



PRESIDENCY UNIVERSITY

Private University, Estd. in Karnataka State by Act No. 47 of 2013

SCHOOL OF ENGINEERING DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Ref. No. PU/SOE/CSE/BOS-09/2018-19/CIR01

Date: 7th April, 2019

9th BOS Meeting Notice

The 9th Board of Studies (BOS) meeting of Department of Computer Science and Engineering is scheduled on Saturday, 4th May 2019 at 11.00 AM in the Presidency University campus. You are hereby requested to attend the meeting.

Agenda:

CSE 9.1 Approval of the Minutes of 8th BOS meeting.

CSE 9.2 Action Taken Report.

CSE 9.3 Approval of regulations and curriculum of the following M.Tech programs

- M.Tech in Data Science
- M.Tech in Artificial Intelligence.

CSE 9.4 Approval of introduction of the following two new elective courses

- Robotic Process Automation (RPA)
- Agile Technology.

CSE 9.5 Approval of program regulations and curriculum of the four year B.Tech program 2019-23.

CSE 9.6 Approval of the syllabi of 2018-22 for the following four year B.Tech programs

- B.Tech in Computer Engineering (COM)
- B.Tech in Computer and Communication Engineering (CCE)
- B.Tech in Information Science and Engineering (ISE)
- B.Tech in Information Science and Technology (IST).

CSE 9.7 Approval of modification in the program structure of the four year B.Tech program 2016-20, 2017-21, 2018-22.

CSE 9.8 Modification of credit structures of selective courses from 0-0-6 to 1-0-4.

CSE 9.9 Approval of list of examiners.

CSE 9.10 Approval of NPTEL courses to be offered as Discipline/Open electives.

CSE 9.11 Any other matter with the permission of the chair.


Chairperson 7/4/19

BOS-CSE Committee



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Copy to:

- Pro-Chancellor, PU
- Registrar, PU
- Dean-SoE, PU
- Members of the BOS-PET Committee:
 1. Dr. C. Kalaiarasan
 2. Dr. D.C. Kiran
 3. Dr. N. Mehala
 4. Dr. J. Alamelu Mangai
 5. Dr. R. Mahalakshmi
 6. Dr. G. Shanmugarathinam
 7. Dr. Ramesh V
 8. Mr. Tapas Guha
 9. Dr. Shreyas Suresh Rao
 10. Ms. Venu Sangwan
 11. Mr. Swastik Sahoo
 12. Dr. N.K. Srinath, Dean Academics, RVCE
 13. Dr. H.S. Guruprasad, Prof., BMSCE
 14. Mr. Sadashiv Bolanthur, M/s. Inforeach Tech.
 15. Dr. Rajanikanth, Former Principal, MSRIT
- Vice-Chancellor, PU
- Pro-Vice-chancellor, PU
- Dean-Academics, PU

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SCHOOL OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Ref. No.: PU/SOE/CSE/BOS-09/2018-19/MOM-01

Date: 4th May, 2019

Minutes of the 9th Meeting of Board of Studies (Computer Science and Engineering – BOS – CSE)

The 9th meeting of Board of Studies (BOS) of the Computer Science and Engineering is held today on 4th May, 2019 at 11.00 AM in Room No. MG 04.

The following members were present:

| S. No. | Name | Designation with Affiliation | Status |
|--------|-------------------------|--|------------------|
| 1 | Dr. K.G. Mohan | Professor & Head, CSE, Presidency University | Chairman |
| 2 | Dr. K. Rajanikanth | Former Principal, M.S.R.I.T, Bangalore | Special Invitee |
| 3 | Dr. C. Kalaiarasan | Associate Dean & Professor, CSE, Presidency University | Member |
| 4 | Dr. D.C. Kiran | Associate Professor, CSE, Presidency University | Member |
| 5 | Dr. N. Mehala | Associate Professor, CSE, Presidency University | Member |
| 6 | Dr. J. Alamelu Mangai | Associate Professor, CSE, Presidency University | Member |
| 7 | Dr. R. Mahalakshmi | Associate Professor, CSE, Presidency University | Member |
| 8 | Dr. G. Shanmugarathinam | Associate Professor, CSE, Presidency University | Member |
| 9 | Dr Ramesh V | Associate Professor, CSE, Presidency University | Member |
| 10 | Dr. Shreyas Suresh Rao | Assistant Professor, CSE, Presidency University | Member |
| 11 | Ms. Venu Sangwan | Assistant Professor, CSE, Presidency University | Member |
| 12 | Mr. Swastik Sahoo | Assistant Professor, ECE, Presidency University | Member |
| 13 | Mr. Tapas Guha | Assistant Professor, CSE, Presidency University | Member Secretary |



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The following members are given leave of absence:

| Sr. No. | Name | Designation | Status |
|---------|------------------------|---|-----------------|
| 1 | Mr. Sadashiv Bolanthur | Director & Principal Consultant, MS Info Reach Technologies, Bengaluru. | External Member |
| 2 | Dr. N.K. Srinath | Dean Academics, RVCE | External Member |
| 3 | Dr. H.S. Guruprasad | Prof. and Dean- Student Affairs, ISE, BMSCE Bengaluru. | External Member |

The Chairman welcomed the Members and called the meeting to order.

Agenda CSE 9.1: Approval of 8th BoS meeting Minutes.

The minutes of the 8th meeting of the Board of Studies of Computer Science and Engineering held on 12th January 2019 was placed before the members and the same was unanimously approved.

Agenda CSE 9.2: Action Taken Report.

The Action taken report on the previous minutes was presented by the Chairperson. The same was noted and taken on record (**Annexure CSE 9.1**).

Agenda CSE 9.3: Approval of program regulations and curriculum of the following M.Tech programs

- M.Tech in Data Science
- M.Tech in Artificial Intelligence

The details of the program regulations and curriculum were presented before the members. The members discussed the same at length

Resolution: Resolved that the program regulations and curriculum of the two M.Tech programs, namely M.Tech (Data Science) and M.Tech (Artificial Intelligence) are approved with the following suggestions.

-M.Tech in Data Science:

1. In the course 'Advanced Mathematics', more advanced topics and concepts should be included. It should cover optimization techniques up to certain depth. The book 'Optimization by Vector Space Methods, David G. Luenberger (1969) John Wiley & Sons (NY)' should be a Text book rather than a reference book.



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2. The course 'Advanced Programming in Python' (MDS 252) should be renamed to 'Programming for Data Science'. In the course content, 'Introduction to Python' should be changed to 'Review of Python' More packages related Data Science and analysis should be included.
3. The elective course 'Information Retrieval' (MAI 304) should have the credit structure 3-0-2 (4 credits) and not 3-0-0 structure.
4. In the course 'Advanced Analytics and Visualization' (MDS 255), the book 'Tom Mitchell, "Machine Learning", Latest Edition, McGraw Hill' has been prescribed as Textbook 1. This book does not cover Visualization. This has to be relooked and appropriate Text Book should be prescribed and followed.

-M.Tech in Artificial Intelligence:

1. Instead of the course 'Parallel Programs and their Performance' (MAI 204), a course on 'Natural Language Processing' should be introduced.
2. Move "Parallel Programming for AI" course into electives.
3. The title for the course 'AI and Neural Networks' should be changed to 'Deep Neural Networks'.
4. The course 'Image Processing and Machine Vision' (MAI 206) should be renamed as 'Machine Vision'.
5. The course 'Information Theory' should be removed from elective list.

The suggestions given by the members are considered and the updates are shown in the **(Annexure CSE 9.2 and Annexure CSE 9.3)**.

Agenda CSE 9.4: Approval of introduction of the following two new elective courses

- Robotic Process Automation (RPA)
- Agile Technology

The members were presented with the course descriptions and outline of the two proposed elective courses, Robotic Process Automation (RPA) (**Annexure CSE 9.4**) and Agile Technology (**Annexure CSE 9.5**).

Resolution: Resolved that the two proposed elective courses are relevant with the current industry trend and the same is approved with the following suggestions.

- The elective course Robotic Process Automation (RPA) should contain Lab components in order to provide some practical exposure of automation to the students.

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- In the elective course "Agile Technology", in some module towards the end 'Agile Testing' should be included.

Agenda CSE 9.5: Approval of changes in program regulation and curriculum of the four year B.Tech program 2019-23.

The members were presented with the details of the modifications in program regulation and curriculum.

Resolution: Resolved that the same is approved (**Annexure CSE 9.6**).

Agenda CSE 9.6: Approval of the revised curriculum of 2018-22 for the following four year B.Tech programs

- B.Tech in Computer Engineering (COM)
- B.Tech in Computer and Communication Engineering (CCE)
- B.Tech in Information Science and Engineering (ISE)
- B.Tech in Information Science and Technology (IST).

The members were presented with the revised curriculum of the four B.Tech programs.

Resolution: The revised curriculum for the four B.Tech programs were unanimously approved by the members with the following suggestions.

- B.Tech in Computer Engineering (COM):

For the fourth semester course 'Database Management Systems' (CSE 207), MongoDB and NoSQL should be included in the course content. This may be applied to the other programs of Computer Science and Engineering department.

- B.Tech in Computer and Communication Engineering (CCE):

1. For the course 'Principles of Data Communication and Computer Networks' (CCE 201), top down approach in networking may be considered instead of bottom up approach.

2. The course 'Client Server Computing' (CCE 203) can be made a 3 credit course.

- B.Tech in Information Science and Engineering (ISE)

The course 'Machine Learning with Python' (ISE 252) should be renamed to 'Machine Learning'.

- B.Tech in Information Science and Technology (IST)

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The content of the course 'Web Science' (IST 205) should be relooked and modified.

The suggestions made are accepted and shown in the **Annexure CSE 9.7, Annexure CSE 9.8, Annexure CSE 9.9 and Annexure CSE 9.10.**

CSE 9.7 Approval of modification in the program structure of the four year B.Tech program 2016-20, 2017-21, 2018-22.

The members were presented with the details of the modifications in program structure of the four year B.Tech programs.

Resolution: Resolved that the same is approved with the following suggestion (**Annexure CSE 9.11**).

- For the upcoming batches, in the course 'Theory of Computation' (CSE 208), use of JFLAP simulator can be introduced to facilitate the students to visualize the theoretical concepts.

CSE 9.8 Modification of credit structures of selected courses from 0-0-6 to 1-0-4.

The modifications in the credit structures of the following courses were presented before the members.

| Course Code | Course Name | Existing Credit structure | Proposed Credit structure |
|-------------|--------------------------------------|---------------------------|---------------------------|
| CSE 220 | Internet of Things | 2-0-2 | 1-0-4 |
| CSE 219 | Big Data Analytics | 2-0-2 | 1-0-4 |
| CSE 317 | Programming in Python | 0-0-6 | 1-0-4 |
| CSE 301 | Programming in Advanced Java | 0-0-6 | 1-0-4 |
| CSE 302 | Programming in C# and .NET framework | 0-0-6 | 1-0-4 |
| CSE 303 | LAMP | 0-0-6 | 1-0-4 |
| CSE 310 | Mobile Application Development | 0-0-6 | 1-0-4 |
| CSE 311 | Web Services | 0-0-6 | 1-0-4 |
| CSE 204 | Object Oriented Programming | 0-0-6 | 1-0-4 |
| CSE 256 | Internet Technologies | 0-0-6 | 1-0-4 |

Resolution: For CSE 202 and CSE 219, retaining the same total credit, it is accepted to increase the lab hours and the structure should be 1-0-4. For the remaining courses listed above, to include the classroom teaching to provide the required theoretical foundation, it is accepted to include one theory hour and the structure should be 1-0-4.

CSE 9.9 Approval of list of examiners.

List of examiners were presented before the committee.

Resolution: The same was unanimously approved (**Annexure CSE 9.12**).

CSE 9.10 Approval of NPTEL courses to be offered as Discipline/Open electives.

The following twelve week courses of NPTEL are identified from the list of courses offered during July 2019 to December 2019. These courses are approved for consideration as Disciplined/ Open electives.

The courses are as follows:

| Course Code (NPTEL) | Course Name | Duration |
|---------------------|---|----------|
| NOC19-CS53 | Introduction to Machine Learning | 12 weeks |
| NOC19-CS58 | Computer Vision | 12 weeks |
| NOC19-CS66 | Social Networks | 12 weeks |
| NOC19-CS68 | Ethical Hacking | 12 weeks |
| NOC19-CS82 | Machine Learning for Engineering and Science Applications | 12 weeks |

CSE 9.11 Any other matter with the permission of the chair.

It was suggested by the External member to include courses related to Project Management and Finance common to all the Engineering Program.

As BOS meetings for all the departments are taking place simultaneously in different venues today, the Chairman has requested approval from the committee to incorporate modifications / alterations, if any, approved by the BOS committee of other departments for the existing courses offered in Computer Science and Engineering by other departments. The BOS Committee for Computer Science and Engineering has approved the proposal unanimously.

The BOS Committee authorizes the Chairperson of the BOS to formulate a sub-committee for making any modifications required in the program curriculum and seek the approval in the next meeting.



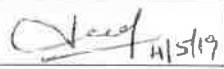
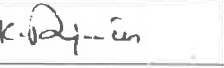


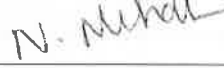


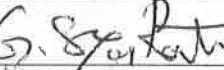
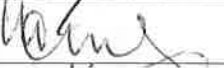



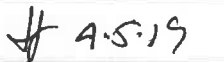
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The BOS Chairperson has conveyed that the decisions taken during the 9th meeting of BOS for Computer Science and Engineering will be implemented for 2018-2022, 2017-2021, and 2016-2020 as early as possible wherever applicable. He has conveyed thanks to all the members and informed that the date of next BOS meeting will be notified soon.

The meeting ended with Vote of Thanks to the Chair.

BOS Committee:

| S. No. | Name | Position | Signature with date |
|--------|-------------------------|------------------|---|
| 1 | Dr. K.G. Mohan | Chairman |  11/5/19 |
| 2 | Dr. K. Rajanikanth | Special Invitee |  |
| 3 | Dr. C. Kalaiarasan | Internal Member |  |
| 4 | Dr. D.C. Kiran | Internal Member |  |
| 5 | Dr. N. Mehala | Internal Member |  N. Mehala |
| 6 | Dr. J. Alamelu Mangai | Internal Member |  |
| 7 | Dr. R. Mahalakshmi | Internal Member |  |
| 8 | Dr. G. Shanmugarathinam | Internal Member |  |
| 9 | Dr Ramesh V | Internal Member |  |
| 10 | Dr. Shreyas Suresh Rao | Internal Member |  |
| 11 | Ms. Venu Sangwan | Internal Member |  |
| 12 | Mr. Swastik Sahoo | Internal Member |  11/5/19 |
| 13 | Mr. Tapas Guha | Member Secretary |  11/5/19 |

ANNEXURE CSE 9.6.3



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Presidency University Act, 2013 of the Karnataka Act No. 41 of 2013 | Established under Section 2(f) of UGC Act, 1956
Approved by AICTE, New Delhi

School of Engineering

Bachelor of Technology Degree

Program Regulations and Curriculum 2019-2023

B. Tech. (Information Science and Engineering)



2019-2023



PROGRAM STRUCTURE

| I SEM - PHYSICS CYCLE (Aug-Dec)# | | | | | | | | | |
|--|-------------|------------------------------------|------------------|----------|--|-----------|---------------|------------------|---------------------|
| S. NO. | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
| | | | L | T | P | CREDITS | | | |
| 1 | MAT 105 | Calculus and Linear Algebra | 3 | 1 | 0 | 4 | 4 | F ¹ | - |
| 2 | PHY 101 | Engineering Physics | 4 | 0 | 0 | 4 | 4 | F | - |
| 3 | EEE 101 | Elements of Electrical Engineering | 3 | 0 | 0 | 3 | 3 | P ² | - |
| 4 | CIV 101 | Elements of Civil Engineering | 3 | 0 | 0 | 3 | 3 | P | Env ⁴ |
| 5 | MEC 152 | Engineering Graphics | 2 | 0 | 4 | 4 | 6 | P | - |
| 6 | ENG XXXX | Humanities-I | 2 | 1 | 0 | 3 | 3 | F/E ³ | - |
| 7 | PHY 151 | Engineering Physics Lab | 0 | 0 | 2 | 1 | 2 | F | - |
| 8 | MEC 151 | Workshop Practice | 0 | 0 | 2 | 1 | 2 | P | - |
| 9 | PPS 105 | Building Self Confidence | 0 | 0 | 2 | 1 | 2 | E | - |
| | | TOTAL | 17 | 2 | 10 | 24 | 29 | | |
| ¹ Foundation Course ² Professional Skills | | | | | ³ Employability Skills ⁴ Environmental Issues | | | | |

| I SEM - CHEMISTRY CYCLE (Aug-Dec)# | | | | | | | | | |
|---|-------------|---|------------------|---|---|---------|---------------|---------------|---------------------|
| S. NO. | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
| | | | L | T | P | CREDITS | | | |
| 1 | MAT 105 | Calculus and Linear Algebra | 3 | 1 | 0 | 4 | 4 | F | - |
| 2 | CHE 101 | Engineering Chemistry | 4 | 0 | 0 | 4 | 4 | F | - |
| 3 | ECE 101 | Elements of Electronics Engineering | 3 | 0 | 0 | 3 | 3 | P | - |
| 4 | MEC 101 | Elements of Mechanical Engineering | 3 | 0 | 0 | 3 | 3 | P | - |
| 5 | CIV 102 | Environmental Science and Disaster Management | 3 | 0 | 0 | 3 | 3 | F | Env |


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| | | | | | | | | | |
|---|---------|---------------------------|----------------|----------|----------------|-----------|-----------|---|---------------------------------|
| 6 | ENG 1XX | Humanities-I | 1 | 0 | 2 | 2 | 3 | E | - |
| 7 | CSE 151 | Computer Programming | 2 | 0 | 4 | 4 | 6 | E | - |
| 8 | CHE 151 | Engineering Chemistry Lab | 0 | 0 | 2 | 1 | 2 | F | - |
| 9 | PPS 105 | Building Self Confidence | 0 | 0 | 2 | 1 | 2 | F | PE ⁵ /S ⁶ |
| | | TOTAL | 1 9 | 1 | 1 0 | 25 | 30 | | |

⁵ Professional Ethics

⁶ Sustainability Issues

II SEM - CHEMISTRY CYCLE (Jan-May)*

| S. NO. | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
|--------|-------------|--|------------------|----------|----------------|-----------|---------------|---------------|---------------------|
| | | | L | T | P | CREDITS | | | |
| 1 | MAT 106 | Calculus, Differential Equations and Complex Variables | 3 | 1 | 0 | 4 | 4 | F | - |
| 2 | CHE 101 | Engineering Chemistry | 4 | 0 | 0 | 4 | 4 | F | - |
| 3 | ECE 101 | Elements of Electronics Engineering | 3 | 0 | 0 | 3 | 3 | P | - |
| 4 | MEC 101 | Elements of Mechanical Engineering | 3 | 0 | 0 | 3 | 3 | P | - |
| 5 | CIV 102 | Environmental Science and Disaster Management | 3 | 0 | 0 | 3 | 3 | F | Env |
| 6 | ENG 1XX | Humanities-II | 1 | 0 | 2 | 2 | 3 | E | - |
| 7 | CSE 151 | Computer Programming | 2 | 0 | 4 | 4 | 6 | E | - |
| 8 | CHE 151 | Engineering Chemistry Lab | 0 | 0 | 2 | 1 | 2 | F | - |
| 9 | PPS 106 | Effective Communication | 0 | 0 | 2 | 1 | 2 | F | PE/S |
| | | TOTAL | 1 9 | 1 | 1 0 | 25 | 30 | | |

II SEM - PHYSICS CYCLE (Jan-May)#

| S. NO. | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | CONTACT HOURS | | |
|--------|-------------|-------------|------------------|---------------|--|--|
|--------|-------------|-------------|------------------|---------------|--|--|


 REGISTRAR


| | | | L | T | P | CREDITS | | TYPE OF SKILL | COURSE ADDRESSES TO |
|---|---------|--|-----------|----------|-----------|-----------|-----------|---------------|---------------------|
| 1 | MAT 106 | Calculus, Differential Equations and Complex Variables | 3 | 1 | 0 | 4 | 4 | F | - |
| 2 | PHY 101 | Engineering Physics | 4 | 0 | 0 | 4 | 4 | F | - |
| 3 | EEE 101 | Elements of Electrical Engineering | 3 | 0 | 0 | 3 | 3 | P | - |
| 4 | CIV 101 | Elements of Civil Engineering | 3 | 0 | 0 | 3 | 3 | P | Env |
| 5 | MEC 152 | Engineering Graphics | 2 | 0 | 4 | 4 | 6 | P | - |
| 6 | ENG 1XX | Humanities-II | 2 | 1 | 0 | 3 | 3 | F/E | - |
| 7 | PHY 151 | Engineering Physics Lab | 0 | 0 | 2 | 1 | 2 | F | - |
| 8 | MEC 151 | Workshop Practice | 0 | 0 | 2 | 1 | 2 | P | - |
| 9 | PPS 106 | Effective Communication | 0 | 0 | 2 | 1 | 2 | E | - |
| | | TOTAL | 17 | 2 | 10 | 24 | 29 | | |

Note: At the end of the 1st year (Common to all B.Tech. Program) the total credits offered is 49.

| III SEMESTER | | | | | | | | | |
|--------------|-------------|--|------------------|---|---|---|---------------|---------------|---------------------|
| S.No | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
| | | | L | T | P | C | | | |
| 1 | MAT107 | Transform Techniques, Partial Differential Equations and Probability | 3 | 1 | 0 | 4 | 4 | F | - |
| 2 | CSE 201 | Data Structures | 3 | 0 | 0 | 3 | 3 | P | - |
| 3 | CSE 202 | Digital Design | 3 | 0 | 0 | 3 | 3 | F | - |
| 4 | CSE 203 | Discrete Mathematics | 3 | 1 | 0 | 4 | 4 | F | - |
| 5 | CSE 258 | Problem Solving Using Python | 1 | 0 | 4 | 3 | 5 | P/E | - |
| 6 | CSE 223 | Computer Architecture and Organization | 3 | 0 | 0 | 3 | 3 | P | - |
| 7 | CSE 251 | Data Structures Lab | 0 | 0 | 4 | 2 | 4 | P | - |

| | | | | | | | | | |
|---|---------|-----------------------------------|-----------|----------|-----------|-----------|-----------|---|----|
| 8 | CSE 252 | Digital Design Lab | 0 | 0 | 2 | 1 | 2 | F | - |
| 9 | PPS 107 | Design Thinking And Team Building | 0 | 0 | 2 | 1 | 2 | E | PE |
| | | TOTAL | 16 | 2 | 12 | 24 | 30 | | |

*Student has to register for Social Immersion Course in any one semester 3/4/6 to earn the mandatory credits

| IV SEMESTER | | | | | | | | | |
|-------------|-------------|--|------------------|----------|----------|-----------|---------------|---------------|---------------------|
| S.No | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
| | | | L | T | P | C | | | |
| 1 | MAT108 | Numerical Methods, Probability Distributions and Sampling Techniques | 4 | 0 | 0 | 4 | 4 | F | - |
| 2 | CSE 242 | Introduction to Machine Learning | 3 | 0 | 0 | 3 | 3 | P | - |
| 3 | CSE 210 | Operating Systems | 3 | 0 | 0 | 3 | 3 | P | - |
| 4 | CSE 206 | Microprocessors and Micro Controllers | 3 | 0 | 0 | 3 | 3 | P | - |
| 5 | CSE 207 | Database Management Systems | 3 | 0 | 0 | 3 | 3 | P | - |
| 6 | CSE 208 | Theory of Computation | 3 | 1 | 0 | 4 | 4 | P | - |
| 7 | CSE 253 | Database Management Systems Lab | 0 | 0 | 4 | 2 | 4 | P | - |
| 8 | CSE 254 | Microprocessors and Micro Controllers Lab | 0 | 0 | 2 | 1 | 2 | P | - |
| 9 | PPS 108 | Being Corporate Ready | 0 | 0 | 2 | 1 | 2 | E | PE |
| | | TOTAL | 19 | 1 | 8 | 24 | 28 | | |

** Note: The students will undergo Professional Practice I during the summer break between the fourth and fifth semester and the credits earned will be accounted in the fifth semester.

| V SEMESTER | | | | | | | | | |
|------------|-------------|-------------|------------------|---|---|---|---------------|---------------|---------------------|
| S. No. | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
| | | | L | T | P | C | | | |


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|---|---------|---|-----------|----------|-----------|-----------|-----------|-----|----|
| 1 | CSE204 | Object oriented Programming | 1 | 0 | 4 | 3 | 5 | P | - |
| 2 | CSE212 | Analysis of Algorithms | 3 | 0 | 0 | 3 | 3 | P/E | |
| 3 | CSE 227 | Software Engineering and Project Management | 3 | 0 | 0 | 3 | 3 | P | - |
| 4 | CSE 228 | Principles of Artificial Intelligence | 3 | 0 | 0 | 3 | 3 | P | - |
| 5 | CSE 255 | Analysis of Algorithms Lab | 0 | 0 | 2 | 1 | 2 | P | - |
| 6 | CSE XXX | Discipline Elective – I | 3 | 0 | 0 | 3 | 3 | P/E | - |
| 7 | MGT 112 | Engineering Economics | 3 | 0 | 0 | 3 | 3 | E | P |
| 8 | CSEXXX | Discipline Elective-II | 1 | 0 | 4 | 3 | 5 | P/E | - |
| 9 | PIP 101 | Professional Practice - I ** | 0 | 0 | 0 | 5 | | P/E | PE |
| | | TOTAL | 19 | 0 | 10 | 27 | 27 | | |

| VI SEMESTER | | | | | | | | | |
|---------------------|-------------|--|------------------|----------|----------|-----------|---------------|---------------|---------------------|
| S. No. | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
| | | | L | T | P | C | | | |
| 1 | CSE 219 | Big Data Analytics | 1 | 0 | 4 | 3 | 5 | P/E | - |
| 2 | XXX XXX | Open Elective – I | 3 | 0 | 0 | 3 | 3 | P/E | - |
| 3 | CSE 232 | Information Retrieval and Organization | 3 | 0 | 0 | 3 | 3 | P | - |
| 4 | CSE 233 | Cloud Computing and Services | 3 | 0 | 0 | 3 | 3 | P/E | - |
| 5 | CSE 261 | Machine Learning using Python | 1 | 0 | 4 | 3 | 5 | P/E | - |
| 6 | CSE 226 | Optimization Techniques | 3 | 0 | 0 | 3 | 3 | P | PE |
| 7 | MGT 113 | Digital Entrepreneurship | 3 | 0 | 0 | 3 | 3 | P/E | - |
| 8 | SIC 501 | Social Immersion Course | - | - | - | 1 | 0 | P | G/Env/S |
| | | TOTAL | 17 | 0 | 8 | 22 | 25 | | |
| Gender Issues | | | | | | | | | |
| VII SEMESTER | | | | | | | | | |

| S.No | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
|------|-------------|---------------------------------|------------------|----------|-----------|-----------|---------------|---------------|---------------------|
| | | | L | T | P | C | | | |
| 1 | CSE 243 | Natural Language Processing | 2 | 0 | 0 | 2 | 2 | P | - |
| 2 | CSE 235 | Introduction to Deep Learning | 3 | 0 | 0 | 3 | 3 | P | - |
| 3 | CSE 220 | Internet of Things | 1 | 0 | 4 | 3 | 5 | P/E | - |
| 4 | CSE246 | computer network and Simulation | 2 | 0 | 2 | 3 | 4 | p | - |
| 5 | CSEXXX | Discipline Elective – III | 3 | 0 | 0 | 3 | 3 | P/E | |
| 6 | CSEXXX | Discipline Elective – IV | 1 | 0 | 4 | 3 | 5 | P/E | - |
| 7 | XXX XXX | Open Elective – II | 3 | 0 | 0 | 3 | 3 | P/E | |
| | | TOTAL | 15 | 0 | 10 | 20 | 25 | | |

| VIII SEMESTER | | | | | | | | | |
|---------------|-------------|----------------------------|------------------|----------|----------|-----------|---------------|---------------|---------------------|
| S.No. | COURSE CODE | COURSE NAME | CREDIT STRUCTURE | | | | CONTACT HOURS | TYPE OF SKILL | COURSE ADDRESSES TO |
| | | | L | T | P | C | | | |
| 1. | PIP 102 | Professional Practice - II | 0 | 0 | 0 | 15 | | P/E | PE |
| | | TOTAL | 0 | 0 | 0 | 15 | 0 | | |


 REGISTRAR
