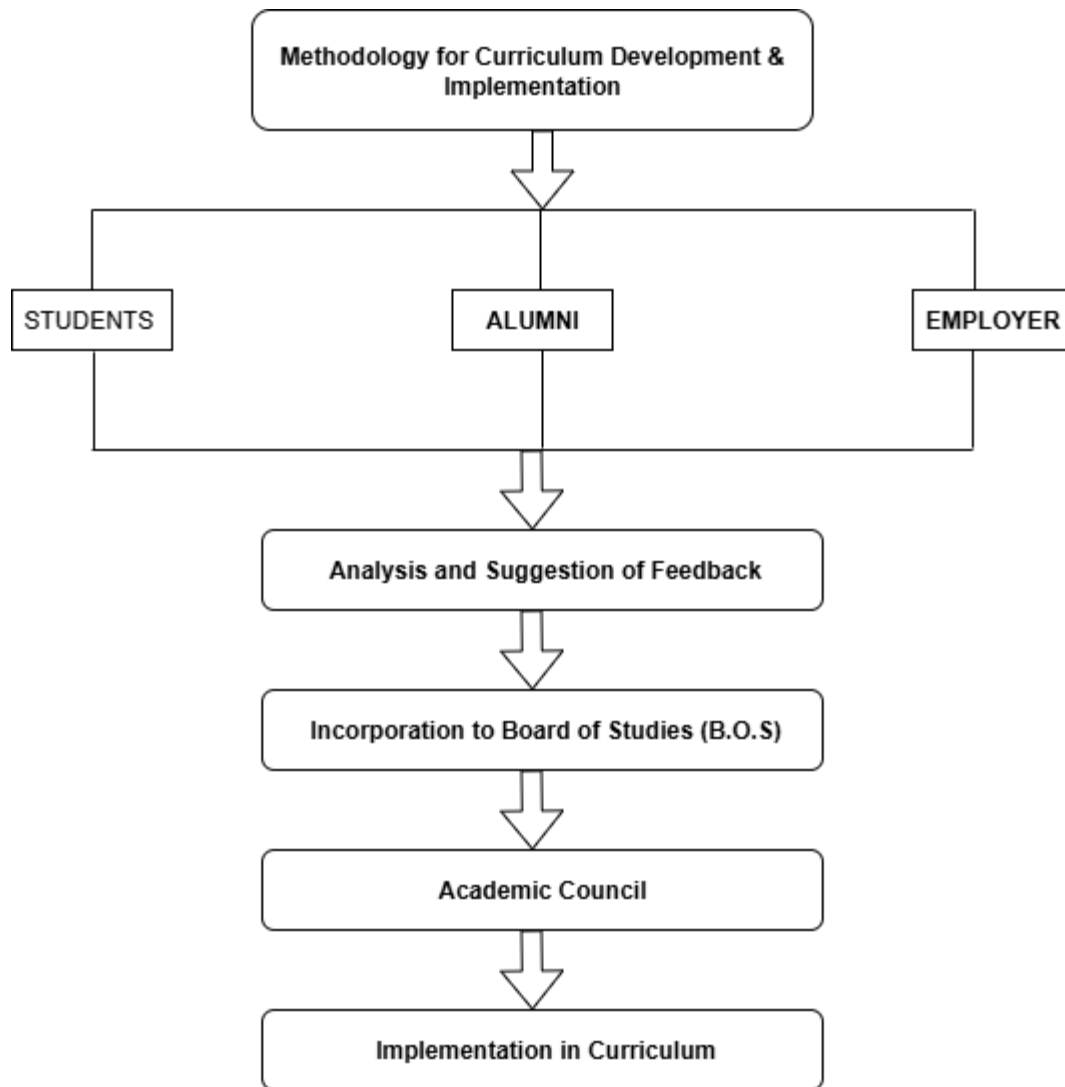
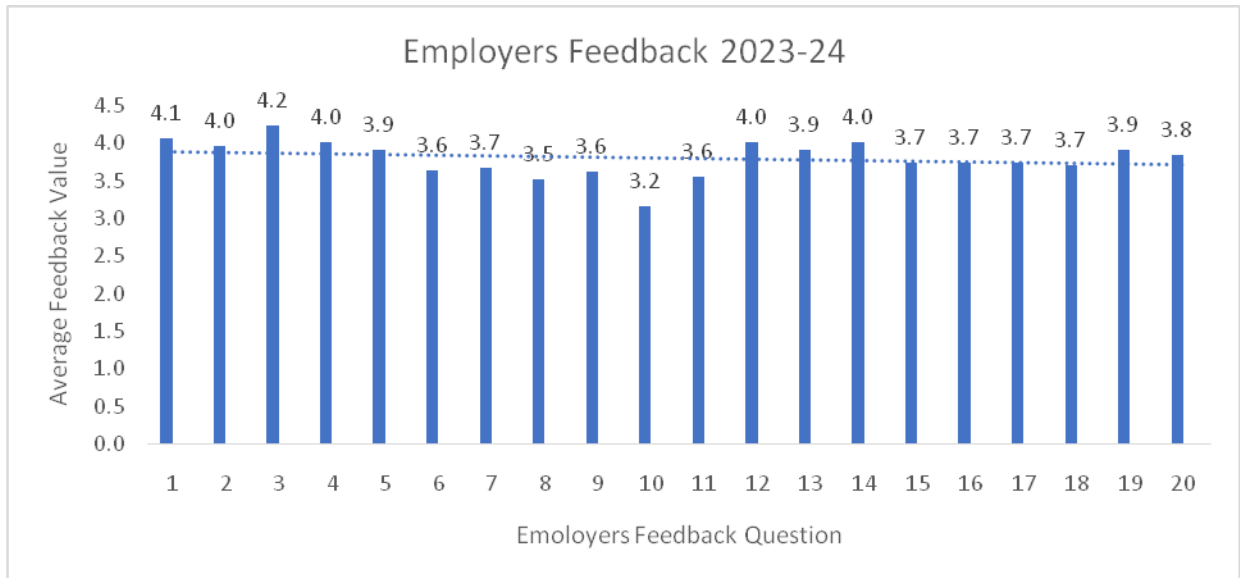


CURRICULUM DEVELOPMENT & IMPLEMENTATION
SWARNIM INSTITUTE OF TECHNOLOGY



Swarnnim Institute of Technology

Action Taken Report on Employers Feedback 2023-24



Summary: -

Que	Excellent	Very Good	Good	Average	Poor
Que.1	28	4	9	8	0
Que.2	14	20	14	1	0
Que.3	18	25	5	1	0
Que.4	12	26	10	1	0
Que.5	9	28	11	0	1
Que.6	6	22	18	3	0
Que.7	7	22	17	3	0
Que.8	6	18	20	5	0
Que.9	6	22	17	4	0
Que.10	8	6	21	14	0
Que.11	6	18	22	3	0
Que.12	10	30	8	1	0
Que.13	10	25	13	1	0
Que.14	13	24	11	1	0
Que.15	6	26	15	2	0
Que.16	9	19	20	1	0
Que.17	11	20	12	6	0
Que.18	5	26	16	2	0
Que.19	11	23	14	1	0
Que.20	10	25	10	4	0

KRY



Swarnnim Institute of Technology

Action Taken Report on Employers Feedback 2023-24

Suggestion received from Employer

1. Knowledge of latest technology to be given.
2. Provide more in-depth knowledge and specialized skills
3. I prefer a balance between learning concepts and applying them in practical situations.
4. Additional electives or courses like on foreign language

Suggested action:

1. Innovation and Entrepreneurship skills to be more encouraged among students.
2. More components in the course will be added to make student employable.
3. More relevant case studies and researches to be discussed in the class.
4. Major- minor specialization to be offered in the programs will be discussed in BOS meeting to be scheduled in 2024-25.

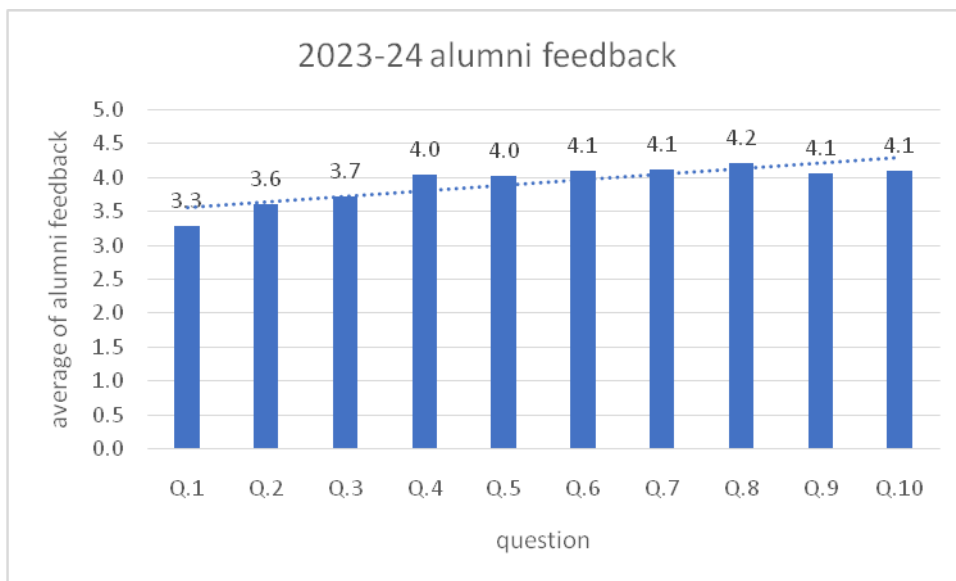
KRY



Swarnim Institute of Technology

Action Taken Report on Alumni Feedback 2023-24

Graphical Representation: -



Summary: -

QUESTIONS	Excellent	Very good	Good	Average	Poor
Q 1	9	3	32	5	1
Q 2	8	18	20	4	0
Q 3	7	23	19	1	0
Q 4	9	34	7	0	0
Q 5	10	31	9	0	0
Q 6	10	35	5	0	0
Q 7	17	22	11	0	0
Q 8	16	28	6	0	0
Q 9	13	27	10	0	0
Q 10	14	28	7	1	0

KRY

SWARNIM INSTITUTE OF
TECHNOLOGY



Swarnim Institute of Technology

Action Taken Report on Alumni Feedback 2023-24

Suggestion received from alumni

1. Skill development and practical skills to be added
2. Keeping up with industry changes will make me feel confident and prepared.
3. There should be more discussions on real-life ethical issues and how to handle them
4. Content should cover both foundational knowledge and current trends.

Suggested action:

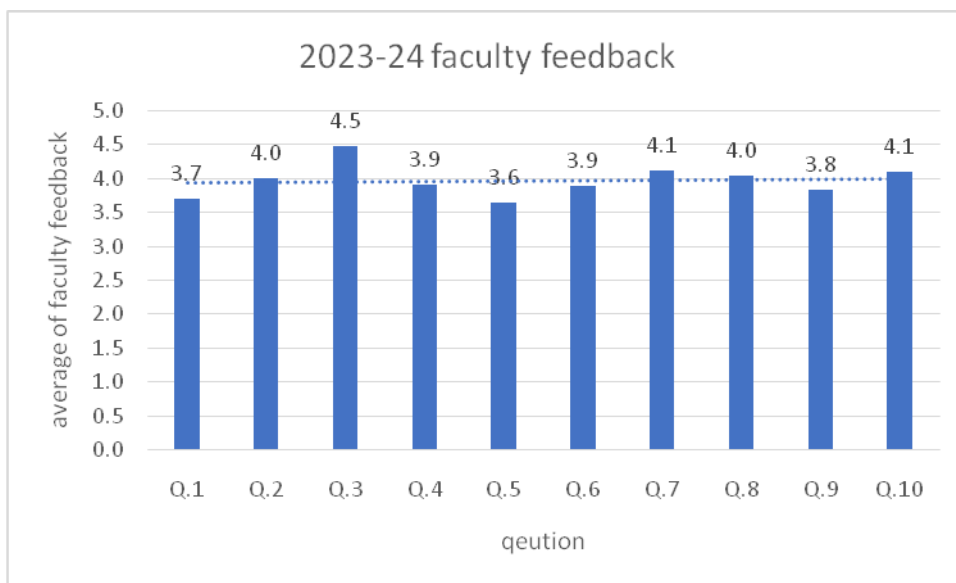
1. Introduce new Value added courses in the curriculum and encourage the student participation.
2. Provide relevant internships for the students to enhance their practical knowledge and make them job-ready.
3. Innovation and relevant entrepreneurship skills to be added in the curriculum.



Swarnnim Institute of Technology

Action Taken Report on faculty Feedback 2023-24

Graphical Representation: -



Summary: -

Que.	Excellent	Very good	good	Average	Poor
que.1	11	4	15	3	0
que.2	7	23	3	0	0
que.3	20	13	0	0	0
que.4	7	20	6	0	0
que.5	2	21	10	0	0
que.6	8	17	8	0	0
que.7	11	19	3	0	0
que.8	11	16	6	0	0
que.9	6	19	8	0	0
que.10	10	20	3	0	0

Suggestion received from faculty

1. assessing the students beyond just theoretical knowledge, such as **critical thinking** and **problem-solving** abilities
2. Extra learning hours to be scheduled for mentoring slow learners
3. Review of the external evaluation system to include a broader assessment of skills
4. webinars and seminars to be organized for students

KRY



Swarnim Institute of Technology

Action Taken Report on faculty Feedback 2023-24

Suggested action:

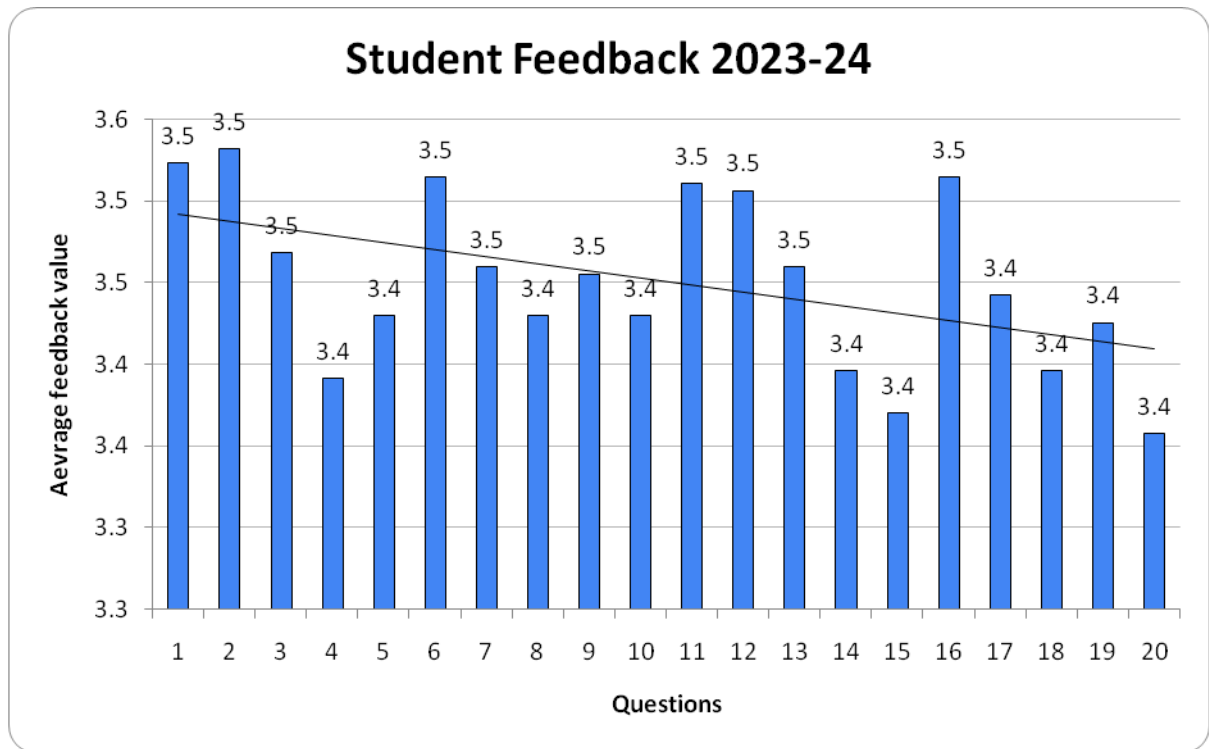
1. To modify the current evaluation system (Internal) and provide flexibility to assess a range of student skills various CEC components such as quizzes, assignments, presentations, etc will be included in the methods of internal assessment
2. External evaluation methods to be modified.
3. As the students are now well equipped with research and analysis, they will be encouraged to participate in international and national webinars/ seminars/ conferences



Swarnnim Institute of Technology

Action Taken Report on Student Feedback 2023-24

Graphical Representation: -



KRY



Swarnim Institute of Technology

Action Taken Report on Student Feedback 2023-24

Summary: -

Questions	Excellent	Very Good	Good	Average	Poor
1	18	98	107	10	2
2	16	82	117	18	2
3	11	98	111	13	2
4	11	85	118	18	3
5	19	93	109	12	2
6	20	88	112	11	0
7	12	85	117	17	5
8	10	90	119	12	4
9	14	88	113	16	4
10	19	91	110	11	4
11	14	87	118	12	4
12	12	91	115	13	4
13	15	92	111	13	4
14	12	89	118	12	4
15	14	88	118	11	4
16	12	87	119	13	4
17	12	86	119	14	4
18	14	88	115	14	4
19	12	87	118	14	4
20	12	86	119	14	4

Suggestion received from Student

1. I expect electives to give me in-depth knowledge in a specific area of interest.
2. I want courses that teach me to keep learning beyond college and promote ethical behaviour in the workplace.
3. Curriculum should promote continuous learning and ethical behaviour.
4. Require more live research opportunities
5. The content help should I grow as a person, not just a student.
6. Keeping up with industry changes via intense research projects will make me feel confident
7. Increase participation in VAC and MOOC courses
8. Integrate more ethics-based content in subjects.
9. Provide more in-depth knowledge and specialized skills
10. Additional electives or courses like on foreign language.



Swarnim Institute of Technology

Action Taken Report on Student Feedback 2023-24

Suggested action:

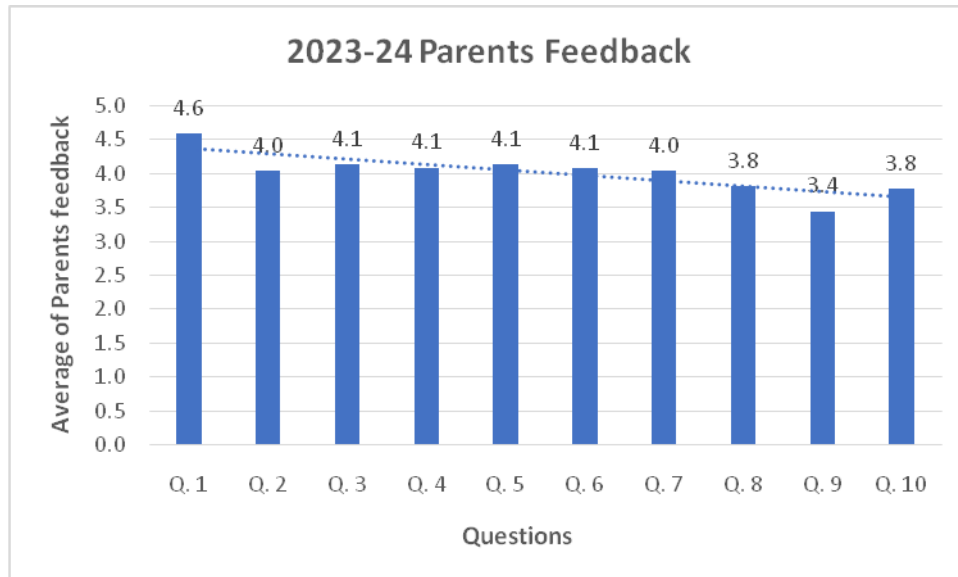
1. Participation in VAC and MOOC courses to be increased.
2. Foreign language classes to be introduced as part of skill development.
3. Taking into account feedback given by students it was understood that many students lack in soft skills as well as technical skills required at workplace, to overcome this challenge a provision will be made to include the soft skill and professional skill courses in the new curriculum to be proposed in the BOS of 2024-25 will be signed and several skill encroaching certificate courses will be inducted.
4. As the students are now well equipped with making a research project, they will be encouraged to present their research work in National and International seminars and conferences.
5. Faculties will be encouraged be a part of Faculty Development Programmes to make them efficient in integrating practical skills and current technologies into their courses and teaching methodologies when dealing with the students.
6. Relevant and updated reference books and research journals to be added in the library for knowledge enhancement as per the revised curriculum.

KRY

Swarnnim Institute of Technology

Action Taken Report on Parents Feedback 2023-24

Graphical Representation:



Summary: -

Question s	Excellent	Very Good	Good	Average	Poor
Q. 1	83	24	13	0	0
Q. 2	13	99	8	0	0
Q. 3	30	76	14	0	0
Q. 4	26	78	16	0	0
Q. 5	33	69	18	0	0
Q. 6	27	75	17	1	0
Q. 7	33	58	29	0	0
Q. 8	17	66	35	2	0
Q. 9	8	40	70	1	1
Q. 10	9	76	33	2	0

KRY



Swarnnim Institute of Technology

Action Taken Report on Parents Feedback 2023-24

Suggestion received from Parents:

1. More subjects relevant to the course to be included.
2. More relevant subjects to be introduced as per student's interest.
3. Information to be given in a more simplified manner and in local language as we could not understand few technical terms.
4. More practice of using the computer should be given
5. Certificate course to be introduced that can make students job ready.

Suggested action:

1. Faculty with proficiency in minimum 4 languages and subject experts will be made available to give adequate information about the curriculum/syllabus of the program where the ward is enrolled.
2. Taking into account the dissatisfaction regarding the syllabus not covering the most recent trends under the relevant topic a provision will be made to introduce the most recent trends in the curriculum to be proposed in BOS 2024-25 will be signed.
3. A provision will be made to introduce several skill enriching certificate courses by industry experts



INDIA'S FIRST UNIVERSITY FOR STARTUP

SWARRNIM INSTITUTE TECHNOLOGY

COURSE STRUCTURE

Bachelor of Technology

Computer Engineering

ACADEMIC YEAR 2024-25

CURRICULAM YEAR 2024-2028

Course Name and Code	Total Number of credit as per AICTE norms for Degree Computer Engineering Course (>160)
B. Tech. Computer Engineering 02	170



Swarrnim Institute of Technology
Swarrnim Startup & Innovation University
University Campus, Bhoyan Rathod, Near ONGC WSS, Opp. IFCCO, Adalaj Kalol Highway,
Gandhinagar, Gujarat, INDIA 382420 Phone: 095123 43333

Swarnim Institute of Technology

Minutes of First Board of Studies meeting of the Swarnim Institute of Technology held on May 15th, 2024 at SWARNIM STARTUP & INNOVATION UNIVERSITY

Members Present:

Sr. No.	Members Name	Designation
01	Dr. Kavita Kshatriya	Chairperson
02	Dr. Mohit Bhadla	Co- Chairperson
03	Dr. Mohit Bhadla	Department Secretary
04	Prof. Kalpesh Patel	Faculty Member
05	Prof. Bhavesh Beirani	Faculty Member
06	Prof. Kishan Limbachiya	Faculty Member
07	Prof. Smriti Ghai	Faculty Member
08	Prof. Ruchika Dungarani	Faculty Member
09	Dr. Manish Patel	Academic External Expert
10	Dr. Sejal Bhavasar	Industry External Expert
11	Dr. Archana Singh	Industry External Expert
12	Prof. Swapnil Solanki	Member Secretary

Agenda 1: Approval of BOS meeting held on 15th May 2024.

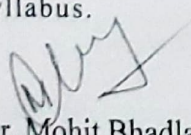
Resolved: The committee member held on 15th May 2024 has agreed unanimously.

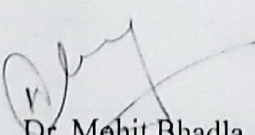
Agenda 3: Introduction of CO, PO in subject

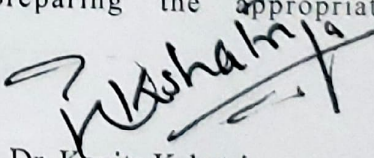
Resolved: The committee members proposed introducing CO, PO and themapping as a part of course to be offered in line with the subject.

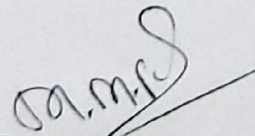
Agenda 4: To review the modified syllabus and get valuable input from expert as per academic meeting.

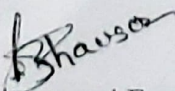
Resolved: All members were requested by the chair to review and discuss the subject syllabus and provide inputs for the same in preparing the appropriate syllabus.

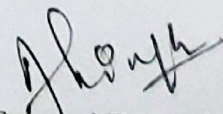

Dr. Mohit Bhadla
Department Secretary
Board of Studies


Dr. Mohit Bhadla
Co-Chairperson
Board of Studies


Dr. Kavita Kshatriya
Chairperson
Board of Studies


External Expert 1
Dr. Manish Patel


External Expert 2
Dr. Sejal Bhavasar


External Expert 3
Dr. Archana Singh

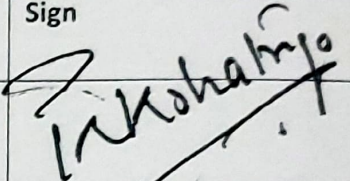
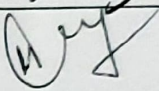
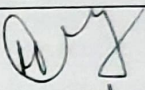
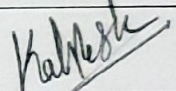
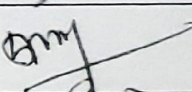
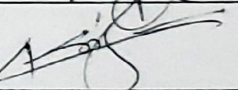
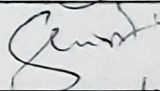
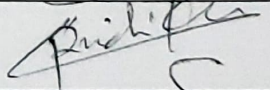
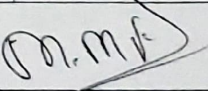
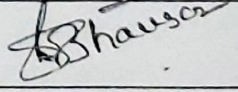
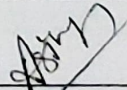
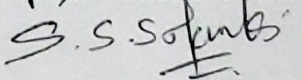
SWARNIM STARTUP & INNOVATION UNIVERSITY

Swarnnim Institute of Technology

Attendance Record

Date: May 15, 2024, Wednesday Time: 10:00 am

Venue: Board Room, SSIU

Sr. No.	Members Name	Designation	Sign
01	Dr. Kavita Kshatriya	Chairperson	
02	Dr. Mohit Bhadla	Co- Chairperson	
03	Dr. Mohit Bhadla	Department Secretary	
04	Prof. Kalpesh Patel	Faculty Member	
05	Prof. Bhavesh Beirani	Faculty Member	
06	Prof. Kishan Limbachiya	Faculty Member	
07	Prof. Smriti Ghai	Faculty Member	
08	Prof. Ruchika Dungarani	Faculty Member	
09	Dr. Manish Patel	Academic External Expert	
10	Dr. Sejal Bhavasar	Industry External Expert	
11	Dr. Archana Singh	Industry External Expert	
12	Prof. Swapnil Solanki	Member Secretary	

Swarnim Institute of Technology

Minutes of the First Board of Studies meeting of the Swarnim Institute of Technology held on May 15th, 2024 at SWARNIM STARTUP & INNOVATION UNIVERSITY

Members Present:

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01	Dr. Kavita Kshatriya	Chairperson
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06	Prof. Smriti Ghai	Faculty Member
07	Prof. Ruchika Dungarani	Faculty Member
08	Prof. Krishn Limbachiya	Faculty Member
09	Dr. Manish Patel	External Expert 1
10	Dr. Sejal Bhavasar	External Expert 2
11	Prof. Archana Singh	External Expert 3
12	Prof. Swapnil Solanki	Member Secretary

Agenda 1: Approval of BOS meeting held on 15th May 2024.

Resolved: The committee member held on 15th May 2024 has agreed unanimously.

Agenda 2: Introduction of CO, PO in subject

Resolved: The committee members proposed introducing CO, PO and their mapping as a part of the course to be offered in line with the subject.

Agenda 3: To review the modified syllabus and get valuable input from experts as per academic meeting.

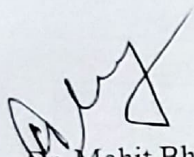
Resolved: All members were requested by the chair to review and discuss the subject syllabus and provide inputs for the same in preparing the appropriate syllabus. The following is the list of inputs that we added to design syllabus:

Based on the expert reviews during this Board of Studies (BOS) meeting, we have compiled the following suggestions to enhance and develop a more effective curriculum:

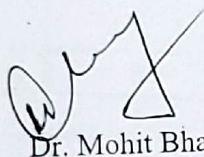
- Replace the current "Research Skills" course with "Research Methodology" to provide a more comprehensive foundation in research techniques.

- Consider eliminating the "Digital Forensic" course if it is deemed non-essential to the core curriculum.
- Replace the "Cryptography and Biometrics" course with "Computer Vision" to introduce students to advanced image processing and analysis techniques.
- Replace the "Soft Computing" course with "Machine Learning I" to offer foundational knowledge in machine learning, aligning with industry trends and demands.
- Eliminate the "Design of Embedded Systems" from elective subjects.
- Introduce "Cryptography and Biometrics" as a new elective option, allowing students to choose this specialization if desired.
- Add "Machine Learning II" to build upon the foundational knowledge from "Machine Learning I" and promote deeper knowledge into advanced machine learning concepts and applications.

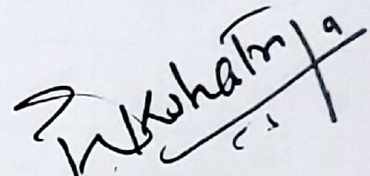
By incorporating these changes, we aim to align the curriculum more closely with current industry standards and academic best practices, ensuring that students receive a well-rounded and relevant education.



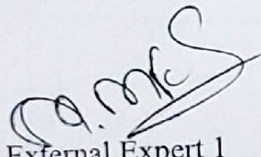
Dr. Mohit Bhadla
Department Secretary
Board of Studies



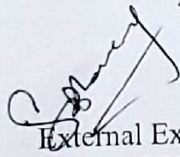
Dr. Mohit Bhadla
Co-Chairperson
Board of Studies



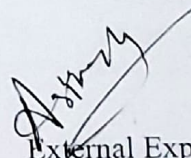
Dr. Kavita Kshatriya
Chairperson
Board of Studies



External Expert 1
Dr. Manish Patel



External Expert 2
Dr. Sejal Bhavsar



External Expert 3
Dr. Archana Singh



INDIA'S FIRST UNIVERSITY FOR STARTUP

SWARNNIM INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER ENGINEERING

SEMESTER I

Sr. No.	Subject Code	Subject Name	Credit	Teaching Scheme Per Week				Examination Marks				Total Marks
				Th	Tu	P	Total	Theory		Practical		
								E	M	V	I	
1	2BS0240101	Engineering Mathematics-I	4	3	1	0	4	70	-	50	30	150
2	2ES0240102	Elements of Mechanical Engineering	4	3	0	2	4	70	30	30	20	150
3	2ES0240103	Fundamental of Computer Programming	4	3	0	2	5	70	30	30	20	150
4	2ES0240104	Elements of Electrical Engineering	4	3	0	2	5	70	30	30	20	150
6	2MA0240105	Environmental Studies	0	2	0	0	2	10	30	30	20	50
7	2ES0240106	Workshop Practice	2		0	4	4	-	-	50	50	100
8	2SEC230101	Foundation of Entrepreneurship	2	2	0	0	2	50	50	-	-	100
Total			20	16	1	10	26	330	140	220	160	850

[Handwritten signatures and stamps]

SWARNNIM INSTITUTE OF TECHNOLOGY



Swarnnim Institute of Technology
Swarnnim Startup & Innovation University
University Campus, Bhojan Rathod, Near ONGC WSS, Opp. IFCCO, Adalaj Kalol Highway,
Gandhinagar, Gujarat, INDIA 382420 Phone: 095123 43333



INDIA'S FIRST UNIVERSITY FOR STARTUP

SWARRNIM INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER ENGINEERING

SEMESTER II

Sr. No.	Subject Code	Subject Name	Credit	Teaching Scheme Per Week				Examination Marks				Total Marks
								Theory		Practical		
				Th	Tu	P	Total	E	M	V	I	
1	2BS0240201	Engineering Mathematics-II	4	3	1	0	4	70	30	30	20	150
2	2BS0240202	Physics of Applied Materials	4	3	0	2	5	70	30	30	20	150
3	2ES0240204	Basic Electronics	4	3	0	2	5	70	30	30	20	150
4	2ES0240207	Fundamental of Web Development	4	3	0	2	5	70	30	30	20	150
5	2HS0240208	Communication Skills	3	2	0	2	4	70	30	30	20	150
	2MA0240209	Sports and Yoga or NSS/NCC	0	2	-	2	4	-	-	-	50	50
6	2SEC230202	Identifying Entrepreneurial Opportunities	2	2	0	0	2	50	50	-	-	100
		Total	21	18	02	10	29	400	200	150	150	900



Swarnnim Institute of Technology

Swarnnim Startup & Innovation University

University Campus, Bhoyan Rathod, Near ONGC WSS, Opp. IFCCO, Adalaj Kalol Highway, Gandhinagar, Gujarat, INDIA 382420 Phone: 095123 43333



SWARNIM INSTITUTE OF TECHNOLOGY
UNIVERSITY CAMPUS, BHAYAN RATHOD, NEAR ONGC WSS, OPP. IFCCO, ADALAJ KALOL HIGHWAY,
GANDHINAGAR, GUJARAT, INDIA 382420 PHONE: 095123 43333

SWARNIM INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER ENGINEERING

SEMESTER III

Sr. No.	Subject Code	Subject Name	Credit	Teaching Scheme Per Week				Examination Marks				Total Marks
				Th	Tu	P	Total	Theory		Practical		
								E	M	V	I	
1	2BS0240301	Engineering Mathematics-III	4	3	1	0	4	70	30	30	20	150
2	2CE0240301	Computer Organization & Architecture	4	3	0	2	5	70	30	30	20	150
3	2CE0240302	Data Structure and Algorithm	5	3	0	4	7	70	30	30	20	150
4	2CE0240303	Database Management System	4	3	0	2	5	70	30	30	20	150
5	2CE0240304	Python Programming	4	3	0	2	5	70	30	30	20	150
6	2SEC230303	Marketing Strategies For Start Ups	2	2	0	0	2	50	50	-	-	100
7	2MA0240306	Indian Constitution	0	2	0	0	2			-	50	50
Total			2	19	02	10	30	400	200	150	150	900



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DEPARTMENT OF COMPUTER ENGINEERING

SEMESTER IV

Sr. No.	Subject Code	Subject Name	Credit	Teaching Scheme Per Week				Examination Marks				Total Marks
				Th	Tu	P	Total	Theory		Practical		
								E	M	V	I	
1	2BS0240401	Engineering Mathematics-IV	4	3	2	0	5	70	30	30	20	150
2	2CE0240401	Operating System	4	3	0	2	5	70	30	30	20	150
3	2CE0240402	Computer Network	5	3	0	4	7	70	30	30	20	150
4	2CE0240403	Introduction to Cloud Technology	4	3	0	2	5	70	30	30	20	150
5	2CE0240404	Introduction to Artificial Intelligence	4	3	0	2	5	70	30	30	20	150
6	2SEC230404	Finance and Funding for Start Up	2	3	0	0	3	50	50	-	-	100
Total			23	18	02	10	30	400	200	150	100	850

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DEPARTMENT OF COMPUTER ENGINEERING

SEMESTER V

Sr. No.	Subject Code	Subject Name	Credit	Teaching Scheme Per Week				Examination Marks				Total Marks
				Th	Tu	P	Total	Theory		Practical		
								E	M	V	I	
1	2CE0240501	Object Oriented Programming with JAVA	6	4	0	4	8	70	30	30	20	150
2	2CE0240502	Theory of Computation	4	3	1	0	4	70	30	30	20	150
3	2CE0240503	Introduction to Cyber Security	4	3	0	2	5	70	30	30	20	150
4	2CE0240504	Software Engineering	4	3	0	2	5	70	30	30	20	150
5		Open Elective I	4	3	0	2	5	70	30	30	20	150
6	2SEC230505	Intellectual Property Rights	2	2	0	0	2	50	50	-	0	100
		Total	24	18	01	10	29	400	200	150	100	850

Subject Code	Open Elective I
2CE0240505	Artificial Intelligence and Machine Learning (AI)
2CE0240506	Cyber Laws (CS)



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DEPARTMENT OF COMPUTER ENGINEERING

SEMESTER VI

Sr. No.	Subject Code	Subject Name	Credit	Teaching Scheme Per Week				Examination Marks				Total Marks
				Th	Tu	P	Total	Theory		Practical		
								E	M	V	I	
1	2CE0240601	Wireless Network	4	3	0	2	5	70	30	30	20	150
2	2CE0240602	Compiler Design	4	3	0	2	5	70	30	30	20	150
3	2CE0240603	Scripting Languages	4	3	0	2	5	70	30	30	20	150
4	2CE0240604	Data Mining and Warehousing	4	3	0	2	5	70	30	30	20	150
5		Open Elective II	5	3	0	4	7	70	30	30	20	150
6	2SEC230606	Practical Insights of Entrepreneurship	2	2	0	0	2	50	50	-	-	100
Total			23	18	00	10	30	400	150	200	100	850

Subject Code	Open Elective II
2CE0240605	DEEP Learning (AI)
2CE0240606	Digital Forensics (CS)



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SEMESTER VII

Sr. No.	Subject Code	Subject Name	Credit	Teaching Scheme Per Week				Examination Marks				Total Marks
				Th	Tu	P	Total	Theory		Practical		
								E	M	V	I	
1	2CE0240701	Embedded System	6	4	0	4	8	70	30	30	20	150
2		Professional Elective I	5	3	0	4	7	70	30	30	20	150
		Professional Elective II	5	3	0	4	7	70	30	30	20	150
3	2CE0240704	Summer Internship	2	0	0	4	4	-	-	80	20	100
4	2SEC230707	Start Up Ecosystem & Project formulation	2	0	0	4	4			50	50	100
		Total	20	10	0	19	29	210	140	170	80	600

Subject Code	Professional Elective I
2CE0240702	Python Programming for Data Science (AI)
2CE0240703	Ethical Hacking (CS)

Subject Code	Professional Elective II
2CE0240705	IOT (AI)
2CE0240706	Block Chain (CS)



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SEMESTER VIII

Sr. No.	Subject Code	Subject Name	Credit	Teaching Scheme Per Week				Examination Marks				Total Marks
								Theory		Practical		
				Th	Tu	P	Total	E	M	V	I	
1	2CE0240801	Internship	12	0	0	24	24	-	-	100	100	200
2	2SEC230808	Start Up Projects	2	0	0	4	4	-	-	50	50	50
		Total	14	00	00	27	27	-	50	100	100	250



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Program Outcomes (PO)

Engineering Graduates will be able to:

1. **Technical Competence:** Graduates should have a strong foundation in computer engineering principles, including knowledge of hardware, software, and their interaction. They should be proficient in programming languages, digital systems design, computer architecture, and related areas.
2. **Problem Solving Skills:** Graduates should be able to analyze complex problems, identify potential solutions, and implement effective strategies using engineering principles and tools. They should be adept at applying mathematical and computational techniques to solve engineering problems.
3. **Design and Implementation:** Graduates should be capable of designing and implementing computer-based systems and solutions to meet specific requirements. This includes developing algorithms, designing circuits and systems, and integrating hardware and software components.
4. **Teamwork and Collaboration:** Graduates should be able to work effectively as part of a multidisciplinary team, collaborating with engineers from other disciplines as well as non-technical stakeholders. They should understand the importance of communication, leadership, and interpersonal skills in engineering projects.
5. **Ethical and Professional Responsibility:** Graduates should demonstrate a commitment to ethical conduct and professional responsibility in their engineering practice. They should understand the social and ethical implications of technology and strive to uphold high standards of integrity and professionalism.
6. **Continuous Learning and Adaptability:** Graduates should recognize the need for lifelong learning and professional development in a rapidly evolving field. They should be able to adapt to new technologies, tools, and methodologies throughout their careers.
7. **Effective Communication:** Graduates should be able to communicate technical concepts and ideas clearly and effectively, both orally and in writing. They should be able to present their work to technical and non-technical audiences and tailor their communication style appropriately.
8. **Global and Societal Impact:** Graduates should be aware of the broader impact of technology on society and the environment. They should consider issues such as sustainability, accessibility, and

inclusivity in their engineering practice and strive to create positive social and environmental outcomes through their work.

9. **Research and Innovation:** Graduates should have the ability to engage in research activities, including identifying research problems, conducting experiments, analyzing data, and contributing to the advancement of knowledge in the field of computer engineering. They should be prepared to pursue advanced studies in academia or industry research and development.
10. **Entrepreneurship and Innovation:** Graduates should possess entrepreneurial skills and a mindset for innovation, enabling them to identify market opportunities, develop new products or services, and start their own technology ventures. They should understand the process of technology commercialization and be able to bring innovative ideas to market.
11. **Cyber security Awareness:** Graduates should be knowledgeable about cyber security principles and practices, including threat modeling, risk assessment, encryption techniques, secure software development, and incident response. They should understand the importance of cyber security in protecting digital assets and maintaining the integrity, confidentiality, and availability of information systems.
12. **System Integration and Interoperability:** Graduates should be proficient in integrating diverse hardware and software components to create complex systems that are interoperable with other systems. They should understand standards and protocols for communication between systems and be able to design and implement solutions that seamlessly interact with external entities.

PROGRAM SPECIFIC OUTCOMES

PSO1: Develop a comprehensive understanding of foundational concepts in computer applications. Demonstrate proficiency in applying standard practices and methodologies throughout the software development lifecycle, ensuring robust and maintainable code.

PSO2: Acquire the skills to analyze, design, and develop complex computer-based systems. Utilize programming principles, data structures, and algorithms to create efficient, scalable, and optimized software solutions.