



Smt Indira Gandhi College of Engineering

Ghansoli – Navi Mumbai

Computer Engineering Department

Innovation in Teaching Learning Process - A. Y. 2023-24 Even Sem							
Sr. No	Faculty Name	Subject	Class	Sem	Innovative Category	Innovative Method	Available On Website
1	Prof. Sarita Khedikar	AOA	SE	IV	Teaching Enhanced Blended Learning	Google Classroom	Y
2	Prof. Revti Jadhav	EM	BE	VIII	Project Based Learning	Case Study	Y
3	Prof. Vaishali Yeole	CSS	TE	VI	Activity Based learning	Flipped Classroom	Y
4	Prof. Jaspreet Kaur	SMA	BE	VIII	Activity Based learning	Flipped Classroom	Y
5	Prof. Jaspreet Kaur	SMA	BE	VIII	Teaching Enhanced Blended Learning	Google Classroom	Y
6	Prof. Jaspreet Kaur	IoT	TE	VI	Activity Based learning	Flipped Classroom	Y
7	Prof. Revti Jadhav	MC	TE	VI	Activity Based learning	Flipped Classroom	Y
8	Dr. K T Patil	DC	BE	VIII	Activity Based Learning	Group Discussion	Y
9	Prof. Deepti Chandran	PPL	SE	IV	Activity Based Learning	Flipped Classroom	Y
10	Prof. Deepti Chandran	ADS	BE	VIII	Activity Based Learning	Group Discussion	Y
11	Prof. Deepti Chandran	NLP	BE	VIII	Activity Based Learning	Brainstorming Session	Y
12	Prof. Satish Kuchiwale	SPCC	TE	VI	Teaching Enhanced Blended Learning	Google Classroom	Y

Innovations by the Faculty in Teaching and Learning
Category of Innovation method: TEBL
Title of Innovation method: Google Classroom
Faculty / Inventor: Sarita Khedikar
A. Y. : 2023-24 (Even Sem Sem)
Course Name and Code: Analysis Of Algorithm (CSC302)
Class : TE Comp
Goals / objective of the method:
1. To provide a digital repository of course material for students and peers.
2. To foster a habit of self-directed learning through digital Course content.
3. To create a platform for sharing academic resources and evaluation.
Topic covered: Computer Network
Description of method:
The Google Classroom, serves as dynamic platform for sharing, managing and evaluating course work. Students can access material at any time.
Benefits of the method:
1. Provides a readily accessible knowledge-sharing platform.
2. Enhances student's learning experiences by complementing classroom instruction.
3. Encourages peer-to-peer learning through discussions and comments.
For review and critique contact: sarita.khedikar@sigce.edu.in
Action taken based on review and critique:
Feedback emphasized the importance of including more multimedia content like videos and
info graphics. Adding important question bank. These have been added to enhance visual
learning.

Innovations by the Faculty in Teaching and Learning

Category of Innovation method: Project Based Learning-Case Study

A. Y. : 2023-24 (Even Sem)

Class : BE Comp

Course: EM (ILO8029)

Faculty Name: Mrs Revti Jadhav

Goals / objective of the method:

1. Promote Active Learning
2. Improve Understanding of concepts
3. Maximize Classroom Time
4. Foster Self-Paced Learning

Topic covered: Framing Techniques

Description of method:

Case studies offer numerous benefits, including providing in-depth understanding of complex issues, demonstrating real-world success, and fostering critical thinking and problem-solving skills, making them valuable for both research and education.

Benefits of the method:

- Case studies encourage critical analysis, problem-solving, and decision-making by presenting complex situations that require students to evaluate information, consider different perspectives, and formulate solutions
- They are particularly well-suited for exploring complex issues and phenomena that may be difficult to study using other research methods

For review and critique contact: revti.jadhav@sigce.edu.in

Review and Critique:

Some students were not able to express/talk confidently although they were knowing answers. Remaining students used this method as an opportunity to understand, present and to build confidence about topic.

Action taken based on review and critique:

Students who had faced talking issue, were motivated and encouraged to talk and thus they also participated.

Innovations by the Faculty in Teaching and Learning

Category of Innovation method: Activity Based Learning-Flipped Classroom

A. Y. : 2023-24 (Even Sem) Class : TE Comp Course: Cryptography and System Security (CSC602)

Faculty Name: Prof.Vaishali Yeole

Goals / objective of the method:

1. Promote Active Learning
2. Improve Understanding of concepts
3. Maximize Classroom Time
4. Foster Self-Paced Learning

Topic covered: Symmetric vs Asymmetric Encryption

Pre-class: Study working of AES, DES, RSA, etc.

In-

class: Compare both with real-world use cases (e.g., WhatsApp vs HTTPS).

Description of method:

A flipped classroom is an instructional approach where traditional learning methods are reversed. Instead of listening to lectures during class and doing assignments at home, students can learn new content at home through videos, readings, or interactive materials. They get engaged in interactive, hands-on activities during class to apply their knowledge, ask questions, and collaborate with peers. This method shifts the focus from passive to active learning.

Benefits of the method:

- Classroom time is spent solving problems, engaging in discussions, and working on real world applications.
- Group activities promote teamwork and communication skills.
- Teachers have more time to address individual student needs.

For review and critique contact: Vaishali.Yeole@sigce.edu.in

Review and Critique:

Some students were not able to express/talk confidently although they were knowing answers. Remaining students used this method as an opportunity to understand, present and to build confidence about topic.

Action taken based on review and critique:

Students who had faced talking issue, were motivated and encouraged to talk and thus they also participated.

Academic Research

- Publications in Journal= 45
- Book/ Chapters = 01
- Patents = 03

Sponsored Research

- Nil

Development Activities

- Dr. K T Patil -Air Water Pollution Sensing Smart Watch

- Prof D V Chandran - Person Identification

- Prof Vaishali Yeole- Physiotherapy Guide App

- Dr. K T Patil- Street Pothole and Speed Bumper Detection And Notification System

- Prof D V Chandran- Kisan Mitra - An Intelligent Bot Using AI and NLP

- Prof Satish Kuchiware- An Identity Management System Using Blockchain

Consultancy From Industry

- Nil

Visiting/Adjunct/Emeritus Faculty etc.

Program have provision to appoint visiting faculty as and when required.

Innovations by the Faculty in Teaching and Learning

Category of Innovation method: Activity Based Learning-Flipped Classroom

A. Y. : 2023-24 (Even Sem)

Class : BE Comp

Course: Social Media Analytics(CSDC8023)

Faculty Name: Prof. Jaspreet Kaur

Goals / objective of the method:

1. Promote Active Learning
2. Improve Understanding of concepts
3. Maximize Classroom Time
4. Foster Self-Paced Learning

Topic covered: Framing Techniques

Description of method:

A flipped classroom is an instructional approach where traditional learning methods are reversed. Instead of listening to lectures during class and doing assignments at home, students can learn new content at home through videos, readings, or interactive materials. They get engaged in interactive, hands-on activities during class to apply their knowledge, ask questions, and collaborate with peers. This method shifts the focus from passive to active learning.

Benefits of the method:

- Classroom time is spent solving problems, engaging in discussions, and working on real world applications.
- Group activities promote teamwork and communication skills.
- Teachers have more time to address individual student needs.

For review and critique contact: jaspreet.kaur@sigce.edu.in

Review and Critique:

Some students were not able to express/talk confidently although they were knowing answers. Remaining students used this method as an opportunity to understand, present and to build confidence about topic.

Action taken based on review and critique:

Students who had faced talking issue, were motivated and encouraged to talk and thus they also participated.

Innovations by the Faculty in Teaching and Learning
Category of Innovation method: TEBL
Title of Innovation method: Google Classroom
Faculty / Inventor: Prof. Jaspreet Kaur
A. Y. : 2023-24 (Even Sem)
Course Name and Code: Social Media Analytics(CSDC8023)
Class : BE Comp
Goals / objective of the method:
1. To provide a digital repository of course material for students and peers.
2. To foster a habit of self-directed learning through digital Course content.
3. To create a platform for sharing academic resources and evaluation.
Topic covered: Entire syllabus
Description of method:
The Google Classroom, serves as dynamic platform for sharing, managing and evaluating course work. Students can access material at any time. resource.
Benefits of the method:
1. Provides a readily accessible knowledge-sharing platform.
2. Enhances student's learning experiences by complementing classroom instruction.
3. Encourages peer-to-peer learning through discussions and comments.
For review and critique contact: jaspreet.kaur@sigce.edu.in
Action taken based on review and critique:
Feedback emphasized the importance of including more multimedia content like videos and info graphics. Adding important question bank. These have been added to enhance visual learning.

Innovations by the Faculty in Teaching and Learning

Category of Innovation method: Activity Based Learning-Flipped Classroom

A. Y. : 2023-24 (Even Sem)

Class : TE Comp

Course:Internet of Things (CSDLO6011)

Faculty Name:Prof. Jaspreet Kaur

Goals / objective of the method:

1. Promote Active Learning
2. Improve Understanding of concepts
3. Maximize Classroom Time
4. Foster Self-Paced Learning

Topic covered: Framing Techniques

Description of method:

A flipped classroom is an instructional approach where traditional learning methods are reversed. Instead of listening to lectures during class and doing assignments at home, students can learn new content at home through videos, readings, or interactive materials. They get engaged in interactive, hands-on activities during class to apply their knowledge, ask questions, and collaborate with peers. This method shifts the focus from passive to active learning.

Benefits of the method:

- Classroom time is spent solving problems, engaging in discussions, and working on real world applications.
- Group activities promote teamwork and communication skills.
- Teachers have more time to address individual student needs.

For review and critique contact: jaspreet.kaur@sigce.edu.in

Review and Critique:

Industrial IOT was explained via flipped classroom.

Action taken based on review and critique:

None

Innovations by the Faculty in Teaching and Learning

Category of Innovation method: Activity Based Learning-Flipped Classroom

A. Y. : 2023-24 (Even Sem)

Class : TE Comp

Course: Mobile Computing (CSC603)

Faculty Name: Mrs. Revti Jadhav

Goals / objective of the method:

1. Promote Active Learning
2. Improve Understanding of concepts
3. Maximize Classroom Time
4. Foster Self-Paced Learning

Topic covered: Spread Spectrum

Description of method:

A flipped classroom is an instructional approach where traditional learning methods are reversed. Instead of listening to lectures during class and doing assignments at home, students can learn new content at home through videos, readings, or interactive materials. They get engaged in interactive, hands-on activities during class to apply their knowledge, ask questions, and collaborate with peers. This method shifts the focus from passive to active learning.

Benefits of the method:

- Classroom time is spent solving problems, engaging in discussions, and working on real world applications.
- Group activities promote teamwork and communication skills.
- Teachers have more time to address individual student needs.

For review and critique contact: revti.jadhav@sigce.edu.in

Review and Critique:

Some students were not able to express/talk confidently although they were knowing answers. Remaining students used this method as an opportunity to understand, present and to build confidence about topic.

Action taken based on review and critique:

Students who had faced talking issue, were motivated and encouraged to talk and thus they also participated.

Innovations by the Faculty in Teaching - Learning
Category of Innovation method: Activity Based Learning
Title of Innovation method: Group Discussion
Faculty Name: Dr. K. T. Patil
A. Y. : 2023-24 (Even Sem)
Course Name and Code: Distributed Computing (CSC801)
Class : BE Comp
Goals / objective of the method:
GD is a method where the group of participants share their views and opinions on a given topic within specific duration. Goal is to check the understanding of the topic and build GD confidence. To participate in the GD, students should have proper understanding of the Topic and also they should have communication skills.
Topic: Comparison of token based and non token based mutual exclusion algorithms in distributed computing.
Description of method:
1. Given topic was taught to students in the classroom. 2. students were allowed to revise this topic within 5 minutes 3. Then students were instructed to form groups to discuss and debate on given topic. 4. Faculty monitors this proceedings and measure students' understanding level of the topic.
Benefits of the method:
• Group discussions promote deeper understandings of the topic. • Group activities promote teamwork and communication skills. • Teachers get instant feedback (whether or not students understand the taught topic) by monitoring students' performance in GD.
For review and critique contact: kishor.patil@sigce.edu.in
Review and Critique:
Some students were not able to express/talk confidently. Many students used this method as an opportunity to understand, present and to build confidence about topic.
Action taken based on review and critique:
Students who had faced talking issue, were motivated and encouraged to talk and thus they also participated.

Innovations by the Faculty in Teaching and Learning		
Category of Innovation method: Activity Based Learning-Flipped C		
A. Y. : 2023-24 (Even Sem)	Class : SE Comp	Course: Python Prog
Faculty Name: Prof Deepti Vijay Chandran		
Goals / objective of the method:		
1. Promote Active Learning	2. Improve Understanding of Concepts	
3. Maximize Classroom Time	4. Foster Self-Paced Learning	
Topic covered: SQL connectivity and Operations in Python		
Description of method: A flipped classroom is an instructional approach where traditio reversed. Instead of listening to lectures during class and doing assignments at home, s content at home through videos, readings, or interactive materials.They get engaged in activities during class to apply their knowledge, ask questions, and collaborate with peer focus from passive to activelearning.		
Benefits of the method:		
• Group activities promote teamwork and communication skills. • Teachers have more time to address individual student needs.		
For review and critique contact: dipti.chandran@sigce.edu.in		
Review and Critique:		
Students took the opportunity to express their ideas and doubts regarding the topic give collaboration was effective. Also many alternate path to solutions could be identified and		
Action taken based on review and critique:		
Students were asked to explore and implement all alternate path to solutions which wer during the session		

Innovations by the Faculty in Teaching and Learning

Category of Innovation method: Activity Based Learning-Group

A. Y. : 2023-24 (Even Sem)

Class : ADS LAB Comp

Course:

Faculty Name: Prof Deepti Vijay Chandran

Goals / objective of the method: GD is a method where the group of part views and opinions on a given topic within specific duration.

Goal is to check the understanding of the topic and build GD confidence.

To participate in the GD, students should have proper understanding of the Topic communication skills.

Topic covered: **Data Science in Healthcare industry**

Description of method:

1. Given topic was taught to students in the classroom.
2. Students were allowed to revise this topic within 5 minutes
3. Then students were instructed to form groups to discuss and debate on given topic
4. Faculty monitors this proceedings and measure students' understanding level

Benefits of the method:

- Group activities promote teamwork and communication skills.
- Teachers gets instant feedback (whether or not students understands the taught

For review and critique contact: dipti.chandran@sigce.edu.in

Review and Critique:

Some students were not able to express/talk confidently. Many students used this opportunity to understand, present and to build confidence about topic.

Action taken based on review and critique:

Students actively participated in the group discussion. Some of the points kept for discussion were very innovative. The feasible ideas discussed was decided to take up for project work.

Innovations by the Faculty in Teaching and Learning	
Category of Innovation method: Activity Based Learning- Brains	
A. Y. : 2023-24 (Odd Sem) Class : BE Comp Course:NATURAL LANGUAGE PR	
Faculty Name: Prof Deepti Vijay Chandran	
Goals / objective of the method:	
1. Actively engage students	2. Promote critical thinking
3. Create a collaborative learning environment.	
Topic covered: NLP revolutionising AI systems , Future Ideas.	
Description of method: Brainstorming session encourages students to analyze problem explore multiple solutions. Students actively participate in generating ideas, which keep them engaged and fosters a deeper understanding of the subject. It provides a platform students to think freely and come up with innovative ideas without fear of being judged. it promotes teamwork as students work together to share and refine ideas.	
Benefits of the method: • Engages Diverse Learners • Encourages Ownership of Learning • Encourages Collaboration • Develops Communication Skills	
For review and critique contact: dipti.chandran@sigce.edu.in	
Review and Critique:	
The brainstorming session was well received by the audience. Many a ideas ca such as use of LLM for understanding and exploration of Tribal Language.	
Action taken based on review and critique:	
Students were asked to explore LLM IN DETAILED understanding	

Innovations by the Faculty in Teaching and Learning

Category of Innovation method: Teaching Enhanced Blended Learning - Google Classroom

A. Y. : 2023-24 (Even Sem) Class : TE Comp Course: Sytem Prog. & Compiler Construction (CSC601)

Faculty Name: Prof. Satish Kuchiwale

Goals / objective of the method:

1. To create a platform for sharing course resources and evaluation.
2. To motivate self-directed learning through digital Course content.

Topic covered: Sytem Programming & Compiler Construction

Description of method:

Google Classroom is a powerful tool for students, providing a centralized platform for managing coursework, assignments, and communication. Its accessibility, organization, and integration with Google Workspace are significant strengths that benefit students.

Benefits of the method:

1. Offers an easily accessible platform for sharing knowledge
2. Enhances student's learning experiences by following classroom instruction.
3. Fosters peer-to-peer learning by facilitating discussions and comments.

For review and critique contact: satish.kuchiwale@sigce.edu.in

Review and Critique:

However, the platform has limitations, such as the need for a stable internet connection and limited customization.

Action taken based on review and critique:

Google Classroom is a solid platform for managing learning but could be further optimized to better address the diverse needs of students.