#### **Indian Institute of Technology Palakkad** Slot System - Aug-Dec 2023 09:00-11:00-12:05-14:00--00:80 10:00-13:00-15:30-17:10-11:50 12:55 13:50 08:50 09:50 10:50 15:15 16:45 18:00 М1 В C Н E1 Α Mon PM1 PA1 Н R М3 Α В C Lunch **EML** Wed from 16:00 Break PA3 **PM3** М5 Α В C Н J **E5** Fri PM<sub>5</sub> PA<sub>5</sub> 12:00-08:00- 09:00-15:30-17:10 to 10:30-13:00-14:00-08:50 10:15 11:45 12:50 13:50 15:15 16:45 18:00 **M2** K **E2** G D Tue PM2 PA2 Lunch Break М4 G D K **E4 PM4** PA4 Thu

#### **Slot Overview**

Note - Numbers in slot names refer to the day of the week i.e., 1=Monday, 2=Tuesday, etc. Example: in slot PA5, 5 stands for Friday. Similalrly, in M3, 3 stands for Wednesday.

A, B, C and H - 3 credit slots (3\*50 mins each)

F, G, I, J, K, and L - 3 credit slots (2\*75 mins each)

D is a 2 credit slot (2\*50 mins)

M1-M5, E1-E2, E4-E5, Q, and R are 1 credit slots (50 mins each)

PM1, PM3 and PM5 are morning lab slots (10:00 hrs to 12:45 hrs)

PM2 and PM4 are morning lab slots (9:00 hrs to 11:45 hrs)

PA1, PA2, PA4, PA5 are afternoon lab slots of 2hr 45min (14:00 hrs to 16:45 hrs)

PA3 is an afternoon lab slot of 1hr 50 min (14:00 hrs to 13:50 hrs)

## **Indian Institute of Technology Palakkad** Jan – May 2024 B. Tech. Semester II Institute Core Courses

| Code    | Course Name                 | Credits |                                | Slot                             | Room/Batches                    |
|---------|-----------------------------|---------|--------------------------------|----------------------------------|---------------------------------|
|         | Basic Chemistry for         |         | Supratik (Coordinator), Dinesh |                                  | C06-1 (B1-B4)                   |
| CY1040  | Engineers                   | 2-1-0-3 | and Rositha                    | Α                                | C06-2 (B5-B8)                   |
|         |                             |         | and resolute                   |                                  | C06-3 (B9-B12)                  |
|         |                             |         | Rohith V (coordinator)         |                                  | C06-1 (B1-B4)                   |
| MA1021  | Multivariable Calculus      | 3-1-0-4 | Jaikrishnan                    | C + Q                            | C06-2 (B5-B8)                   |
|         |                             |         | Lakshmi                        |                                  | C06-3 (B9-B12)                  |
|         | Engineering Mechanics       |         | Arun C O (coordinator)         |                                  | C06-1 (B1-B4)                   |
| CE1020  |                             | 3-1-0-4 | Sanjukta Chakraborty           | B + R                            | C06-2 (B5-B8)                   |
|         |                             |         | Sovan Lal Das                  |                                  | C06-3 (B9-B12)                  |
| ID1110  | Introduction to Programming |         | Anish (Theory)                 | F(9-9.50)<br>(exam slot D)       | A01-Aud                         |
|         |                             | 2-0-3-4 | Vivek (lab)                    | Tue (10-12.45)<br>(PM2 for reg.) | A01 Comp lab1 (100)<br>(B1-B6)  |
|         |                             |         | Sovan Lal Das (lab)            | Thu(10-12.45)<br>(PM4 for reg.)  | A01 Comp lab1 (100)<br>(B7-B12) |
| HS1010  | Technology and Society      | 2-0-0-2 | Rahul Choragudi                | L(Tuesday)<br><b>H</b> (Fri),    | N-203 (B1-B6)                   |
| 1101010 | recimology and Society      | 2-0-0-2 | rvanur Onoraguur               | <b>H</b> (Mon),<br>L(Thursday)   | N-203 (B7-B12)                  |
|         |                             |         |                                | PA1                              | B7-B9 (C06 Elec. Lab)           |
| EE1110  | Electrical Workshop         | 0-0-3-2 | Swaroop Sahoo                  | PA2                              | B10-B12 (C06 Elec. Lab)         |
|         | Licetrical Workshop         | 0002    | Sabaraimalai M                 | PA4                              | B1-B3 (C06 Elec. Lab)           |
|         |                             |         |                                | PA5                              | B4-B6 (C06 Elec. Lab)           |
| PH1130  | Physics Lab                 | 0-0-3-2 | Amit Kumar Pal                 | PA2                              | B7-B9 (A01- Phy Lab)            |
| 1111130 | I TIYOTOO LAD               | 0-0-0-2 | Uma Divakaran                  | PA5                              | B10-B12 (A01- Phy Lab)          |
| CY1130  | Chamiataulah                | 0-0-3-2 | Yuvaraj (Coordinator)          | PA1                              | B1-B3 (A01 - CY Lab)            |
| C11130  | Chemistry Lab               | 0-0-3-2 | Rositha K                      | PA4                              | B4-B6 (A01- CY Lab)             |

# **Indian Institute of Technology Palakkad** Jan – May 2024 B. Tech. HSE Courses, Semester II, IV

| Code   | Course Name  | Credits | UG OE? | Prereq | Faculty            | Slot | Room    |
|--------|--|---------|--------|--------|--------------------|------|---------|
| HS2031 | Principles of Economics (40)   | 3-0-0-3 | Yes    | No     | Amrita Roy         | П    | A01-202 |
| HS2302 | Introduction to Language and Society(40)                                       | 3-0-0-3 | Yes    | No     | Reenu Punnoose     | Н    | A01-212 |
| HSxxxx | Mental Health and Law<br>(tentative title , course yet<br>to be approved) (40) |         | Yes    | No     | Sudarshan R Kottai | Ι    | A01-213 |
| HS2304 | Culture and Gender Performativity(40)  | 3-0-0-3 | Yes    | No     | G Sujatha          | Н    | A01-214 |

# **Indian Institute of Technology Palakkad** Jan – May 2024 B. Tech. SME Courses, Semester II and IV

| Code   | Course Name                        | Credits | UG OE? | Prereq | Faculty                         | Slot | Room    |
|--------|------------------------------------|---------|--------|--------|---------------------------------|------|---------|
| MA2041 | Probability and Statistics         | 3-0-0-3 | Yes    |        | Arpan Kabiraj                   | F    | A01-002 |
| MA2032 | Numerical Analysis                 | 3-0-0-3 | Yes    |        | Gopikrishnan C R                | F    | A01-213 |
| PH4602 | Introduction to Special Relativity | 3-0-0-3 | Yes    |        | Manoj Gopalakrishnan            | G    | A01-001 |
| PH3601 | Quantum Mechanics for<br>Engineers | 3-0-0-3 | Yes    | Yes    | Amit Kumar Pal<br>Uma Divakaran | G    | A01-214 |
| CY3601 | Electrochemistry and Corrosions    | 3-0-0-3 | Yes    |        | Padmesh A                       | G    | A01-202 |
| CY4001 | Industrial Chemistry               | 3-0-0-3 | Yes    | No     | Umadevi                         | F    | A01-202 |

# **Indian Institute of Technology Palakkad** Jan – May 2024 B. Tech. General Category Elective (GCE)

| Code    | Course Name   | Credits | UG OE? | Prereq | Faculty/Coordinator                      | Slot | Room    |
|---------|---|---------|--------|--------|--|------|---------|
| PH3601  | Quantum Mechanics for<br>Engineers                      | 3-0-0-3 | Yes    |        | Amit Kumar Pal<br>Uma Divakaran          | G    | A01-214 |
| PH4602  | Introduction to Special Relativity                      | 3-0-0-3 | Yes    |        | Manoj Gopalakrishnan                     | G    | A01-001 |
| HS4605  | Foundation of Linguistics (40)                          | 3-0-0-3 | Yes    |        | Reenu Punnoose                           | G    | A01-213 |
| HS5009  | Mental Health and Society in the Global South (40)      | 3-0-0-3 | Yes    |        | Sudarshan R. Kottai                      | G    | A01-002 |
| HS      | Contemporary Issues in Economic Development (30)        | 3-0-0-3 | Yes    |        | Amrita Roy                               | G    | A01-120 |
| HS4607M | German I (NPTEL)  |         | Yes    |        | Reenu Punnoose (coordinator)             | NA   | NA      |
| HS3605  | Introduction to Modern Indian Political Thought (NPTEL) |         | Yes    |        | G. Sujatha (coordinator)                 | NA   | NA      |
| ME3522  | Introduction to Finite Element Methods                  | 3-0-0-3 | Yes    | Yes    | Nelson Muthu (will Join in Dec<br>in ME) | G    | A01-118 |
| CY3601  | Electrochemistry and Corrosions                         | 3-0-0-3 | Yes    |        | Padmesh A                                | G    | A01-202 |
| ES 5601 | Sustainability Analysis and Design                      | 2-0-2-3 | Yes    |        | Sunitha K Nayar                          | G    | A01-018 |
| BS5001  | Fundamentals of Nanobiotechnology                       | 3-0-0-3 | Yes    |        | Abdul Rasheed P                          | G    | A01-103 |
| ES5XXX  | Photosynthesis  | 3-0-0-3 | Yes    |        | Deepak Jaiswal                           | G    | A01-212 |
| EE5XXX  | Computer Graphics (40)                                  | 2-0-2-3 | No     |        | Vijay Muralidharan                       | G    | A01-119 |
| ME5632  | Computational Methods for<br>Inverse Problems           | 3-0-0-3 | Yes    |        | Arijit Hazra                             | G    | A01-101 |

|        | GN1005: How to prepare for internship and job | 1-0-0-1 |     |    |                     | E4 | A01-002 |
|--------|---|---------|-----|----|---------------------|----|---------|
| GN1005 | search?                                       |         |     |    | Vinod Aravindakshan |    |         |
| CY4001 | Industrial Chemistry                          | 3-0-0-3 | Yes | No | Umadevi             | F  | A01-202 |
| HS3627 | Engineering Economics (40)*                   | 2-1-0-3 | No  |    | Senthilkumar V      | F  | A01-212 |
|        |   |         |     |    |                     |    |         |

# **Indian Institute of Technology Palakkad** Jan – May 2024 B. Tech. Civil Engineering Core Courses, Semester II and IV

| Code   | Course Name           | Credits | UG OE? | Prereq | Faculty         | Slot           | Room                   |
|--------|-----------------------|---------|--------|--------|-----------------|----------------|------------------------|
| CE2020 | Structural Analysis   | 2-1-2-4 | Yes    | Yes    | Madhu Karthik M | <b>A</b> , PA1 | A01-213<br>N Civil Lab |
| CE2060 | Soil Mechanics        | 3-0-2-4 | Yes    | Yes    | Sudheesh T. K.  | <b>B</b> , PA3 | A01-213<br>N Civil Lab |
| CE2040 | Hydraulic Engineering | 3-0-2-4 | Yes    | No     | Athira P.       | <b>C</b> , PA5 | A01-213<br>N Civil Lab |

#### B. Tech. Civil Engineering Core Courses, Semester VI

| Code   | Course Name  | Credits | UG OE? | Prereq | Faculty                                | Slot   | Room        |
|--------|--|---------|--------|--------|--|--------|-------------|
| CE3020 | Traffic Engineering                                | 3-0-2-4 | Yes    | No     | B. K. Bhavathrathan                    | A, PA2 | A01-018     |
| CE3040 | Basic Structural Steel Design                      | 3-1-0-4 | Yes    |        | Anil Kumar                             | C, M2  | A01-018     |
| CE3060 | Estimation & Construction Management               | 3-1-0-4 | No     |        | Senthilkumar                           | B, M4  | A01-018     |
| CE3080 | Hydraulic and Environmental Engineering Laboratory | 0-0-3-2 | No     | Yes    | Subhasis Mitra<br>Praveena Gangadharan | PA4    | N Civil Lab |
| CE3100 | Internship   |         | No     |        | Gokulnath C                            |        |             |

#### B. Tech. Civil Engineering Elective Courses, Semester VI

| XXXXX | GCE  | See B.Tech. GCE Slot Allocation    |
|-------|------|------------------------------------|
|       | PME  |                                    |
|       | PME* | See Department PME/ERC Course Page |

#### B. Tech. Civil Engineering Core Courses, Semester VIII

| Code   | Course Name | Credits | UG OE? | Prereq | Faculty | Slot | Room No |
|--------|-------------|---------|--------|--------|---------|------|---------|
| CE4120 | Project II  | 7       | NA     |        |         | -    | -       |

#### B. Tech. Civil Engineering Elective Courses, Semester VIII

| PME  |                                    |
|------|------------------------------------|
| PME* | See Department PME/ERC Course Page |

#### **Civil Engineering PME & ERC Courses**

| Code    | Course Name  | Credits | UG<br>OE/<br>GCE? | Prereq | Faculty                        | Slot           | Room No                         | Availability     |
|---------|--|---------|-------------------|--------|--------------------------------|----------------|---------------------------------|------------------|
| CE5510  | Advanced Concrete Technology                       | 3-0-0-3 |                   | Yes    | Athira Gopinath                | J              | A01-018                         | S6 & S8/MS/PHD   |
| CE5011  | Finite Element Applications                        | 3-0-0-3 | Yes               | Yes    | Gokulnath C                    | <b>D</b> , M3  | A01-120                         | S6 & S8/MS/PHD   |
| CE5002  | Advanced Mechanics of Structures                   | 3-0-0-3 | Yes               | Yes    | Gokulnath C                    | I              | A01-018                         | S6 & S8/MS/PHD   |
| CE5003  | GIS and Remote Sensing                             | 1-0-3-3 | Yes               | No     | Sarmistha Singh                | <b>D</b> , PA5 | N Comp<br>lab<br>CC lab<br>(48) | S6/S8 /MS/Ph.D.  |
| CE5614  | Pavement Analysis & Design                         | 3-0-0-3 | No                | Yes    | Veena Venudharan               | Н              | A01-120                         | S8/MS/PhD        |
| CE5514  | Surface Water Hydrology                            | 3-0-0-3 | No                | Yes    | Subhasis Mitra                 | J              | A01-213                         | S8/MS/PhD        |
| CE5619  | Pavement Management Systems                        | 3-0-0-3 | No                | Yes    | Veena Venudharan               | <b>D</b> , M3  | A01-018                         | S8/MS/PhD        |
| CE5626  | Underground Structures                             | 3-0-0-3 | No                | Yes    | Ankesh Kumar                   | I              | A01-120                         | S6/S8/Ph.D./MS   |
| CE5518  | Advanced Reinforced Concrete: Analysis and Design  | 4-0-0-4 | No                | Yes    | Madhu Karthik M                | F              | A01-120                         | S6/S8/M.S./Ph.D. |
| CE5621  | Physico- Chemical Water<br>Treatment Processes     | 3-0-0-3 | No                | Yes    | Praveena G                     | F              | A01-018                         | M.S./Ph.D.       |
| CE5621  | Biological Process Design for Wastewater Treatment | 3-0-0-3 | No                | Yes    | Praveena G                     | Н              | A01-018                         | M.S./Ph.D.       |
| CE 5604 | Geosynthetics and Reinforced Soil Structures       | 3-0-0-3 | No                | Yes    | Divya P. V.                    | J              | A01-120                         | S6/S8/MS/PhD     |
| CE5006  | Foundation Engineering                             | 3-1-0-4 | No                | Yes    | Sudheesh T. K.                 | <b>K</b> ,E1   | A01-120                         | S8/MS/PhD        |
| CE5002  | Applied soil mechanics                             | 3-1-0-4 | No                | Yes    | Rakesh J. Pillai               | <b>B</b> ,E4   | A01-120                         | S8/MS/PhD        |
| CE5615  | Finite ELement Methods in Geotechnical Engineering | 3-0-0-3 | No                | Yes    | Gokulnath C<br>Rakesh J PIllai | <b>D</b> , M3  | A01-120                         | MS/PhD           |

#### B. Tech. Computer Science Engineering Core Courses, Semester II and IV

| Code   | Course Name                             | Credits | UG OE? | Prereq | Faculty   | Slot              | Room  |
|--------|---|---------|--------|--------|---|-------------------|---|
| CS2030 | Data Structures and Algorithms          | 3-0-0-3 | Yes*   | Yes    | Krithika Ramaswamy                              | В                 | A01-002   |
| CS2130 | Data Structures and Algorithms Lab      | 0-0-3-2 | No     | Yes    | Deepak Rajendraprasad,<br>Srimanta Bhattacharya | PA4               | A01-Comp<br>Lab1 (100<br>seater lab)            |
| CS3060 | Computer Architecture                   | 3-0-0-3 | Yes**  | Yes    | Sandeep Chandran                                | G                 | A01-Aud   |
| CS3160 | Computer Architecture Lab               | 0-0-3-2 | Yes**  | Yes    | Sandeep Chandran                                | PA2               | A01-Comp<br>Lab1 (100<br>seater lab)            |
| DS2020 | Introduction to Artificial Intelligence | 3-0-2-4 | No     | Yes    | C K Narayanan                                   | <b>C</b> +<br>PA3 | A01-002<br>A01-Comp<br>Lab1 (100<br>seater lab) |

<sup>\*</sup> Max 10 students outside CSE

<sup>\*\*</sup> Max 5 students outside CSE

#### B. Tech. Computer Science Engineering Core Courses, Semester VI

| Code    | Course Name                        | Credits | UG OE? | Prereq | Faculty                        | Slot  | Room                              |
|---------|------------------------------------|---------|--------|--------|--------------------------------|-------|-----------------------------------|
| CS3020  | Database Management Systems        | 3-0-0-3 | No     |        | Koninika Pal                   | A     | A01-002                           |
| CS3120  | Database Management<br>Systems Lab | 0-0-3-2 | No     |        | Sahely Bhadra,<br>Koninika Pal | PA1   | A01-Comp Lab1<br>(100 seater lab) |
| CS3040  | Compiler Design                    | 3-0-0-3 | No     |        | Unnikrishnan<br>Cheramangalath | D+E5  | A01-102                           |
| CS3140  | Compiler Design Lab                | 0-0-3-2 | No     |        | Unnikrishnan<br>Cheramangalath | PA5   | A01-Comp Lab1<br>(100 seater lab) |
| CS3100  | Internship                         | CWC     | No     |        | Vivek Chaturvedi               | -     | -                                 |
| CS2180* | Artificial Intelligence Lab        | 0-0-3-2 | No     |        | C K Narayanan                  | C+PA3 | Same as DS2020                    |
| CS2060* | Computer Organisation              | 3-0-0-3 | No     |        | Sandeep Chandran               | G     | Same as CS3060                    |
| CS2160* | Computer Organisation Lab          | 0-0-3-2 | No     |        | Sandeep Chandran               | PA2   | Same as CS3160                    |

<sup>\*</sup>Course in 2017 curriculum, Contact course for students with backlog

#### B. Tech. Computer Science Engineering Elective Courses, Semester VI

| GCE  | See B.Tech. GCE Slot Allocation    |
|------|------------------------------------|
| PME  |                                    |
| PME* | See Department PME/ERC Course Page |

#### B. Tech. Computer Science Engineering Core Courses, Semester VIII

| Code   | Course Name | Credits | UG OE? | Prereq | Faculty   | Slot | Room No |
|--------|-------------|---------|--------|--------|---|------|---------|
| CS4120 | Project II  |         |        |        | Deepak Rajendraprasad,<br>Srimanta Bhattacharya | -    |         |

#### B. Tech. Computer Science Engineering Elective Courses, Semester VIII

| XXXXX | GCE  | See B.Tech. GCE Slot Allocation    |
|-------|------|------------------------------------|
|       | PME* | See Department PME/ERC Course Page |

#### Computer Science Engineering PME & ERC Courses

| Code   | Course Name                                      | Credits | UG<br>OE/<br>GCE? | Prereq | Faculty   | Slot  | Room No  | Availability                                     |
|--------|--|---------|-------------------|--------|---|---|--|--|
| CS5016 | Computational Methods and Applications           | 2-0-3-4 | No                |        | Albert Sunny                                    | <b>PA4</b> +E4  | N Comp.<br>Lab<br>CS Lab (70)                  | BTech CSE S4, S6,<br>S8, MCaM,<br>MSoCD, MS, PhD |
| CS5014 | Foundations of Data Science and Machine Learning | 3-0-0-3 | No                |        | Deepak Rajendraprasad                           | F   | A01-102  | BTech CSE S6, S8,<br>MCaM, MDS, MS,<br>PhD       |
| CS5616 | Computational Complexity                         | 3-0-0-3 | No                |        | Dinesh Krishnamoorthy                           | В   | A01-102  | BTech CSE S6, S8,<br>MCaM, MS, PhD               |
| CS5003 | Parameterized Algorithms                         | 3-0-0-3 | No                |        | Krithika Ramaswamy                              | н   | A01-102  | BTech CSE S6, S8,<br>MCaM, MS, PhD               |
| CS5633 | Model Checking                                   | 3-0-2-4 | Yes               |        | Jasine Babu                                     | C (Theory) +<br>E2 (Lab)  | A01-102<br>A01-Comp<br>Lab1(100<br>seater lab) | BTech CSE S4, S6,<br>S8, MCaM,<br>MSoCD, MS, PhD |
| CS5639 | Topics in Networks                               | 1-0-3-3 | No                |        | Anish Hirwe                                     | <b>PA2</b> +<br>E2  | A01-Comp<br>lab 2 (35)<br>A01-102              | BTech CSE S8,<br>MSoCD, MS, PhD                  |
| CS5510 | Compiler Optimizations and Program Analysis      | 3-0-0-3 | No                |        | Unnikrishnan<br>Cheramangalath                  | L   | A01-102  | BTech CSE S8,<br>MSoCD, MS, PhD                  |
| CS5638 | Quantum Computing                                | 3-0-0-3 | No                |        | Dinesh Krishnamoorthy,<br>Srimanta Bhattacharya | E (for registration) (contact instructors for further details on lecture timings) | A01-212  | BTech CSE S6, S8,<br>MCaM, MS, PhD               |
| CS5010 | Graph Theory and Combinatorics                   | 3-0-0-3 | Yes               | Yes    | Srimanta Bhattacharya                           | ı   | A01-102  | BTech CSE S4, MS,<br>PhD                         |
| CS5002 | Functional Programming                           | 3-0-0-3 | Yes               |        | Piyush Kurur                                    | В   | A01-212  | BTech CSE S4, S6,<br>S8, MCaM,<br>MSoCD, MS, PhD |

| DS5102  | Big Data Lab  | 1-0-3-3 | No |   | Nikhil Krishnan | PM3                          | A01-Comp<br>Lab 1 (100<br>seater)                | BTech CSE S6, S8                         |
|---------|---|---------|----|---|-----------------|------------------------------|--|--|
| DS3040  | Deep Learning   | 3-0-3-5 | No |   | Mrinal Das      | <b>G</b> and PM5 (tentative) | A01-102<br>A01-Comp<br>Lab 1 (100<br>seater lab) | BTech CSE S6, S8                         |
| DS6004  | Responsbile Al  | 3-0-0-3 | No |   | Sahely Bhadra   | L                            | A01-001  | BTech CSE S6, S8                         |
| EE5605  | Error-Correcting Codes for<br>Communications and Distributed<br>Systems | 3-0-0-3 | No |   | Nikhil Krishnan | F                            | A01-001  | BTech CSE S6, S8                         |
| CS5642M | Introduction To Machine Learning  | 3-0-0-3 | -  | - | NPTEL           | -                            | -  | BTech CSE S6, S8,<br>MCaM (OE),<br>MSoCD |
| CS5643M | Reinforcement Learning  | 3-0-0-3 | -  | _ | NPTEL           | -                            | _  | BTech CSE S6, S8,<br>MCaM (OE),<br>MSoCD |
| CS5637M | Secure Computation: Part I  | 3-0-0-3 | -  | - | NPTEL           | -                            | -  | BTech CSE S6, S8                         |
| CS4608M | Cloud Computing   | 3-0-0-3 | -  | - | NPTEL           | _                            | -  | BTech CSE S6, S8                         |
| CS5XXX  | GPU Architectures and Programming                                       | 3-0-0-3 | -  | - | NPTEL           | -                            | -  | BTech CSE S6, S8,<br>MSoCD               |

# **Indian Institute of Technology Palakkad** Jan – May 2024 B. Tech. Data Science Core Courses, Semester II

| Code   | Course Name                             | Credits | UG OE? | Prereq | Faculty          | Slot             | Room  |
|--------|---|---------|--------|--------|------------------|------------------|---|
| DS2020 | Introduction to Artificial Intelligence | 3-0-2-4 | No     | Yes    | Narayanan        | <b>C</b> and PA3 | A01-002<br>A01-Comp<br>Lab1 (100<br>seater lab) |
| DS2040 | Computer Systems for Data Science       | 3-0-3-5 | No     | Yes    | Satyajit Das     | <b>B</b> and PA5 | A01-001<br>A01- Comp<br>Lab2 (35)               |
| DS3020 | Database Systems                        | 3-0-3-5 | No     | Yes    | Koninika, Sahely | A and PA1        | A01-002<br>A01-Comp<br>Lab1 (100<br>seater lab) |

#### B. Tech. Electrical Engineering Core Courses, Semester II and IV

| Code    | Course Name                                   | Credits | UG OE? | Prereq | Faculty                  | Slot                              | Room                       |
|---------|---|---------|--------|--------|--------------------------|-----------------------------------|----------------------------|
| EE3060A | Control Engineering                           | 3-0-2-4 | No     | Yes    | Sneha Gajbhiye           | B<br>PA2<br>(alternat<br>e weeks) | A01-103<br>N Electron. Lab |
| EE2040A | Analog Circuits Theory and Lab                | 3-0-2-4 | No     | Yes    | Arvind                   | A<br>PA2<br>(alternat<br>e weeks) | A01-103<br>N Electron. Lab |
| EE2080  | Microprocessor Systems Design and Interfacing | 3-0-2-4 | No     | Yes    | Vijay Muralidharan       | <b>D+</b><br>PA4                  | A01-103<br>N Electron. Lab |
| EE3020A | Digital Signal Processing                     | 3-0-0-3 | Yes    | Yes    | M Sabarimalai Manikandan | С                                 | A01-Aud                    |
| EE2040  | Analog Circuits Theory (contact mode)         | 3-1-0-4 | No     | Yes    | Arvind                   | Α                                 | A01-103                    |
| EE3150  | Analog Circuits Lab (contact mode)            | 0-0-3-2 | No     | Yes    | Arvind                   | PA2<br>(alternat<br>e weeks)      | N Electron. Lab            |

<sup>\*</sup>Contact mode courses for students from senior batches who have not completed these course requirements

#### B. Tech. Electrical Engineering Core Courses, Semester VI

| Code   | Course Name                                    | Credits | UG OE ? | Prereq | Faculty                      | Slot            | Room            |
|--------|--|---------|---------|--------|------------------------------|-----------------|-----------------|
|        |  |         |         |        |                              |                 |                 |
| EE3020 | Digital Signal Processing                      | 3-1-0-4 | No      | Yes    | M. Sabarimalai Manikandan    | <b>C+</b><br>M5 | A01-Aud         |
| EE3040 | Power Systems                                  | 3-1-0-4 | No      | Yes    | Manas Kumar Jena             | <b>A+</b><br>M1 | A01-119         |
| EE3060 | Control Engineering                            | 3-1-0-4 | No      | Yes    | Shaikshavali Chitraganti     | <b>B+</b><br>M3 | A01-119         |
| EE3120 | Communication Systems and Microwave Laboratory | 0-0-3-2 | No      | Yes    | Jobin Francis<br>Sukomal Dey | PA1             | N Electron. Lab |
| EE3140 | Measurements and Instrumentation Laboratory    | 0-0-3-2 | No      | Yes    | Sreenath Vijayakumar         | PA5             | N Electron. Lab |

#### B. Tech. Electrical Engineering Elective Courses, Semester VI

| XXXXX | GCE  | See B.Tech. GCE Slot Allocation     |
|-------|------|-------------------------------------|
|       | PME  | See Department PME/ERC Course Page  |
|       | PME* | See Department Fine/ERC Course Page |

#### B. Tech. Electrical Engineering Core Courses, Semester VIII

| Code   | Course Name               | Credits  | UG OE ? | Prereq | Faculty                  | Slot      | Room No      |
|--------|---------------------------|----------|---------|--------|--------------------------|-----------|--------------|
| XXXXX  | General Category Elective | 3-0-0-3  | -       |        | See B.Tech. Common Co.   | urses Slo | t Allocation |
| EE4120 | Project II                | 0-0-11-7 |         | Yes    | Shaikshavali Chitraganti |           |              |

#### B. Tech. Electrical Engineering Elective Courses, Semester VIII

| XXXXX | GCE  | See B.Tech. GCE Slot Allocation    |
|-------|------|------------------------------------|
|       | PME* | See Department PME/ERC Course Page |

#### **Electrical Engineering PME & ERC Courses**

| Code   | Course Name   | Credits | UG<br>OE/<br>GCE? | Prereq | Faculty              | Slot   | Room No                                  | Availability   |
|--------|---|---------|-------------------|--------|----------------------|--|--|--|
| EE5518 | Nanoelectronic Devices  | 3-0-0-3 | No                | Yes    | Revathy Padmanabhan  | н  | A01-103                                  | BTech(EE) S2/S4/S6/S8, MTech(SoCD) S2/S4, MS, PhD, as long as they meet the prerequisite                   |
| EE5606 | Micro and Nanoscale Devices<br>Laboratory                     | 0-0-3-2 | No                | Yes    | Revathy Padmanabhan  | E* (for registration) (contact instructor for further details on elective lab timings) | Nila<br>CIF-CMFF                         | BTech(EE)<br>S2/S4/S6/S8,<br>MTech(SoCD)<br>S2/S4, MS, PhD,<br>as long as they<br>meet the<br>prerequisite |
| EE5516 | VLSI Architectures for signal processing and machine learning | 2-0-2-3 | No                | Yes    | Subrahmanyam Mula    | <b>D</b><br>+<br>PA3   | A01-119<br>+<br>N<br>Electroni<br>cs Lab | BTech(EE) S6/S8,<br>MTech(SoCD)<br>S2/S4, MS, PhD,<br>as long as they<br>meet the<br>prerequisite          |
| EE5519 | Wireless Communication  | 3-0-0-3 | No                | Yes    | Jobin Francis        | K  | A01-103                                  | BTech EE S6/S8 and MS/Ph.D.  |
| EE5525 | Sensors and Signal Conditioning Circuits                      | 3-0-0-3 | No                | Yes    | Sreenath Vijayakumar | К  | A01-119                                  | BTech EE S6/S8,<br>MTech(PEPS and<br>SoCD) and<br>MS/Ph.D.   |
| EE5003 | RF and Microwave Passive<br>Circuits                          | 3-0-0-3 | Yes               | Yes    | Sukomal Dey          | L  | A01-119                                  | BTech(EE)<br>S4/S6/S8, MTech<br>(SoCD) S2/S4,<br>MS, PhD   |

| EE5605 | Error-Correcting Codes for<br>Communications and Distributed<br>Systems | 3-0-0-3 | No | Yes | Nikhil Krishnan M        | F | A01-001             | S6/S8 BTech<br>(EE/CS/DS),<br>MTech (DS/CAM),<br>MS (EE/CS/DS),<br>PhD (EE/CS/DS) |
|--------|---|---------|----|-----|--------------------------|---|---------------------|---|
| EE5514 | Renewable Energy Systems  | 3-0-03  | No | Yes | Naga Brahmendra          | В | A01-214             | S8 (UGEE),<br>MS/PhD (EE)   |
| EE5521 | Optimal control   | 3-0-0-3 | No | Yes | Shaikshavali Chitraganti | I | A01-214<br>or C06-1 | MS/PhD  |

<sup>\*</sup>EE5606 is an elective lab course. It is slotted in E for registration purposes.

Students may please contact the course instructor for further details about the lab timings

#### B. Tech. Mechanical Engineering Core Courses, Semester II and IV

| Code        | Course Name               | Credits | UG OE? | Prereq | Faculty          | Slot | Room    |
|-------------|---------------------------|---------|--------|--------|------------------|------|---------|
| 11ME20110 1 | Fluid Mechanics Theory    | 3-0-2-4 | Yes    | No     | Ganesh Natarajan | B+   | A01-202 |
|             | and Practice              |         |        |        | Krishna S        | PA3  | D-03    |
| ME2030A     | Manufacturing Processes-I | 3-0-0-3 | Yes    | Yes    | Dinesh Setti     | Α    | A01-202 |
| ME2012      | Mechanics of Solids:      | 3-0-2-4 | Yes    | Yes    | KVN Surendra     | C+   | A01-202 |
| IVIEZU IZ   | Theory and Practice       | 3-0-2-4 | 168    | 162    | KVIN Surentia    | PA1  | D-03    |

#### B. Tech. Mechanical Engineering Core Courses, Semester VI

| Code   | Course Name                          | Credits | UG OE/<br>GCE? | Prereq | Faculty                      | Slot         | Room       |
|--------|--------------------------------------|---------|----------------|--------|------------------------------|--------------|------------|
| ME3020 | Applied Thermo-Fluids<br>Engineering | 4-0-0-4 | Yes            | Yes    | Anand T N C                  | <b>A</b> +E2 | A01-118    |
| ME3040 | Mechanical Vibrations                | 3-0-0-3 |                | Yes    | Anoop Akkoorath Mana         | В            | A01-118    |
| ME3060 | Machine Design Practice              | 3-0-0-3 | Yes            | Yes*   | Santhakumar Mohan            | С            | A01-118    |
| ME3080 | Automation in Manufacturing          | 3-0-0-3 |                | No     | D Chakradhar                 | Н            | A01-118    |
| ME3100 | Internship                           | CWC     |                | No     | Vineed Narayanan             | -            |            |
| ME3180 | Mechanical Engineering Laboratory 2  | 0-0-3-2 |                | No     | Vineed Narayanan<br>Pramod K | PA1          | N Mech Lab |

<sup>\*</sup> Maximum 7 OE students, CoT rquired for prerequisite waiver

#### B. Tech. Mechanical Engineering Elective Courses, Semester VI

| XXXXX | GCE  | See B.Tech. GCE Slot Allocation    |
|-------|------|------------------------------------|
|       | PME* | See Department PME/ERC Course Page |

#### B. Tech. Mechanical Engineering Core Courses, Semester VIII

| Code   | Course Name | Credits  | UG OE/<br>GCE? | Prereq | Faculty                 | Slot | Room No |
|--------|-------------|----------|----------------|--------|-------------------------|------|---------|
| ME4160 | Project II  | 0-0-11-7 |                | Yes    | Krishna S (coordinator) | -    | -       |

#### B. Tech. Mechanical Engineering Elective Courses, Semester VIII

| PME  |                                    |
|------|------------------------------------|
| PME* | See Department PME/ERC Course Page |

#### **Mechanical Engineering PME & ERC Courses**

| Code   | Course Name                                 | Credits | UG<br>OE/<br>GCE? | Prereq | Faculty  | Slot             | Room No                  | Availability                  |
|--------|---|---------|-------------------|--------|--|------------------|--------------------------|-------------------------------|
| ME5617 | Wheeled Mobile Robots                       | 3-0-0-3 | Yes               | No     | Santhakumar Mohan                                  | D+E1             | A01-118                  | S6/S8/M.S/Ph.D                |
| ME4502 | Aerospace Propulsion                        | 3-0-0-3 | Yes               | Yes    | T Sundararajan                                     | K                | A01-118                  | S4/S6/S8                      |
| ME5610 | Soft Computing                              | 3-0-0-3 | Yes               | No     | D Chakradhar<br>Samarjeet Chanda                   | L                | A01-118                  | S4/S6/S8/M.Tech.<br>/M.S/Ph.D |
| ME5620 | Advanced Heat Transfer                      | 3-0-0-3 | No                | Yes    | Samarjeet Chanda<br>Pramod K                       | D+E1             | A01-101                  | M.Tech./M.S./Ph.<br>D.        |
| ME5619 | Combustion                                  | 3-0-0-3 | No                | No     | Krishna S  | I                | A01-101                  | M.Tech./M.S./Ph.<br>D.        |
| ME5628 | Lean Manufacturing                          | 2-0-2-3 | Yes               | Yes    | Girish Govande (ACMA) / D Chakradhar (coordinator) | F                | A01-118                  | S6/S8/M.Tech<br>(MME)/PhD     |
| ME5626 | Advanced Refrigeration and Air Conditioning | 3-0-0-3 | Yes               | Yes    | Vineed Narayanan<br>Pramod K                       | L                | A01-202                  | S6/S8/M.S/Ph.D                |
| ME5618 | Additive Manufacturing                      | 3-0-03  | Yes               | Yes    | Buchibabu Vicharapu                                | L                | A01-101                  | S6/S8/M.S/M.<br>Tech/Ph.D     |
| ME5634 | Fundamentals of micro-nano manufacturing    | 2-0-2-3 | Yes               | Yes    | Afzaal Ahmed                                       | <b>K+</b><br>PA3 | A01-101<br>N Mech<br>Lab | S8/M.Tech./M.S.<br>/Ph.D.     |

#### MSc Chemistry Core Courses, Semester II

| Code   | Course Name   | Credits          | UG OE/<br>GCE | Prereq | Faculty                | Slot | Room       |
|--------|---|------------------|---------------|--------|------------------------|------|------------|
| CY5002 | Chemistry of Materials  | 3-0-0-3          | No            | Yes    | Yugender Goud Kotagiri | F    | N 303      |
| CY5004 | Molecular Dynamics and<br>Basic Statistical<br>Thermodynamics | 3-0-0-3          | No            | No     | Debarati Chatterjee    | K    | N 303      |
| CY5006 | Elucidation of Molecular Structure                            | 3-0-0-3          | No            | Yes    | Yuvaraj K              | Α    | N 303      |
| CY5008 | Reaction Mechanisms   | 3-0-0-3          | No            | Yes    | Mintu Porel            | G    | N 303      |
| CY5102 | Synthesis, Energetics and Dynamics Lab 2                      | 0-0-2-2<br>(chk) | No            | No     | Supratik Sen Majumdar  | PA5  | A01-CY Lab |
| CY5104 | Synthesis, Energetics and Dynamics Lab 3                      | 0-0-2-2<br>(chk) | No            | No     | Sushabhan Sadhukhan    | РМ3  | A01-CY Lab |

#### **MSc Chemistry Other Courses, Semester II**

| Code   | Course Name                                  | Credits | UG OE/<br>GCE | Prereq | Faculty | Slot | Room |
|--------|--|---------|---------------|--------|---------|------|------|
| GN6001 | Research Methodology and Professional Ethics | 2-0-0-0 | -             | 1      |         | EML  |      |

#### MSc Chemistry Core Courses, Semester IV

| Code   | Course Name   | Credits | UG OE/<br>GCE? | Prereq | Faculty       | Slot | Room |
|--------|---------------|---------|----------------|--------|---------------|------|------|
| CY5120 | Major Project |         | No             | Yes    | Abdul Rasheed | -    | -    |

#### **MSc Chemistry Elective Courses, Semester IV**

| Elective II  |                          |
|--------------|--------------------------|
| Elective III | See Elective Course Page |
| Elective IV  |                          |

#### MSc Chemistry PSE/OE/SRC Courses

| Code   | Course Name   | Credits | UG OE/<br>GCE? | Prereq | Faculty                        | Slot | Room No | Availability |
|--------|---|---------|----------------|--------|--------------------------------|------|---------|--------------|
| CY5611 | Supramolecular Chemistry  | 3-0-0-3 | No             | No     | Shanmugaraju<br>Sankarasekaran | F    | N306    |              |
| CY5610 | Principles of Chemical Biology                                    | 3-0-0-3 | No             | No     | Sushabhan Sadhukhan            | K    | N306    |              |
| CY5603 | Chemistry of Mixing Separation and Analysis                       | 3-0-0-3 | No             | Yes    | Dinesh Jagadeesan              | L    | N306    |              |
| CY5503 | Transition Metal Organometallics in Catalysis and Biology (NPTEL) |         |                |        | Mintu Porel                    |      |         |              |

## MSc Mathematics Core Courses, Semester II

| Code   | Course Name            | Credits | UG OE/<br>GCE | Prereq | Faculty                     | Slot          | Room  |
|--------|------------------------|---------|---------------|--------|-----------------------------|---------------|-------|
| MA5002 | Multivariable Calculus | 4-0-0-4 | No            | Yes    | Sarath Sasi                 | <b>H</b> , E4 | N 308 |
| MA5004 | Measure Theory         | 4-0-0-4 | No            | Yes    | V Muruganandam              | <b>A</b> , M3 | N 308 |
| MA5006 | Fields and Modules     | 4-0-0-4 | No            | Yes    | Parangama Sarkar            | G, Q          | N 308 |
| MA5008 | Topology               | 4-0-0-4 | No            | Yes    | Jaikrishnan J (coordinator) | <b>F</b> , E2 | N 308 |
| MA5010 | Complex Analysis       | 4-0-0-4 | No            | Yes    | G P Balakumar               | C,M1          | N 308 |
|        |                        |         |               |        |                             |               |       |

#### **MSc Mathematics Core Courses, Semester IV**

| Code   | Course Name     | Credits | UG OE/<br>GCE? | Prereq | Faculty       | Slot | Room |
|--------|-----------------|---------|----------------|--------|---------------|------|------|
| MA5120 | Project Level 2 | 6-0-0-6 | No             |        | Arpan Kabiraj | N/A  |      |

#### **MSc Mathematics Other Courses, Semester IV**

| Code   | Course Name                                  | Credits | UG OE/<br>GCE? | Prereq | Faculty                  | Slot | Room |
|--------|--|---------|----------------|--------|--------------------------|------|------|
| GN6001 | Research methodology and professional ethics | 2-0-0-0 |                |        |                          | EML  |      |
|        | Elective IV **                               |         |                |        |                          |      |      |
|        | Elective V                                   |         |                |        | Soo Flootivo Courso Bogo |      |      |
|        | Elective VI/Project Level 2                  |         |                | •      | See Elective Course Page |      |      |
|        | Elective VII/Project Level 2                 |         |                |        |                          |      |      |

<sup>\*\*</sup> A student is allowed to take a maximum of one course in the open elective (OE) category in place of PSE.

#### **MSc Mathematics PSE/OE/SRC Courses**

| Code   | Course Name                                      | Credits | UG OE/<br>GCE? | Prereq | Faculty                     | Slot               | Room No                         | Availability |
|--------|--|---------|----------------|--------|-----------------------------|--------------------|---------------------------------|--------------|
| MA6605 | Operator Theory                                  | 3-0-0-3 | No             | Yes    | C R Jayanarayanan           | F                  | N305                            |              |
| EE5517 | Information Theory and Statistics                | 3-0-0-3 | No             | Yes    | M Ashok Kumar               | В                  | N308                            |              |
| MA6010 | Advanced Partial Differential Equations          | 3-0-0-3 | No             | Yes    | Gopikrishnan C R            | G                  | N305                            |              |
| MA6008 | Lie Groups and Lie Algebras                      | 3-0-0-3 | No             | Yes    | Jaikrishnan J (coordinator) | L                  | N308                            |              |
| CS5016 | Computational Methods and Applications           | 2-0-3-4 | No             |        | Albert Sunny                | <b>PA4</b> +<br>E4 | N Comp<br>Lab<br>CS Lab<br>(70) |              |
| CS5010 | Graph Theory and Combinatorics                   | 3-0-0-3 | Yes            | Yes    | Srimanta Bhattacharya       | ı                  | A01-102                         |              |
| CS5014 | Foundations of Data Science and Machine Learning | 3-0-0-3 | No             |        | Deepak Rajendraprasad       | F                  | A01-102                         |              |
| CS5616 | Computational Complexity                         | 3-0-0-3 | No             |        | Dinesh Krishnamoorthy       | В                  | A01-102                         |              |
| MA5xxx | Financial Derivatives & Risk Management          | NPTEL   |                |        |                             |                    |                                 |              |
| MA5xxx | Fourier Analysis and its Applications            | NPTEL   |                |        |                             |                    |                                 |              |
| MA5xxx | Numerical Analysis                               | NPTEL   |                |        |                             |                    |                                 |              |

#### MSc Physics Core Courses, Semester II

| Code   | Course Name   | Credits | UG OE/<br>GCE | Prereq | Faculty                                 | Slot            | Room                 |
|--------|---|---------|---------------|--------|---|-----------------|----------------------|
| PH5008 | Quantum Mechanics 2   | 3-0-0-3 | No            | Yes    | Kusum Dhochak                           | С               | N 301                |
| PH5002 | Atomic and Molecular Physics                                  | 3-0-0-3 | No            | Yes    | Jayakumar Balakrishnan                  | A               | N 301                |
| PH5004 | Electronics and Instrumentation                               | 2-0-3-4 | No            |        | Swaroop Sahoo                           | <b>D</b><br>PM2 | N 301<br>Nila E. Lab |
| PH5006 | Statistical Mechanics   | 3-1-0-4 | No            |        | Bibhu Ranjan Sarangi                    | В               | N 301                |
| PH5102 | Msc Physics Lab 2 Thermal Physics and Atomic Spectroscopy Lab | 0-0-3-2 | No            |        | Jayakumar Balakrishnan<br>Kusum Dhochak | PA4             | A01-Phy Lab          |

#### **MSc Physics Other Courses, Semester II**

| Code        | Course Name                                  | Credits | UG OE/<br>GCE | Prereq | Faculty               | Slot | Room |
|-------------|--|---------|---------------|--------|-----------------------|------|------|
| I CHINDUILI | Research Methodology and Professional Ethics | 2-0-0-0 | -             | -      |                       | EML  |      |
| HSxxxx      | Humanities Elective                          | 3-0-0-3 |               |        | See HSE/HSS Course Pa | ge   |      |

#### MSc Physics Core Courses, Semester IV

| Code   | Course Name | Credits  | UG OE/<br>GCE? | Prereq | Faculty     | Slot | Room |
|--------|-------------|----------|----------------|--------|-------------|------|------|
| PH5120 | Project II  | 0-0-12-8 | No             | Yes    | Soham Manni | -    | -    |

#### MSc Physics Elective Courses, Semester IV

| Elective III (OE) | See Elective Course Page |
|-------------------|--------------------------|
| Elective IV (PSE) | See Liective Course Page |

#### MSc Physics PSE/OE/SRC Courses

| Code   | Course Name  | Credits | UG OE/<br>GCE? | Prereq | Faculty           | Slot      | Room No                                  | Availability |
|--------|--|---------|----------------|--------|-------------------|-----------|--|--------------|
| PH5611 | Softmatter Physics   | 3-0-0-3 | No             | Yes    | Vishwas V         | F         | N301                                     |              |
| PH5618 | Introduction to Computational Physics                              | 2-0-2-3 | Yes            | No     | Akshay Bhatnagar  | D+<br>PA3 | N306<br>N Comp.<br>Lab<br>CC Lab<br>(48) |              |
| PH5622 | Introduction to Astrophysics                                       | 3-0-0-3 | Yes*           | No     | Projjwal Banerjee | G         | N 301                                    |              |
| PH6003 | Magnetism in Materials   | 3-0-0-3 | No             | Yes    | Soham Manni       | н         | N 301                                    |              |
| PHxxxx | Many Body Physics : Technqiues and Applications (pending approval) | 3-0-0-3 | No             | Yes    | Prithvi Narayan P | K         | N301                                     |              |

<sup>\*</sup> Only as GCE for BTech S6 and S8

#### **Humanities & Social Sciences HRC Courses**

| Course Name   | Credits  | GCE?   | Prereq  | Faculty   | Slot  | Room No  | Availability   |
|---|--|--|---|---|---|--|--|
| Contemporary Issues in<br>Economic Development                        | 3-0-0-3  | Yes  |   | Amrita Roy  | G   | A01-120  |  |
| Gender Question in India  | 3-0-0-3  | No   |   | G. Sujatha  | J   | N305/<br>C06-2   |  |
| Formal and Non-Formal School Education in India* (yet to be approved) | 3-0-0-3  | No   |   | Rahul Choragudi   | I   | N305/<br>C06-2   |  |
| The Ethnographic Film   | 3-0-0-3  | No   |   | Rahul Choragudi   | K   | N305/<br>C06-2   |  |
|   |  |  |   |   |   |  |  |
|   | Contemporary Issues in Economic Development  Gender Question in India  Formal and Non-Formal School Education in India* (yet to be approved) | Contemporary Issues in Economic Development 3-0-0-3  Gender Question in India 3-0-0-3  Formal and Non-Formal School Education in India* (yet to be approved) 3-0-0-3 | Contemporary Issues in Economic Development  Gender Question in India  Formal and Non-Formal School Education in India* (yet to be approved)  3-0-0-3  Yes  3-0-0-3  No | Contemporary Issues in Economic Development  Gender Question in India  Formal and Non-Formal School Education in India* (yet to be approved)  3-0-0-3  Yes  3-0-0-3  No | Contemporary Issues in Economic Development  Gender Question in India  Formal and Non-Formal School Education in India* (yet to be approved)  Gender Question in India* (yet to be approved)  Amrita Roy  G. Sujatha  Rahul Choragudi | Contemporary Issues in Economic Development 3-0-0-3 Yes Amrita Roy G  Gender Question in India 3-0-0-3 No G. Sujatha J  Formal and Non-Formal School Education in India* (yet to be approved)  Rahul Choragudi I | Contemporary Issues in Economic Development  3-0-0-3 Yes Amrita Roy G A01-120  Gender Question in India 3-0-0-3 No G. Sujatha J N305/ C06-2  Formal and Non-Formal School Education in India* (yet to be approved)  The Ethnographic Film 3-0-0-3 No Rahul Choragudi K N305/ |

#### M.Tech. in Computing and Mathematics Core Courses, Semester II

| Code   | Course Name  | Credits | UG OE/<br>GCE | Prereq | Faculty               | Slot           | Room                      |
|--------|--|---------|---------------|--------|-----------------------|----------------|---------------------------|
| CS5016 | Computational Methods and Applications                 | 2-0-3-4 | No            | Yes    | Albert Sunny          | <b>PA4</b> +E4 | N Comp Lab<br>CS Lab (70) |
| CS5010 | Graph Theory and Combinatorics                         | 3-0-0-3 | Yes           | Yes    | Srimanta Bhattacharya | 1              | A01-102                   |
| CS5014 | Foundations of Data<br>Science and Machine<br>Learning | 3-0-0-3 | No            | Yes    | Deepak Rajendraprasad | F              | A01-102                   |

#### M.Tech. in Computing and Mathematics Elective/Other Courses, Semester II

| Code | Course Name | Credits                  | UG OE/<br>GCE | Prereq | Faculty                  | Slot | Room |
|------|-------------|--------------------------|---------------|--------|--------------------------|------|------|
|      | PME         | See Elective Course Page |               |        |                          |      |      |
|      | OE          |                          |               |        | See Elective Course Page |      |      |

## M.Tech. in Computing and Mathematics Core Courses, Semester IV

| Code   |                                | Credits   | GCE | Prereq | Faculty      | Slot | Room |
|--------|--------------------------------|-----------|-----|--------|--------------|------|------|
| CM5120 | Project / Dissertation Phase 2 | 0-0-18-12 |     |        | Albert Sunny | 1    | -    |

## M.Tech. in Computing and Mathematics PE/OE/ERC Courses

| Code    | Course Name                              | Credits | UG OE/<br>GCE? | Prereq | Faculty   | Slot   | Room No                                      |
|---------|--|---------|----------------|--------|---|--|--|
| CS5616  | Computational Complexity                 | 3-0-0-3 | No             | Yes    | Dinesh Krishnamoorthy                           | В  | A01-102                                      |
| CS5003  | Parameterized Algorithms                 | 3-0-0-3 | No             | Yes    | Krithika Ramaswamy                              | Н  | A01-102                                      |
| CS5633  | Model Checking                           | 3-0-2-4 | Yes            | Yes    | Jasine Babu                                     | C (Theory) +<br>E2 (Lab)   | A01-102<br>A01-Comp<br>Lab 1<br>(100 seater) |
| CS5638  | Quantum Computing                        | 3-0-0-3 | No             | Yes    | Dinesh Krishnamoorthy,<br>Srimanta Bhattacharya | E (for registration)  (contact instructors for further details on lecture timings) | A01-212                                      |
| CS5002  | Functional Programming                   | 3-0-0-3 | Yes            | Yes    | Piyush Kurur                                    | В  | A01-212                                      |
| CS5642M | Introduction To Machine<br>Learning (OE) | 3-0-0-3 | -              | -      | NPTEL   | -  | -  |
| CS5643M | Reinforcement Learning (OE)              | 3-0-0-3 | -              | -      | NPTEL   | -  | -  |

#### M. Tech. Data Science Core Courses, Semester II

| Code   | Course Name   | Credits | UG OE/<br>GCE | Prereq | Faculty         | Slot                        | Room   |
|--------|---------------|---------|---------------|--------|-----------------|-----------------------------|--|
| DS3040 | Deep Learning | 3-0-3-5 | Yes*          | Yes    | Mrinal Das      | <b>G</b> and PM5 (tentative | A01-102<br>A01-Comp Lab<br>1 (100 seater<br>lab) |
| DS5102 | Big Data Lab  | 1-0-3-3 | Yes**         | No     | Nikhil Krishnan | PM3                         | A01-Comp Lab<br>1 (100 seater<br>lab)            |
|        |               |         |               |        |                 |                             |  |

#### M. Tech. Data Science Elective/Other Courses, Semester II

| Code | Course Name | Credits | UG OE/<br>GCE            | Prereq | Faculty | Slot | Room |  |  |
|------|-------------|---------|--------------------------|--------|---------|------|------|--|--|
|      | PME I       |         | -                        |        |         |      |      |  |  |
|      | PME II      |         | See Elective Course Page |        |         |      |      |  |  |
|      | PME III     |         |                          |        |         |      |      |  |  |

<sup>\*10</sup> students outside Data Science discpline

<sup>\*\*</sup> Total cap is 30 (20 MDS students and 10 students from other branches UG/PG/PhD)

#### M. Tech. Data Science Core Courses, Semester IV

| Code   | Course Name       | Credits | UG OE/<br>GCE? | Prereq | Faculty    | Slot | Room |
|--------|-------------------|---------|----------------|--------|------------|------|------|
| DS5120 | Project (phase 2) | 10      |                |        | Mrinal Das |      |      |

#### M. Tech. Data Science Other Courses, Semester IV

| ( | Code | Course Name | Credits | UG OE/<br>GCE | Prereq | Faculty | Slot | Room |
|---|------|-------------|---------|---------------|--------|---------|------|------|
|   |      |             |         |               |        |         |      |      |

#### M. Tech. Data Science PE/OE/ERC Courses

| Code   | Course Name                       | Credits | UG OE/<br>GCE? | Prereq | Faculty   | Slot   | Room No | Availability   |
|--------|-----------------------------------|---------|----------------|--------|---|--|---------|--|
| DS5608 | Time Series Modeling and Analysis | 3-0-0-3 | No             | Yes    | Prof. Varahan (online)<br>Sahely Bhadra (local<br>Coordinator)  | (please<br>chk with<br>coordin<br>ator for<br>timings) | A01-001 | total cap is 40 (20<br>MDS students,<br>and 20 students<br>from other<br>branches,<br>S6/S8/PG and<br>PhD) |
| DS6004 | Responsbile Al                    |         | No             | Yes    | Sahely Bhadra   | L  | A01-001 | total cap is 20<br>(open to all<br>branches,<br>S6/S8/PG and<br>PhD)                                       |
| DSXYZ  | Business Analytics                | 3-0-0-3 | No             | Yes    | Prof. Anand and<br>Shovan from IIMK,<br>local coordinator - CKN | only<br>Monday<br>H, I, J                              | A01-001 | total cap is 30 (20<br>MDS and 10<br>students open to<br>all branches<br>S8/PG/PhD)                        |
| EE5605 | Error Correcting Codes            | 3-0-0-3 |                |        | Nikhil Krishnan   | F  | A01-001 |  |

#### M. Tech- Geotechnical Engineering Core Courses, Semester II

| Code   | Course Name              | Credits | UG OE/<br>GCE | Prereq | Faculty          | Slot         | Room        |
|--------|--------------------------|---------|---------------|--------|------------------|--------------|-------------|
| CE5002 | Applied soil mechanics   | 3-1-0-4 | No            |        | Rakesh J. Pillai | <b>B</b> ,E4 | A01-120     |
| CE5006 | Foundation Engineering   | 3-1-0-4 | No            |        | Sudheesh T. K.   | <b>K</b> ,E1 | A01-120     |
| CE5004 | Experimental Geotechnics | 0-0-3-2 | No            |        | Ankesh Kumar     | PM4          | N Civil lab |

#### M.Tech. Geotechnical Engineering Other Courses, Semester II

| Code   | Course Name                                  | Credits | UG OE/<br>GCE | Prereq | Faculty                  | Slot | Room |
|--------|--|---------|---------------|--------|--------------------------|------|------|
|        | Research Methodology and Professional Ethics | 2-0-0-0 |               |        |                          | EML  |      |
| CExxxx | Dept. Elective 1                             |         |               |        |                          |      |      |
| CExxxx | Dept. Elective 2                             |         |               | ;      | See Elective Course Page |      |      |
| CExxxx | Dept. Elective 3                             |         |               |        |                          |      |      |

### M. Tech in Geotechnical Engineering Core Courses, Semester IV

| Code   | Course Name             | Credits  | UG OE/<br>GCE? | Prereq | Faculty      | Slot | Room |
|--------|-------------------------|----------|----------------|--------|--------------|------|------|
| CE5120 | Project Stage 2 (Sem 4) | 0-0-0-12 |                |        | Ankesh Kumar |      |      |

### M. Tech in Geotechnical Engineering PE/OE/ERC Courses

| Code    | Course Name  | Credits | UG OE/<br>GCE? | Prereq | Faculty                            | Slot          | Room No | Availability |
|---------|--|---------|----------------|--------|------------------------------------|---------------|---------|--------------|
| CE5626  | Underground Structures                             | 3-0-0-3 | No             |        | Ankesh Kumar                       | ı             | A01-120 |              |
| CE 5604 | Geosynthetics and Reinforced Soil Structures       | 3-0-0-3 | No             |        | Divya P. V.                        | J             | A01-120 |              |
| CE5615  | Finite ELement Methods in Geotechnical Engineering | 3-0-0-3 | No             |        | Gokulnath C and Rakesh J<br>PIllai | <b>D</b> , M3 | A01-120 |              |
| CE5614  | Pavement Analysis & Design                         | 3-0-0-3 | No             |        | Veena Venudharan                   | Н             | A01-120 |              |

#### M.Tech. in Manufacturing and Materials Engineering Core Courses, Semester II

| Code   | Course Name                        | Credits | UG OE/<br>GCE | Prereq | Faculty         | Slot           | Room                                 |
|--------|------------------------------------|---------|---------------|--------|-----------------|----------------|--------------------------------------|
| ME5004 | Mechanical Behaviour of Materials  | 3-0-0-3 | No            | Yes    | Kesavan D       | A              | A01-101                              |
| ME5002 | Computer Aided Metrology           | 3-0-0-3 | No            | Yes    | S Kanmani Subbu | В              | A01-101                              |
| ME5101 | Modeling and Simulation Laboratory | 1-0-2-3 |               | Yes    | S Kanmani Subbu | M2+ <b>PA1</b> | A01-101<br>N Comp Lab<br>CC Lab (48) |

#### M.Tech. in Manufacturing and Materials Engineering Other Courses, Semester II

| Code   | Course Name                                  | Credits                  | UG OE/<br>GCE | Prereq | Faculty   | Slot | Room |  |
|--------|--|--------------------------|---------------|--------|-----------|------|------|--|
| GN6001 | Research Methodology and Professional Ethics | 2-0-0-0                  |               | No     | Anand TNC | EML? |      |  |
|        | PME 1  |                          |               |        |           |      |      |  |
|        | PME 2  | See Elective Course Page |               |        |           |      |      |  |
|        | PME 3  |                          |               |        |           |      |      |  |

#### M.Tech. in Manufacturing and Materials Engineering Core Courses, Semester IV

| Code   | Course Name | Credits  | UG OE/<br>GCE? | Prereq | Faculty | Slot | Room |
|--------|-------------|----------|----------------|--------|---------|------|------|
| ME5120 | Project II  | 0-0-0-12 | No             | Yes    | Dinesh  | -    |      |
|        |             |          |                |        |         |      |      |

#### M.Tech. in Manufacturing and Materials Engineering Elective Courses, Semester IV

### M.Tech. in Manufacturing and Materials Engineering PE/OE/ERC Courses

| Code   | Course Name                                | Credits | UG OE/<br>GCE? | Prereq | Faculty                               | Slot           | Room No                  | Availability              |
|--------|--|---------|----------------|--------|---------------------------------------|----------------|--------------------------|---------------------------|
| ME5620 | Advanced Heat Transfer                     | 3-0-0-3 |                | Yes    | Samarjeet Chanda                      | D+E1           | A01-101                  | M.Tech./M.S./Ph.D.        |
| ME5610 | Soft Computing                             | 3-0-0-3 | Yes            | No     | D Chakradhar<br>Samarjeet Chanda      | L              | A01-118                  | S4/S6/S8/M.Tech./M.S/Ph.D |
| ME5618 | Additive Manufacturing                     | 3-0-0-3 | Yes            | Yes    | Buchibabu                             | L              | A01-101                  | S6/S8/M.S/M.Tech/Ph.D     |
| ME5628 | Lean Manufacturing                         | 2-0-2-3 | Yes            | Yes    | Girish Govande (ACMA) /<br>Chakradhar | F              | A01-118                  | S6/S8/M.Tech (MME)/PhD    |
| ME5634 | Fundamentals of micro-nano manufacturing   | 2-0-2-3 | Yes            | Yes    | Afzaal Ahmed                          | <b>K</b> +PA3  | A01-101<br>N Mech<br>Lab | s8/M.Tech./M.S./Ph.D.     |
| ME5632 | Computational Methods for Inverse Problems | 3-0-0-0 | Yes            | Yes    | Arijit Hazra                          | <b>G</b> (GCE) | A01-101                  | S6/S8/M.S/Ph.D            |

#### M.Tech. in Power Electronics and Power Systems Core Courses, Semester II

| Code   | Course Name   | Credits | UG OE/<br>GCE | Prereq | Faculty          | Slot | Room                      |
|--------|---|---------|---------------|--------|------------------|------|---------------------------|
| EE5015 | Power Converters - modulation, control and applications | 3-0-0-3 | No            | Yes    | Anirudh Guha     | A    | A01-214                   |
| EE5103 | Power converters design lab                             | 0-0-3-2 | No            | Yes    | Naga Brahmendra  | PA5  | N Machines Lab            |
| EE5105 | Power Electronics simulation lab                        | 0-0-3-2 | No            | Yes    | Anirudh Guha     | PM2  | N Comp Lab<br>CC Lab (48) |
| EE5101 | Power systems simulation lab                            | 0-0-3-2 | No            | Yes    | Manas Kumar Jena | PM4  | N Comp Lab<br>CC Lab (48) |

#### M.Tech. in Power Electronics and Power Systems Elective/Other Courses, Semester II

| Code | Course Name        | Credits                  | UG OE/<br>GCE | Prereq | Faculty | Slot | Room |  |  |
|------|--------------------|--------------------------|---------------|--------|---------|------|------|--|--|
|      | Program Elective 2 |                          |               |        |         |      |      |  |  |
|      | Program Elective 3 | See Elective Course Page |               |        |         |      |      |  |  |
|      | Open Elective      |                          |               |        |         |      |      |  |  |

#### M.Tech. in Power Electronics and Power Systems Core Courses, Semester IV

| Code   | Course Name                           | Credits  | UG OE/<br>GCE? | Prereq | Faculty         | Slot | Room |
|--------|---------------------------------------|----------|----------------|--------|-----------------|------|------|
| PE5120 | Professional Major Project<br>Phase 2 | 0-0-0-12 | No             |        | Naga Brahmendra |      |      |

### M.Tech. in Power Electronics and Power Systems PE/OE/ERC Courses

| Code   | Course Name                              | Credits | UG OE/<br>GCE? | Prereq | Faculty              | Slot | Room No | Availability                                      |
|--------|--|---------|----------------|--------|----------------------|------|---------|---|
| EE5523 | Electric Drives                          | 3-0-0-3 | No             | Yes    | Arun Rahul S         | С    | A01-214 | Mtech PEPS/<br>MS/PhD                             |
| EE5525 | Sensors and Signal Conditioning Circuits | 3-0-0-3 | No             | Yes    | Sreenath Vijayakumar | K    | A01-119 | Mtech PEPS/Mtech<br>SoCD/UGEES6/UG<br>EES8/MS/PhD |
| EE5514 | Renewable Energy Systems                 | 3-0-0-3 | No             | Yes    | Naga Brahmendra      | В    | A01-214 | Mtech PEPS/<br>UGEES8 /<br>MS/PhD                 |

#### M.Tech. in System-on-Chip Design Core Courses, Semester II

| Code   | Course Name    | Credits | UG OE/<br>GCE | Prereq | Faculty                            | Slot            | Room            |
|--------|----------------|---------|---------------|--------|------------------------------------|-----------------|-----------------|
| CS5102 | SoC Design Lab | 1-0-3-3 | No            |        | Vivek Chaturvedi                   | <b>PM4</b> + M4 | N Electron. Lab |
| SD5190 | Mini project   | 0-0-5-3 |               |        | Subrahmanyam Mula<br>(Coordinator) |                 |                 |

### M.Tech. in System-on-Chip Design Elective/Other Courses, Semester II

| Code | Course Name             | Credits                  | UG OE/<br>GCE |  |  | Slot | Room |  |
|------|-------------------------|--------------------------|---------------|--|--|------|------|--|
|      | Professional Elective 1 |                          |               |  |  |      |      |  |
|      | Professional Elective 2 | See Elective Course Page |               |  |  |      |      |  |
|      | Professional Elective 3 |                          |               |  |  |      |      |  |
|      | Professional Elective 4 |                          |               |  |  |      |      |  |

#### M.Tech. in System-on-Chip Design Core Courses, Semester IV

| Code   | Course Name                      | Credits   | UG OE/<br>GCE? | Prereq | Faculty | Slot | Room |
|--------|----------------------------------|-----------|----------------|--------|---------|------|------|
| SD5120 | M.Tech Thesis/Project<br>Phase 2 | 0-0-18-12 |                |        |         |      |      |

#### M.Tech. in System-on-Chip Design PE/OE/ERC Courses

| Code   | Course Name   | Credits | UG OE/<br>GCE? | Prereq | Faculty                        | Slot   | Room No                           | Availability  |
|--------|---|---------|----------------|--------|--------------------------------|--|-----------------------------------|---|
| EE5518 | Nanoelectronic Devices  | 3-0-0-3 | No             | Yes    | Revathy<br>Padmanabhan         | Н  | A01-103                           | BTech(EE)<br>S2/S4/S6/S8, MTech<br>(SoCD) S2/S4, MS,<br>PhD, as long as they<br>meet the prerequisite |
| EE5606 | Micro and Nanoscale<br>Devices Laboratory                     | 0-0-3-2 | No             | Yes    | Revathy Padmanabhan            | E* (for registration)  (contact instructor for further details on lab timings) | Nila<br>CIF-CMFF                  | BTech(EE)<br>S2/S4/S6/S8, MTech<br>(SoCD) S2/S4, MS,<br>PhD, as long as they<br>meet the prerequisite |
| EE5516 | VLSI Architectures for signal processing and machine learning | 2-0-2-3 | No             | Yes    | Subrahmanyam Mula              | <b>D</b><br>+<br>PA3   | A01-119<br>N Electron.<br>Lab     | BTech(EE) S6/S8,<br>MTech(SoCD) S2/S4,<br>MS, PhD, as long as<br>they meet the<br>prerequisite        |
| EE5525 | Sensors and Signal Conditioning Circuits                      | 3-0-0-3 | No             | Yes    | Sreenath Vijayakumar           | к  | A01-119                           | BTech EE S6/S8 and MS/Ph.D.   |
| EE5003 | RF and Microwave Passive Circuits                             | 3-0-0-3 | Yes            | Yes    | Sukomal Dey                    | L  | A01-119                           | BTech(EE) S4/S6/S8,<br>MTech(SoCD) S2/S4,<br>MS, PhD  |
| CS5639 | Topics in Networks  | 1-0-3-3 | No             | Yes    | Anish Hirwe                    | <b>PA2</b> +E2   | A01-Comp<br>lab 2 (35)<br>A01-102 | BTech CSE S8,<br>MSoCD, MS, PhD   |
| CS5510 | Compiler Optimizations and Program Analysis                   | 3-0-0-3 | No             | Yes    | Unnikrishnan<br>Cheramangalath | L  | A01-102                           | BTech CSE S8,<br>MSoCD, MS, PhD   |
| CS5002 | Functional Programming  | 3-0-0-3 | Yes            | Yes    | Piyush Kurur                   | В  | A01-212                           | BTech CSE S4, S6,<br>S8, MCaM, MSoCD,<br>MS, PhD  |
| CS5016 | Computational Methods and Applications                        | 2-0-3-4 | Yes            | Yes    | Albert Sunny                   | <b>PA4</b> +E4   | N Comp<br>Lab<br>CS Lab (70)      | BTech CSE S4, S6,<br>S8, MCaM, MSoCD,<br>MS, PhD  |

| CS5633  | Model Checking              | 3-0-2-4 | Yes | Yes | Jasine Babu | C (Theory) +<br>E2 (Lab) | A01-102<br>A01-Comp<br>Lab1(100) | BTech CSE S4, S6,<br>S8, MCaM, MSoCD,<br>MS, PhD |
|---------|-----------------------------|---------|-----|-----|-------------|--------------------------|----------------------------------|--|
| CS5642M | Introduction To Machine Lea | 3-0-0-3 | -   | -   | NPTEL       | -                        | -                                |  |
| CS5643M | Reinforcement Learning      | 3-0-0-3 | -   | -   | NPTEL       | -                        | -                                |  |

<sup>\*</sup>EE5606 is an elective lab course. It is slotted in E for registration purposes.

Students may please contact the course instructor for further details about the lab timings