



JSPM UNIVERSITY PUNE

Recognized by UGC u/s 2 (f) of UGC Act 1956 and enacted by the
State Government of Maharashtra - JSPM University Act, 2022 (Mah.IV of 2023)

JSPM University Pune
Faculty of Science and Technology
School of Computational Sciences



NEP aligned Curriculum Structure

for

M. Tech (Computer Science and Engineering)

(Effective from AY: 2023-24)



JSPM University Pune

FACULTY OF SCIENCE AND TECHNOLOGY

SCHOOL OF COMPUTATIONAL SCIENCES

COURSE STRUCTURE (NEP 2020 Aligned)

W. E. F

2023-2024

RELEASE DATE

01/07/2023

FIRST YEAR MASTER OF TECHNOLOGY
(COMPUTER SCIENCE AND ENGINEERING)

REVISION NO.

0.0 (NEP)

SEMESTER I (LEVEL 6.5)

| COURSE | | | TEACHING SCHEME | | | | EXAMINATION SCHEME AND MARKS | | | | | | | | TOTAL | CREDITS |
|--------------|--------------|---|-----------------|----------|----------|----------|---|------------------|---------------------------|--|--|---|--|--|------------|-----------|
| TYPE | CODE | COURSE NAME | Hours / Week | | | | THEORY (Equal Weightage for CIE and ESE) | | | PRACTICAL (Equal Weightage for CIE and ESE) | | ORAL (Equal Weightage for CIE and ESE) | | | | |
| | | | L | T | P | EL | CONTINUOUS INSEMESTER EVALUATION (100 Marks) | | | END SEMESTER EXAMINATION (100 / 50 Marks) | CONTINUOUS INSEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks) | CONTINUOUS INSEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks) | | |
| | | | | | | | T1 (30 Marks) | T2 (30 Marks) | Assignments (40 Marks) | | | | | | | |
| PSMC | 230GMAM02_01 | Advanced Numerical Methods | 2 | 1 | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 3 |
| PCC | 230GCSM01_01 | Design and Analysis of Algorithms | 2 | - | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 2 |
| PCC | 230GCSM02_01 | System Modeling and Design | 3 | - | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 3 |
| PCC | 230GCSM03_01 | Soft Computing | 2 | - | - | 2 | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 2.5 |
| MMC | --- | Multidisciplinary Minor Course | 1 | - | 2 | - | - | - | - | - | 50 | 50 | 50 | 50 | 100 | 2 |
| SEC | 230GCSM19_01 | R Programming | 2 | - | 2 | - | - | - | - | - | 50 | 50 | 50 | 50 | 100 | 3 |
| VSC | 230IDCB01_01 | Design Thinking and Creativity | 1 | - | - | 2 | - | - | - | - | - | - | 50 | 50 | 50 | 1.5 |
| AEC (HSMC) | 230UENM01_01 | Communicative English for Professionals | 1 | - | 2 | - | 30 | 30 | 40 | 50 | - | - | - | - | 50 | 2 |
| RMC | 230IRMM01_01 | Research Methodology | 2 | - | - | - | 30 | 30 | 40 | 50 | - | - | - | - | 50 | 2 |
| LC | 230GCSM20_01 | Design and Analysis of Algorithms Lab | - | - | 2 | - | - | - | - | - | 50 | 50 | - | - | 50 | 1 |
| TOTAL | | | 16 | 1 | 8 | 4 | | | | | | | | | 800 | 22 |



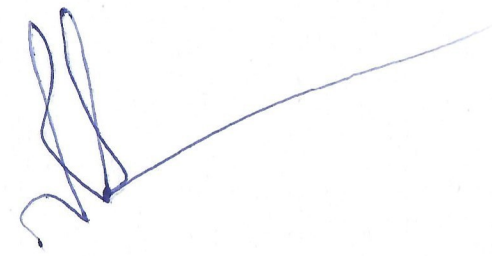
| Multidisciplinary Minor Course (MMC) | | |
|--------------------------------------|-----------------------------|--------------------|
| Course Code | 230GRAM24_01 | 230GETM17_01 |
| Course Name | Sensors and Automation | Embedded System |
| Course Code | 230GETM16_01 | 230VOSM26_01 |
| Course Name | IoT Basics and Applications | Project Management |



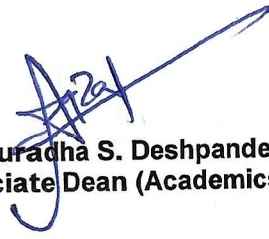
Dr. Rahul R. Chakre
Programme Coordinator, MTech-CSE



Prof. G. A. Patil
Director, School of Computational Sciences



Prof. R. S. Deshpande
Dean, Faculty of Science and Technology



Dr. Anuradha S. Deshpande
Associate Dean (Academics)




Prof. B. B. Ahuja
Vice Chancellor, JSPM University Pune

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Pune



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SCHOOL OF COMPUTATIONAL SCIENCES

FIRST YEAR MASTER OF TECHNOLOGY
(COMPUTER SCIENCE AND ENGINEERING)

COURSE STRUCTURE (NEP 2020 Aligned)

W. E. F
RELEASE DATE
2023-2024
01/07/2023
REVISION NO.
0.0 (NEP)

SEMESTER II (LEVEL 6.5)

| COURSE | | | TEACHING SCHEME | | | | EXAMINATION SCHEME AND MARKS | | | | | | | | C R E D I T S | | |
|-----------------|--------------|--|-----------------|----------|----------|----------|--|---------------------|-----------------------------------|---|--|--|--|-----------------------|---------------------------------|--|---|
| TYPE | CODE | COURSE NAME | Hours / Week | | | | THEORY (Equal Weightage for CIE and ESE) | | | PRACTICAL (Equal Weightage for CIE and ESE) | | ORAL (Equal Weightage for CIE and ESE) | | T O T A L | | | |
| | | | L | T | P | EL | CONTINUOUS INSEMESTER EVALUATION (100 Marks) | | | END SEMESTER EXAMINATI ON (100 / 50 Marks) | CONTINUO US INSEMEST ER EVALUATI ON (50 Marks) | END SEMESTER EXAMINATI ON (50 Marks) | CONTINUO US INSEMEST ER EVALUATI ON (50 Marks) | | | END SEMESTER EXAMINATI ON (50 Marks) | |
| | | | | | | | T1 (30 Marks) | T2 (30 Marks) | Assign- ments (40 Marks) | | | | | | | | |
| PSMC | 230GMAM03_02 | Probability and Statistics | 2 | 1 | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 3 | |
| PCC | 230GCSM04_02 | Data Mining and Data Warehouse | 2 | 1 | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 3 | |
| PCC | 230GCSM05_02 | Security in Cloud Computing | 3 | - | - | 2 | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 3.5 | |
| PCC | 230GCSM06_02 | Data Analytics | 2 | - | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 2 | |
| MMC | --- | Multidisciplinary Minor Course | 1 | - | 2 | - | - | - | - | - | 50 | 50 | 50 | 50 | 100 | 2 | |
| VSC | 230IINB02_02 | Innovation | 1 | - | - | 2 | - | - | - | - | - | - | 50 | 50 | 50 | 1.5 | |
| AEC (HSMC) | 230UENM02_02 | Business Communication | 1 | - | 2 | - | 30 | 30 | 40 | 50 | - | - | - | - | 50 | 2 | |
| RMC | 230IRMM02_02 | Research Design and Techniques | 2 | - | - | - | 30 | 30 | 40 | 50 | - | - | - | - | 50 | 2 | |
| LC | 230GCSM21_02 | Data Analytics Lab | - | - | 2 | - | - | - | - | - | 50 | 50 | - | - | 50 | 1 | |
| IITP/FP/ CEP | 230GCSM22_02 | Internship/Field Project/Community Engagement Programme | 4 to 6 weeks | | | | - | - | - | - | - | - | - | 50 | 50 | 50 | 2 |
| TOTAL | | | 14 | 2 | 6 | 4 | | | | | | | | | 750 | 22 | |



| Multidisciplinary Minor Course (MMC) | | |
|--------------------------------------|-----------------------------|--------------------|
| Course Code | 230GRAM24_01 | 230GETM17_02 |
| Course Name | Sensors and Automation | Embedded System |
| Course Code | 230GETM16_02 | 230VOSM26_02 |
| Course Name | IoT Basics and Applications | Project Management |

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

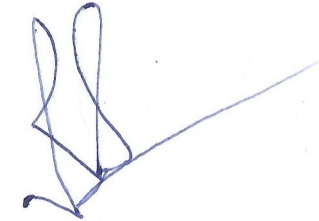
- An internship / OJT of 8 - 10 weeks (4 credits)
- Additional Course 1 (4 credits) (Vocational Skill Course (VSC) / Skill Enhancement Course (SEC))



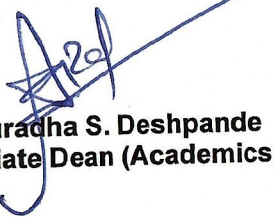
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W. E. F

2024-2025

RELEASE DATE

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REVISION NO.

0.0 (NEP)

SEMESTER III (LEVEL 7)

| COURSE | | | TEACHING SCHEME | | | | EXAMINATION SCHEME AND MARKS | | | | | | | | TOTAL | CREDITS |
|---------------------|--------------|---|-----------------|---|----|----|---|------------------|---------------------------|--|--|---|--|--|-------|---------|
| TYPE | CODE | COURSE NAME | Hours / Week | | | | THEORY (Equal Weightage for CIE and ESE) | | | PRACTICAL (Equal Weightage for CIE and ESE) | | ORAL (Equal Weightage for CIE and ESE) | | | | |
| | | | L | T | P | EL | CONTINUOUS INSEMESTER EVALUATION (100 Marks) | | | END SEMESTER EXAMINATION (100 / 50 Marks) | CONTINUOUS INSEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks) | CONTINUOUS INSEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks) | | |
| | | | | | | | T1 (30 Marks) | T2 (30 Marks) | Assignments (40 Marks) | | | | | | | |
| PEC | --- | Programme Elective Course - I | 3 | - | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 3 |
| | --- | Programme Elective Course - II | 3 | - | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 3 |
| IOC | --- | Interdisciplinary Open Course - I | 2 | - | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 2 |
| | --- | Interdisciplinary Open Course - II | 2 | - | - | - | 30 | 30 | 40 | 100 | - | - | - | - | 100 | 2 |
| VEC (HSMC) | 230USYB01_03 | Behavioral Science and Ethics | 2 | - | - | - | 30 | 30 | 40 | 50 | - | - | - | - | 50 | 2 |
| SLC | 230GCSM23_03 | Seminar | - | - | - | 8 | - | - | - | - | - | - | 100 | 100 | 100 | 2 |
| IITP/ FP/ CEP | 230GCSM24_03 | Internship/Field Project/Community Engagement Programme | - | - | 12 | - | - | - | - | - | - | - | 100 | 100 | 100 | 6 |
| TOTAL | | | 12 | - | 12 | 8 | | | | | | | | | 650 | 20 |



Program Elective Course (PEC)

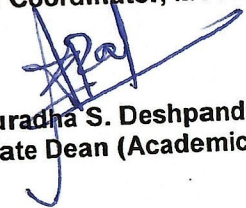
| Sem. | Specialization | Computer Science and Engineering | Data Science and Artificial Intelligence | Information Security | Cloud Computing |
|-----------------|----------------|----------------------------------|--|--|-----------------|
| III (PEC-I) | Course Code | 230GCSM13_03 | 230GCSM18_03 | 230GCSM14_03 | 230GCSM40_03 |
| | Course Name | High-Performance Computing | Pattern Recognition | Blockchain Technology and Applications | Edge Computing |
| III (PEC-II) | Course Code | 230GCSM09_03 | 230GCSM16_03 | 230GISM10_03 | 230GCSM41_03 |
| | Course Name | Network Management | Deep Learning | Security Standards and Frameworks | Fog Computing |

Interdisciplinary Open Course (IOC)

| Sem. | Course Code | 230GETM28_03 | 230VMSM05_03 | 230GCEB31_03 |
|-----------------|-------------|--------------------------|--------------------------------------|-----------------------------|
| III (IOC-I) | Course Name | IoT and Embedded Systems | Fundamentals of Financial Management | E-Waste Management |
| | Course Code | 230GETB33_03 | 230VBCB14_03 | 230GCEB40_03 |
| III (IOC-II) | Course Name | EV Technology | E-Commerce | Smart Transportation System |



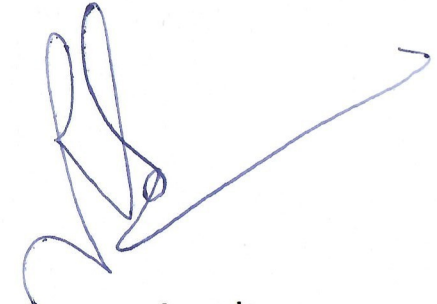
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SEMESTER IV (LEVEL 7)

| TYPE | CODE | COURSE NAME | TEACHING SCHEME | | | | EXAMINATION SCHEME AND MARKS | | | | | | | | TOTAL | CREDITS |
|-------|--------------|-------------------------------------|-----------------|---|----|----|---|---------------|------------------------|--|---|-------------------------------------|---|-------------------------------------|-------|---------|
| | | | Hours / Week | | | | THEORY (Equal Weightage for CIE and ESE) | | | | PRACTICAL (Equal Weightage for CIE and ESE) | | ORAL (Equal Weightage for CIE and ESE) | | | |
| | | | L | T | P | EL | CONTINUOUS INSEMESTER EVALUATION (100 / 25 Marks) | | | END SEMESTER EXAMINATION (100 / 75 / 50 Marks) | CONTINUOUS INSEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks) | CONTINUOUS INSEMESTER EVALUATION (50 Marks) | END SEMESTER EXAMINATION (50 Marks) | | |
| | | | | | | | T1 (30 Marks) | T2 (30 Marks) | Assignments (40 Marks) | | | | | | | |
| PEC | --- | Programme Elective Course - III | 3 | - | - | - | 25 | | | 75 | - | - | - | - | 100 | 3 |
| PEC | --- | Programme Elective Course - IV | 3 | - | - | - | 25 | | | 75 | - | - | - | - | 100 | 3 |
| PROJ | 230GCSM25_04 | Project / Internship with Project | - | - | 12 | 24 | - | - | - | - | - | - | - | - | 200 | 12 |
| TOTAL | | | 6 | - | 12 | 24 | - | - | - | - | - | - | 200 | 200 | 200 | 12 |
| MLC# | 230UPOB02_04 | Introduction to Indian Constitution | 1 | - | - | - | - | - | - | 50 | - | - | - | - | 50 | 1 |

| Sem. | Specialization | Program Elective Course (PEC) | | | | | | |
|--------------|----------------------------------|-------------------------------|--|--------------|----------------------|--------------|-----------------|--------------|
| IV (PEC-III) | Computer Science and Engineering | 230GCSM08_04 | Data Science and Artificial Intelligence | 230GCSM10_04 | Information Security | 230GISM07_04 | Cloud Computing | 230GISM11_04 |
| | Course Code | Course Name | Course Code | Course Name | Course Code | Course Name | Course Code | Course Name |
| IV (PEC-IV) | Computer Science and Engineering | 230GCSM42_04 | Data Science and Artificial Intelligence | 230GDSM15_04 | Information Security | 230GISM19_04 | Cloud Computing | 230GCSM43_04 |
| | Course Code | Course Name | Course Code | Course Name | Course Code | Course Name | Course Code | Course Name |

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JSPM University
Pune

L-Lecture
Format No.: JSPMUni/ACAD/001

T-Tutorial
Rev. No.:0.0

P-Practical Session (Laboratory)
Rev. Date:01/07/2024



EE-Experiential Learning
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