

ACADEMIC REGULATIONS FOR FOUR-YEAR UNDERGRADUATE DEGREE PROGRAMS

(Applicable to students from the Academic Year 2014-15 and onwards)

Branch: EEE

| Semester 1 | | | | | | |
|-------------------|--------|--|---|---|---|---------|
| | Code | Course | L | T | P | Credits |
| 1 | MA 101 | Math I: Calculus & Ordinary Differential Equations | 4 | 2 | 0 | 5 |
| 2 | PH 101 | Physics I: Mechanics & Thermodynamics | 4 | 2 | 2 | 6 |
| 3 | EE 101 | Basic Electrical Engineering | 2 | 1 | 2 | 3.5 |
| 4 | ME 101 | Introduction to Engineering Design | 2 | 0 | 2 | 3 |
| 5 | SE 101 | Introduction to Society & Technology | 1 | 1 | 0 | 1.5 |
| 6 | HS 101 | Literature & Philosophy | 1 | 2 | 0 | 2 |
| 7 | HS 102 | French Language & Culture | 0 | 2 | 0 | |
| | | | | | | 21 |

| Semester 2 | | | | | | |
|-------------------|--------|---|---|---|---|---------|
| | Code | Course | L | T | P | Credits |
| 1 | MA 102 | Math II - Linear Algebra & Applied Analysis | 4 | 2 | 0 | 5 |
| 2 | CB 101 | Chemistry | 4 | 2 | 2 | 6 |
| 3 | EE 102 | Electronics | 2 | 1 | 2 | 3.5 |
| 4 | CS 101 | Introduction to Computer Sciences | 2 | 0 | 2 | 3 |
| 5 | SE 102 | Media Project | 1 | 1 | 0 | 1.5 |
| 6 | HS 103 | Cinema & Philosophy | 1 | 2 | 0 | 2 |
| 7 | HS 104 | French Language & Culture | 0 | 2 | 0 | |
| | | | | | | 21 |

MAHINDRA ÉCOLE CENTRALE

| Semester 3 | | | | | | |
|-------------------|-------------|---------------------------------------|----------|----------|----------|----------------|
| | Code | Course | L | T | P | Credits |
| 1 | MA 203 | Math III –Real Analysis & Algebra | 4 | 2 | 0 | 5 |
| 2 | PH 202 | Physics II: Electromagnetism & Optics | 4 | 2 | 2 | 6 |
| 3 | ME 202 | Solid Mechanics & Fluid Mechanics | 2 | 2 | 0 | 3 |
| 4 | EE 203 | Signals & Systems | 2 | 1 | 1 | 3 |
| 5 | SE 203 | Design Thinking | 1 | 0 | 2 | 2 |
| 6 | SE 205 | Introduction to Economy | 1 | 1 | 0 | 1.5 |
| 7 | HS 205 | Indian English Literature | 1 | 1 | 0 | 1.5 |
| 8 | HS 206 | French Language & Culture | 0 | 2 | 0 | |
| | | | | | | 22 |

| Semester 4 | | | | | | |
|-------------------|-------------|---|----------|----------|----------|----------------|
| | Code | Course | L | T | P | Credits |
| 1 | MA 204 | Math IV -Computational Methods & Scientific Computing | 3 | 2 | 2 | 5 |
| 2 | CB 202 | Biology | 2 | 0 | 0 | 2 |
| 3 | PH 203 | Physics III: Introduction to Modern Physics | 2 | 1 | 0 | 2.5 |
| 4 | ME 203 | Material Science | 2 | 1 | 1 | 3 |
| 5 | CS 202 | Data Structures and Algorithms | 2 | 0 | 2 | 3 |
| 6 | EE 204 | Electromechanical Energy Conversion-I | 2 | 2 | 0 | 3 |
| 7 | SE 204 | Design Project | 0 | 1 | 3 | 2 |
| 8 | HS 207 | Modern Culture & Philosophy | 1 | 1 | 0 | 1.5 |
| 9 | HS 208 | French Language & Culture | 0 | 2 | 0 | 0 |
| | | | | | | 22 |

MAHINDRA ÉCOLE CENTRALE

| Semester 5 | | | | | | |
|-------------------|-------------|---|----------|----------|----------|----------------|
| | Code | Course | L | T | P | Credits |
| 1 | MA 305 | Mathematics V | 3 | 2 | 0 | 4 |
| 2 | CE 301 | Earth and Environmental Sciences | 2 | 0 | 0 | 2 |
| 3 | ME 305 | Multiphysics | 3 | 2 | 0 | 4 |
| 4 | EE 309 | Programmable Devices and Microprocessors | 2 | 0 | 2 | 3 |
| 5 | EE 311 | Integrated Analog and Digital Electronics | 2 | 0 | 2 | 4 |
| 6 | EE 313 | Digital Signal Processing | 3 | 0 | 2 | 3 |
| 7 | SE 306 | Year-3 Project Phase I | 0 | 2 | 2 | 2 |
| 8 | HS 310 | French Language & Culture V | 0 | 2 | 0 | 0 |
| | | | | | | 22 |

| Semester 6 | | | | | | |
|-------------------|-------------|----------------------------------|----------|----------|----------|----------------|
| | Code | Course | L | T | P | Credits |
| 1 | MA 306 | Mathematics VI | 2 | 0 | 0 | 2 |
| 2 | EE 308 | Electromagnetic Waves | 3 | 0 | 0 | 3 |
| 3 | EE 310 | Communication Theory I | 3 | 2 | 0 | 4 |
| 4 | EE 312 | Power Systems and Electronics | 2 | 2 | 2 | 4 |
| 5 | E1 | Elective | X | X | X | 3 |
| 6 | SE 308 | Year-3 Project Phase II | 0 | 3 | 3 | 3 |
| 7 | SE 309 | Corporate Management and Finance | 3 | 0 | 0 | 3 |
| 8 | HS 312 | French Language & Culture VI | 0 | 2 | 0 | 0 |
| | | | | | | 22 |

MAHINDRA ÉCOLE CENTRALE

| Semester 7 | | | | | | |
|-------------------|-------------|--|----------|----------|----------|----------------|
| | Code | Course | L | T | P | Credits |
| 1 | EE 407 | Computer Architecture & Design | 2 | 2 | 0 | 3 |
| 2 | EE 415 | Experimental Laboratory | 1 | 0 | 6 | 4 |
| 3 | EE 417 | Communication Theory II | 3 | 2 | 0 | 4 |
| 4 | E2 | Elective | X | X | X | 3 |
| 5 | E3 | Elective | X | X | X | 3 |
| 6 | SE 421 | Year-4 Project Phase I | 0 | 2 | 2 | 2 |
| 7 | HS 420 | Communication Skills and Personality Development | 1 | 2 | 0 | 2 |
| 8 | HS 414 | French Language & Culture VII | 0 | 2 | 0 | 0 |
| | | | | | | 21 |

| Semester 8 | | | | | | |
|-------------------|-------------|---------------------------------|----------|----------|----------|----------------|
| | Code | Course | L | T | P | Credits |
| 1 | EE 406 | Computer Communication Networks | 2 | 0 | 2 | 3 |
| 2 | E4 | Elective | X | X | X | 3 |
| 3 | E5 | Elective | X | X | X | 3 |
| 4 | SE 422 | Year-4 Project Phase II | 0 | 9 | 9 | 9 |
| 5 | SE 410 | Entrepreneurship, IPR, Legal | 3 | 0 | 0 | 3 |
| 6 | HS 416 | French Language & Culture VIII | 0 | 2 | 0 | 0 |
| | | | | | | 21 |

ELECTIVES LIST (for semesters 6, 7 and 8)

| S.No. | Code | Course | L | T | P | Credits |
|-------|--------|---|---|---|---|---------|
| 1 | EE 351 | Embedded Systems | 2 | 0 | 2 | 3 |
| 2 | CS 453 | Mobile Communication and Computing | 2 | 2 | 0 | 3 |
| 3 | CS 454 | VLSI Design Using Verilog | 2 | 0 | 2 | 3 |
| 4 | CS 455 | Cryptography and Information Security | 3 | 0 | 0 | 3 |
| 5 | CS 457 | Machine Learning | 3 | 0 | 0 | 3 |
| 6 | CS 460 | Introduction du database management systems | 3 | 0 | 0 | 3 |
| 7 | EE 451 | Semiconductor Processing | 3 | 0 | 0 | 3 |
| 8 | EE 452 | Semiconductor Devices | 3 | 0 | 0 | 3 |
| 9 | EE 453 | Advanced Power Systems | 3 | 0 | 0 | 3 |
| 10 | EE 454 | Image Processing and Computer Vision | 3 | 0 | 0 | 3 |
| 11 | EE 455 | Computational Electromagnetics | 3 | 0 | 0 | 3 |
| 12 | EE 456 | VLSI Circuits | 3 | 0 | 0 | 3 |
| 13 | EE 457 | Information Theory and Coding | 3 | 0 | 0 | 3 |
| 14 | EE 458 | Microwave Theory and Techniques | 3 | 0 | 0 | 3 |
| 15 | EE 459 | Design for Testability/Co-design | 3 | 0 | 0 | 3 |
| 16 | EE 460 | Advanced Electrical Machines | 3 | 0 | 0 | 3 |
| 17 | EE 461 | Wireless Sensor Networks | 3 | 0 | 0 | 3 |
| 18 | EE 462 | Antenna Theory and Design | 3 | 0 | 0 | 3 |
| 19 | EE 463 | RF IC Design | 3 | 0 | 0 | 3 |
| 20 | EE 464 | Signal Integrity | 3 | 0 | 0 | 3 |
| 21 | EE 465 | Measurements and Instrumentation | 3 | 0 | 0 | 3 |
| 22 | EE 466 | Medical Imaging | 3 | 0 | 0 | 3 |
| 23 | EE 467 | Radar Signal Processing | 3 | 0 | 0 | 3 |
| 24 | ME 467 | Introduction to Robotics | 3 | 0 | 0 | 3 |
| 25 | ME 452 | Introduction to Operations Research | 3 | 0 | 0 | 3 |
| 26 | ME 460 | Alternative Energy Sources | 3 | 0 | 0 | 3 |
| 27 | CB 304 | Chemical and Bio Engineering | 3 | 0 | 0 | 3 |
| 28 | PH 304 | Physics IV | 3 | 0 | 0 | 3 |
| 29 | PH 451 | Lasers: Principles and Applications | 3 | 0 | 0 | 3 |
| 30 | PH 452 | Fiber and Integrated Optics for Optical Communication | 3 | 0 | 0 | 3 |
| 31 | HS 411 | Introduction to Social Sciences | 3 | 0 | 0 | 3 |
| 32 | CS 304 | Object Oriented Programme Development and Languages | 2 | 0 | 2 | 3 |