



GALGOTIAS UNIVERSITY
UTTAR PRADESH
B.Tech in Computer Science & Engineering
with specialization in Artificial Intelligence & Machine Learning
2018-19

Semester Wise Breakup of Courses

| Semester 1 | | | | | | |
|-------------|---------------------|--|---|---|---|-----------|
| Course Code | Revised Course Code | Course Title | L | T | P | C |
| 1 | | Introduction to Computer Science & Engineering | 0 | 0 | 2 | 1 |
| 2 | | Computer Programming and Problem Solving using C | 0 | 0 | 4 | 2 |
| 3 | | Calculus for Engineers | 3 | 0 | 0 | 3 |
| 4 | | Exploration with CAS-I | 0 | 0 | 2 | 1 |
| 5 | | Engineering Physics | 3 | 0 | 0 | 3 |
| 6 | | Engineering Physics lab | 0 | 0 | 2 | 1 |
| 7 | | Engineering Chemistry | 3 | 0 | 0 | 3 |
| 8 | | Engineering Chemistry lab | 0 | 0 | 2 | 1 |
| 9 | | Product Design using Graphics | 0 | 0 | 4 | 2 |
| 10 | | Universal Human Values and Ethics | 0 | 0 | 4 | 2 |
| 11 | | Basic English | 0 | 0 | 4 | 2 |
| 12 | | Foreign Language 1 (from Basket) | 0 | 0 | 2 | 1 |
| | | TOTAL | | | | 22 |

| Semester 2 | | | | | | |
|-------------|---------------------|--|---|---|---|-----------|
| Course Code | Revised Course Code | Course Title | L | T | P | C |
| 1 | | Application Oriented Programming using Python | 0 | 0 | 6 | 3 |
| 2 | | Psychology and Sociology | 2 | 0 | 0 | 2 |
| 3 | | Environmental Science | 3 | 0 | 0 | 3 |
| 4 | | Matrices and Differential Equations. | 3 | 0 | 0 | 3 |
| 5 | | Exploration with CAS-II | 0 | 0 | 2 | 1 |
| 6 | | Physics of Semiconductor Devices for CSE, ECE, EEE | 3 | 0 | 0 | 3 |
| 7 | | Advance Physics Lab | 0 | 0 | 2 | 1 |
| 8 | | Basic Electrical and Electronics Engineering | 3 | 0 | 0 | 3 |
| 9 | | Basic Electrical and Electronics Engineering Lab | 0 | 0 | 2 | 1 |
| 10 | | English Proficiency and Aptitude Building - 1 | 0 | 0 | 4 | 2 |
| 11 | | Foreign Language 2 (from Basket) | 0 | 0 | 2 | 1 |
| 12 | | | | | | |
| | | TOTAL | | | | 23 |

| Semester 3 | | | | | | |
|-------------|--|--|---|---|---|-----------|
| Course Code | | Course Title | L | T | P | C |
| 1 | | English Proficiency and Aptitude Building - 2 | 0 | 0 | 4 | 2 |
| 2 | | Digital Design and Computer Architecture | 3 | 0 | 0 | 3 |
| 3 | | Maths III (From Basket)/ Discrete Structure | 3 | 0 | 0 | 3 |
| 4 | | Engineering Thermodynamics | 3 | 0 | 0 | 3 |
| 5 | | Data Structures using C++ | 3 | 0 | 0 | 3 |
| 6 | | Introduction to Cryptographic Fundamentals | 3 | 0 | 0 | 3 |
| 7 | | Theory of Automata & Formal Languages | 3 | 0 | 0 | 3 |
| 8 | | Digital Design and Computer Architecture Lab | 0 | 0 | 2 | 1 |
| 9 | | Data Structures using C++ Lab | 0 | 0 | 2 | 1 |
| 10 | | Introduction to Cryptographic Fundamentals Lab | 0 | 0 | 2 | 1 |
| | | TOTAL | | | | 23 |

| Semester 4 | | | | | | |
|-------------|--|--|---|---|---|-----------|
| Course Code | | Course Title | L | T | P | C |
| 1 | | English Proficiency and Aptitude Building - 3 | 0 | 0 | 4 | 2 |
| 2 | | Maths IV (From Basket) / Specialization Specific | 2 | 0 | 2 | 3 |
| 3 | | Operating Systems | 3 | 0 | 0 | 3 |
| 4 | | Data Base Management System | 3 | 0 | 0 | 3 |
| 5 | | Microprocessor & Interfacing | 3 | 0 | 0 | 3 |
| 6 | | Program Elective-1 | 3 | 0 | 0 | 3 |
| 7 | | Data Communication and Networking | 3 | 0 | 0 | 3 |
| 8 | | Operating Systems Lab | 0 | 0 | 2 | 1 |
| 9 | | Data Base Management System Lab | 0 | 0 | 2 | 1 |
| 10 | | Microprocessor & Interfacing Lab | 0 | 0 | 2 | 1 |
| | | Introduction to Analytics | 3 | 0 | 0 | 3 |
| | | TOTAL | | | | 26 |

| Semester 5 | | | | | | |
|-------------|--|---|---|---|---|-----------|
| Course Code | | Course Title | L | T | P | C |
| 1 | | English Proficiency and Aptitude Building - 4 | 0 | 0 | 4 | 2 |
| 2 | | Design & Analysis of Algorithms | 3 | 0 | 0 | 3 |
| 3 | | Compiler Design | 3 | 0 | 0 | 3 |
| 4 | | Software Engineering | 3 | 0 | 0 | 3 |
| 5 | | Introduction to Cyber Security | 3 | 0 | 0 | 3 |
| 6 | | Advanced Java Programming | 1 | 0 | 6 | 4 |
| 7 | | ITS-1 | 0 | 0 | 2 | 1 |
| 8 | | Swayam / MOOC | 0 | 0 | 4 | 2 |
| 9 | | Compiler Design Lab | 0 | 0 | 2 | 1 |
| 10 | | Software Engineering Lab | 0 | 0 | 2 | 1 |
| | | Neural Networks | 3 | 0 | 3 | 3 |
| | | TOTAL | | | | 26 |

| Semester 6 | | | | | | |
|-------------|--|---|---|---|---|-----------|
| Course Code | | Course Title | L | T | P | C |
| 1 | | Campus to Corporate | 0 | 0 | 4 | 2 |
| 2 | | Computer Graphics | 3 | 0 | 0 | 3 |
| 3 | | Web Technologies | 3 | 0 | 0 | 3 |
| 4 | | ITS-2 | 0 | 0 | 2 | 1 |
| 5 | | Program Elective-3 | 3 | 0 | 0 | 3 |
| 6 | | University Elective-1 | 3 | 0 | 0 | 3 |
| 7 | | Program Elective-2 | 0 | 0 | 6 | 3 |
| 8 | | Management Course (From Basket) | 3 | 0 | 0 | 3 |
| 9 | | Computer Graphics Lab | 0 | 0 | 2 | 1 |
| 10 | | Web Technologies Lab | 0 | 0 | 2 | 1 |
| | | Artificial Intelligence and Expert System | 3 | 0 | 0 | 3 |
| | | Total | | | | 26 |

| Semester 7 | | | | | | |
|-------------|------|--------------------|---|---|---|---|
| Course Code | | Course Title | L | T | P | C |
| 1 | PE-4 | Program Elective-4 | 0 | 0 | 6 | 3 |
| 2 | PC22 | Swayam / MOOC | 0 | 0 | 4 | 2 |
| 3 | UC26 | Capstone Design- 1 | 0 | 0 | 6 | 3 |

| Semester 8 | | | | | | |
|-------------|------|---------------------|---|---|----|----------|
| Course Code | | Course Title | L | T | P | C |
| 1 | UC27 | Capstone Design - 2 | 0 | 0 | 18 | 9 |
| | | TOTAL | | | | 9 |

| | | | | | | | |
|---|------|--|------------------------------------|----------|----------|----------|-----------|
| 4 | UE6 | | Program Elective - 5 | 0 | 0 | 6 | 3 |
| 5 | UE12 | | University Elective - 12 | 3 | 0 | 0 | 3 |
| | | | Machine Learning | 2 | 0 | 2 | 3 |
| | | | Natural Language processing | 3 | 0 | 0 | 3 |
| | | | | | | | |
| | | | TOTAL | | | | 20 |

| | |
|--------------|------------|
| TOTAL | 175 |
|--------------|------------|

| Program Elective | | L | T | P | C |
|-------------------------|--|----------|----------|----------|----------|
| 1 | Introduction to Cloud Computing | 3 | 0 | 0 | 3 |
| 2 | Algorithms for Advanced Analytics | 3 | 0 | 0 | 3 |
| 3 | Artificial Intelligence and Intelligent Systems | 0 | 0 | 6 | 3 |
| 4 | Augmented Reality | 3 | 0 | 0 | 3 |
| 5 | Big Data Analytics for IoT | 0 | 0 | 6 | 3 |
| 6 | Big Data Technology | 0 | 0 | 6 | 3 |
| 7 | Cloud Application Development | 0 | 0 | 6 | 3 |
| 8 | Cloud Architecture and Computing | 0 | 0 | 6 | 3 |
| 9 | Cloud Security | 3 | 0 | 0 | 3 |
| 10 | Cloud Storage and Computing | 3 | 0 | 0 | 3 |
| 11 | Connecting Networks | 3 | 0 | 0 | 3 |
| 12 | Deep Learning | 3 | 0 | 0 | 3 |
| 13 | Foundations of Data Science | 3 | 0 | 0 | 3 |
| 14 | Genetic Algorithms and Machine Learning | 3 | 0 | 0 | 3 |
| 15 | Internet of Things: Sensing and Actuator Devices | 0 | 0 | 6 | 3 |
| 16 | Programming for Data Analytics | 0 | 0 | 6 | 3 |
| 17 | Routing and Switching Essentials | 0 | 0 | 6 | 3 |
| 18 | Scaling Networks | 0 | 0 | 6 | 3 |

| Basket-I (III Sem) | |
|---------------------------|---|
| | 1. Functions of complex variables and Transforms: MATH-2001 |
| | 2. Numerical Methods: MATH-2002 |
| | 3. Discrete Mathematical structures: MATH-2005 |
| Basket-II (IV Sem) | |
| | 1. Probability and Statistics: MATH 2003 |
| | 2. Probability and Stochastic processes: MATH 2004 |
| | 4. Advance Statistical Analysis: MATH 2007 |

