



PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF SCIENCE & TECHNOLOGY

NEP 2020 Compliant Curriculum

With effect from 2026-2027

Semester -VII

<i>Distribution</i>	<i>Course Code</i>	<i>Name of the Course</i>	<i>Engagement Hours</i>			<i>Credits</i>	<i>FA</i>	<i>SA</i>			<i>Total</i>
			<i>L</i>	<i>T</i>	<i>P</i>		<i>ESE</i>	<i>ISE</i>	<i>ICA</i>	<i>OE/POE</i>	
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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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>

A. Multidisciplinary Minor in “Material Science and Energy Engineering”

Semester	Course Code	Course Title
III	MECHMDM-01A	Fundamentals of Material Science and Engineering
IV	MECHMDM-02A	Materials for Technology Development
V	MECHMDM-03A	Advanced Materials and Manufacturing Process
VI	MECHMDM-04A	Renewable Energy Resources
VII	MECHMDM-05A	Energy Conversion Systems

B. Multidisciplinary Minor in “Industrial and Project Management”

Semester	Course Code	Course Title
III	MECHMDM-01B	Industrial Management
IV	MECHMDM-02B	Production and Operation Management
V	MECHMDM-03B	Operation Research
VI	MECHMDM-04B	Project Management
VII	MECHMDM-05B	Marketing Management

A. Honors in Robotics Engineering

Semester	Course Code	Name of the Course	Engagement Hours			Credits	FA	SA				Total
			L	T	P		ESE	ISE	ICA	OE/ POE		
III	MechHon-01A	Industrial Robotics	3	-	2	4	70	30	25	-	125	
IV	MechHon -02A	Machine Vision	3	-	2	4	70	30	25	-	125	
V	MechHon -03A	Industrial Networks and Controllers	2	-	2	3	70	30	25	-	125	
VI	MechHon -04A	Advanced topics in Robotics	3	-	2	4	70	30	25	-	125	
VII	MechHon -05A	Mini Project	1	-	4	3	-	-	50	-	50	
		Total				18	280	120	150		550	

Honors Course will be for the students of same Program

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Dr. J. G. D. S. 2061

B. Honors in Electric Vehicle Engineering

Semester	Course Code	Name of the Course	Engagement Hours			Credits	FA	SA			Total
			L	T	P		ESE	ISE	ICA	OE/POE	
III	MechHon - 01B	Introduction to Automobile Engineering	3	-	2	4	70	30	25	-	125
IV	MechHon - 02B	Introduction to Electric and Hybrid Vehicles	3	-	2	4	70	30	25	-	125
V	MechHon - 03B	Battery Technology and Charging Infrastructure	2	-	2	3	70	30	25	-	125
VI	MechHon - 04B	Advanced topics in Electric Vehicles	3	-	2	4	70	30	25	-	125
VII	MechHon - 05B	Mini project	1	-	4	3	-	-	50	-	50
		Total				18	280	120	150		550

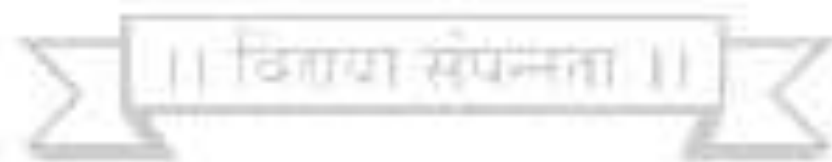
Honors Course will be for the students of same Program

Honors with Research

<i>Semester</i>	<i>Course Code</i>	<i>Name of the Course</i>	<i>Engagement Hours</i>	<i>Credits</i>	<i>SA</i>		<i>Total</i>
			<i>P</i>		<i>ICA</i>	<i>OE</i>	
VII	MECHRES-01	Research Project Phase-01	9 #	9	100	100	200
VIII	MECHRES-02	Research Project Phase-02	9 ##	9	100	100	200
Total			18	18	200	200	400

Along with 9 hours of engagement hours, 4.5 Hrs. activities for preparation for community engagement and service, preparation of reports, etc.

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NAU Accredited-2022

U-Grade (C.G.P.A.-206)

These Courses are open for students of all the UG Engineering Program.

Semester: III List of Open Elective - I

Sr. No.	List of Open Electives
1.	OE-01A: Advanced Mathematics and Statistics
2.	OE-01B Digital Marketing and E- Commerce
3.	OE-01C Humanities and Social Sciences
4.	OE-01D Industrial and Quality Management
5.	OE-01E Mathematics for Software and Hardware
6.	OE-01F Soft Skills and Personality Development

Semester: IV List of Open Elective – II

Sr. No.	List of Open Electives
1.	OE-02A Entrepreneurship and Innovation
2.	OE-02B Environmental Sustainability
3.	OE-02C Renewable Energy
4.	OE-02 D Measurement, Instrumentation and Sensors
5.	OE-02E Operation Research
6..	OE-02F Computational Mathematics
7.	OE-02 G Professional Business Communication

Semester: V Open Elective – III

Sr. No.	List of Open Electives
1.	Interdisciplinary Mini Project