

JSPM University Pune

Faculty of Science and Technology

School of Mechanical & Manufacturing Sciences



NEP aligned Syllabus

for

M.Tech. (Robotics & AI)

(Effective from AY: 2023-24)

JCS
Program Coordinator



Dean

FACULTY OF SCIENCE AND TECHNOLOGY
JSPM UNIVERSITY PUNE



JSPM UNIVERSITY PUNE
Faculty of Science and Technology (FST)
School of Mechanical and Manufacturing Sciences
Course Structure: M. Tech. (Robotics and AI)

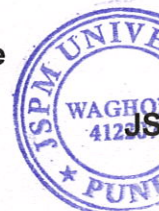
Semester – I
Level - 6.5

| Sr. No. | Course Type | Course Code | Course Name | Teaching Scheme (Hrs. per week) | | | | Examination and Marking Scheme | | | Credits |
|--|-------------|--------------|---|---------------------------------|---|---|----|--------------------------------|-----|-----|-----------|
| | | | | L | T | P | EL | TH | PR | OR | |
| 01 | PSMC | 230GMAM02_01 | Advanced Numerical Methods | 2 | 1 | - | - | 100 | - | - | 3 |
| 02 | PSBC | 230GRAM01_01 | Foundation of Design of Machine Elements | 2 | - | - | 2 | 100 | - | - | 2.5 |
| 03 | PCC | 230GRAM02_01 | Foundations of Robotics | 3 | - | - | - | 100 | - | - | 3 |
| 04 | PCC | 230GRAM03_01 | Advanced Hydraulics & Pneumatics | 2 | - | - | - | 100 | - | - | 2 |
| 05 | MMC | 230GRAM24_01 | Sensors and Automation | 1 | - | 2 | - | - | 50 | 50 | 2 |
| 06 | SEC | 230GCSM26_01 | Python Programming for Engineers | 2 | - | 2 | - | - | 50 | 50 | 3 |
| 07 | VSC | 230IDCB01_01 | Design Thinking and Creativity | 1 | - | - | 2 | - | - | 50 | 1.5 |
| 08 | AEC | 230UENM01_01 | Communicative English for Professionals | 1 | - | 2 | - | 50 | - | - | 2 |
| 09 | RMC | 230IRMM01_01 | Research Methodology | 2 | - | - | - | 50 | - | - | 2 |
| 10 | LC | 230GRAM26_01 | Advanced Hydraulics & Pneumatics Laboratory | | | 2 | | - | 50 | - | 1 |
| Total Academic Engagement and Credits | | | | 16 | 1 | 8 | 4 | 500 | 150 | 150 | 22 |
| | | | | 25 | | | 4 | 800 | | | |

R.S.
Dr. Raghvendra Upadhyay
Programme Coordinator
FST

R.S.
Dr. R. S. Deshpande
Dean
FST

B.B.A.
Dr. B. B. Ahuja
Vice Chancellor
JSPM University Pune
JSPM University
Pune





JSPM UNIVERSITY PUNE
Faculty of Science and Technology (FST)
School of Mechanical and Manufacturing Sciences
Course Structure: M. Tech. (Robotics and AI)

Semester – II
Level – 6.5

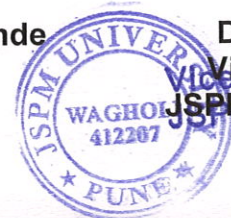
| Sr. No. | Course Type | Course Code | Course Name | Teaching Scheme (Hrs. per week) | | | | Examination and Marking Scheme | | | Credits |
|--|-------------|--------------|---|---------------------------------|---|---|----|--------------------------------|-----|-----|-----------|
| | | | | L | T | P | EL | TH | PR | OR | |
| 01 | PCC | 230GRAM04_02 | Data Analytics & Machine Learning | 2 | 1 | - | - | 100 | - | - | 3 |
| 02 | PCC | 230GRAM05_02 | Embedded Control Systems | 2 | - | - | 2 | 100 | - | - | 2.5 |
| 03 | PCC | 230GRAM06_02 | Artificial Intelligence & Neural Networks | 3 | - | - | - | 100 | - | - | 3 |
| 04 | MMC | 230GETM16_02 | IoT Basics and Applications | 1 | - | 2 | - | - | 50 | 50 | 2 |
| 05 | SEC | 230GRAM25_02 | Programming for Robotics and AI | 2 | - | 2 | - | - | 50 | 50 | 3 |
| 06 | VSC | 230IINB02_02 | Innovation | 1 | - | - | 2 | - | - | 50 | 1.5 |
| 07 | AEC | 230UENM02_02 | Business Communication | 1 | - | 2 | - | 50 | - | - | 2 |
| 08 | RMC | 230IRMM02_02 | Research Design & Techniques | 2 | - | - | - | 50 | - | - | 2 |
| 09 | LC | 230GRAM28_02 | Embedded Control Systems Lab | - | - | 2 | - | - | 50 | - | 1 |
| 10 | IITP/FP/CEP | 230GRAM29_02 | Internship/Field Project/Community Engagement Programme | 4 to 6 weeks | | | | - | - | 50 | 2 |
| Total Academic Engagement and Credits | | | | 14 | 1 | 8 | 4 | 400 | 150 | 200 | 22 |
| | | | | 23 | | | 4 | 750 | | | |

Note: A Postgraduate Diploma will be awarded if a student exits after first year. For Exit at the end of first year the student must complete: (Total credits = 8)

- a) An internship / OJT of 8 - 10 weeks (4 credits)
- b) Additional Course 1 (4 credits) (Vocational Skill Course (VSC) / Skill Enhancement Course (SEC))

Rgh
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