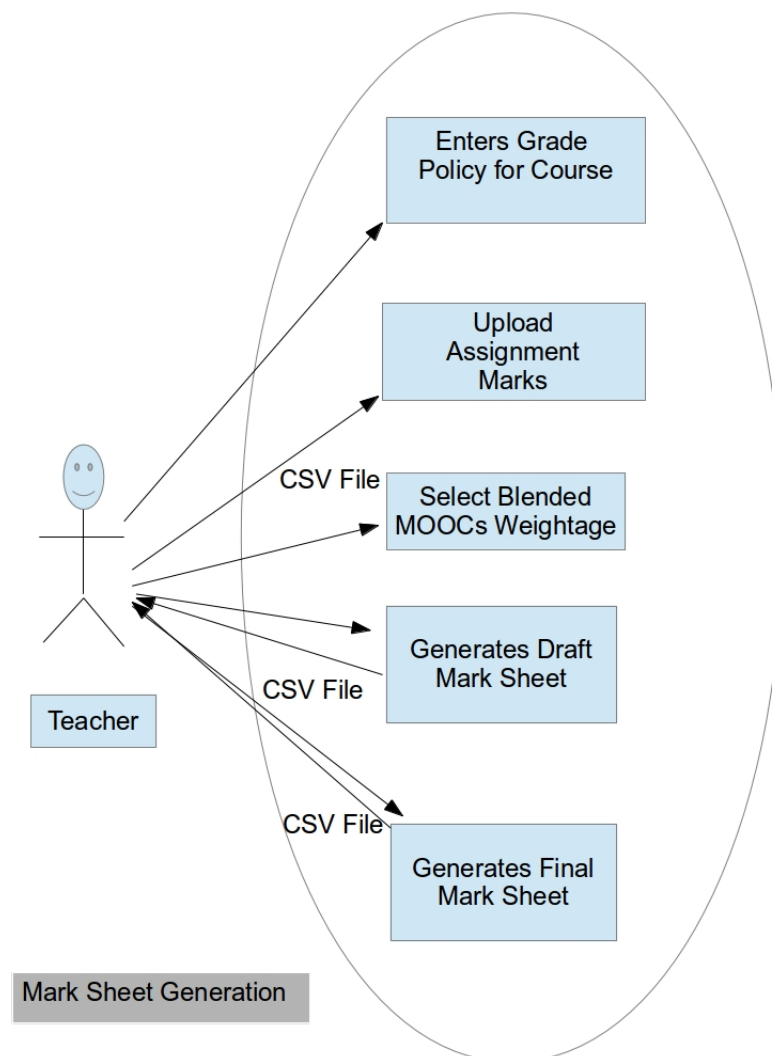


Figure 1.2: Teacher Role

Chapter 2

System Design

2.1 System view and Data Flow Diagram

2.1.1 System view

System will be installed locally with in the institute and teacher will use it for recording and generating marks of students as shown in figure 4.1.

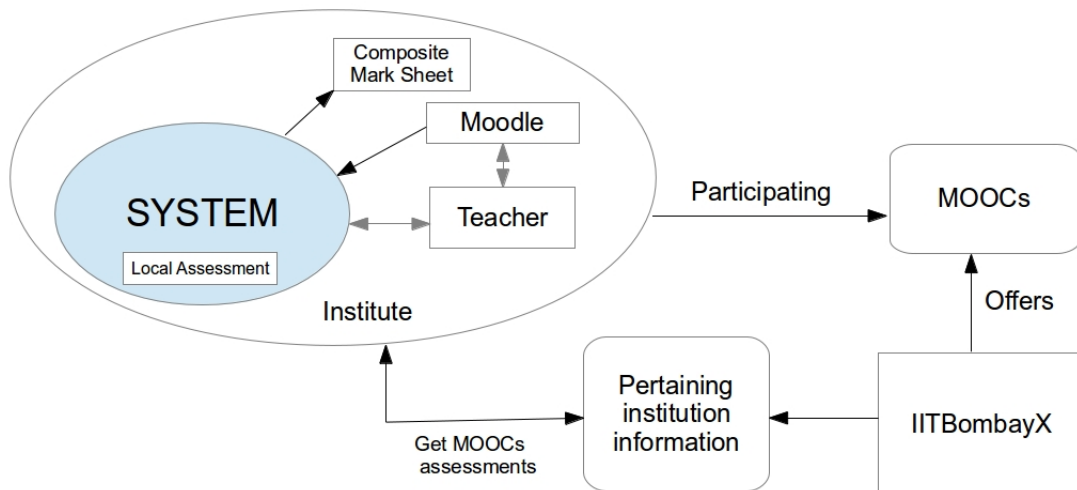


Figure 2.1: System View

2.1.2 Data Flow Diagram

Teacher has a facility to upload local assessment and generate composite mark sheet comprises of local marks as well as online MOOC marks.

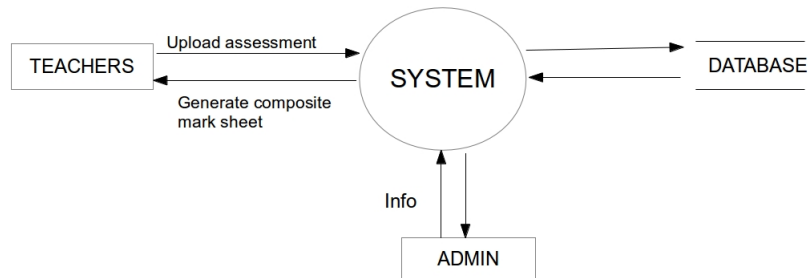


Figure 2.2: Level 0 Data Flow Diagram

2.2 Modules and interfaces

2.2.1 Admin Interfaces

2.2.1.1 Department

- Add Department: Add department in the system.
- Deactivate Department: Deactivate department in the system, if necessary.
- Reactivate Department: Reactivate the deactivated departments in the system, if necessary.
- View Department: View current department in the system.

2.2.1.2 Course

- Add Courses: Add courses in department in the system.
- Deactivate Course: Deactivate course in the system, if necessary.
- Reactivate Course: Reactivate the deactivated course in the system, if necessary.

- View Course: View all the course or department wise in the system.

2.2.1.3 Register Session

- Register current session at beginning of each semester in the system.
- Can view all the registered session in the system.

2.2.1.4 Course Assignment in Current Session

- Do the mapping of course to Instructor at the beginning of each semester.

2.2.2 Teacher Interfaces

2.2.2.1 View

- Can view all the assigned courses in current semester.
- Can view all the assigned courses.

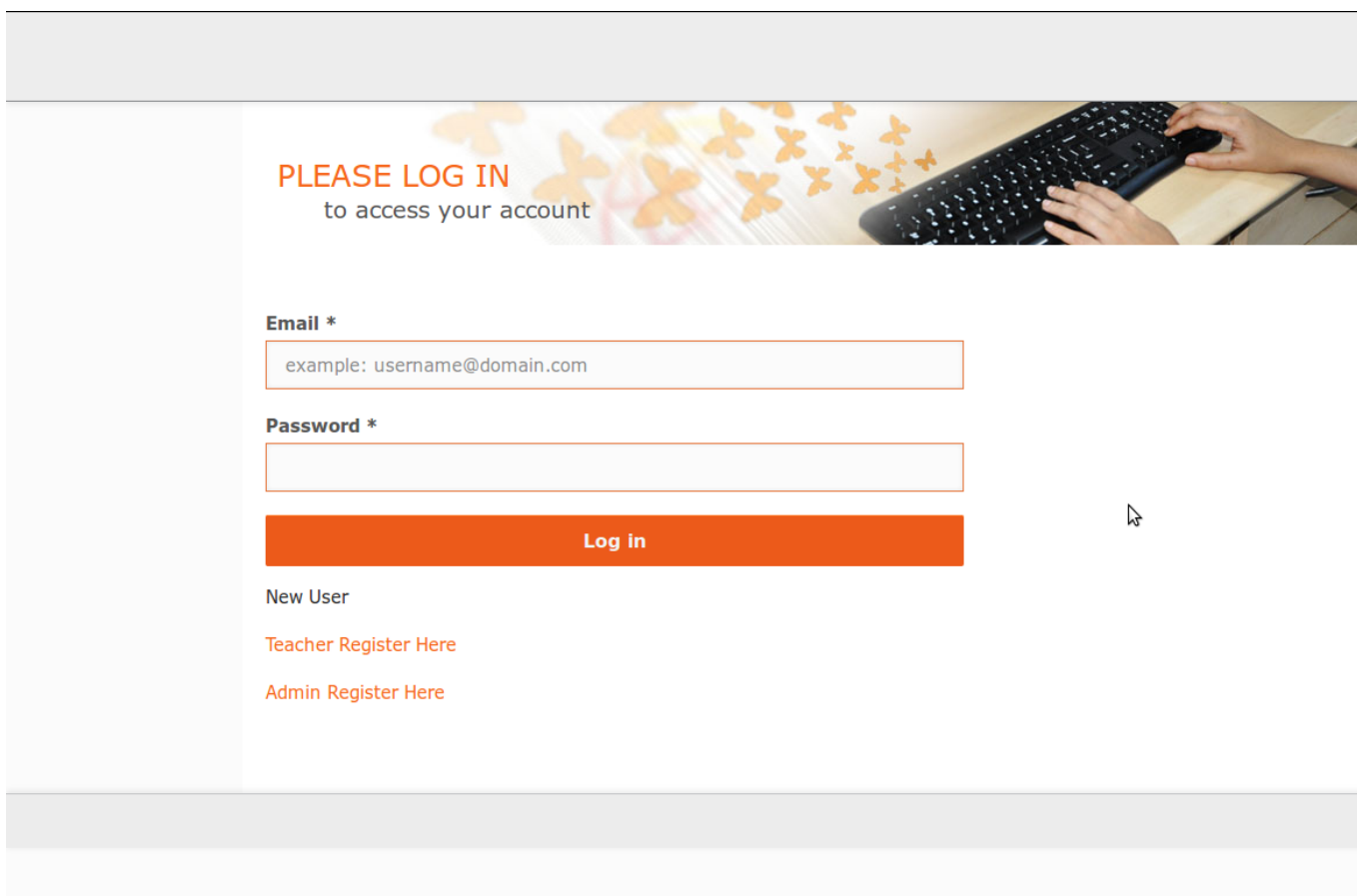
2.2.2.2 Grade policy

- Create: Create grade policy for each assigned course at beginning of each semester.
- View: Can view the created grade policy.
- **Upload Blended MOOCs Grade Policy** The instructor will download blended MOOCs grade policy in CSV format from the blended MOOCs website and will upload this grade policy for the corresponding course.
- **Upload Blended MOOCs Mark Sheet** The instructor will download blended MOOCs mark sheet in CSV format from the blended MOOCs website and will upload this grade policy for the corresponding course.
- **Upload Institute Mark Sheet** The Instructor can upload the maximum marks for assignment and marks obtained by students in the CSV file.
- **Update Institute Mark Sheet** In case of any discrepancy, instructor can update the marks of students.

- **Generate Final Mark Sheet** If the instructor chooses to include blended MOOCs marks, then the final mark sheet will be a composite of local institute marks and blended MOOCs marks otherwise final mark sheet will consist only of institute marks.

2.3 User Interfaces

2.3.1 Login Interfaces

The image shows a login interface. At the top, there is a banner with a background image of hands typing on a keyboard and several orange butterfly icons. The text "PLEASE LOG IN" is in orange, and "to access your account" is in black. Below the banner, there are two input fields: "Email *" with a placeholder "example: username@domain.com" and "Password *". Below the password field is an orange "Log in" button. At the bottom, there are three links: "New User", "Teacher Register Here", and "Admin Register Here".

PLEASE LOG IN
to access your account

Email *
example: username@domain.com

Password *

Log in

New User
[Teacher Register Here](#)
[Admin Register Here](#)

Figure 2.3: Login View

2.3.2 Admin UI

2.3.2.1 Admin Dashboard

After login the admin will see the dashboard where admin can manage department, manage course, etc,

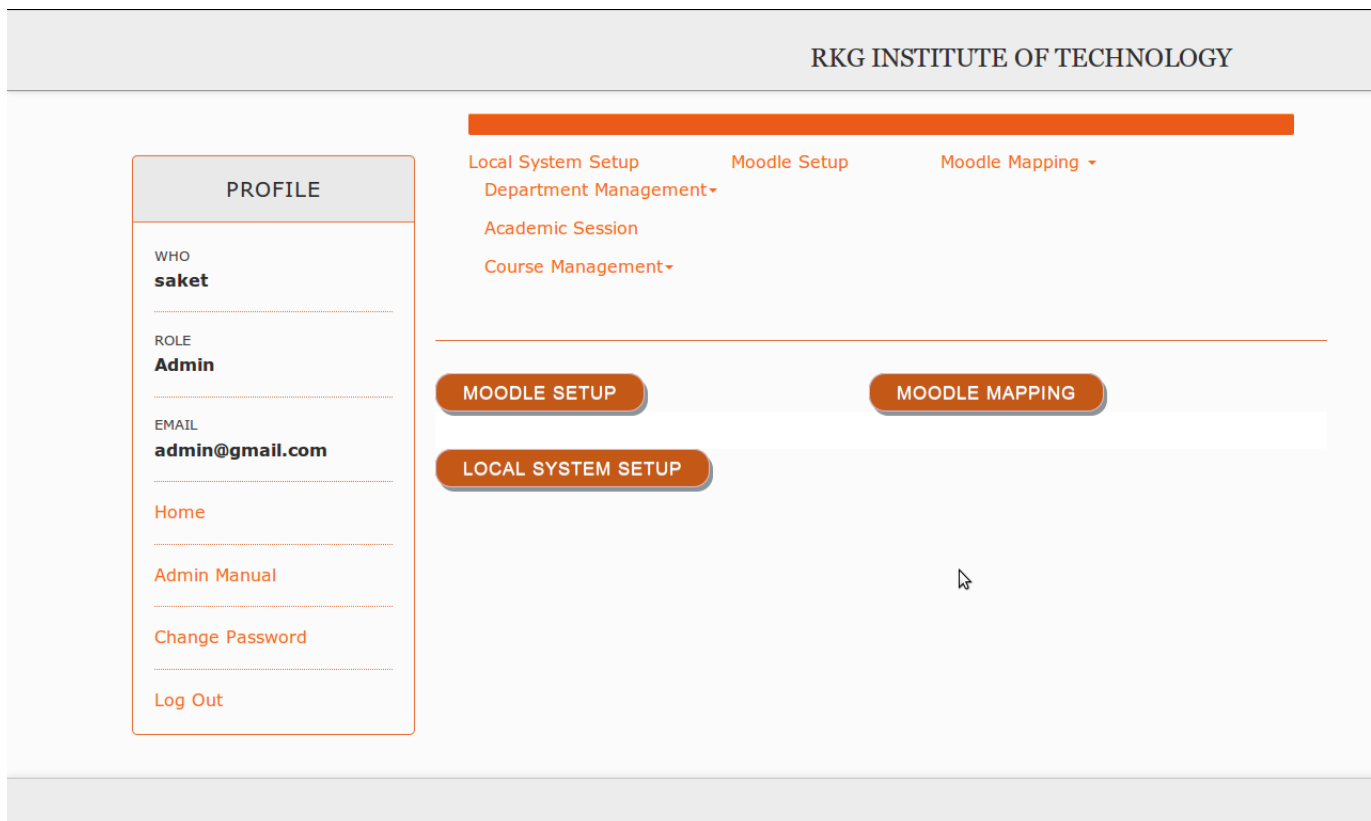


Figure 2.4: Admin Dashboard

2.3.2.2 Moodle Setting

To include Moodle in the system, which store local marks of students. By default Moodle will not include.

2.3.2.3 Local System Setting

Main page to set up department and courses as well as academic session.

RKG INSTITUTE OF TECHNOLOGY

PROFILE

WHO
saket

ROLE
Admin

EMAIL
admin@gmail.com

[Home](#)

[Admin Manual](#)

[Change Password](#)

[Log Out](#)

Local System Setup Moodle Setup Moodle Mapping ▾

[Department Management ▾](#)

[Academic Session](#)

[Course Management ▾](#)

select yes, If local marks of students are stored in MOODLE database

YES ☐

NO ☒

SUBMIT

BACK

Figure 2.5: Moodle

2.3.2.4 Department Management

Register department in the system and can also deactivate and reactivate if necessary.

2.3.2.5 Add Department

From this page you can register department in system for local use

2.3.2.6 View Department

View the registered department.

2.3.2.7 Deactivate Department

Deactivate department.

2.3.2.8 Reactivate Department

Reactivate department.

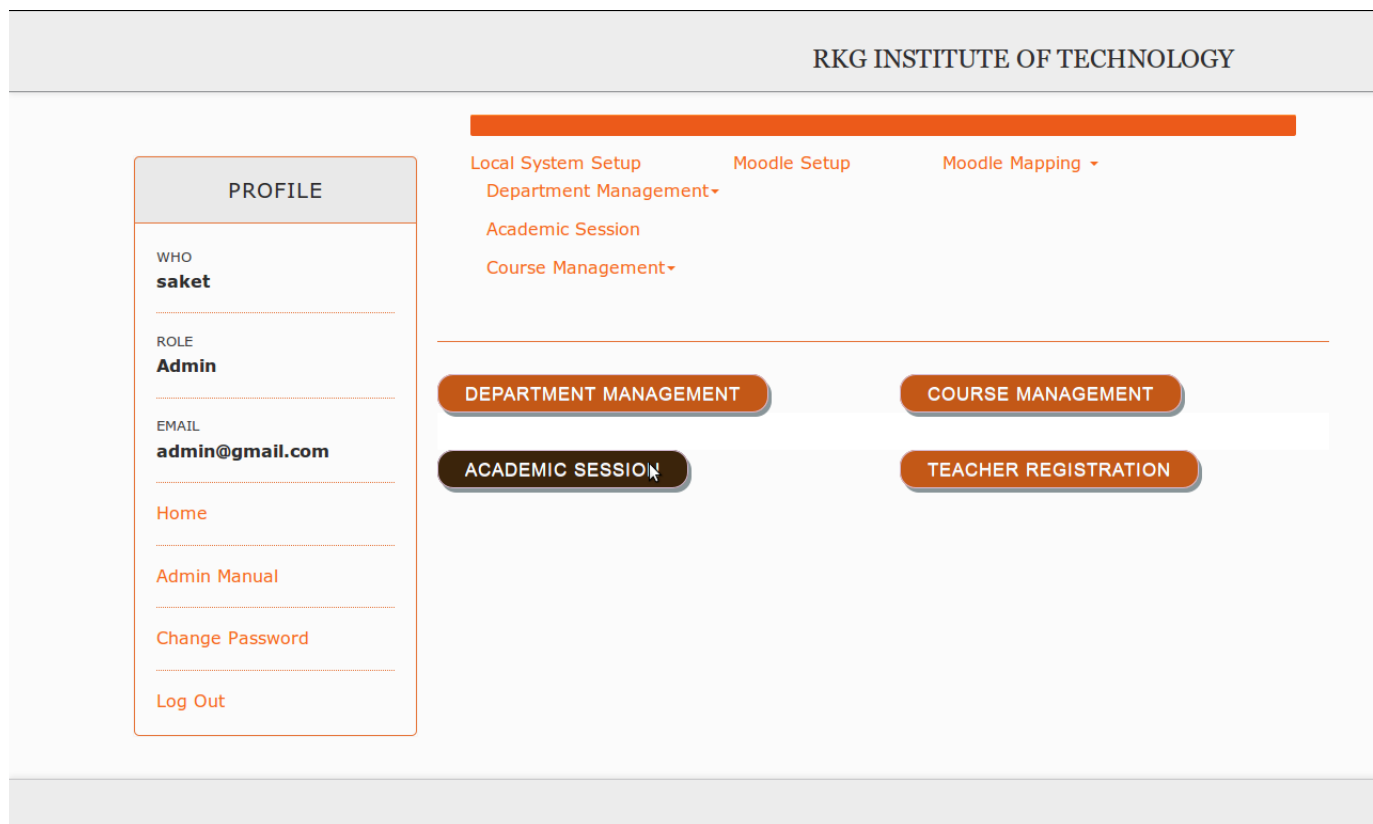


Figure 2.6: Local System Setting

2.3.2.9 Course Management

Register course in specific department in the system.

2.3.2.10 View or Edit Course

View or edit course in specific department in the system from this page.

2.3.2.11 Allocate Course

Allocate course to corresponding teacher for on an academic session.

2.3.2.12 View Allocate Course

View allocated course to corresponding teacher for on an academic session.

2.3.2.13 View or Allocate Academic Session

View or register academic session here.

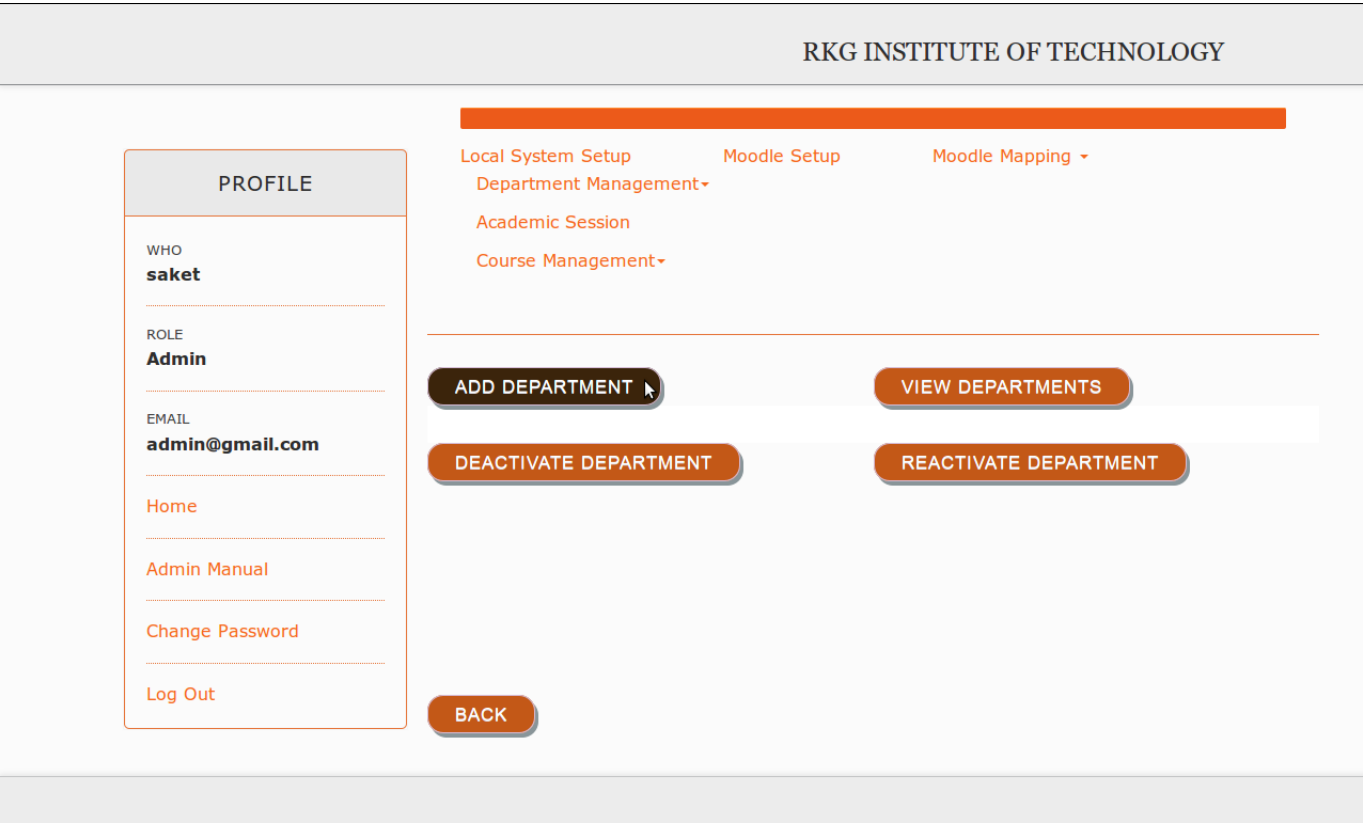


Figure 2.7: Department Management

RKG INSTITUTE OF TECHNOLOGY

PROFILE

WHO

saket

ROLE

Admin

EMAIL

admin@gmail.com

Home

Admin Manual

Change Password

Log Out

Local System Setup

Department Management

Academic Session

Course Management

Moodle Setup

Moodle Mapping

YOU HAVE ADDED 5 DEPARTMENTS.

ENTER DEPARTMENT DETAILS

ENTER DEPARTMENT NAME

Ex: Mechanical Engineering

ENTER ABBREVIATION FOR DEPARTMENT NAME

Ex: ME for Mechanical Engineering

SUBMIT DETAILS

BACK

Figure 2.8: Add Department

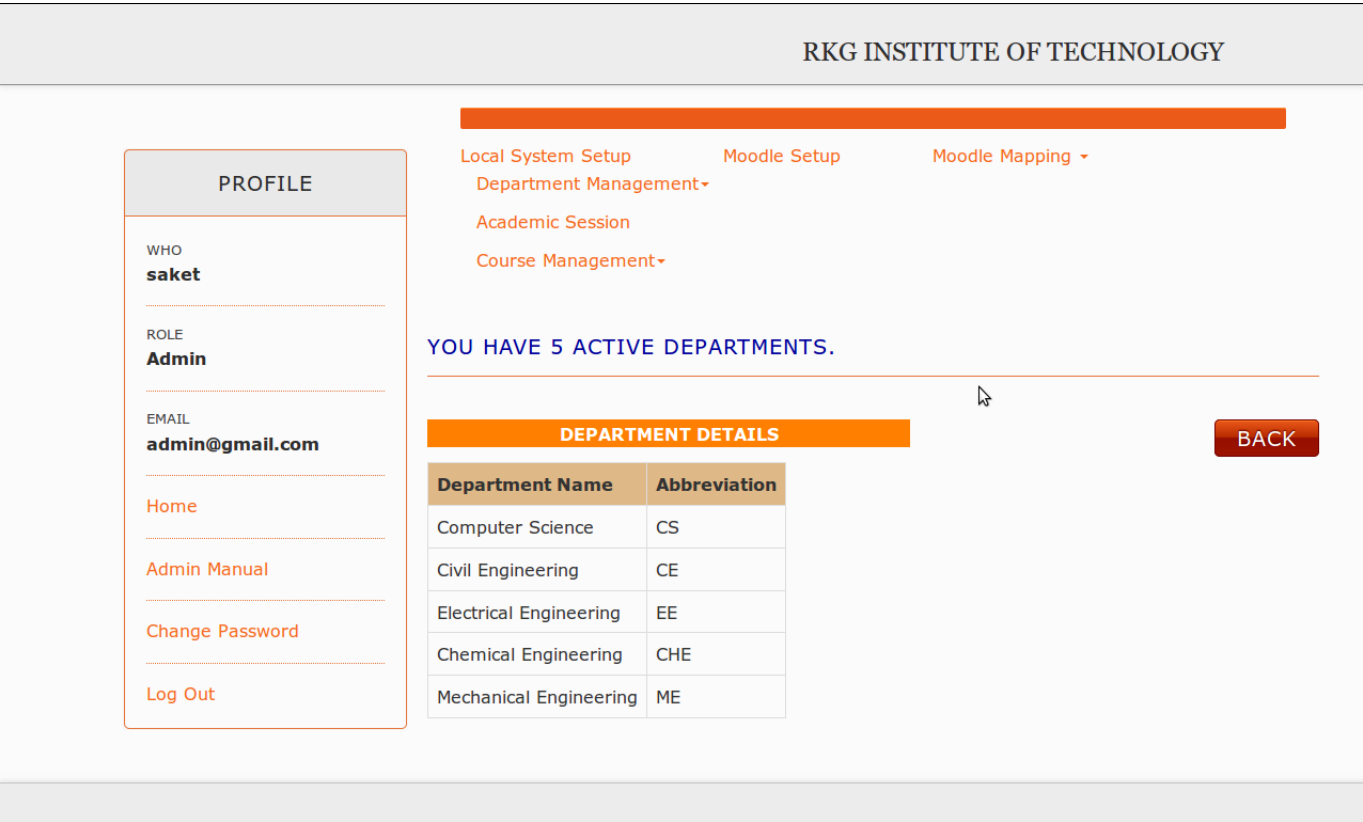


Figure 2.9: View Department

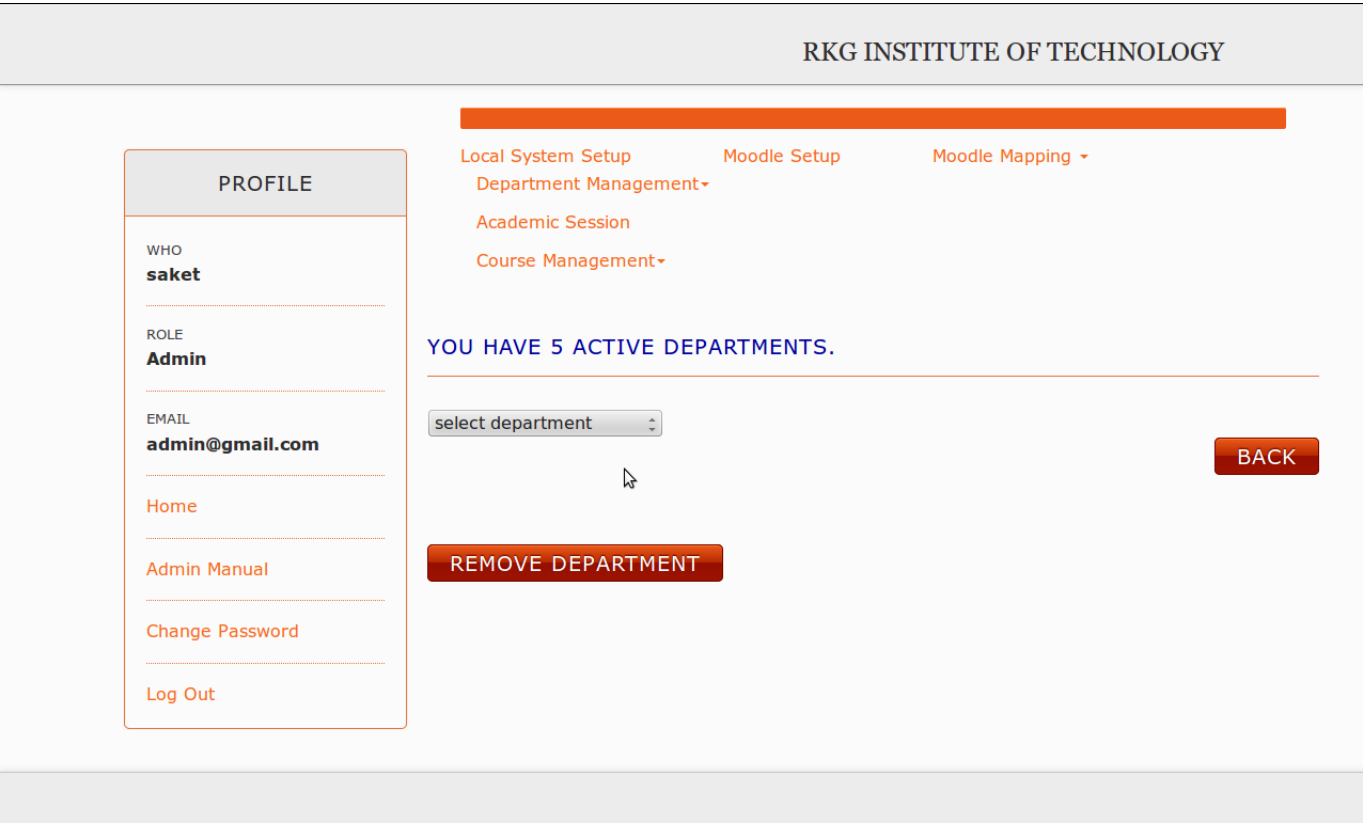


Figure 2.10: Deactivate Department

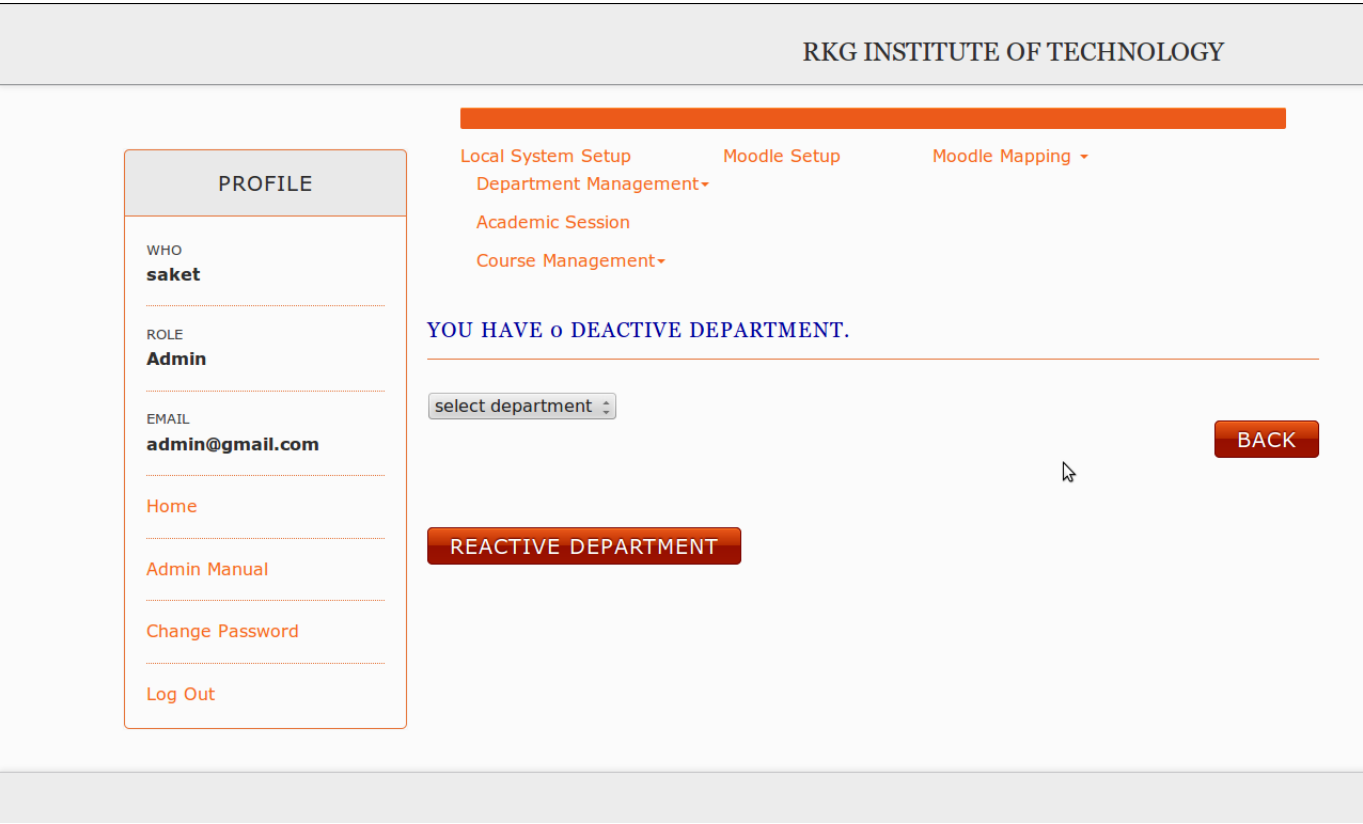


Figure 2.11: Reactivate Department

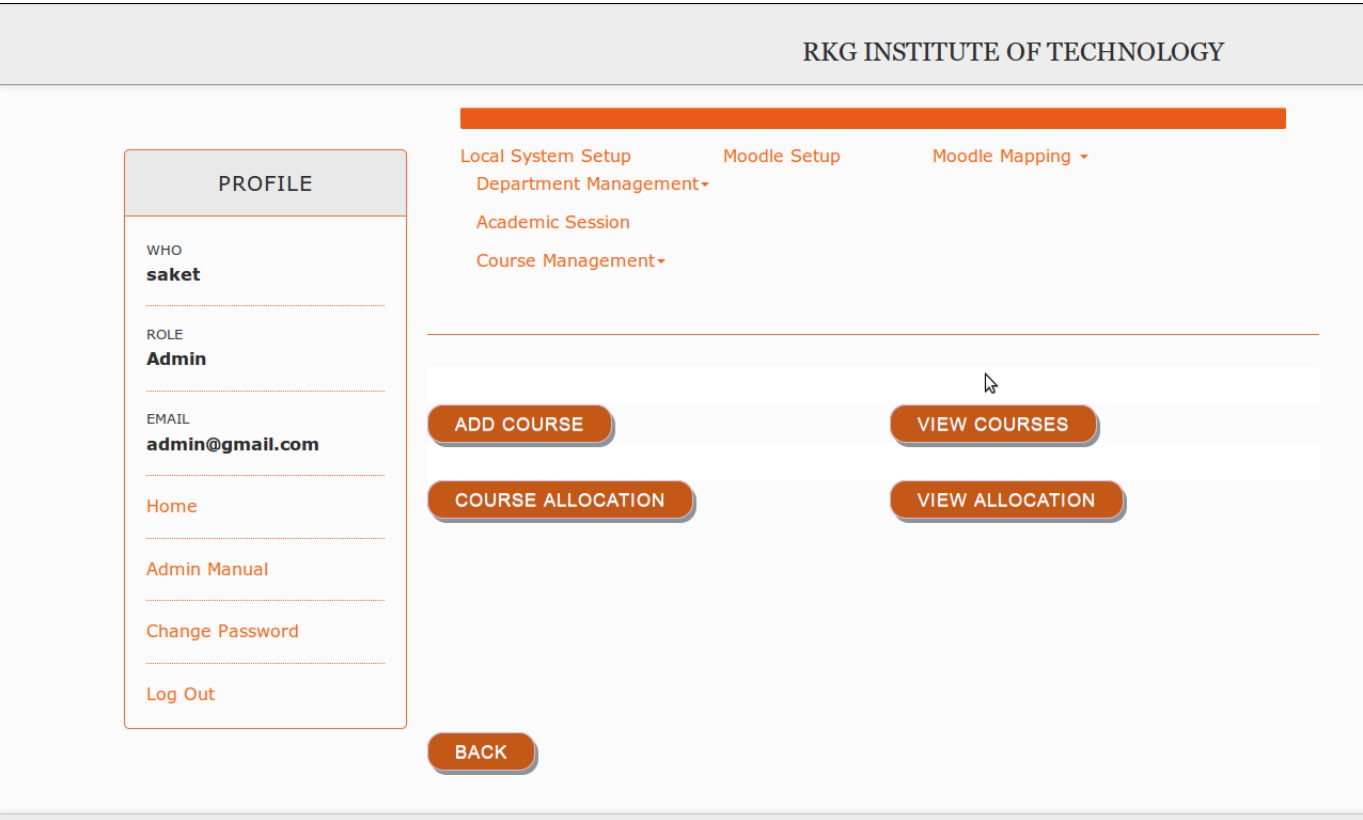


Figure 2.12: Course Management

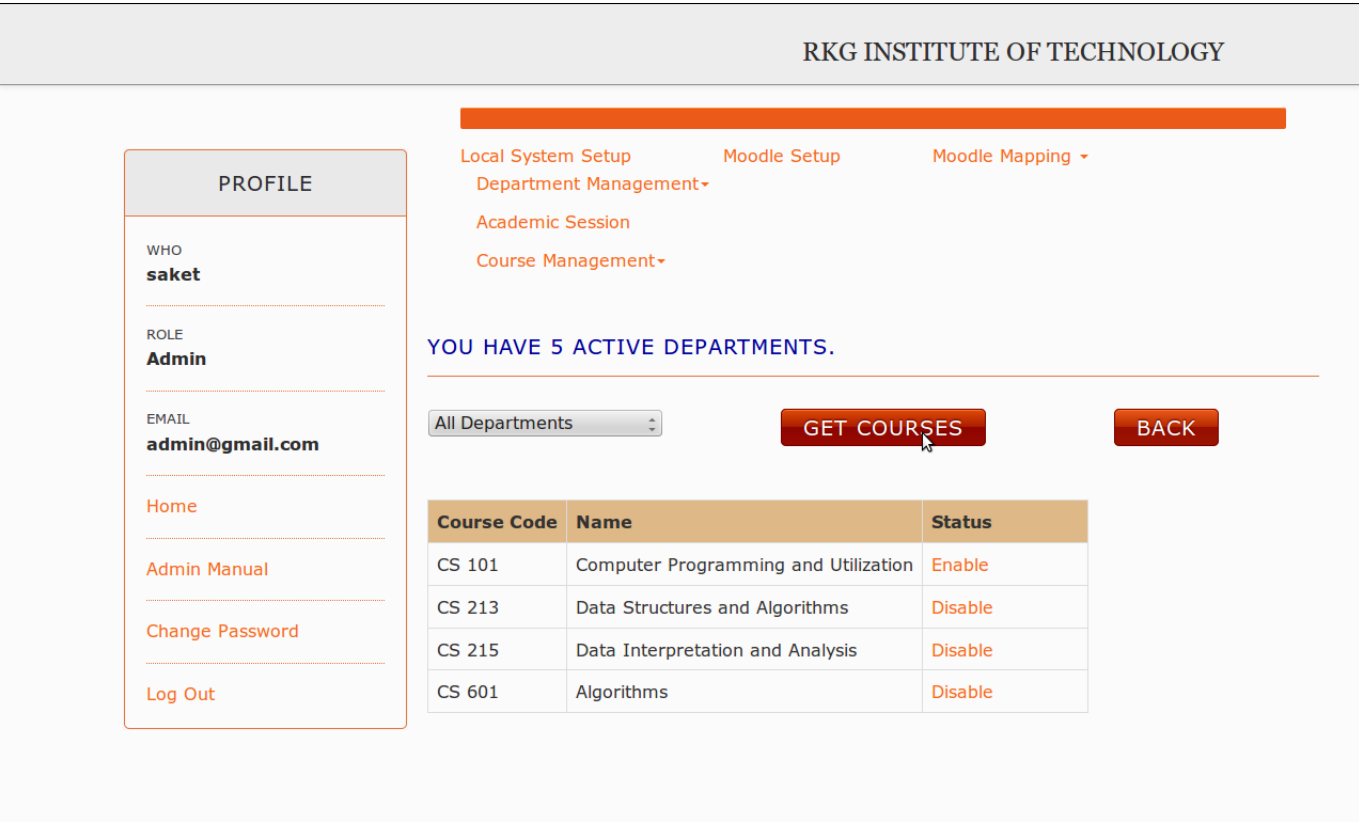


Figure 2.13: View or Edit Course

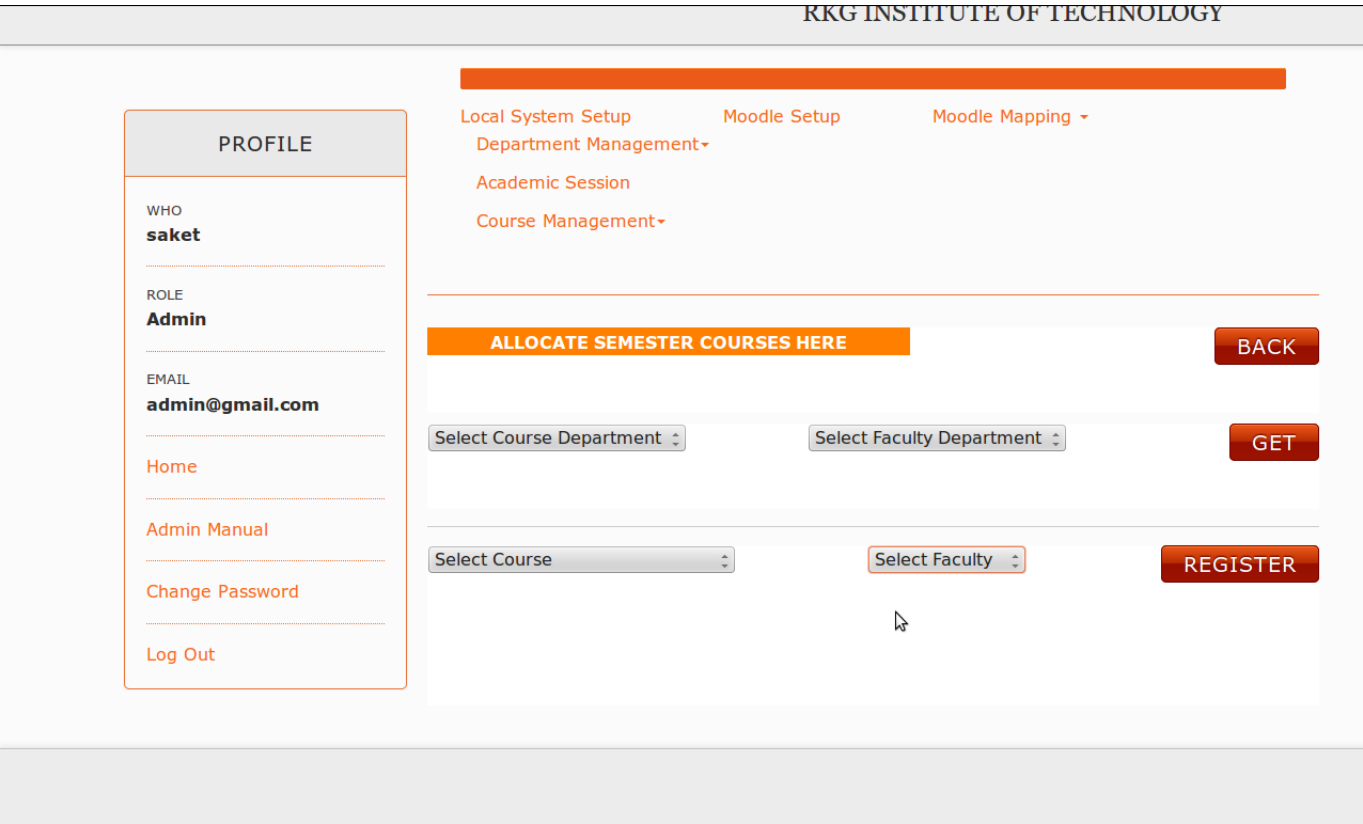


Figure 2.14: Allocate Course

RKG INSTITUTE OF TECHNOLOGY

Local System Setup

Department Management ▾

Academic Session

Course Management ▾

Moodle Setup

Moodle Mapping ▾

PROFILE

WHO

saket

ROLE

Admin

EMAIL

admin@gmail.com

Home

Admin Manual

Change Password

Log Out

YOU HAVE 5 ACTIVE DEPARTMENTS.

All Departments ▾

GET COURSES

BACK

Course allocation of all departments

Course Code	Name	Instructor Name
CS 101	Computer Programming and Utilization	rajeev kumar (CS)
CS 213	Data Structures and Algorithms	rameshgaikwad (CE)
EE 224	Communication Systems	rahul parashar (CS)
CS 213	Data Structures and Algorithms	rahul parashar (CS)

Figure 2.15: View Allocate Course

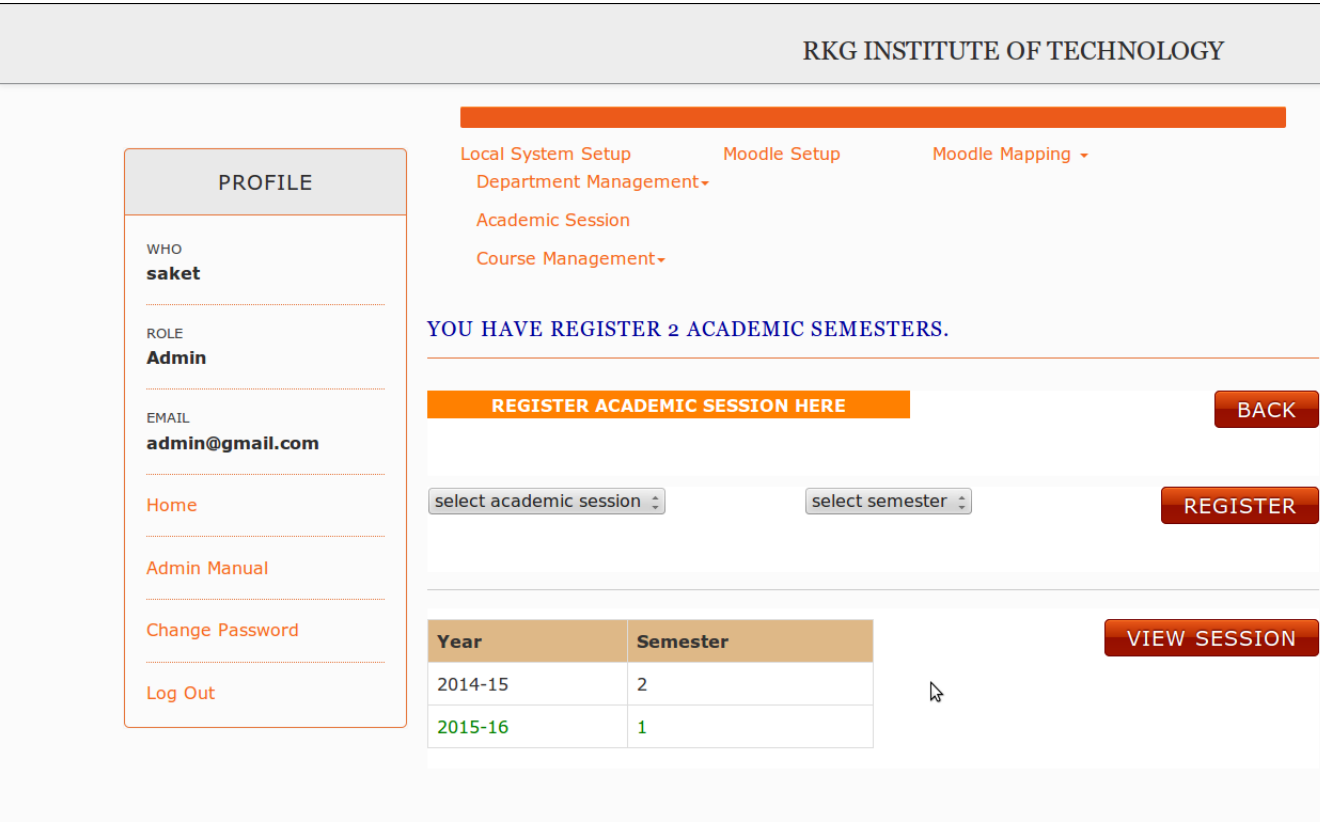


Figure 2.16: View or Allocate Academic Session

2.3.3 Teacher UI

2.3.3.1 Teacher Dashboard

The teacher in his/her dashboard will be able to see assigned courses for the current semester and also all the previous courses, if any. As shown in the Figure 4.5, for mark sheet generation module, teacher will be able to see create and view grade policy, give weightage to blended MOOC, etc.

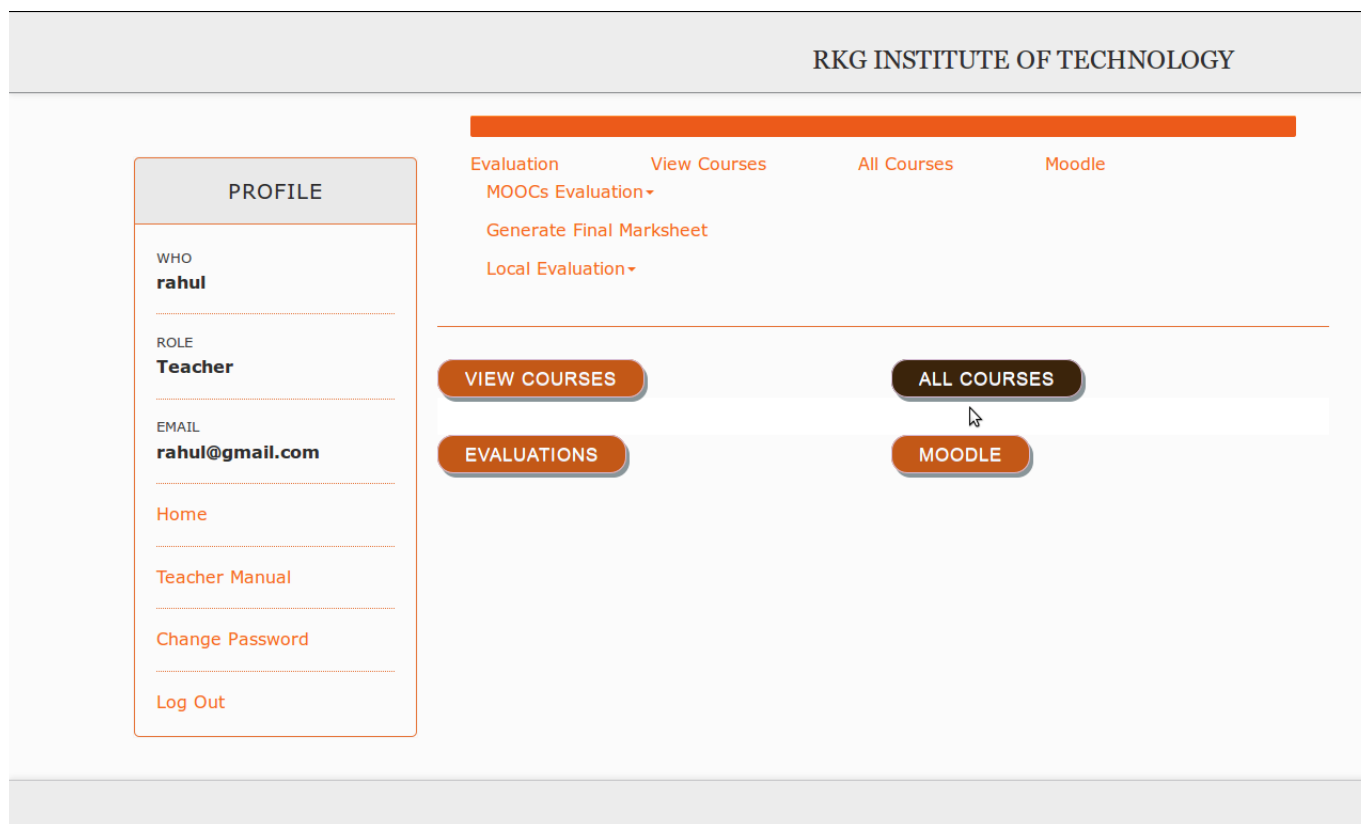


Figure 2.17: Teacher Dashboard

2.3.3.2 View Courses

The teacher can view allocated courses to him/her in current academic session.

2.3.3.3 View All Courses

The teacher can view all allocated courses to him/her in all academic sessions.

RKG INSTITUTE OF TECHNOLOGY

PROFILE

WHO
rahul

ROLE
Teacher

EMAIL
rahul@gmail.com

[Home](#)

[Teacher Manual](#)

[Change Password](#)

[Log Out](#)

[Evaluation](#) [View Courses](#) [All Courses](#) [Moodle](#)

[MOOCs Evaluation ▾](#)
[Generate Final Marksheet](#)
[Local Evaluation ▾](#)

YOU HAVE BEEN ASSIGNED 3 COURSES.

ALLOTTED COURSE DETAILS FOR 2015-16_SEM-1

Course Code	Name
EE 224	Communication Systems
CS 213	Data Structures and Algorithms
ME 209	Thermodynamics

MAIN MENU

Figure 2.18: View courses

2.3.3.4 View All Courses

The teacher can view all allocated courses to him/her in all academic sessions.

2.3.3.5 View Moodle Marks

The teacher can view Moodle marks of students from this page if Moodle is used to store local marks.

2.3.3.6 Local Evaluation

Main page for all local evaluation activities.

2.3.3.7 Create Grade Policy

Create grade policy for any assigned course for local evaluation.

The screenshot displays the RKG Institute of Technology portal. On the left is a sidebar with a 'PROFILE' section containing the following information:

- WHO: **rahul**
- ROLE: **Teacher**
- EMAIL: **rahul@gmail.com**
- Home
- Teacher Manual
- Change Password
- Log Out

The main content area has a top navigation bar with links: Evaluation, View Courses, All Courses, and Moodle. Below this, there are links for MOOCs Evaluation, Generate Final Marksheet, and Local Evaluation. A message states: "YOU HAVE BEEN ASSIGNED 3 COURSES." Below this is a section titled "ALLOTTED COURSE DETAILS" containing a table:

Course Code	Name	Session	Semester
EE 224	Communication Systems	2015-16	1
CS 213	Data Structures and Algorithms	2015-16	1
ME 209	Thermodynamics	2015-16	1

On the right side of the main content area, there is a "MAIN MENU" button.

Figure 2.19: View All courses

2.3.3.8 View Grade Policy

View grade policy for any assigned course for local evaluation.

2.3.3.9 Upload Local Marks

Teacher can upload marks of students for any evaluation. The marks should be store in .CSV in file in specific format mention above.

2.3.3.10 Update or View Local Marks

Teacher can update marks of students for any evaluation. In case of any error.

2.3.3.11 Update or View Local Marks

Teacher can update marks of students for any evaluation. In case of any error.

The screenshot displays the RKG Institute of Technology MOOCs interface. On the left is a 'PROFILE' sidebar for a user named 'rahul' with the role of 'Teacher' and email 'rahul@gmail.com'. The sidebar includes links for Home, Teacher Manual, Change Password, and Log Out. The main content area has a top navigation bar with 'Evaluation', 'View Courses', 'All Courses', and 'Moodle'. Below this, there are links for 'MOOCs Evaluation', 'Generate Final Marksheet', and 'Local Evaluation'. A message states 'YOU HAVE BEEN ASSIGNED 3 COURSES.' followed by a table titled 'ALLOTTED COURSE DETAILS'. A 'MAIN MENU' button is located on the right.

Course Code	Name	Session	Semester
EE 224	Communication Systems	2015-16	1
CS 213	Data Structures and Algorithms	2015-16	1
ME 209	Thermodynamics	2015-16	1

Figure 2.20: View All courses

2.3.3.12 Blended MOOCs

Main page for Blended MOOCs activities.

2.3.3.13 Blended MOOCs Weight

Insert Blended MOOCs weight for some course.

2.3.3.14 Upload Blended MOOCs Grade Policy

Upload Blended MOOCs grade policy. .CSV file.

2.3.3.15 Upload Blended MOOCs Mark Sheet

Upload Blended MOOCs mark sheet.

2.3.3.16 Blended MOOCs Weight Allocation

Distribute the total weight to some specific evaluations.



Figure 2.21: View Moodle Marks

2.3.3.17 Generate Final Composite Mark Sheet

Generate final mark sheet for course.

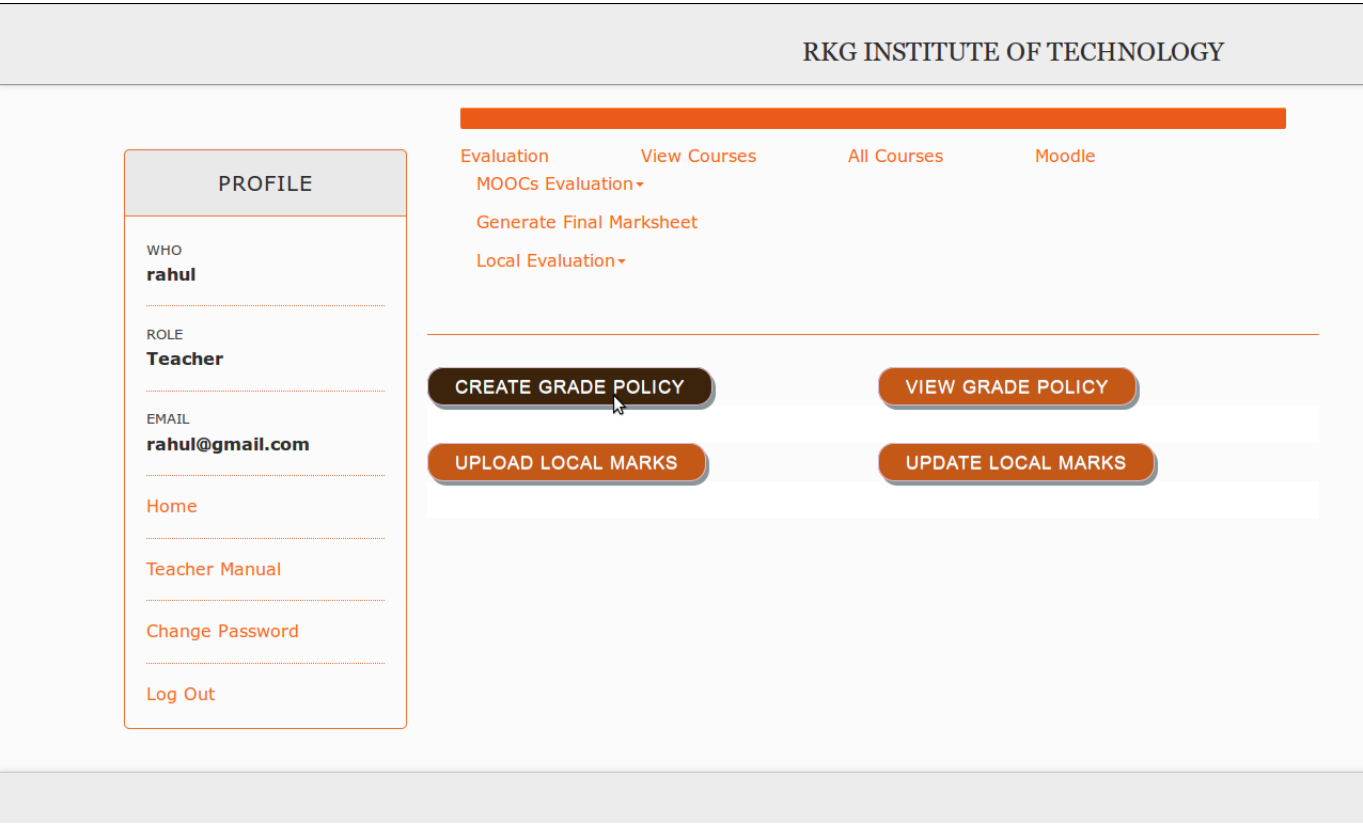


Figure 2.22: Local Evaluation

RKG INSTITUTE OF TECHNOLOGY

PROFILE

WHO
rahul

ROLE
Teacher

EMAIL
rahul@gmail.com

Home

Teacher Manual

Change Password

Log Out

Evaluation

View Courses

All Courses

Moodle

MOOCs Evaluation

Generate Final Marksheet

Local Evaluation

PREVIOUS STEP

NEXT STEP

Select Course

Abbreviation	Assignment	No. of Assignments	No. of Best Score	Weight(%)	
<input type="checkbox"/>	Ex: QZ for C	Ex: Quiz, Mid Se	Ex: 5	Ex: 4	Ex: 25

ADD ROW

DELETE ROW

SUBMIT GRADE POLICY

Figure 2.23: Create Grade Policy

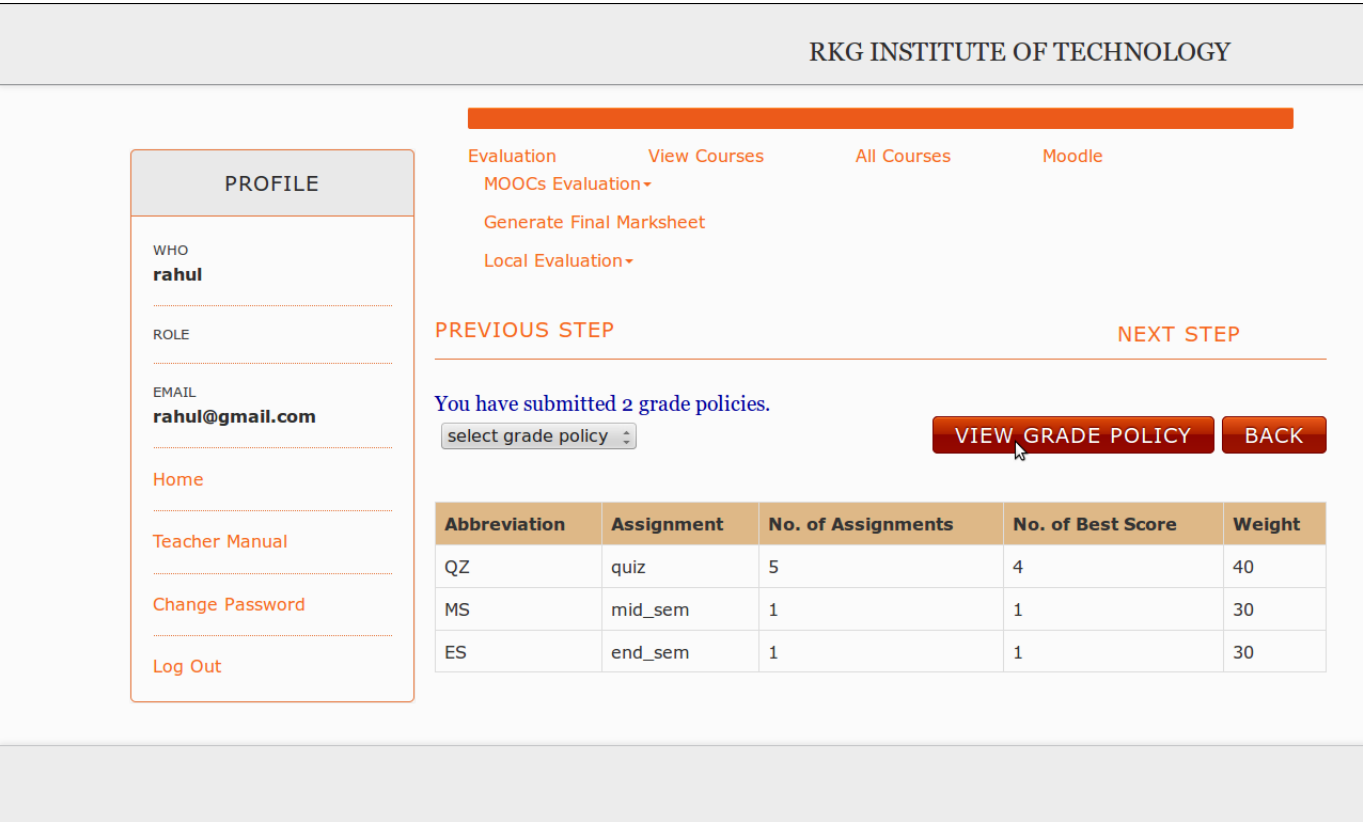


Figure 2.24: View Grade Policy

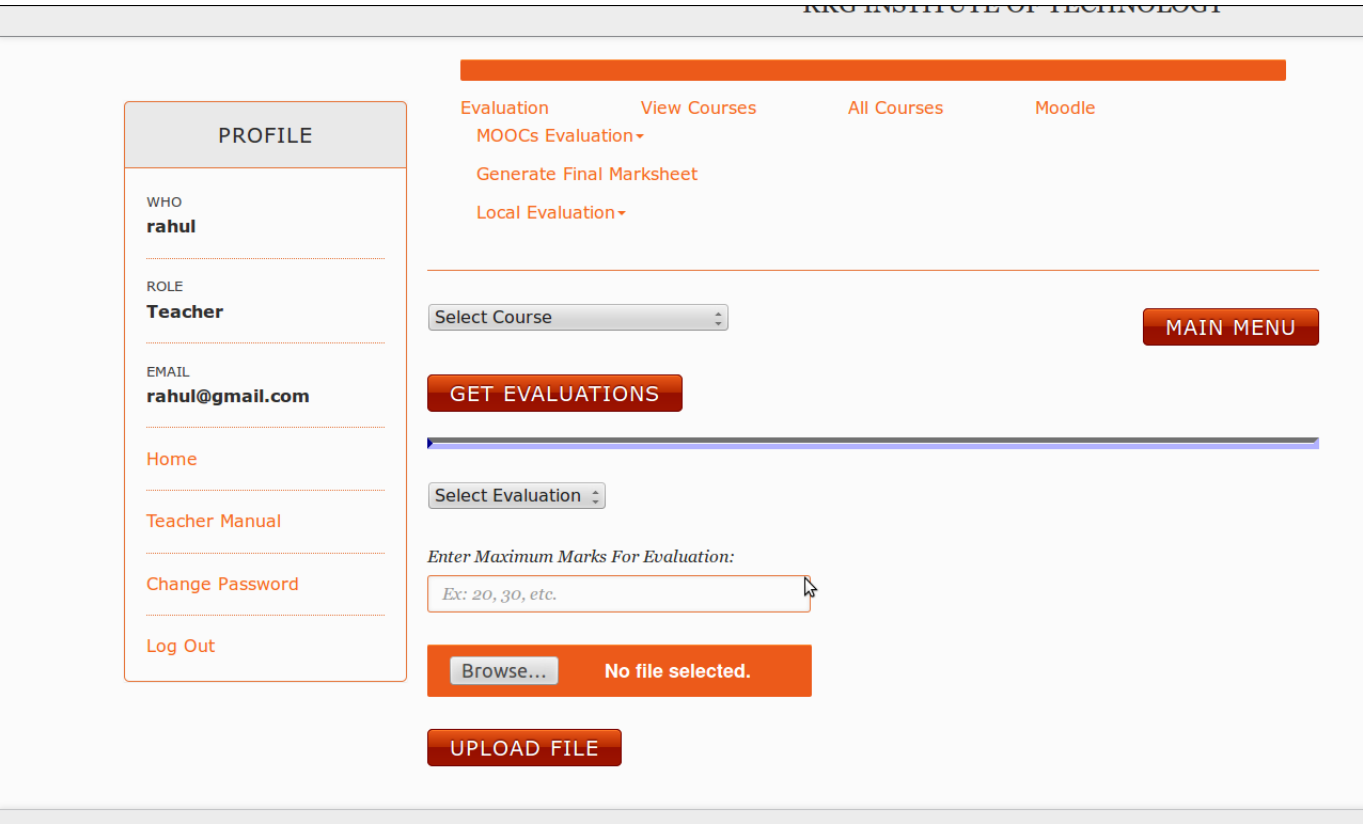


Figure 2.25: Upload Local Marks

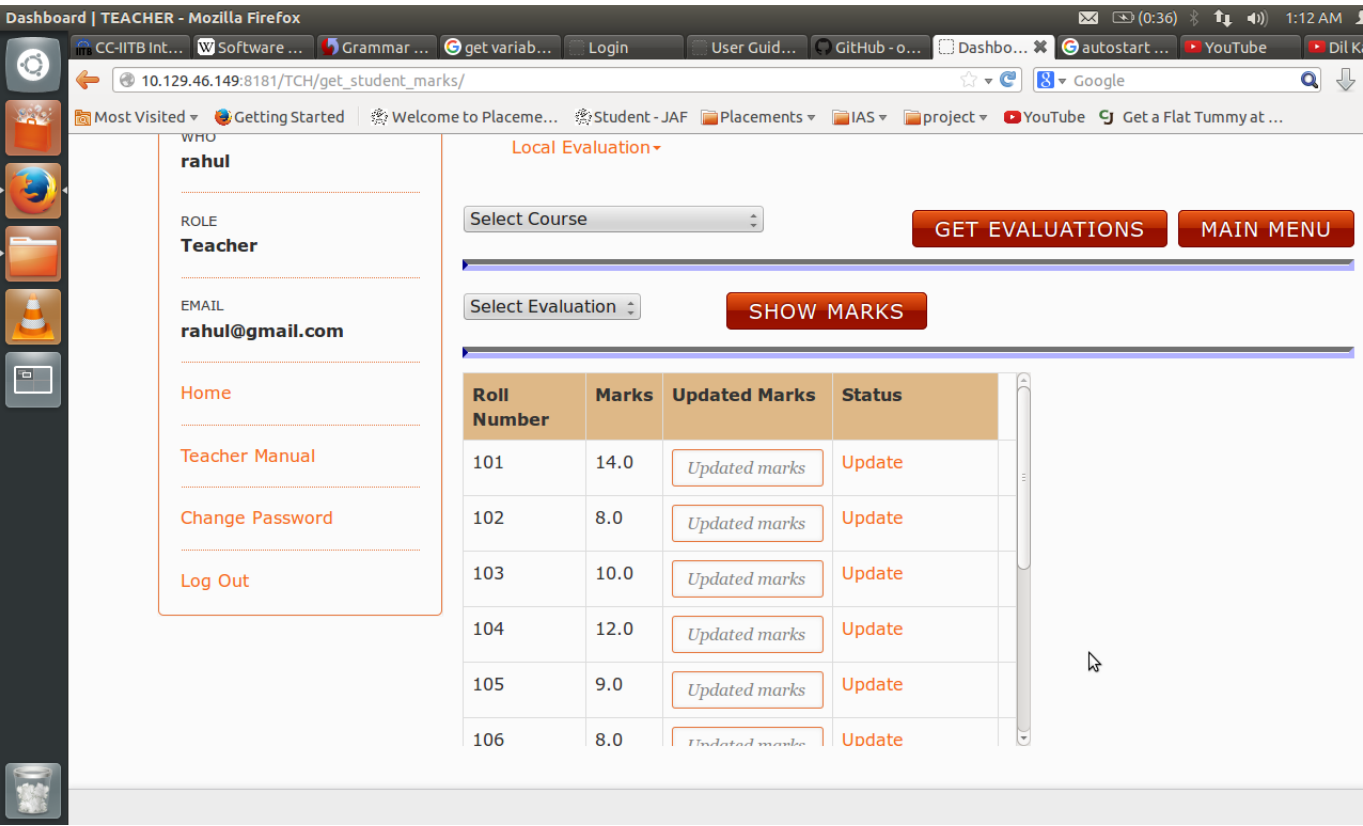


Figure 2.26: Update or View Local Marks

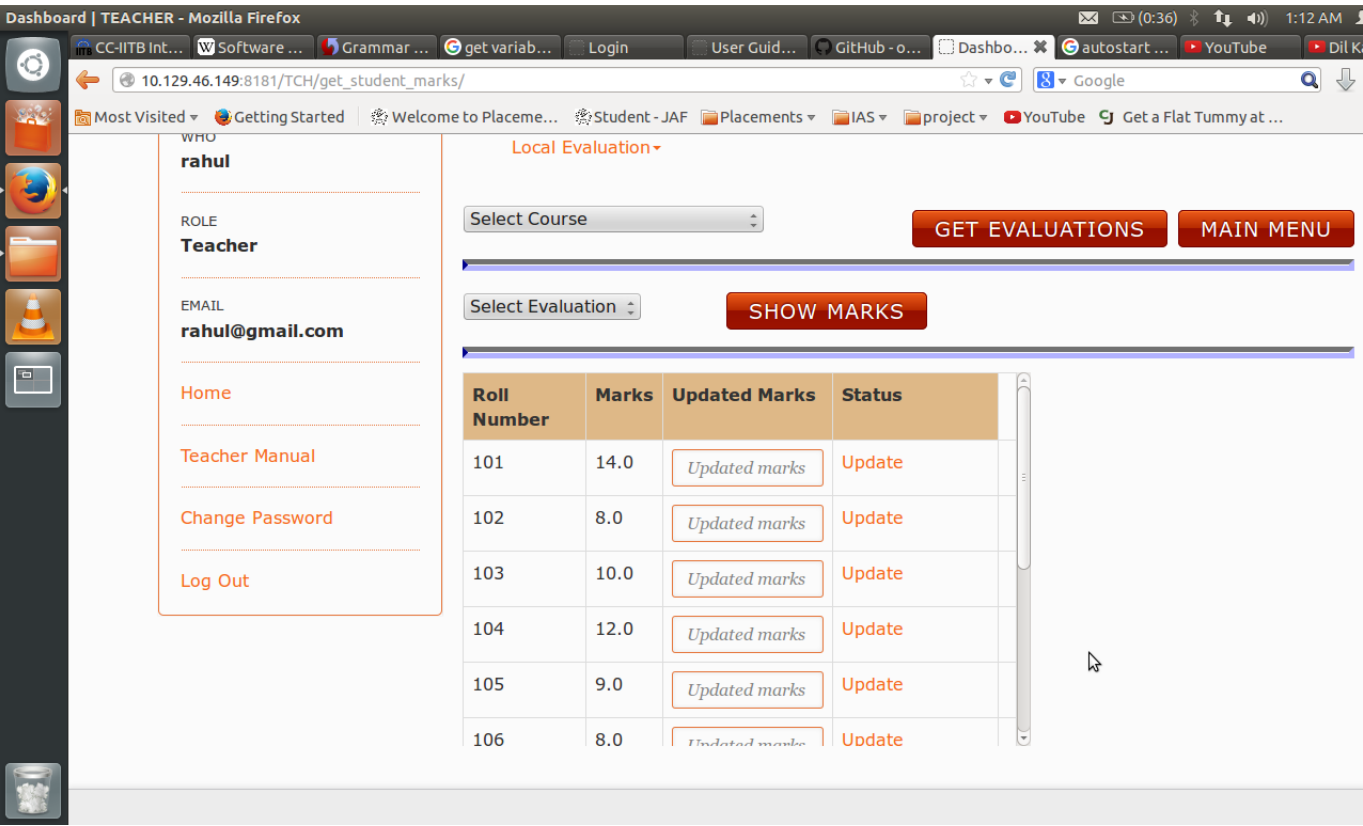


Figure 2.27: Update or View Local Marks

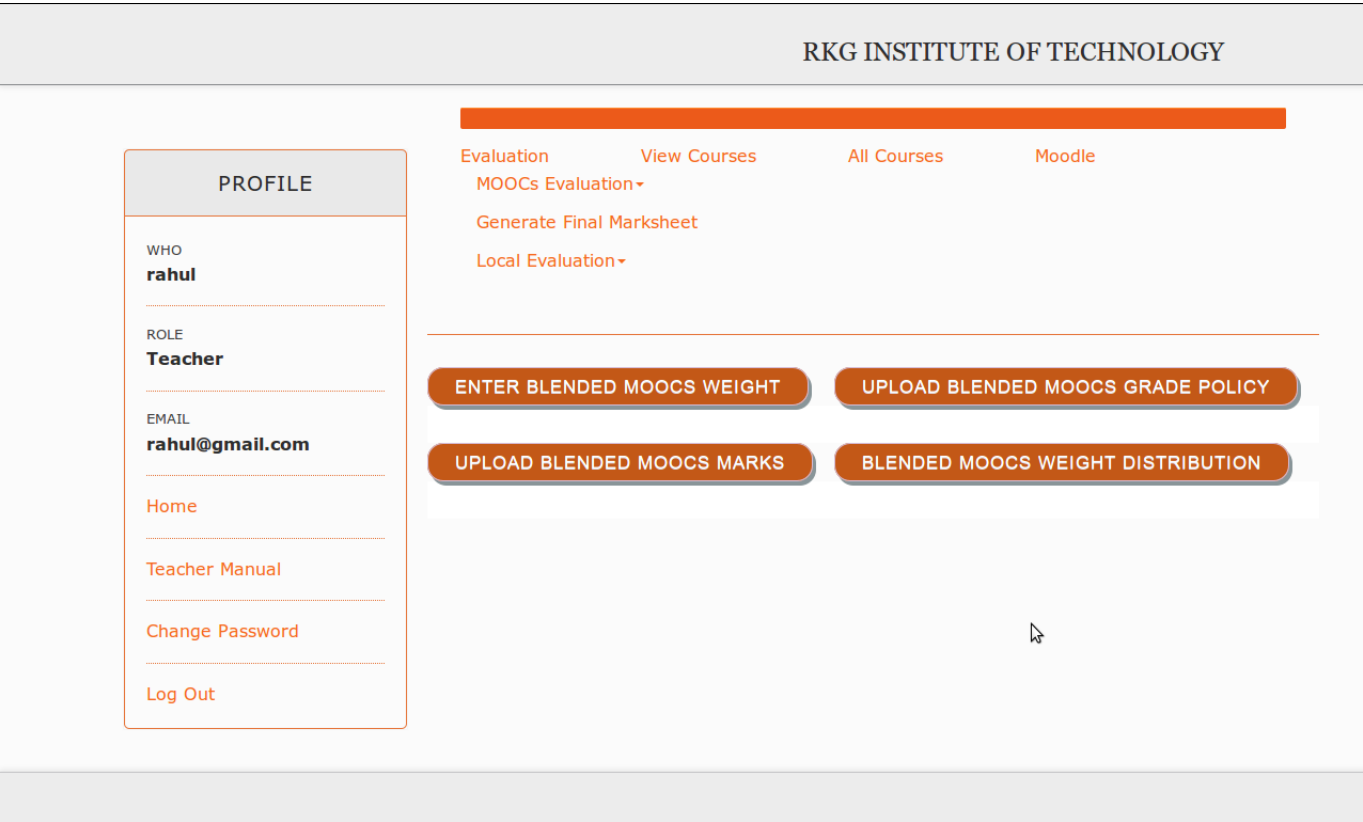


Figure 2.28: Blended MOOCs

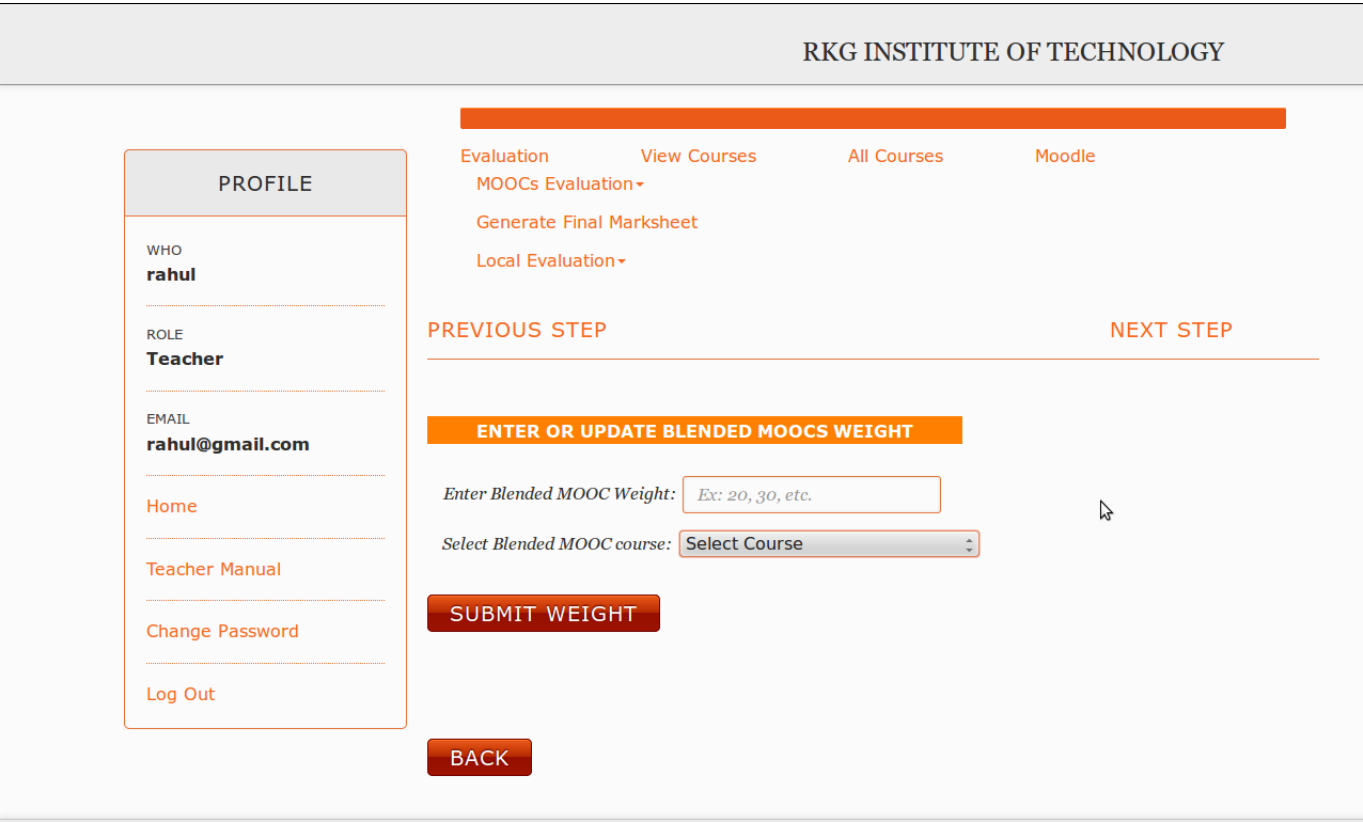


Figure 2.29: Blended MOOCs Weight

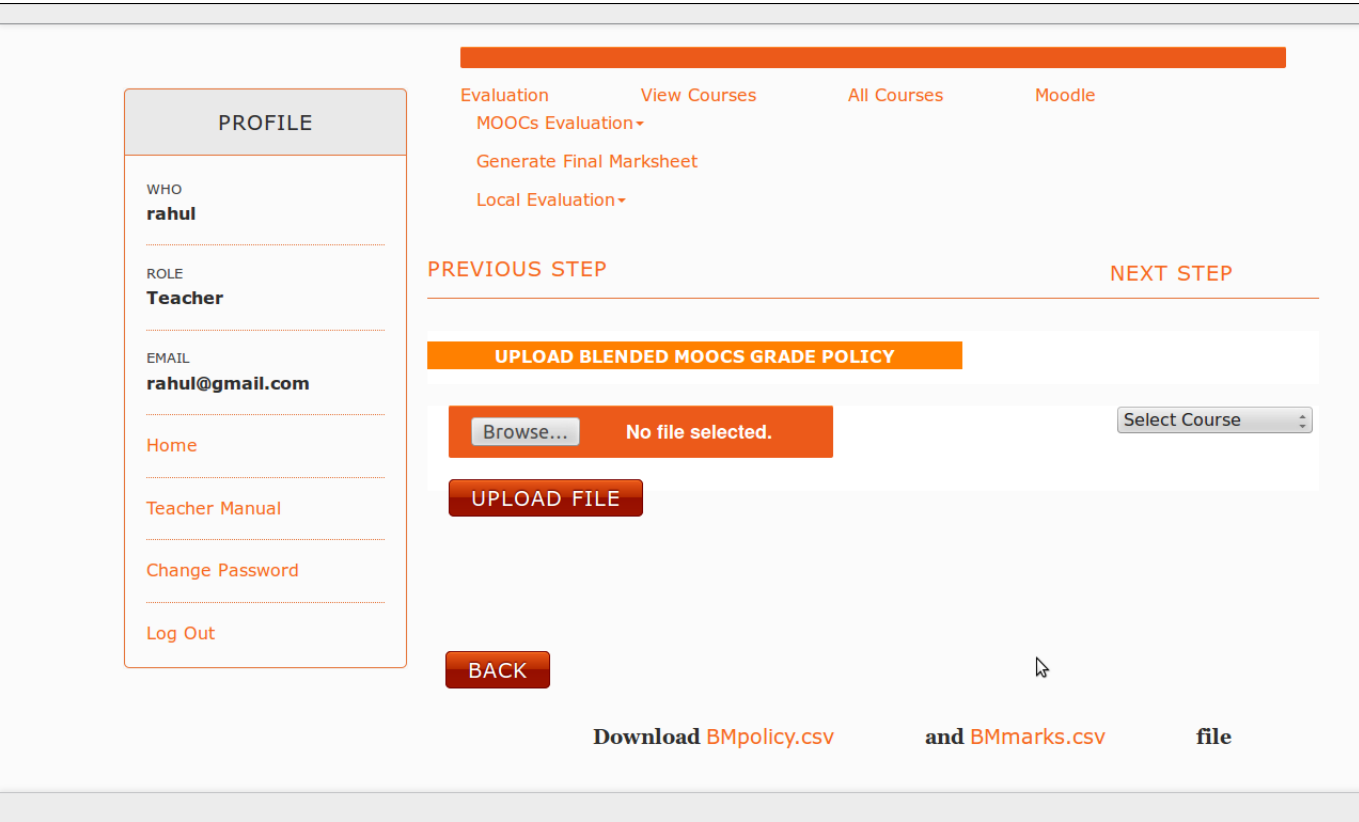


Figure 2.30: Upload Blended MOOCs Grade Policy

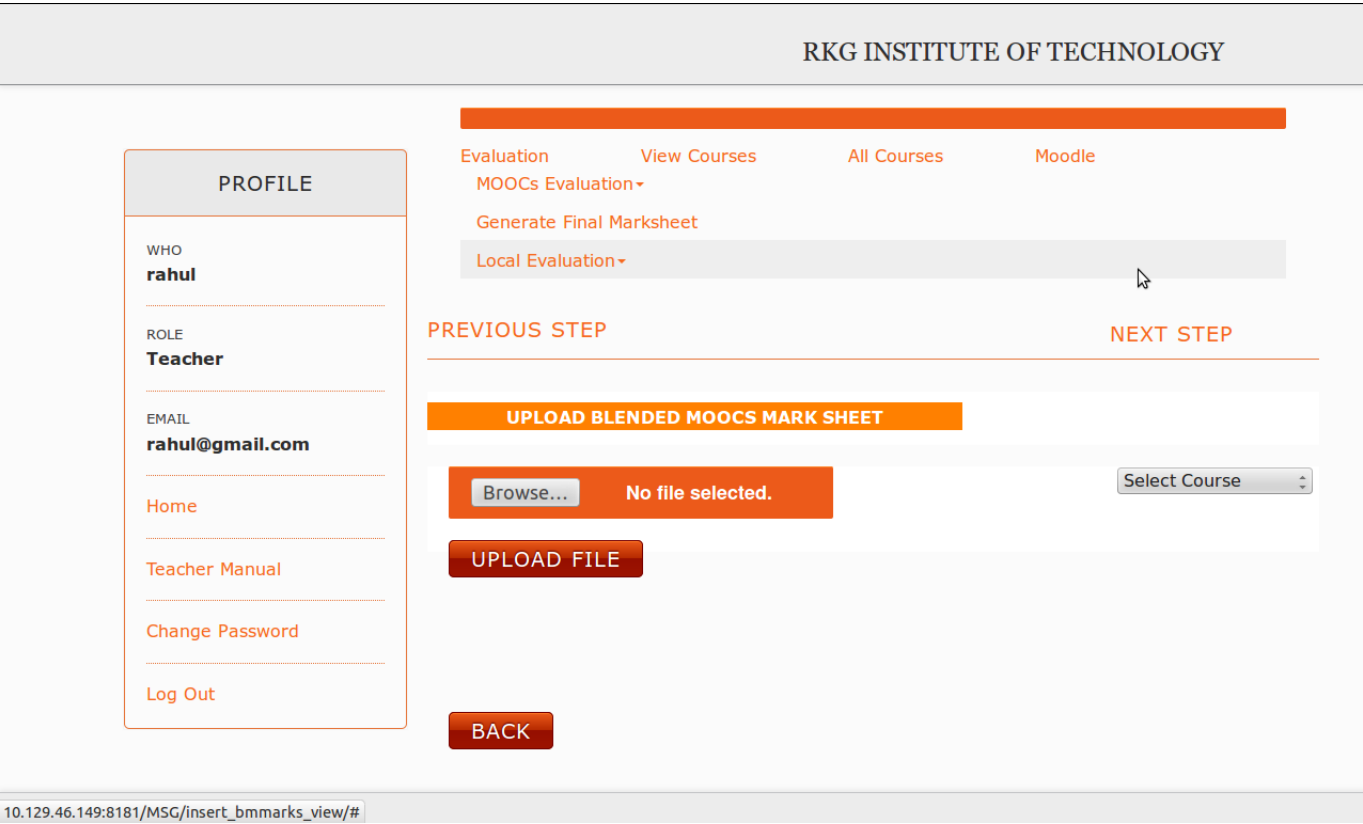


Figure 2.31: Upload Blended MOOCs Mark Sheet

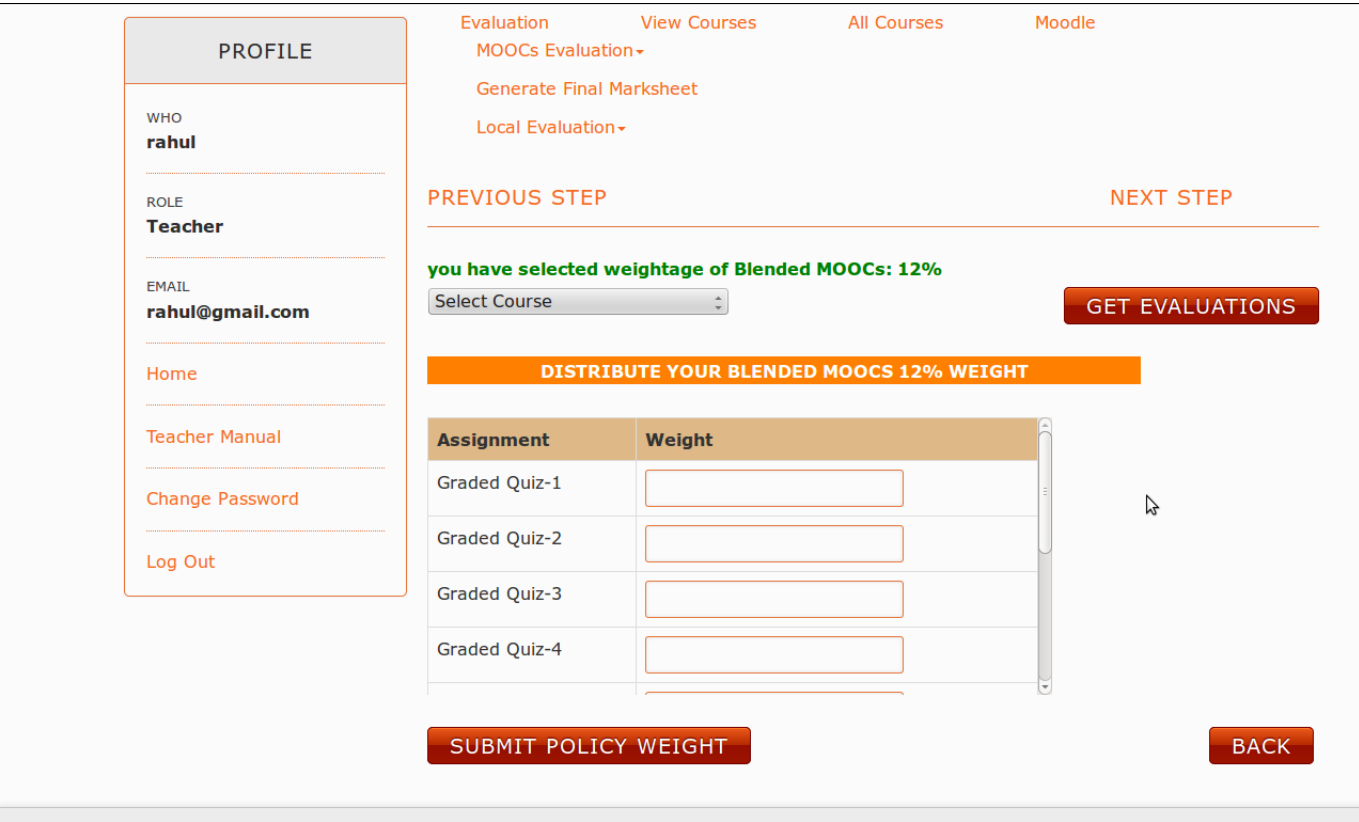


Figure 2.32: Blended MOOCs Weight Allocation

RKG INSTITUTE OF TECHNOLOGY

PROFILE

WHO
rahul

ROLE
Teacher

EMAIL
rahul@gmail.com

Home

Teacher Manual

Change Password

Log Out

Evaluation
MOOCs Evaluation ▾
Generate Final Marksheet
Local Evaluation ▾

View Courses

All Courses

Moodle

PREVIOUS STEP

Select Course ▾

GENERATE FINAL COMPOSITE MARK SHEET

MAIN MENU

Course Name	Blended MOOCs Weightage	Modify
Thermodynamics	12	Edit
Data Structures and Algorithms	10	Edit

10.129.46.149:8181/MSG/upload_bmmarks_view

Figure 2.33: Generate Final Composite Mark Sheet

2.3.4 MOOCs Assessment and Composite Mark sheet

2.3.4.1 MOOC grade policy

Figure 4.8 shows the grading policy for a MOOC. It is a CSV file in which the first column is the number of evaluations of an assignment, and the second column is weightage of an assignment, and the third column is name of an exam, and the fourth column contains the number of droppable evaluations of an assignment, and fifth column contains short label for a respective assignment.

```
7,0.6,Graded Quiz,1,GQ
1,0.4,Final Exam,0,FE
```

Figure 2.34: MOOC grading policy

2.3.4.2 All MOOC assessment

Figure 4.9 shows the MOOC marks of all the students, who are registered for MOOC course with IITBombayX and regular university course. The first line in the Figure shows the maximum marks for the evaluation, second line contains the list of MOOC evaluations, and from third line onwards contain marks obtained by each student in corresponding evaluation.

```
max,10,10,15,15,15,20,25,40
Roll Number,GQ-1,GQ-2,GQ-3,GQ-4,GQ-5,GQ-6,GQ-7,FE
1105301,8,7,12,11,15,18,25,38
1105302,6,6,12,0,14,19,20,35
1105303,9,8,15,10,14,16,19,40
1105304,5,4,NA,10,11,16,13,20
1105305,4,5,NA,NA,9,10,14,19
1105306,8,7,10,11,9,18,24,40
1105307,5,6,13,13,11,16,22,31
1105308,7,6,11,4,10,14,20,28
1105309,6,8,12,0,NA,19,20,15
11053010,8,9,10,13,11,18,18,34
```

Figure 2.35: All MOOC assessment

2.3.4.3 Composite mark sheet

Figure 4.10 shows the composite mark sheet of local marks and MOOC marks of all the students, who are registered for blended MOOC course with IITBombayX along with their regular university course. Figure shows the blended MOOC weight in this case it is 25 (shown in figure). It also shows weight distribution and maximum marks for each of the blended MOOC evaluation.

```
#####
Teacher Name : rahul parashar
Course Name : Thermodynamics
#####
===== Blended MOOCs Weight =====
Blended MOOCs weightage: 25
-----All evaluations at blended MOOCs
GQ-1,GQ-2,GQ-3,GQ-4,GQ-5,GQ-6,GQ-7,FE
-----Weight distribution for blended MOOCs
0, 0, 0, 0, 25, 0, 0, 0
-----Maximum marks for blended MOOCs evaluations
10,10,15,15,15,20,25,40
***** students Marks *****
=====
Roll Number,Institute Total Marks,GQ-1,GQ-2,GQ-3,GQ-4,GQ-5,GQ-6,GQ-7,FE,MOOCs Total,Total
=====
1105301,58.5,8,7,12,11,15,18,25,40,25.0,83.5
1105302,48.75,6,6,12,0,14,19,20,35,23.33,72.08
1105303,66.0,9,8,15,10,14,16,19,40,23.33,89.33
1105304,51.75,5,4,0,10,11,16,13,20,18.33,70.08
1105305,41.25,4,5,0,0,9,10,14,19,15.0,56.25
1105306,63.75,8,7,10,11,9,18,24,40,15.0,78.75
1105307,52.5,5,6,13,13,11,16,22,31,18.33,70.83
1105308,67.5,7,6,11,4,10,14,20,28,16.67,84.17
1105309,33.75,6,8,12,0,0,19,20,15.0,0.33,75
11053010,18.75,8,9,10,13,11,18,18,34,18.33,37.08
```

Figure 2.36: Composite Mark Sheet

Chapter 3

Conclusion

3.1 Conclusion

The blended MOOCs requires the composition of institute marks and MOOCs marks. So, to make this process easy and efficient for the blended MOOCs partner teachers. We have built a system which stores marks of institute evaluations and takes MOOCs marks in the form of CSV file and generate a composite mark sheet. The teachers, who are not the part of blended MOOCs can also use this system to keep records of students marks. The system will install and runs locally in engineering colleges in India.

Blended MOOCs require the composite nature of in-classroom learning and online participation. To this effect, both evaluation i.e. classroom as well as online evaluation, are necessary for the complete assessment of students. Regular assessments in different forms (online quizzes, in-classs exams) make the teacher aware of the current subject understanding of students in a class.