

## Mechanical Engineering Department

Academic Year – 2021-2022	Class: Third Year
Semester – I	Date : 02/12/2021 TO 08/01/2022
CO1,CO2,CO4,CO5,CO6	PO1,PO5,PO9,PO12

### Innovative Teaching Methods

#### Title of Innovation method/activity: Project Based Learning

1. Name of Faculty: Mr.D.D.Kulkarni

2. Subject: Numerical and Statistical Methods

3. Objective of Method:

1. Make the students familiar with basic concepts and techniques of Matlab programming.
2. Develop an ability to write programs in Python for problem solving

#### 4. Topic Covered through Activity:

Python programing, Mechanical engineering application problem.

#### 5. Description of method with Benefits (8 – 10 lines):

Students work on a project over an extended period of time that engages them in solving a problem. We asked students to do a numerical solution on the subject of heat transfer. The students found an analytical solution and then verified the same numerical using Python programming software.

#### The method:

1. An assigned task /activity are completed by a single student.
2. When student finish their project, the teacher checks each student's final work.
3. Teacher will check whether code is running completely /partially /some errors present.
4. Teacher take oral to check student has understood the concept of project.

## Roles and Responsibilities

### • Teacher

- Provide the Introduction to the entire topic.
- Aware the student about the length, Breadth, Depth of Topic
- Provide the Study Material and appropriate guide lines at every stage
- Prepare assessment methodology.

### • Student

- Go through all the material provided on particular topic
- Once topic assigned understand and gain expertise on topic through collaboration.
- Actively participate and contribute by means of discussion, hand-out

## 6. Assessment Tools & Rubrics:

### 1. Content Knowledge [3 Mark]

- ☐ Demonstrate knowledge by answering all questions with explanation and elaboration.

### 2. Code Readability [3 Mark]

- ☐ All Required comments are present.
- ☐ The program is correctly indented and identifiers are selected

### 3. Individual Work [2 Mark]

- ☐ Everyone is fully engaged with effective an idea.

### 4. Delivery [2 Mark]

- ☐ The program was delivered on time

Criteria	Excellent -3	Good -2	Average-1
Content Knowledge	Demonstrate knowledge by answering all questions with explanation and elaboration.	Is at ease with expected answer to all questions without elaboration.	Student answers partially. Student is able to answer only rudimentary question
Code Readability	All Required comments are present, the program is correctly indented and identifiers are selected	Some required comments are missing, or identifiers are inappropriate or statements are not correctly indented	Program is minimally commented; some identifiers are inappropriate or inconsistent indentation.

<b>Team Work</b>	Everyone is fully engaged with effective exchange of idea.	Some people were cooperating, but some people were not. One person did all the work.	No cooperation. Team members did their own thing
<b>Delivery`</b>	The program was delivered on time	The program was delivered within a week of the due date	The code was within 2 weeks of the due date

## 7. Evaluation Sheet

Roll No.	Last Name	Content Knowledge	Code Readability	individual & Team Work	Delivery	Total (12)	Grade (10)
90	BHARSAT BHUSHAN PUNDLIK	3	3	2	2	10	8.33
91	BUDHVANT DHANANJAY RAJENDRA	3	3	3	2	11	9.17
92	DASPUTE AMIT MILIND	3	3	3	2	11	9.17
93	DOKE ROHIT SACHIN	2	3	2	2	9	7.50
94	DONGARE VAIBHAV BANDU	AB	AB	AB	AB	0	0.00
95	GAIKWAD SHANTANU PRAKASH	1	1	1	1	4	3.33
96	HANDORE ADITYA DAYARAM	3	3	2	2	10	8.33
97	JADHAV SAURABH KISHOR	3	3	3	2	11	9.17
98	JAGTAP ANIKET DATTATRAY	AB	AB	AB	AB	0	0.00
99	JAIN PUSHPAK RAHUL	3	3	3	2	11	9.17
100	KAKLIJ RITESH JIBHAU	3	3	3	3	12	10.00
101	KAMBLE SUJATA PRAKASH	3	3	3	2	11	9.17
102	KARMASE ANIKET PRAVIN	3	3	3	2	11	9.17
103	KURWARE SHRADDHA ANKUSH	3	3	3	3	12	10.00
104	MALSANE BHUSHAN SHANTARAM	3	3	2	2	10	8.33
105	MALVE UTKARSH NARENDRA	3	3	3	2	11	9.17
106	MANDAL HIMANSHUSHEKHAR KESHAV	3	3	2	2	10	8.33
107	MHASKAR SHUBHAM SOMNATH	3	3	2	2	10	8.33
108	MHATRE TANMAY VISHAL	3	3	2	3	11	9.17
110	MOGAL AASHISH ANIL	3	3	2	2	10	8.33
111	MUTHAL SAHIL SHASHIKANT	1	1	1	1	4	3.33
112	NANKAR TEJAS SANJAY	AB	AB	AB	AB	0	0.00
113	NISHAD VISHAL DINESH	3	3	2	2	10	8.33
114	PACHORE PRATIK DATTATRAY	1	1	1	1	4	3.33
115	PAGAR GAURAV RAJESH	3	3	3	2	11	9.17
116	PAGARE ALOK SATISH	1	1	1	1	4	3.33
117	PANCHARIYA SANSKAR PANKAJ	2	2	2	2	8	6.67

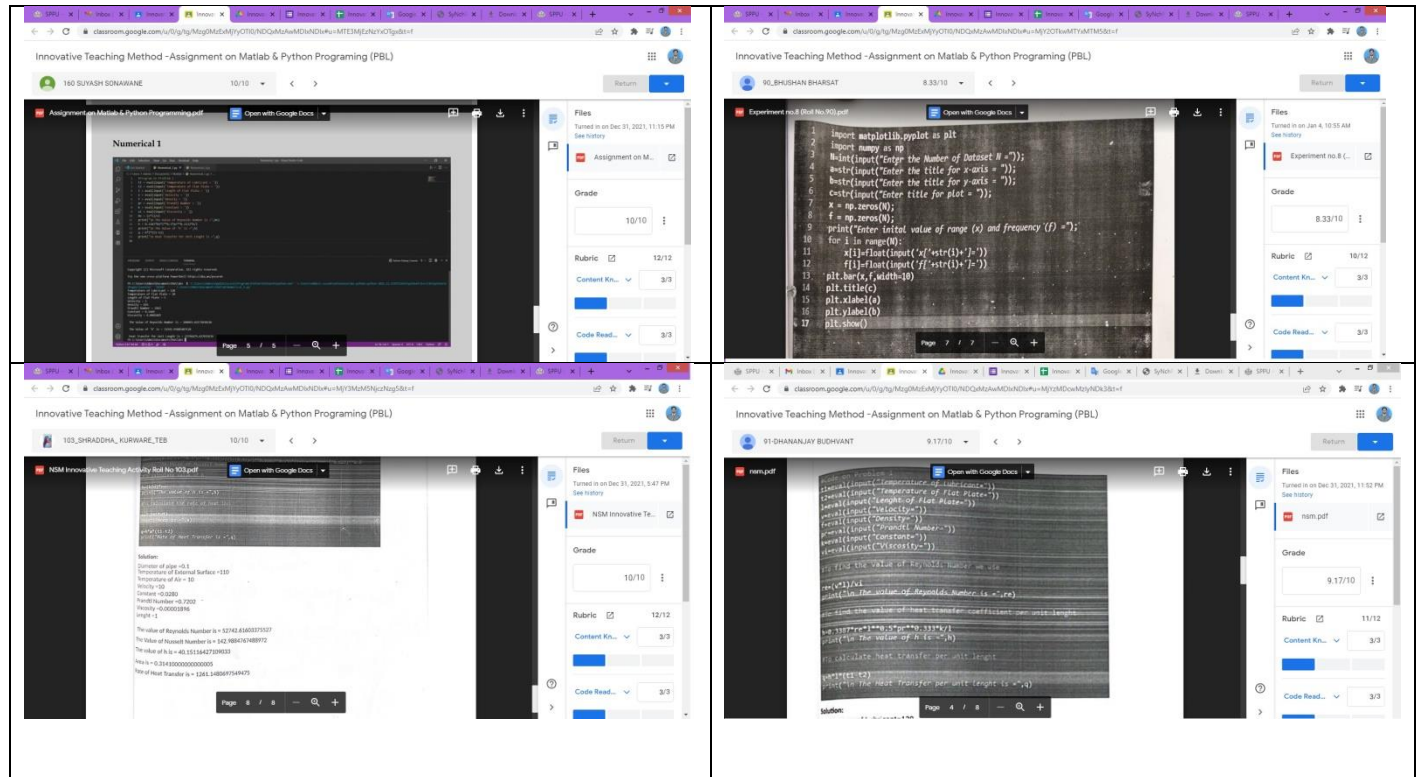
118	PATEL DEEP MILIND	2	2	2	2	8	6.67
119	PATIL CHINMAY LALIT	3	3	3	2	11	9.17
120	PATIL CHIRAG DINESH	AB	AB	AB	AB	0	0.00
121	PATIL DEV SACHIN	2	2	2	2	8	6.67
122	PATIL DEVEN PRAVIN	3	3	2	2	10	8.33
123	PATIL GAURAV VIJAY	3	3	2	2	10	8.33
124	PATIL NAKSHATRA HEMANT	2	2	2	2	8	6.67
125	PATIL PRANAV RAJENDRA	3	3	3	2	11	9.17
126	PATIL PARSHURAM SANJAY	AB	AB	AB	AB	0	0.00
127	PATIL PRASHANT SATISH	3	3	3	2	11	9.17
128	PATIL PRATIK KANTILAL	3	3	2	2	10	8.33
129	PATOLE ROHIT PANDURANG	3	3	3	2	11	9.17
130	PAWAR BHUSHAN POPAT	2	2	2	2	8	6.67
131	PAWAR VANSH JAIPRAKASH	2	3	2	2	9	7.50
132	PIMPARE NISHANT VILAS	3	2	3	2	10	8.33
133	PINGALE ROHIT DILIP	2	2	2	2	8	6.67
134	POTDAR HIMANSHU ALKESH	3	3	2	2	10	8.33
135	PRADHAN SHANTANU GAURANG	2	2	2	2	8	6.67
136	RAIJADE AKSHADA SANJAY	3	3	2	2	10	8.33
137	RAYATE ATHARVA PRAVIN	AB	AB	AB	AB	0	0.00
138	RAYATE PRANAV SHIVAJI	3	3	2	2	10	8.33
139	SALUNKE PRATIK RAMESH	3	3	2	2	10	8.33
140	SALVE ROHIT ANAND	2	3	2	2	9	7.50
141	SANAP GOKUL SAMPAT	3	3	3	2	11	9.17
142	SARKAR SARTHAK ANJAN	3	3	3	2	11	9.17
143	SAUNDANE ADITYA SANJAY					0	0.00
144	SAWANT ROSHAN SUNIL	0	0	0	0	0	0.00
145	SHELKE RUSHIKESH VITTHAL	1	1	1	1	4	3.33
146	SHENDE RAJATKUMAR SHYAM	3	3	2	2	10	8.33
147	SHEVKAR VAIBHAV MOHAN	2	3	2	2	9	7.50
148	SHEWALE SAURABH SANJAY	3	3	2	2	10	8.33
149	SHEWALE SWAYAM TUSHAR	3	3	3	2	11	9.17
150	SHINDE MAYUR VASANT	2	2	3	2	9	7.50
151	SHINDE NACHIKET BHANUDAS	1	1	1	1	4	3.33
152	SHINDE SAKSHI VIJAY	2	2	2	2	8	6.67
153	SHINDE YASH BHIMRAO	2	3	2	2	9	7.50
154	SHINGADE VEDANT MAHESH	3	3	2	2	10	8.33
155	SHIRSATH MAYUR SOMNATH	3	3	2	2	10	8.33
156	SHIRSATH OMKAR VISHVANATH	3	3	3	2	11	9.17
157	SHIRSATH SAGAR JAGANNATH	3	3	3	2	11	9.17

158	SINGH SAKET SANKET	2	2	2	2	8	6.67
159	SONAWANE ANKIT RAMESH	3	3	2	2	10	8.33
160	SONAWANE SUYASH SHARAD	3	3	3	3	12	10.00
161	SONAWANE TEJAS SUNIL	3	3	2	2	10	8.33
162	SONAWANE YASH SHARAD	3	3	3	2	11	9.17
163	SONJE MAYUR PRAMOD	3	3	3	2	11	9.17
164	SURYAWANSHI MOHAN VILAS	AB	AB	AB	AB	0	0.00
165	TAMBE ABHISHEK VIJAY	3	3	2	2	10	8.33
166	TASKAR JAYDATT CHANDRAKANT	3	3	3	2	11	9.17
168	THAKUR JAYESH NILESH	1	1	1	1	4	3.33
169	THORAT TAPAN CHANDRAKANT	AB	AB	AB	AB	0	0.00
170	UGALE TANAY SUDHIR	3	3	2	2	10	8.33
171	VADNERE PRATHAMESH SUHAS	3	3	3	2	11	9.17
172	WAGH LOKESH RAVINDRA	1	1	1	1	4	3.33
173	WAGH SAURABH SANJAY	3	3	3	2	11	9.17
174	WAGH SHILPA ANIL	AB	AB	AB	AB	0	0.00
175	WAGHULDE URVESH AVINASH	3	2	2	2	9	7.50
176	WAKCHAURE HRUSHIKESH RAJENDRA	AB	AB	AB	AB	0	0.00
177	WATPADE AKSHAY BALKRISHNA	3	3	2	2	10	8.33
178	YADAV ANKIT VISHWNATHRAI	AB	AB	AB	AB	0	0.00
179	YADAV DEEPAK SHYAMKISHOR	2	2	2	2	8	6.67
180	ZADE VIVEK RAMESH	3	3	3	3	12	10.00

## 8. Impact Analysis

SN	1- High/Excellent	2- Good	3-Average
1. Do you find Methodology Helpful?	36	16	20
2. Does this helps for building a good team	35	17	20
3. Were you able to apply the concept of Matlab while implementing project?	35	17	20
4. Does the content covered are relevant	35	16	21
5. Would You Like To Participate in This Methodology again?	YES :53	No: 02	Maybe:17

## 9. Activity Picture



## 10. For review and critique contact: e-mail address of faculty and HOD

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