

**SVERI's
College of Engineering, Pandharpur**

**Action Taken Report of the
Institution on Feedback Report
of A. Y. 2023-24**

Action Taken Report of the Institution on Feedback Report

- Letter to BOS in Mechanical Engineering, Punyashlok Ahilyadevi Holkar Solapur University about incorporating different suggestions collected from various stakeholders regarding curriculum.



Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR

P. B. No. 54, Gopalpur - Ranjani Road, Gopalpur, Tal.: Pandharpur - 413 304, Dist.: Solapur (MH)
Contact No.: 9545553888, 9545553737, E-mail : coe@sveri.ac.in, Website : www.sveri.ac.in
Approved by A.I.C.T.E., New Delhi and Affiliated to Punyashlok Ahilyadevi Holkar Solapur University, Solapur
NBA Accredited all eligible UG Programmes, NAAC A+ Accredited Institute, ISO 9001: 2015 Certified Institute.
Accredited by Institution of Engineers (India) & TCS.



Ref:- COEPR/2023-2024/869

Date:- 01/01/2024

To,
The Registrar,
Punyashlok Ahilyadevi Holkar Solapur University,
Solapur.
(BOS Section)

Subject: Suggestions to be incorporated in the syllabus of Second Year B. Tech. (Mechanical Engineering) w.e.f. 2024-2025.

Respected sir,

Throughout the year, we collect suggestions from various stakeholders regarding the curriculum. We have also received number of suggestions for curriculum improvement from industrial experts. Accordingly, suggestions were discussed in the department meeting.

Our Mechanical Engineering Department has recommended the following suggestions for incorporation in Course Curriculum of Second Year B. Tech. (Mechanical Engineering) w.e.f. 2024-2025 to enrich students learning experience and making them more employable.

Name of Program: Mechanical Engineering.

Suggestions for the Modifications in the Curriculum:

1. Product Development related subject should be added in Curriculum of Second Year B. Tech. (Mechanical Engineering).
2. For Second Year B. Tech. (Mechanical Engineering) Mini Project is required to be added in Curriculum.
3. Economics related subjects should be added for Second Year B. Tech. (Mechanical Engineering).
4. Subjects like Creativity and Design Thinking should be added in curriculum.
5. Software based numerical methods should be added in Curriculum.
6. Research Methodology and IPR related subjects should be added in curriculum.
7. For final year, online courses especially MOOCs should be added in both semester.
8. Integrate modules on communication skills, teamwork, leadership, and project management to prepare students for holistic professional development.
9. Offer courses that nurture an entrepreneurial mindset, guiding students in developing and pitching their engineering ideas and innovations.
10. Incorporate projects or case studies relevant to the Solapur region, relating engineering principles to local challenges and opportunities.

02/01/24
लिपीक
आवक विभाग
पुण्यश्लोक अहिल्यादेवी होळकर
सोलापूर विद्यापीठ, सोलापूर
HEAD,
Dept. of Mechanical Engg
S.Q.E. Pandharpur



B. Ranga
PRINCIPAL
SVERI's College of Engineering,
Pandharpur

Action Taken Report of the Institution on Feedback Report

11. Wherever possible implement FEA mathematical calculations with any case studies in curriculum.
12. In manufacturing processes subject need to add numericals based on forging, rolling and extrusion in syllabus.
13. For Fluid Mechanics & Fluid Machines Subject under ICA part Introduction of Computational Fluid Dynamics (CFD) can be added.
14. Some of recent and industrial aspects can be add in future for further information.
15. More industrial exposure should be given to students. So, if possible industrial visits should be added in syllabus for all subjects.
16. The Content related to Robotics, Automation, and Mechatronics be added in curriculum.
17. Add- Soft skill related course may be through self-learning module.
18. Subject including Basic knowledge related to Materials/Fundamentals of Materials/Material Science should be added from Second year for B.Tech.
19. The Content related to simple stress and strain of Mechanics of Materials should be reduced in curriculum.
20. The Content related to Advance Manufacturing Processes should be according to Industrial Application.
21. Computational analysis should be included for calculating the steam power plant performance. Also, Exergy analysis part may be added.

You are requested to kindly put suggestions to the notice of Board of Studies, Mechanical Engineering.

We will be happy to interact for clarification, if any.

Thanking you.

Regards,

B. Ronge

(Dr. B. P. Ronge)
PRINCIPAL

PRINCIPAL

SVERI's College of Engineering,
Pandharpur



SSHE

HEAD,
Dept. of Mechanical Engg
C.O.E. Pandharpur

Action Taken Report of the Institution on Feedback Report

Minutes of the meeting of the Board of Studies in the Subject of Mechanical Engineering was held in the University office on 05/01/2024

Action Taken Report of the Institution on Feedback Report

 <p>पुण्यश्लोक अहिल्यादेवी होळकर सोलापूर विद्यापीठ NAAC Accredited - 'A' B Grade (CGPA 2.56)</p>	<p>पुण्यश्लोक अहिल्यादेवी होळकर सोलापूर विद्यापीठ, सोलापूर Punyashlok Ahilyadevi Holkar Solapur University, Solapur केगाव, सोलापूर - ४१३ २५५, महाराष्ट्र (भारत) दुरध्वनी क्र. ०२१७-२७४४७७९ / ७२/ ७८ (११ लाईन्स), फॅक्स : ०२१७-२३५१३००, संकेतस्थळ: http://su.digitaluniversity.ac.in ई-मेल: bos@sus.ac.in ragistrar@sus.ac.in</p>	
अभ्यासमंडळे विभाग		

अभ्यासमंडळाच्या बैठकीचा कार्यवृत्तांत

विज्ञान व तंत्रज्ञान विद्याशाखेतर्गत येणाऱ्या Mechanical Engineering या ब्रॅचचा राष्ट्रीय शैक्षणिक धोरण २०२० नुसार पदवी द्वितीय वर्ष ते चतुर्थ वर्षाचा आराखडा तसेच द्वितीय वर्षाचा अभ्यासक्रम तयार करण्यासाठी अभ्यासमंडळाची बैठक शुक्रवार, दि. ०५/०९/२०२४ रोजी स.११:३० वाजता विद्यापीठ कार्यालयात आयोजित करण्यात आली आहे.

उपरोक्त बैठकीतील अध्यक्ष/सदस्यांचे उपस्थितीपत्रक सोबत जोडले आहे.

विषय क्र. १	अभ्यासमंडळाच्या दि.०९/०८/२०२३ रोजीच्या मागील बैठकीचे इतिवृत्त वाचून कायम करणे.
ठराव क्र. १	अभ्यासमंडळाच्या ०१/०८/२०२३ रोजीचे इतिवृत्त कायम करण्यात आले.
विषय क्र. २	शैक्षणिक वर्ष २०२४-२५ पासून तंत्रज्ञान शाखेतील Mechanical Engineering या ब्रॅचचा B.Tech. Part II to Part- IV या वर्षाचा आराखडा तयार करण्याची बाब अभ्यासमंडळाच्या विचारार्थ.
ठराव क्र. २	NEP-2020 वर आधारीत शैक्षणिक वर्ष २०२४-२५ पासून तंत्रज्ञान शाखेतील Mech. Engg. या ब्रॅचचा B.Tech. Part-II ते Part-IV या वर्षाचा आराखडा तयार करण्यासाठी डॉ. R.T. Vyavahare, डॉ. Sham Kulkarni आणि Dr. S.S. Wangikar यांचे समितीने ३१ जानेवारी पर्यंत आराखडा करून देण्याचे ठरले.
विषय क्र. ३	शैक्षणिक वर्ष २०२४-२५ पासून तंत्रज्ञान शाखेतील Mechanical Engineering या ब्रॅचचा S. Y. BTech. Mechanical Engineering या पदवी द्वितीय वर्षाचा पाठ्यक्रम सुधारित करण्याची बाब अभ्यासमंडळाच्या विचारार्थ.
ठराव क्र. ३	NEP-2020 वर आधारीत शैक्षणिक वर्ष २०२४-२५ पासून तंत्रज्ञान शाखेतील Mech. Engg. या ब्रॅचचा S.Y. B.Tech. Mech. Engg. या पदवी द्वितीय वर्षाचा पाठ्यक्रम सुधारित करण्यासाठी डॉ. R.T. Vyavahare, Dr. Sham Kulkarni आणि Dr. S.S. Wangikar यांचे समितीने ३१ जानेवारी पर्यंत आराखडा करून सुधारित पाठ्यक्रम देण्याचे ठरले.
विषय क्र. ४	शैक्षणिक वर्ष २०२४-२५ पासून तंत्रज्ञान शाखेतील पदव्युत्तर द्वितीय वर्षाचा (M.Tech. Part- II) Mechanical Engineering या ब्रॅचचा पाठ्यक्रम तयार करण्याची बाब अभ्यासमंडळाच्या विचारार्थ.
ठराव क्र. ४	शैक्षणिक वर्ष २०२४-२५ पासून तंत्रज्ञान शाखेतील पदव्युत्तर द्वितीय वर्षाचा M.Tech. Part-II Mechanical Design Engg. या ब्रॅचचा पाठ्यक्रम करण्यासाठी Dr. S.S. Kulkarni आणि Dr. S.S. Wangikar यांनी ३१ जानेवारी २०२४ पर्यंत देण्याचे ठरले.

Action Taken Report of the Institution on Feedback Report

विषय क्र. ५	Mechanical Engineering या ब्रॅचच्या पदवी व पदव्युत्तर अभ्यासक्रमांच्या मागील विषयांणी चालू अभ्यासक्रमाशी समकक्ष विषय देणेची बाब अभ्यासमंडळाच्या विचारार्थ.
उराव क्र. ५	Mechanical Engg या ब्रॅचच्या पदवी व पदव्युत्तर अभ्यासक्रमांच्या मागील विषयांणी चालू अभ्यासक्रमाशी समकक्ष विषय देणेसाठी Dr. S.S. Kulkarni आणि Dr. S.S. Wangikar यांनी ३१ जानेवारी २०२५ पर्यंत केव्याचे करले.
विषय क्र. ६	मा. अध्यक्ष यांच्या पूर्वपरवानगीने येणाऱ्या आयत्या वेळेचे विषय.
उराव क्र. ६	अभ्यासक्रम सुधारणा करव्यासाठी पत्र प्राचार्य SKNSCOE, (28/12/23) SKNSCOE/2023-24/859 प्राचार्य NBNSCOE (04/01/24) NBNSCOE/2023-24/Gen/498 प्राचार्य SUERT'S COE (01/01/24, 868,869) COEPR/2023-24/869 & 868 यातील Suggestions ची नोंद घेण्यात आली. तसेच Dr. B.P. Ronge, Dr. S.D. Katrekar, Dr. S.G. Kulkarni, Dr. N.K. Chougale, Dr. S.S. Pansoleki, Dr. A.K. Bhowar, Mr. K.V. Barve, Mr. Vishal Kulkarni यांची अनुपस्थिती कळविली आहे. याची नोंद घेण्यात आली.

M. Shengul
अध्यक्ष ०५/०१/२५

Mechanical Engineering BOS



PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF SCIENCE & TECHNOLOGY

NEP 2020 Compliant Curriculum

With effect from 2024-2025

Semester -III

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA	SA			Total
			L	T	P		ESE	ISE	ICA	OE/ POE	
PCC	MECHPCC-01	Applied Thermodynamics	2	-	2	03	70	30	25	-	125
PCC	MECHPCC-02	Manufacturing Processes	2	-	2	03	70	30	-	25	125
PCC	MECHPCC-03	Mechanics of Materials	3	1		04	70	30	25		125
CEP/FP	MECHFP-01	Mini-Project on Workshop Practice	-	-	4	02	-	-	50	25	75
Entrepreneurship	EM-01	Product Development and Entrepreneurship	1	1	-	02	-	50	25	-	75
OE	OE-01	Open Elective-01	2	-	2	03	70	30	25	-	125
MDM	MDM-01	Multidisciplinary Minor-I	2	-	2	03	70	30	25	-	125
VEC	VEC-01	Universal Human Values	1	-	2	02	50*		25	-	75
		Total	13	2	14	22	400	200	200	50	850
		Environmental Studies	1								

*For VEC-01 MCQ-based examination to be conducted.

PCC- Programme Core Course, CEP/FP – Community Engagement Project/Field Project, EM-01: Entrepreneurship/Management, OE- Open Elective, MDM-Multidisciplinary Minor, VEC- Value Education Course, MDM – Multidisciplinary Minor: It should be selected from other UG engineering minor program.



PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF SCIENCE & TECHNOLOGY

NEP 2020 Compliant Curriculum

With effect from 2024-2025

Semester -IV

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA	SA			Total
			L	T	P		ESE	ISE	ICA	OE/ POE	
PCC	MECHPCC-04	Kinematics and Theory of Machine	2	-	2	03	70	30	-	25	125
PCC	MECHPCC-05	Machine Drawing	2	-	2	03	70	30	25	-	125
PCC	MECHPCC-06	Fluid mechanics and Fluid Machines	3	-	2	04	70	30	25	-	125
VSC	MECHVSC-01	Advanced Lab on CAD	1	-	2	02	-		25	25	50
Economic/ Management	EM-02	Project Management and Economics	2	-	-	02	-	25	25	-	50
OE	OE-02	Open Elective-02	2	-	2	03	70	30	25	-	125
MDM	MDM-02	Multidisciplinary Minor-II	2	-	2	03	70	30	25	-	125
VEC	VEC-02	Professional Ethics	1	-	2	02	50*	-	25	-	75
		Total	15	-	14	22	400	175	175	50	800
		Environmental Studies	1				40	10			50

*VEC-02 MCQ-based examination to be conducted.

PCC- Programme Core Course, EM-02: Entrepreneurship/Management, OE- Open Elective, MDM-Multidisciplinary Minor,

VSC-Vocational Skill Course, VEC- Value Education Course

MDM – Multidisciplinary Minor: It should be selected from other UG engineering minor program.



PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF SCIENCE & TECHNOLOGY

NEP 2020 Compliant Curriculum

With effect from 2025-2026

Semester -V

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA	SA			Total
			L	T	P		ESE	ISE	ICA	OE/ POE	
PCC	MECHPCC-07	Advance Manufacturing Technology	2	-	2	03	70	30	25	-	125
PCC	MECHPCC-08	Design of Machine Elements	3	1		04	70	30	25	-	125
PCC	MECHPCC-09	Metallurgy	3	-	2	04	70	30	-	25	125
PEC	MECHPEC-01	Programme Elective Course-I	3	-	2	04	70	30	25	-	125
AEC	AEC-02	Creativity and Design Thinking	1	-	2	02	50*	-	25	-	75
OE	OE-03	Interdisciplinary Mini Project	1	-	2	02	-	-	25	25	50
MDM	MDM-03	Multidisciplinary Minor-III	2	-	2	03	70	30	25	-	125
		Total	15	1	12	22	400	150	150	50	750

*AEC-02 MCQ-based examination to be conducted.

PCC- Programme Core Course, PEC: Programme Elective Courses, OE- Open Elective, AEC- Ability Enhancement Course,

MDM-Multidisciplinary Minor,

MDM – Multidisciplinary Minor: It should be selected from other UG engineering minor program.



PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF SCIENCE & TECHNOLOGY

NEP 2020 Compliant Curriculum

With effect from 2025-2026

Semester -VI

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA		SA		Total
			L	T	P		ESE	ISE	ICA	OE/POE	
PCC	MECHPCC-10	Transmission System Design	2	1		03	70	30	25		125
PCC	MECHPCC-11	Heat Transfer	2	-	2	03	70	30	-	25	125
PCC	MECHPCC-12	Instrumentation and Control Engineering	2	-	2	03	70	30	25	-	125
PEC	MECHPEC-02	Programme Elective Course-II	3	-	2	04	70	30	25	25	150
PEC	MECHPEC-03	Programme Elective Course -III	3	-	2	04	70	30	25	-	125
SEC	MECHSEC-03	Mini project on Industrial Applications (MPIA)	1	-	2	02	-	-	25	50	75
MDM	MDM-04	Multidisciplinary Minor-IV	2	-	2	03	70	30	25	-	125
		Total	15	1	12	22	420	180	150	100	850

PCC- Programme Core Course, PEC: Programme Elective Courses, MDM-Multidisciplinary Minor, SEC- Skill Enhancement Course

MDM – Multidisciplinary Minor: It should be selected from other UG engineering minor program.

NAM Approved 2022
 UG - Undergraduate Curriculum



PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF SCIENCE & TECHNOLOGY

NEP 2020 Compliant Curriculum

With effect from 2026-2027

Semester -VII

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA		SA		Total
			L	T	P		ESE	ISE	ICA	OE/ POE	
PCC	MECHPCC-13	Automation and Robotics	3	-	-	03	70	30	-	-	100
PCC	MECHPCC-14	Refrigeration and Air Conditioning	2	-	2	03	70	30	25	-	125
PEC	MECHPEC-04	Programme Elective Course -IV or MOOCS ##	4	-	-	04	100	-	-	-	100
Project	MECHProject	Capstone project		-	8*	04	-	-	100	100	200
RM	RM	Research Methodology and IPR	3	-	2	04	70	30	25	-	125
MDM	MDM-05	Multidisciplinary Minor-V	2	-		02	70	30	-	-	100
		Total	14	-	12	20	380	120	150	100	750

Students should attend Moocs in 4 hrs.

PCC- Programme Core Course, PEC: Programme Elective Courses, RM-Research Methodology, MDM-Multidisciplinary Minor

*Load based on the project groups

MDM – Multidisciplinary Minor: It should be selected from other UG engineering minor program.

List of Moocs courses related to MECHPEC04 will be provided by BOS time to time



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Semester -VIII

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA	SA			Total
			L	T	P		ESE	ISE	ICA	OE/ POE	
PCC	MECHPCC-15	Energy Engineering	4#	-	-	04	100	-	-	-	100
PEC	MECHPEC-05	Programme Elective Course-V or MOOCS	4#	-	-	04	100	-	-	-	100
OJT	MECHOJT	On-Job Training	-	-	24	12	-	-	200	100	300
		Total	8	-	24	20	200	-	200	100	500

PCC- Programme Core Course, PEC: Programme Elective Courses, OJT-On job Training

#PCC-15-Students will practice or attend in Self-Learning mode

#PEC-05: - Students will practice or attend in Self-Learning mode or MOOCS.

List of Moocs courses related to MECHPEC05 will be provided by BOS time to time

Basket of Programme Elective Course (PEC)

PEC/Sem	Course code and name
MECHPEC - 01/V	MECHPEC – 01A: Metrology and Quality control MECHPEC – 01B: Internal Combustion Engines MECHPEC – 01C: Product Life cycle Management MECHPEC – 01D: Mechatronics systems
MECHPEC – 02/VI	MECHPEC – 02A: Plastic Engineering MECHPEC – 02B: Tool engineering MECHPEC – 02C: Automobile Engineering MECHPEC – 02D: CAD-CAM-CAE
MECHPEC – 03/VI	MECHPEC – 03A: Finite Element Method MECHPEC – 03B: Industrial Engineering MECHPEC – 03C: Power plant and Energy Engineering MECHPEC – 03D: Railway Transportation
MECHPEC – 04/VII OR	MECHPEC – 04A: Production and Operation Management MECHPEC – 04B: Supply chain Management MECHPEC – 04C: Industrial Hydraulics and Pneumatics MECHPEC – 04D: Railway systems and Management
MECHPEC – 04/VII	MOOC Courses MECHPEC – 04E: <As per the list provided by BoS>
MECHPEC – 05/VIII OR	MECHPEC – 05A: Marketing Management MECHPEC – 05B: Industrial Safety and hazards MECHPEC – 05C: Material Handling System MECHPEC – 05D: Business Economics
MECHPEC – 05/VIII	MOOC Courses MECHPEC – 05E: <As per the list provided by BoS>

SVERI's
College of Engineering, Pandharpur
Action Taken Report of the Institution on
Feedback Report

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- Letter to BOS in E&T Engineering, Punyashlok Ahilyadevi Holkar Solapur University about incorporating different suggestions collected from various stakeholders regarding curriculum.



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Engineering for Excellence

Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR

P. B. No. 54, Gopalpur-Ranjani Road, Gopalpur, Tal. Pandharpur, Pin. 413304, Dist-Solapur, (MH)
Contact No.: 9545553888, 9545553737, E-mail: coe@sveri.ac.in, Website: www.sveri.ac.in
Approved by A.I.C.T.E. New Delhi, Affiliated to Punyashlok Ahilyadevi Holkar Solapur University, Solapur.
NAAC A+ with 3.46 CGPA out of 4.00, An ISO 9001:2015 Certified Institute,
Accredited by the Institution of Engineers, Kolkata and TCS, Pune



Ref: (CEPR/2023-2024)/866

Date: 01/01/2024

To,
The Chairman,
BOS E&TC Engineering,
Punyashlok Ahilyadevi Holkar Solapur University,
Solapur

Subject: Suggestions to be incorporated in the syllabus of S. Y. B. Tech. (E&TC Engineering) w.e.f. 2023-2024.

Respected sir,
Throughout the year, we collect suggestions from various stakeholders regarding the curriculum. We have also received number of suggestions for curriculum improvement from industrial experts, Alumni etc. Accordingly suggestions were discussed in the department meeting.
Our E&TC Engineering Department has recommended the following suggestions for incorporation in Course Curriculum of S. Y. B. Tech. (E&TC Engineering) w.e.f. 2024-2025.

Name of Program: E&TC Engineering.
Suggestions for the Modifications in the Curriculum:

- PCB Design Lab:** Need to include knowledge of basic layout concepts ,Stack layer Detail , , How to Create schematic Symbol, How to create PCB symbol , Track width as per power & EDA Tools related simulation practical's in curriculum.
- Electronics Circuit Analysis & Design:** Need to include BJT small signal analysis using Re and Pi Model, Effect on Gain And bandwidth due to cascading, Cascode Amplifier, Class D amplifiers, , JFET AC analysis using small signal model, MOSFET biasing and DC analysis, MOSFET AC analysis using small signal model.
- Network Theory Analysis:** Need to include Reciprocity & Millimans theorems in Network graphs, Transient analysis of parallel RC, RL,RLC circuit, Impulse response.
- Analog & Digital Communication:** Need to include Maximum Likelihood Decoding (ML) & Maximum A Posterior Probability (MAP), Spread Spectrum Modulation need to be added in Digital communication. In Analog communication Antenna or Wave propagation theory needs to be added.

02/01/24

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B. Range

Page 1 of 2

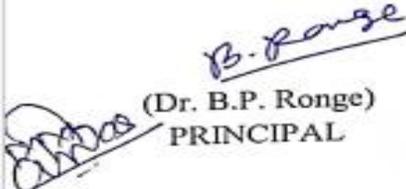
Action Taken Report of the Institution on Feedback Report

5. **Control System:** Need to include Nyquist plot, Mathematical modeling for electrical and mechanical modeling to V and F to I analogy, Root Locus: effect of adding and moving poles and zeros, Introduction to P,PI,PID controller and its effect.
6. **Signal and Systems:** Need to include Laplace Transform definition, properties, stability, and causality analysis using Laplace transform.
7. **Product Development and Entrepreneurship:** The product development should be based curriculum. Students should design and develop product based on curriculum they have studied throughout semester.

Note: For subjects like Electronics Circuit Analysis & Design, Network Theory Analysis, Analog & Digital Communication practical based EDA Tools should be added.

According to outcome based education (OBE) philosophy, incorporation of above suggestions may help to minimize the curriculum gap G1: EDA Tools for electronics system and G2: Product Development, which in turn will enrich students' learning experience and make them more employable.

Regards,


(Dr. B.P. Ronge)
PRINCIPAL



Punyashlok Ahilyadevi Holkar Solapur University, Solapur



Name of the Faculty: Science & Technology

NEP 2020 Compliant Curriculum Syllabus

ELECTRONICS & TELECOMMUNICATIONENGINEERING

Name of the Course: Second Year B. Tech (Sem.– III & IV)

(Syllabus to be implemented from w.e.f. AY-2024-25)



PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF SCIENCE & TECHNOLOGY

S. Y. B. Tech (Electronics & Telecommunication Engineering)

NEP 2020 Compliant Curriculum With effect from 2024-2025

Semester –III

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA		SA		Total
			L	T	P		ESE	ISE	ICA	OE/ POE	
PCC	ENTPCC-01	Network Theory Analysis	3			03	70	30			100
PCC	ENTPCC-02	Electronics Circuit Analysis and Design	3			03	70	30			100
PCC	ENTPCC-03	Analog and Digital Communication	3		2	04	70	30	25	25	150
CEP/FP	ENTFP-01	Electronics Circuit Analysis & Design Lab			2	01			25	25	50
CEP/FP	ENTFP-02	PCB Design Lab			2	01			25	25	50
Entrepreneurship	EM-01	Product Development and Entrepreneurship	1	1		02		50	25		75
OE	OE-01	Open Elective-I	2		2	03	70	30	25		125
MD M	ENTMDM-01	MD Minor-I	2		2	03	70	30	25		125
VEC	VEC-01	Universal Human Values	1		2	02	50*		25		75
		Total	15	1	12	22	400	200	175	75	850
		Environmental Science	1								

*For UHV MCQ-based examination to be conducted.

BSC- Basic Science Course, ESC- Engineering Science Course,

PCC- Programme Core Course,

AEC- Ability Enhancement Course IKS- Indian Knowledge System,

CC- Co-curricular Courses,

VSEC-Vocational and Skill Enhancement Course



Punyashlok Ahilyadevi Holkar Solapur University, Solapur
S. Y. B. Tech (Electronics & Telecommunication Engineering)

Semester-III (as per NEP) w.e.f. 2024-25

ENTFP- 02: PCB Design Lab

Teaching Scheme:
Practical - 2 Hrs/week, 1 credits

Examination Scheme:
ICA - 25 Marks
POE – 25 Marks

Prerequisites: Knowledge of analog and digital circuits, Chemistry.

Course Objectives:

1. The need for PCB design and steps involved in PCB design and fabrication process.
2. To familiarize schematic and layout design flow using Electronic Design Automation (EDA) Tools.

Course Outcomes:

At the end of this course, the student will be able to -

COs	Course Outcomes
CO1	Understand the steps involved in schematic, layout, fabrication, and assembly process of PCB design.
CO2	Design (schematic and layout) PCB for analog circuits, and digital circuits.
CO3	Design (schematic and layout) and fabricate PCB for simple circuits.
CO4	Evaluate an electronic printed circuit board for a specific applications.

Course Structure

Sr No	List of Experiments	No. of Practical Hours
1	Introduction to PCB design steps of Schematic design, layout design, create new schematic components and component footprint.	2
2	Fabrication of DC regulated power supply	2
3	Amplifier design using transistor	2
4	Astable/ Monostable multivibrator using IC555	2
5	Inverting/non-inverting amplifier circuit using op amp.	2
6	Full-Adder using half-adders.	2

7	Design an 8051-development board having serial communication section consisting of Max232 capacitor, DB9 connector, jumper, Reset circuit, Crystal Oscillator, Input /output sections, LEDs. Design an 8051 Development board having Reset & Input /output sections consisting of 89C51 Microcontroller, Electrolytic Capacitor, Resistor, Jumper, Crstal Oscillator, Capacitors.	2
8	Fabricate single-sided PCB, mount the components, and assemble in a cabinet for any one of the circuits mentioned above. 2	2
9	Fabricate single-sided PCB, mount the components, and assemble in a cabinet for any one of the circuits mentioned above. – 3 or 4 or 5	2
10	Fabricate single-sided PCB, mount the components, and assemble in a cabinet for any one of the circuits mentioned above. – 6 or 7	2
11	Identification of various types of PCB and soldering techniques	2

PCB Lab: (a) Artwork & printing of a simple PCB. (b) Etching & drilling of PCB.

Tools: Eagle /OrCAD/ Proteus/ Any others PCB design software

Internal Continuous Assessment (ICA):

- ICA shall consist of minimum eight practicals based on mentioned list of experiments.
(Minimum two experiments based on fabrication of PCB)

Text books:

1. Printed Circuit Board by RS Khandpur, Tata McGraw Hill Education Pvt Ltd., New Delhi
2. Electronic Product Design Volume-I by S D Mehta, S Chand Publications
3. Designing Circuit board with Eagle, Matthew Scarpino-Prentice Hall.
4. EAGLE Tutorial Version 4.1 , CadSoft Computer Inc.
5. Open source EDA Tool KiCad Tutorial: <http://kicad-pcb.org/help/tutorials/>
6. PCB Fabrication user guide page: <http://www.wikihow.com/Create-Printed-Circuit-Boards>
7. PCB Fabrication at home(video): <https://www.youtube.com/watch?v=mv7Y0A9YeUc>,
8. <https://www.youtube.com/watch?v=SkxbnIypGwY>
9. <https://www.youtube.com/watch?v=imQTCW1yWkg>

Reference Books:

1. Printed circuit Board Design and technology, Walter C. Bosshart
2. Printed Circuits Handbook, Sixth Edition, by Clyde F. Coombs, Jr, Happy T. Holden, Publisher: McGraw-Hill Education Year: 2016
3. Complete PCB Design Using OrCAD Capture and PCB Editor, Kraig Mitzner Bob Doe Alexander Akulin Anton Suponin Dirk Müller, 2nd Edition 2009

SVERI's
College of Engineering, Pandharpur
Action Taken Report of the Institution on
Feedback

Action Taken Report of the Institution on Feedback Report

Letter to BOS in Computer Science and Engineering, Punyashlok Ahilyadevi Holkar Solapur University about incorporating different suggestions collected from various stakeholders regarding curriculum.

 Shri Vitthal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR
P. B. No. 54, Gopalpur-Ranjani Road, Gopalpur, Tal.: Pandharpur, Pin: 413304, Dist-Solapur, (MH)
Contact No.: 9545553888, 9545553737, E-mail: coe@sveri.ac.in, Website: www.sveri.ac.in
Approved by A.I.C.T.E. New Delhi, Affiliated to Punyashlok Ahilyadevi Holkar Solapur University, Solapur,
NAAC A+ with 3.46 CGPA out of 4.00, An ISO 9001: 2015 Certified Institute,
Accredited by the Institution of Engineers, Kolkata and TCS, Pune.

Ref: COEPR/2023-24/853 (A) Date: 28/12/2023

To,
The Chairman,
BOS Computer Science and Engineering,
Punyashlok Ahilyadevi Holkar Solapur University,
Solapur

Subject: Suggestions to be incorporated in the syllabus of S. Y. B. Tech. (Computer Science and Engineering) w.e.f. 2023-2024.

Respected sir,
Throughout the year, we collect suggestions from various stakeholders regarding the curriculum. We have also received number of suggestions for curriculum improvement from industrial experts. Accordingly suggestions were discussed in the department meeting.

Our Computer Science and Engineering has recommended the following suggestions for incorporation in Course Curriculum of S. Y. B. Tech. (Computer Science and Engineering) w.e.f. 2023-2024 to enrich students' learning experience and making them more employable.

Name of Program: Computer Science and Engineering.

Suggestions for the Modifications in the Curriculum:

1. Applied Mathematics I and II - Based on the applications required in the field of Computer Science and Engineering, Applied Mathematics I and II can be replaced by Mathematics for Computer Science in semester II
2. Computer Graphics - The subject is having only theory paper, whereby we can add practical oral examination for the same
3. Object oriented programming using Java - As per requirement of industry, advanced concepts of Java with database connectivity should be added in existing syllabus.
4. Machine Learning - Applications of Machine Learning is repeated in two different places in the syllabus which can be removed.
5. Theory of Computation - The sequence of the chapters in the syllabus is not convenient so can be modified.

Regards,
S.P. Ronghe (Dr. B. P. Ronghe) PRINCIPAL
लिपीक
आवक विभाग
पुण्यश्लोक अहिल्यादेवी होळकर
गोलापूर विद्यापीठ, सोलापूर.

Punyashlok Ahilyadevi Holkar Solapur University, Solapur



Name of the Faculty: Science & Technology

(As per New Education Policy 2020)

Subject:- Computer Science & Engineering

Name of the Course: S. Y. B. Tech. (Sem.- III & IV)

(Syllabus to be implemented from-2024-25)

Action Taken Report of the Institution on Feedback Report



PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
FACULTY OF SCIENCE & TECHNOLOGY
NEP 2020 Compliant Curriculum
With effect from 2024-2025

Semester -III

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA				Total
			L	T	P		ESE	ISE	ICA	OE/POE	
PCC	CSEPCC-01	Discrete Mathematical Structure	3			03	70	30			100
PCC	CSEPCC-02	Computer Graphics	3			03	70	30			100
PCC	CSEPCC-03	Data Structure	3		2	04	70	30	25	25	150
CEP/FP	CSEFP-01	Computer Graphics Lab			2	01			25	25	50
CEP/FP	CSEFP-02	Python Programming			2	01			25	25	50
Entrepreneurship	EM-01	Product Development and Entrepreneurship	1	1		02		50	25		75
OE	OE-01	Open Elective-I	2		2	03	70	30	25		125
MDM	MDM-01	MD Minor-I	2		2	03	70	30	25		125
VEC	VEC-01	Universal Human Values	1		2	02	50*		25		75
		Total	15	1	12	22	400	200	175	75	850
		Environmental Science	1								

*For VEC-based examination to be conducted.

PCC- Programme Core Course, PEC-Programme Elective Course
 AEC- Ability Enhancement Course, IKS- Indian Knowledge System, CC- Co-curricular Courses,
 VSEC-Vocational and Skill Enhancement Course
 MDM-Multidisciplinary Minor: It should be selected from other UG Engineering Minor Programme

Action Taken Report of the Institution on Feedback Report



Punyashlok Ahilyadevi Holkar Solapur University, Solapur
Second Year B.Tech (Computer Science & Engineering)
Semester-III

CSEFP-01:Computer Graphics Lab

Teaching Scheme

Practical: 2 Hour/week, 1 Credit

Examination Scheme

ICA - 25 Marks

POE - 25 Marks

Course Outcome:

Student will able to

1. Draw graphical elements using built-in graphic functions in 'C'.
2. Differentiate different graphical devices.
3. Draw lines, Circles and fill polygons.
4. Apply simple 2D and 3D transformations to given object and create simple 2D animations
5. Demonstrate different clipping algorithms, surfaces and different types of curves

Internal continuous assessment(ICA):

Students should perform 8 to10 experiments based on following guidelines.

1. To Study Basic graphics functions.
2. Implementation of DDA line drawing algorithm.
3. **Implementation of Bresenham's line drawing algorithm.**
4. **Implementation of Bresenham's Circle generation** algorithm.
5. Implement Polygon filling algorithms.
6. Implement 2D transformation.
7. Implementation of 3D transformation.
8. Implement Sutherland-Cohen line clipping algorithm.
9. Implementation of Warnock algorithm.
10. Case study of OpenGL
11. Implement a small animation package.

POE

Practical – Oral Examination shall be based on the knowledge of students in the curriculum and performance in above listed ICA.

SVERI's College of Engineering, Pandharpur

Department of Electrical Engineering

Action Taken Report

Academic Year: 2023-2024

Ref.: COEP/2023-2024/873(A)

Date:- 06/01/2024

To,
The Registrar,
Punyashlok Ahilyadevi Holkar Solapur University,
Solapur.
(BOS Section)

Subject: Suggestions to be incorporated in the syllabus of Second Year B. Tech. (Electrical Engineering) w.e.f. 2024-2025 & in the structure of S. Y. B. Tech to Final Year B. Tech (Electrical Engineering) w.e.f. 2024-2025

Respected sir,

Throughout the year, we collect suggestions from various stakeholders regarding the curriculum. We have also received some suggestions for curriculum improvement from industrial experts. Accordingly, suggestions were discussed in the department meeting.

Our Electrical Engineering Department has recommended the following suggestions for incorporation in the Course Curriculum of Second Year B.Tech.(Electrical Engineering) w.e.f.2024-2025 & in the structure of S.Y. B. Tech to Final Year B. Tech (Electrical Engineering) w.e.f. 2024-2025 to enrich the student's learning experience and make them more employable.

Name of Program: Electrical Engineering.

Suggestions for the Modifications in the Curriculum:

1. Product Development-related subjects should be added to the Curriculum of Second Year B. Tech. (Electrical Engineering).
2. For Second Year B. Tech. (Electrical Engineering) Mini Project required to be added to Curriculum.
3. Product Development-related subjects should be added to the Curriculum of Second Year B. Tech. (Electrical Engineering).
4. Product Development-related subjects should be added to the Curriculum of Second Year B. Tech. (Electrical Engineering).
5. For Second Year B. Tech. (Electrical Engineering) Mini Project required to be added to Curriculum.


HEAD
Dept. of Electrical Engg.
C.O.E. Pandharpur.



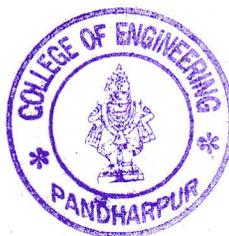


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16/01/24
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सोलापूर विद्यापीठ, सोलापूर.

6. Product Development-related subjects should be added to the Curriculum of Second Year B. Tech. (Electrical Engineering).
7. For Second Year B. Tech. (Electrical Engineering) Mini Project required to be added to Curriculum.
8. Economics-related subjects should be added for Second Year B. Tech (Electrical Engineering).
9. Subjects like Creativity and Design Thinking should be added to the curriculum.
10. Subjects related to IPR and research methodology must be included in the curriculum
11. Product Development-related subjects should be added to the Curriculum of Second Year B. Tech. (Electrical Engineering).
12. For Second Year B. Tech. (Electrical Engineering) Mini Project required to be added to Curriculum.
13. Economics-related subjects should be added for Second Year B. Tech (Electrical Engineering).
14. Subjects like Creativity and Design Thinking should be added to the curriculum.
15. Subjects related to IPR and research methodology must be included in the curriculum.
16. For the Final year, online courses especially MOOCs/NPTEL should be added in both semesters.
17. Incorporates project management, leadership, teamwork, and communication skills modules to prepare students for comprehensive professional growth.
18. Provide courses that foster an entrepreneurial attitude while assisting students in creating and presenting their inventions and engineering ideas.
19. Include case studies or initiatives that are pertinent to the Solapur area connecting engineering concepts to regional possibilities and difficulties.
20. The subject related to basic ideas about sensors & applications be added to the Second Year B. Tech Syllabus.
21. The content related to automation be added to the curriculum.
22. Some of the recent and industrial aspects can be added in the future for further information.
23. More industrial exposure should be given to students. So, if possible industrial visits. Can be added to the syllabus for all subjects.
24. In view of the implementation of the NEP 2020 education policy, the Electrical

D. Ambekar
HEAD
 Dept. of Electrical Engg.
 C.O.E. Pandharpur.



B. Range

Engineering curriculum should include more multi-disciplinary topics.

25. In the curriculum of Electrical Engineering, an interdisciplinary mini project be added.
26. Fieldwork/Projects based on the subject related to Power Systems be added to the curriculum.
27. The electrical Utilisation subject was renamed as Electrical Traction and utilization.
28. The Subjects related to advanced Electrical Machines be added to the curriculum.
29. In view of the implementation of the NEP 2020 education policy, there is a need to add some content or topics or syllabus to cover the inculcation of the aspects of life skills, human values and ethics, transferable skills, cross-cutting issues, gender equality, environment and sustainability, human rights and social security, to the extent possible.

You are requested to kindly put suggestions to the notice of the Board of Studies, Electrical Engineering.

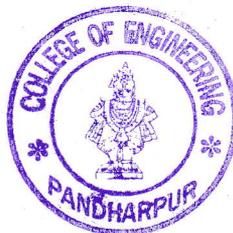
We will be happy to interact for clarification, if any.

Thanking you.

Regards,

B. Ronge

(Dr. B. P. Ronge)
PRINCIPAL



Pambola

HEAD
Dept. of Electrical Engg.
C.O.E. Pandharpur.

Punyashlok Ahilyadevi Holkar Solapur University, Solapur



NAAC Accredited-2022
'B⁺⁺' Grade (CGPA 2.96)

Name of the Faculty: Science & Technology

(As per New Education Policy 2020)

Structure:- Electrical Engineering

Name of the Course: S. Y. B. Tech. (Sem.– III & IV)

(Syllabus to be implemented from-2024-25)



Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Faculty of Engineering & Technology

NEP 2020 Compliant Curriculum

W.E.F. 2024-25

Semester III

Distribution	Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme				
			L	T	P		ESE	ISE	ICA	OE/POE	Total
PCC	EEPCC-01	Analog Electronics	3			03	70	30			100
PCC	EEPCC-02	Power Plant Engineering and Elements of Power System	3			03	70	30			100
PCC	EEPCC-03	DC Machines and Transformer	3		2	04	70	30	25	25	150
CEP/FP	EEFP-01	Laboratory on Power Plant Engineering and Elements of Power System			2	01			25	25	50
CEP/FP	EEFP-02	Electrical Workshop			2	01			25	25	50
Entrepreneurship	EM-01	Product Development & Entrepreneurship	1	1		02		50	25		75
OE	OE-01	Open Elective -I	2		2	03	70	30	25		125
MDM	MDM-01	Multidisciplinary Minor -I	2		2	03	70	30	25		125
VEC	VEC-01	Universal Human Values	1		2	02	50*		25		75
		Total	15	1	12	22	400	200	175	75	850
	VEC-01	Environmental Science	1								

***For VEC-01(Universal Human Values) MCQ-based examination to be conducted. The red colour indicates activities that are connected with other programs**

PCC- Programme Core Course, PEC-Programme Elective Course, AEC - Ability Enhancement Course, IKS- Indian Knowledge System, CC- Co-curricular Courses, VSEC-Vocational and Skill Enhancement Course, FP- Field Project/ CEP – Community Engagement Program
MDM-Multidisciplinary Minor: It should be selected from other UG Engineering Minor Programme.



Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Faculty of Engineering & Technology

NEP 2020 Compliant Curriculum

W.E.F. 2024-25

Semester IV

Distribution	Course Code	Theory Course Name	Hrs./week			Credits	Examination Scheme				
			L	T	P		ESE	ISE	ICA	OE/POE	Total
PCC	EEPCC-04	Electrical Transmission and Distribution	3			03	70	30			100
PCC	EEPCC-05	Network Analysis	2		2	03	70	30	25		125
PCC	EEPCC-06	AC Machines	3		2	04	70	30	25	25	150
SEC	EESEC-01	Computer Aided Design and Simulation	1		2	02			25	25	50
Economics/Managements	EM-02	Project management economics	2			02		25	25		50
OE	OE-02	Open Elective -II	2		2	03	70	30	25		125
MDM	MDM-02	Multidisciplinary Minor -II	2		2	03	70	30	25		125
VEC	VEC-02	Professional Ethics	1		2	02	50*		25		75
		Total	16		12	22	400	175	175	50	800
		Environmental Science	1				40	10			50

VEC-02 (Professional Ethics) Examination will be MCQ based

SEC- Skill Enhancement Course, PCC- Programme Core Course, VSEC-Vocational and Skill Enhancement Course

AEC- Ability Enhancement Course, EM Economic/ Managements, CC- Co-curricular Courses,

MDM-Multidisciplinary Minor: It should from other UG Engineering Minor Programme..



Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Faculty of Engineering & Technology

NEP 2020 Compliant Curriculum

W.E.F. 2025-26

Semester V

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA		SA		Total
			L	T	P		ESE	ISE	ICA	OE/ POE	
PCC	EEPCC-07	Electromagnetic Engineering	3			03	70	30			100
PCC	EEPCC-08	Power System Analysis	3		2	04	70	30	25		125
PCC	EEPCC-09	Linear Control System	3		2	04	70	30	25	25	150
PEC	EEPEC-01	Programme Elective Course-I	3		2	04	70	30	25		125
AEC	AEC-02	Creativity and Design Thinking	1		2	02	50*		25		75
OE	OE-03	Interdisciplinary Mini Project	1		2	02			25	25	50
MD M	MDM-03	MD Minor-III	2		2	03	70	30	25		125
		Total	16		12	22	400	150	150	50	750

* MCQ examinations

PEC- Program Elective Course, PCC- Programme Core Course, VSEC-Vocational and Skill Enhancement Course

AEC- Ability Enhancement Course, IKS- Indian Knowledge System, CC- Co-curricular Courses,

MDM-Multidisciplinary Minor: It should be selected from other UG Engineering Minor Programme.



Punyashlok Ahilyadevi Holkar Solapur University, Solapur
Faculty of Engineering & Technology
NEP 2020 Compliant Curriculum

W.E.F. 2025-26

Semester VI

Distribution	Course Code	Name of the Course	Engagement Hours			Credits	FA	SA			Total
			L	T	P		ESE	ISE	ICA	OE/POE	
PCC	EEPCC-10	Electric Traction & Utilization	2			02	70	30			100
PCC	EEPCC-11	Power Electronics & Industrial Drives	3		2	04	70	30	25	25	150
PCC	EEPCC-12	Advanced Control System	2		2	03	70	30	25		125
PEC	EEPEC-02	Program Elective Course-II	3		2	04	70	30	25	25	150
PEC	EEPEC-03	Program Elective Course-III	3	01		04	70	30	25		125
SEC	SEC-04	Mini Project on Industrial Applications			4	02			25	50	75
MDM	MDM-04	Multidisciplinary Minor-IV	2		2	03	70	30	25		125
		Total	15	01	12	22	420	180	150	100	850

PEC- Program Elective Course, PCC- Programme Core Course, SEC- Skill Enhancement Course
 AEC- Ability Enhancement Course, IKS- Indian Knowledge System, CC- Co-curricular Courses,
 MDM-Multidisciplinary Minor: It should be selected from other UG Engineering Minor Programme.