

**Subject:** With reference to Honour degree registered students with USN **XXX22XXXXX** (Regular), USN **XXX22XX4XX** (Diploma Lateral Entry), USN **XXX22XX6XX** (B.Sc Lateral Entry)...

Students who have registered for Honours degree (academic year 2024-25) has to enroll to courses, attend quizzes and complete exams of all courses (totalling to 18 credits) in the **VTU online portal** (<https://online.vtu.ac.in/>) itself and courses done in any other platforms will not be considered to award Honour degree.

**Note:** Exams for these courses will be conducted by VTU and it will be online mode.

**Below are the steps for:**

- A. Course enrollment
- B. Attending quizzes
- C. Exam registration/application
- D. Exam Slot booking
- E. Attending Online Exams

## A. Course Enrollment Procedure

1. Click on the **course link** provided next to each course in the below mentioned department wise eligible course list.
2. You will be taken to the **Course Overview page** directly, Click on **Enroll the Course**.
3. Now you are enrolled in the Course, Click on **Profile** Picture then Click **My Learning**.
4. All the Courses that you are enrolled to will be in **My Learning**, you can Start accessing the Course content by clicking on **Start** button in front of the Course

OR

1. Go to **online.vtu.ac.in** link
2. Click on the **Sign In** button on the top right corner.
3. **Login** by entering your email ID and password.
4. You will be taken to the Student **dashboard**, click on **My Learning** at the left.
5. Click on **Browse More Course**.
6. Under **Categories**, Click on **MOOC Resources**.
7. Select the **subcategory** under **MOOC Resources**, Courses will be displayed.
8. Click on the Course you would like to enroll in.
9. You will be taken to the **Course Overview page**, Click on **Enroll the Course**.
10. Now you are enrolled in the Course, Click on **Profile** Picture then Click **My Learning**.
11. All the Courses that you are enrolled to will be in **My Learning**, you can Start accessing the Course content by clicking on **Start** button in front of the Course

## **B. Procedure to Attend Quiz**

1. **Log in** to your account and navigate to the **Dashboard**.
2. Click on the **My Learning** tab in the **Dashboard**.
3. You will see a list of all the courses you are enrolled in.
4. Click on the **Start** button next to the course name.
5. You will be taken to the **Course Content** page.
6. Complete watching the video lessons for the course.
7. Scroll down to the **Quiz** section located under the video playing section.
8. Click on the **Quiz** section to view the available quizzes.
9. Select the quiz you want to attend and click on the **Start Quiz** button.
10. Read the **terms and conditions** carefully before proceeding.
11. Agree to the **terms and conditions** and click on the **Start Quiz** button again to begin the quiz.
12. Complete the quiz and **submit** your answers.
13. To **view** your quiz score, click on the **Leaderboard**.
14. You will see your **score** and **ranking** compared to other students.

## **C. Procedure for Exam Registration/Application**

1. Click on **Exam** on the navigation bar on the **Home page**.

2. To register for Honours degree exams, click on **Exam Registration – Honours**.
3. **Login** into your account by entering login credentials, it will take you directly to the **exam registration form**.
4. At the bottom, there will be a field to select the course. In the dropdown select the course which you would like to appear for the exam.
5. Click on **Save and Continue**. Exam fee will be displayed.
6. Click on **Pay now** and complete the payment.
7. You can check the status of your exam application under **My Application** in the student dashboard.

#### **D. Procedure for Exam Slot Booking:**

1. **Log in** to your account and navigate to the **Dashboard**.
2. Click on the **My Application** tab in the **Dashboard**.
3. Check that your application status is **Paid** for the course you want to book a slot for.
4. Click on the **Book Now** button in front of the course name.
5. You will be taken to the **Slot Booking** page. View all booked slot details displayed on this page, including date, time, and exam status information.
6. Click on the **Book a slot** button to initiate the slot booking process. A slot booking pop-up window will appear, prompting you to select your preferred slot details.
7. Select the **course** from the **dropdown** menu.
8. Choose a **date and time** slot from the available options.
9. Verify that the selected slot details are correct.
10. Click on the **Book now** button to **confirm** your slot booking.
11. View Booked Slot Details in **Slot Booking** page for confirmation.

### **E. Procedure for Attending Online Proctored Exam :**

1. Go to **My Applications** and click **Book Now** next to your exam application.
2. On the scheduled date and time, click the **Start** button next to your course.
3. Read and agree to the **terms and conditions**.
4. Click **Enter Exam** to begin.
5. Complete the exam, **submit** your answers, and view your score.

**COMPUTER SCIENCE AND TECHNOLOGY**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Computer Science and Engineering	Artificial Intelligence : Search Methods For Problem Solving	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Artificial-Intelligence-Search-Methods-For-Problem-Solving-IIT-Madras">https://online.vtu.ac.in/course-details/Artificial-Intelligence-Search-Methods-For-Problem-Solving-IIT-Madras</a>	3
2	Computer Science and Engineering	Introduction To Haskell Programming	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Haskell-Programming">https://online.vtu.ac.in/course-details/Introduction-To-Haskell-Programming</a>	2
3	Computer Science and Engineering	C Programming And Assembly Language	4 Weeks	<a href="https://online.vtu.ac.in/course-details/C-Programming-And-Assembly-Language">https://online.vtu.ac.in/course-details/C-Programming-And-Assembly-Language</a>	1
4	Computer Science and Engineering	Software Testing (IITKGP)	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Software-Testing-IITKGP">https://online.vtu.ac.in/course-details/Software-Testing-IITKGP</a>	1
5	Computer Science and Engineering	Introduction To Industry 4.0 And Industrial Internet Of Things	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Industry-40-And-Industrial-Internet-Of-Things">https://online.vtu.ac.in/course-details/Introduction-To-Industry-40-And-Industrial-Internet-Of-Things</a>	3
6	Computer Science and Engineering	Natural Language Processing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Natural-Language-Processing">https://online.vtu.ac.in/course-details/Natural-Language-Processing</a>	3
7	Computer Science and Engineering	The Joy Of Computing Using Python	12 Weeks	<a href="https://online.vtu.ac.in/course-details/The-Joy-of-Computing-using-Python">https://online.vtu.ac.in/course-details/The-Joy-of-Computing-using-Python</a>	3

8	Computer Science and Engineering	Modern Algebra	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Modern-Algebra">https://online.vtu.ac.in/course-details/Modern-Algebra</a>	2
9	Computer Science and Engineering	Data Base Management System	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Data-Base-Management-System-384165">https://online.vtu.ac.in/course-details/Data-Base-Management-System-384165</a>	2
10	Computer Science and Engineering	Python For Data Science	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Python-for-Data-Science">https://online.vtu.ac.in/course-details/Python-for-Data-Science</a>	1
11	Computer Science and Engineering	Introduction To Machine Learning	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-to-Machine-Learning">https://online.vtu.ac.in/course-details/Introduction-to-Machine-Learning</a>	3
12	Computer Science and Engineering	Data Science For Engineers	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Data-Science-for-Engineers-815403">https://online.vtu.ac.in/course-details/Data-Science-for-Engineers-815403</a>	2
13	Computer Science and Engineering	Programming, Data Structures And Algorithms Using Python	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Programming-Data-Structures-And-Algorithms-Using-Python">https://online.vtu.ac.in/course-details/Programming-Data-Structures-And-Algorithms-Using-Python</a>	2
14	Computer Science and Engineering	Google Cloud Computing Foundations	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Google-Cloud-Computing-Foundations">https://online.vtu.ac.in/course-details/Google-Cloud-Computing-Foundations</a>	2
15	Computer Science and Engineering	Cloud Computing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Cloud-Computing">https://online.vtu.ac.in/course-details/Cloud-Computing</a>	3
16	Computer Science and Engineering	Programming In Java	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Programming-In-Java">https://online.vtu.ac.in/course-details/Programming-In-Java</a>	3

17	Computer Science and Engineering	Getting Started With Competitive Programming	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Getting-Started-with-Competitive-Programming">https://online.vtu.ac.in/course-details/Getting-Started-with-Competitive-Programming</a>	3
18	Computer Science and Engineering	Advanced Computer Networks	12 Weeks	<a href="https://online.vtu.ac.in/course-details/advanced-computer-networks">https://online.vtu.ac.in/course-details/advanced-computer-networks</a>	3
19	Computer Science and Engineering	Advanced Graph Theory	8 Weeks	<a href="https://online.vtu.ac.in/course-details/advanced-graph-theory-600308">https://online.vtu.ac.in/course-details/advanced-graph-theory-600308</a>	2
20	Computer Science and Engineering	Block Chain and its Applications	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Blockchain-and-its-Applications">https://online.vtu.ac.in/course-details/Blockchain-and-its-Applications</a>	3
21	Computer Science and Engineering	Circuit Complexity Theory	12 Weeks	<a href="https://online.vtu.ac.in/course-details/circuit-complexity-theory">https://online.vtu.ac.in/course-details/circuit-complexity-theory</a>	3
22	Computer Science and Engineering	Cloud Computing and Distributed Systems	8 Weeks	<a href="https://online.vtu.ac.in/course-details/cloud-computing-and-distributed-systems-508569">https://online.vtu.ac.in/course-details/cloud-computing-and-distributed-systems-508569</a>	2
23	Computer Science and Engineering	Computational Number Theory and Algebra	12 Weeks	<a href="https://online.vtu.ac.in/course-details/computational-number-theory-and-algebra">https://online.vtu.ac.in/course-details/computational-number-theory-and-algebra</a>	3
24	Computer Science and Engineering	Data Mining	8 Weeks	<a href="https://online.vtu.ac.in/course-details/data-mining">https://online.vtu.ac.in/course-details/data-mining</a>	2
25	Computer Science and Engineering	Digital Design with Verilog	12 Weeks	<a href="https://online.vtu.ac.in/course-details/digital-design-with-verilog">https://online.vtu.ac.in/course-details/digital-design-with-verilog</a>	3



26	Computer Science and Engineering	Edge Computing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/edge-computing">https://online.vtu.ac.in/course-details/edge-computing</a>	2
27	Computer Science and Engineering	Embedded System Design with ARM	8 Weeks	<a href="https://online.vtu.ac.in/course-details/embedded-system-design-with-arm">https://online.vtu.ac.in/course-details/embedded-system-design-with-arm</a>	2
28	Computer Science and Engineering	Fundamental Algorithms: Design and Analysis	4 Weeks	<a href="https://online.vtu.ac.in/course-details/fundamental-algorithms-design-and-analysis">https://online.vtu.ac.in/course-details/fundamental-algorithms-design-and-analysis</a>	1
29	Computer Science and Engineering	Machine Learning for Engineering and science applications	12 Weeks	<a href="https://online.vtu.ac.in/course-details/machine-learning-for-engineering-and-science-applications">https://online.vtu.ac.in/course-details/machine-learning-for-engineering-and-science-applications</a>	3
30	Computer Science and Engineering	Optimisation for Machine Learning: Theory and Implementation(Hindi)	8 Weeks	<a href="https://online.vtu.ac.in/course-details/optimisation-for-machine-learning-theory-and-implementation-hindi">https://online.vtu.ac.in/course-details/optimisation-for-machine-learning-theory-and-implementation-hindi</a>	2
31	Computer Science and Engineering	Parallel Computer Architecture	12 Weeks	<a href="https://online.vtu.ac.in/course-details/parallel-computer-architecture">https://online.vtu.ac.in/course-details/parallel-computer-architecture</a>	3
32	Computer Science and Engineering	Quantum Algorithms and Cryptography	12 Weeks	<a href="https://online.vtu.ac.in/course-details/quantum-algorithms-and-cryptography">https://online.vtu.ac.in/course-details/quantum-algorithms-and-cryptography</a>	3
33	Computer Science and Engineering	Switching Circuits and Logic Design	12 Weeks	<a href="https://online.vtu.ac.in/course-details/switching-circuits-and-logic-design">https://online.vtu.ac.in/course-details/switching-circuits-and-logic-design</a>	3
34	Computer Science and Engineering	Systems and Usable Security	4 Weeks	<a href="https://online.vtu.ac.in/course-details/systems-and-usable-security-979026">https://online.vtu.ac.in/course-details/systems-and-usable-security-979026</a>	1

35	Computer Science and Engineering	User-centric Computing For Human-Computer Interaction	8 Weeks	<a href="https://online.vtu.ac.in/course-details/user-centric-computing-for-human-computer-interaction">https://online.vtu.ac.in/course-details/user-centric-computing-for-human-computer-interaction</a>	2
36	Computer Science and Engineering	Linear programming and its applications to computer science	8 Weeks	<a href="https://online.vtu.ac.in/course-details/linear-programming-and-its-applications-to-computer-science">https://online.vtu.ac.in/course-details/linear-programming-and-its-applications-to-computer-science</a>	2
37	Computer Science and Engineering	Affective Computing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Affective-Computing">https://online.vtu.ac.in/course-details/Affective-Computing</a>	3
38	Computer Science and Engineering	AI: Constraint Satisfaction	8 Weeks	<a href="https://online.vtu.ac.in/course-details/AI-Constraint-Satisfaction-836131">https://online.vtu.ac.in/course-details/AI-Constraint-Satisfaction-836131</a>	2
39	Computer Science and Engineering	Data Analytics with Python	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Data-Analytics-with-Python">https://online.vtu.ac.in/course-details/Data-Analytics-with-Python</a>	3
40	Computer Science and Engineering	Discrete Mathematics - IITB	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Discrete-Mathematics-IITB">https://online.vtu.ac.in/course-details/Discrete-Mathematics-IITB</a>	3
41	Computer Science and Engineering	Foundations of Cyber Physical Systems	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Foundations-of-Cyber-Physical-Systems">https://online.vtu.ac.in/course-details/Foundations-of-Cyber-Physical-Systems</a>	3
42	Computer Science and Engineering	GPU Architectures and Programming	12 Weeks	<a href="https://online.vtu.ac.in/course-details/GPU-Architectures-And-Programming">https://online.vtu.ac.in/course-details/GPU-Architectures-And-Programming</a>	3

43	Computer Science and Engineering	Information Security - 5 - Secure Systems Engineering	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Information-Security-5-Secure-Systems-Engineering">https://online.vtu.ac.in/course-details/Information-Security-5-Secure-Systems-Engineering</a>	2
44	Computer Science and Engineering	Introduction to Embedded System Design	12 Weeks	<a href="https://online.vtu.ac.in/course-details/introduction-to-embedded-system-design">https://online.vtu.ac.in/course-details/introduction-to-embedded-system-design</a>	3
45	Computer Science and Engineering	Introduction To Internet Of Things	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Internet-Of-Things">https://online.vtu.ac.in/course-details/Introduction-To-Internet-Of-Things</a>	3
46	Computer Science and Engineering	Introduction To Soft Computing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Soft-Computing">https://online.vtu.ac.in/course-details/Introduction-To-Soft-Computing</a>	2
47	Computer Science and Engineering	Problem Solving Through Programming In C	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Problem-Solving-Through-Programming-In-C">https://online.vtu.ac.in/course-details/Problem-Solving-Through-Programming-In-C</a>	3
48	Computer Science and Engineering	Programming in Modern C++	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Programming-In-Modern-C">https://online.vtu.ac.in/course-details/Programming-In-Modern-C</a>	3
49	Computer Science and Engineering	Reinforcement Learning	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Reinforcement-Learning">https://online.vtu.ac.in/course-details/Reinforcement-Learning</a>	3
50	Computer Science and Engineering	Secure Computation: Part I	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Secure-Computation-Part-I">https://online.vtu.ac.in/course-details/Secure-Computation-Part-I</a>	3

51	Computer Science and Engineering	Social Networks	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Social-Networks">https://online.vtu.ac.in/course-details/Social-Networks</a>	3
52	Computer Science and Engineering	Foundation of Cloud IoT Edge ML	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Foundation-of-Cloud-IOT-Edge-ML-487203">https://online.vtu.ac.in/course-details/Foundation-of-Cloud-IOT-Edge-ML-487203</a>	2

**AEROSPACE ENGINEERING**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Aerospace Engineering	Aircraft Stability And Control	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Aircraft-Stability-And-Control">https://online.vtu.ac.in/course-details/Aircraft-Stability-And-Control</a>	3
2	Aerospace Engineering	Introduction To Airplane Performance	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Airplane-Performance">https://online.vtu.ac.in/course-details/Introduction-To-Airplane-Performance</a>	2
3	Aerospace Engineering	Introduction To Air breathing Propulsion	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Airbreathing-Propulsion">https://online.vtu.ac.in/course-details/Introduction-To-Airbreathing-Propulsion</a>	3
4	Aerospace Engineering	Design Of Fixed Wing Unmanned Aerial Vehicles	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Design-Of-Fixed-Wing-Unmanned-Aerial-Vehicles">https://online.vtu.ac.in/course-details/Design-Of-Fixed-Wing-Unmanned-Aerial-Vehicles</a>	2
5	Aerospace Engineering	Introduction To Aircraft Design	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Aircraft-Design">https://online.vtu.ac.in/course-details/Introduction-To-Aircraft-Design</a>	3
6	Aerospace Engineering	Space Flight Mechanics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Space-Flight-Mechanics">https://online.vtu.ac.in/course-details/Space-Flight-Mechanics</a>	3
7	Aerospace Engineering	Vibration And Structural Dynamics	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Vibration-And-Structural-Dynamics">https://online.vtu.ac.in/course-details/Vibration-And-Structural-Dynamics</a>	2
8	Aerospace Engineering	Aerodynamic Design Of Axial Flow Compressors & Fans	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Aerodynamic-Design-Of-Axial-Flow-Compressors-Fans">https://online.vtu.ac.in/course-details/Aerodynamic-Design-Of-Axial-Flow-Compressors-Fans</a>	3
9	Aerospace Engineering	Aircraft Stability And Control	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Aircraft-Stability-And-Control">https://online.vtu.ac.in/course-details/Aircraft-Stability-And-Control</a>	3
10	Aerospace Engineering	Introduction To Airplane Performance	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Airplane-Performance">https://online.vtu.ac.in/course-details/Introduction-To-Airplane-Performance</a>	2

11	Aerospace Engineering	Introduction To Airbreathing Propulsion	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Airbreathing-Propulsion">https://online.vtu.ac.in/course-details/Introduction-To-Airbreathing-Propulsion</a>	3
12	Aerospace Engineering	Design Of Fixed Wing Unmanned Aerial Vehicles	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Design-Of-Fixed-Wing-Unmanned-Aerial-Vehicles">https://online.vtu.ac.in/course-details/Design-Of-Fixed-Wing-Unmanned-Aerial-Vehicles</a>	2
13	Aerospace Engineering	Introduction To Aircraft Design	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Aircraft-Design">https://online.vtu.ac.in/course-details/Introduction-To-Aircraft-Design</a>	3
14	Aerospace Engineering	Space Flight Mechanics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Space-Flight-Mechanics">https://online.vtu.ac.in/course-details/Space-Flight-Mechanics</a>	3
15	Aerospace Engineering	Vibration And Structural Dynamics	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Vibration-And-Structural-Dynamics">https://online.vtu.ac.in/course-details/Vibration-And-Structural-Dynamics</a>	2
16	Aerospace Engineering	Aerodynamic Design Of Axial Flow Compressors & Fans	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Aerodynamic-Design-Of-Axial-Flow-Compressors-Fans">https://online.vtu.ac.in/course-details/Aerodynamic-Design-Of-Axial-Flow-Compressors-Fans</a>	3
17	Aerospace Engineering	Introduction to Experiments in Flight	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-to-Experiments-in-Flight">https://online.vtu.ac.in/course-details/Introduction-to-Experiments-in-Flight</a>	1

**BIOTECHNOLOGY AND BIOENGINEERING**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Biotechnology and Bioengineering	Genetic Engineering: Theory And Application	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Genetic-Engineering-Theory-and-Application">https://online.vtu.ac.in/course-details/Genetic-Engineering-Theory-and-Application</a>	3
2	Biotechnology and Bioengineering	Cellular Biophysics: A Framework For Quantitative Biology	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Cellular-Biophysics-A-Framework-For-Quantitative-Biology">https://online.vtu.ac.in/course-details/Cellular-Biophysics-A-Framework-For-Quantitative-Biology</a>	2
3	Biotechnology and Bioengineering	Medical Image Analysis	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Medical-Image-Analysis">https://online.vtu.ac.in/course-details/Medical-Image-Analysis</a>	3
4	Biotechnology and Bioengineering	Computer Aided Drug Design	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Computer-Aided-Drug-Design">https://online.vtu.ac.in/course-details/Computer-Aided-Drug-Design</a>	2
5	Biotechnology and Bioengineering	Plant Cell Bioprocessing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Plant-Cell-Bioprocessing">https://online.vtu.ac.in/course-details/Plant-Cell-Bioprocessing</a>	2
6	Biotechnology and Bioengineering	Bioreactors	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Bioreactors">https://online.vtu.ac.in/course-details/Bioreactors</a>	1
7	Biotechnology and Bioengineering	Introduction To Biomedical Imaging Systems	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Biomedical-Imaging-Systems">https://online.vtu.ac.in/course-details/Introduction-To-Biomedical-Imaging-Systems</a>	3
8	Biotechnology and Bioengineering	Organ Printing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Organ-Printing">https://online.vtu.ac.in/course-details/Organ-Printing</a>	2
9	Biotechnology and Bioengineering	Genome Editing And Engineering	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Genome-Editing-And-Engineering">https://online.vtu.ac.in/course-details/Genome-Editing-And-Engineering</a>	3

10	Biotechnology and Bioengineering	Functional Genomics	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Functional-Genomics">https://online.vtu.ac.in/course-details/Functional-Genomics</a>	1
11	Biotechnology and Bioengineering	Conservation Geography	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Conservation-Geography">https://online.vtu.ac.in/course-details/Conservation-Geography</a>	3
12	Biotechnology and Bioengineering	Experimental Biotechnology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Experimental-Biotechnology">https://online.vtu.ac.in/course-details/Experimental-Biotechnology</a>	3
13	Biotechnology and Bioengineering	Introduction To Mechanobiology	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Mechanobiology">https://online.vtu.ac.in/course-details/Introduction-To-Mechanobiology</a>	2
14	Biotechnology and Bioengineering	Industrial Biotechnology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Industrial-Biotechnology">https://online.vtu.ac.in/course-details/Industrial-Biotechnology</a>	3
15	Biotechnology and Bioengineering	Basics of Biology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Basics-of-Biology">https://online.vtu.ac.in/course-details/Basics-of-Biology</a>	3
16	Biotechnology and Bioengineering	Biochemistry - IITM	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Biochemistry-IITM">https://online.vtu.ac.in/course-details/Biochemistry-IITM</a>	3
17	Biotechnology and Bioengineering	Bioengineering: An Interface with Biology and Medicine	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Bioengineering-An-Interface-with-Biology-and-Medicine">https://online.vtu.ac.in/course-details/Bioengineering-An-Interface-with-Biology-and-Medicine</a>	2
18	Biotechnology and Bioengineering	Biointerface Engineering	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Biointerface-Engineering">https://online.vtu.ac.in/course-details/Biointerface-Engineering</a>	2
19	Biotechnology and Bioengineering	Biomechanics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Biomechanics">https://online.vtu.ac.in/course-details/Biomechanics</a>	3



20	Biotechnology and Bioengineering	Bioreactor Design and Analysis	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Bioreactor-Design-and-Analysis">https://online.vtu.ac.in/course-details/Bioreactor-Design-and-Analysis</a>	2
21	Biotechnology and Bioengineering	Biostatistics and Design of experiments	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Biostatistics-and-Design-of-experiments">https://online.vtu.ac.in/course-details/Biostatistics-and-Design-of-experiments</a>	2
22	Biotechnology and Bioengineering	Cell Biology: Cellular organization, division and processes	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Cell-Biology-Cellular-organization-division-and-processes">https://online.vtu.ac.in/course-details/Cell-Biology-Cellular-organization-division-and-processes</a>	2
23	Biotechnology and Bioengineering	Computational Systems Biology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Computational-Systems-Biology">https://online.vtu.ac.in/course-details/Computational-Systems-Biology</a>	3
24	Biotechnology and Bioengineering	Data Analysis for Biologists	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Data-Analysis-for-Biologists">https://online.vtu.ac.in/course-details/Data-Analysis-for-Biologists</a>	2
25	Biotechnology and Bioengineering	Demystifying the Brain	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Demystifying-The-Brain">https://online.vtu.ac.in/course-details/Demystifying-The-Brain</a>	1
26	Biotechnology and Bioengineering	Environmental Chemistry and Microbiology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Environmental-Chemistry-and-Microbiology">https://online.vtu.ac.in/course-details/Environmental-Chemistry-and-Microbiology</a>	3
27	Biotechnology and Bioengineering	Interactomics: Basics & Applications	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Interactomics-Basics-Applications">https://online.vtu.ac.in/course-details/Interactomics-Basics-Applications</a>	3
28	Biotechnology and Bioengineering	Introductory Mathematical Methods for Biologists	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introductory-Mathematical-Methods-for-Biologists">https://online.vtu.ac.in/course-details/Introductory-Mathematical-Methods-for-Biologists</a>	2
29	Biotechnology and Bioengineering	Material and Energy Balances	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Material-and-Energy-Balances">https://online.vtu.ac.in/course-details/Material-and-Energy-Balances</a>	3

30	Biotechnology and Bioengineering	Maternal Infant Young Child Nutrition	12 Weeks	<a href="https://online.vtu.ac.in/course-details/maternal-infant-young-child-nutrition">https://online.vtu.ac.in/course-details/maternal-infant-young-child-nutrition</a>	3
31	Biotechnology and Bioengineering	Medical Biomaterials	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Medical-Biomaterials">https://online.vtu.ac.in/course-details/Medical-Biomaterials</a>	2
32	Biotechnology and Bioengineering	Nanotechnology in Agriculture	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Nanotechnology-In-Agriculture">https://online.vtu.ac.in/course-details/Nanotechnology-In-Agriculture</a>	2
33	Biotechnology and Bioengineering	Plant Developmental Biology	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Plant-Developmental-Biology">https://online.vtu.ac.in/course-details/Plant-Developmental-Biology</a>	1
34	Biotechnology and Bioengineering	Structural Biology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Structural-Biology">https://online.vtu.ac.in/course-details/Structural-Biology</a>	3
35	Biotechnology and Bioengineering	Thermodynamics for Biological Systems : Classical and Statistical Aspect	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Thermodynamics-for-Biological-Systems-Classical-and-Statistical-Aspect">https://online.vtu.ac.in/course-details/Thermodynamics-for-Biological-Systems-Classical-and-Statistical-Aspect</a>	3

**CIVIL ENGINEERING**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Civil Engineering	Finite Element Method And Computational Structural Dynamics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Finite-Element-Method-And-Computational-Structural-Dynamics">https://online.vtu.ac.in/course-details/Finite-Element-Method-And-Computational-Structural-Dynamics</a>	3
2	Civil Engineering	Mechanics Of Materials	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Mechanics-Of-Materials">https://online.vtu.ac.in/course-details/Mechanics-Of-Materials</a>	3
3	Civil Engineering	Project Planning & Control	8 Weeks	<a href="https://online.vtu.ac.in/course-details/project-planning-control">https://online.vtu.ac.in/course-details/project-planning-control</a>	2
4	Civil Engineering	Principles Of Construction Management	8 Weeks	<a href="https://online.vtu.ac.in/course-details/principles-of-construction-management">https://online.vtu.ac.in/course-details/principles-of-construction-management</a>	2
5	Civil Engineering	Municipal Solid Waste Management	12 Weeks	<a href="https://online.vtu.ac.in/course-details/municipal-solid-waste-management">https://online.vtu.ac.in/course-details/municipal-solid-waste-management</a>	3
6	Civil Engineering	Introduction to Multimodal Urban Transportation Systems (MUTS)	12 Weeks	<a href="https://online.vtu.ac.in/course-details/introduction-to-multimodal-urban-transportation-systems-muts">https://online.vtu.ac.in/course-details/introduction-to-multimodal-urban-transportation-systems-muts</a>	3
7	Civil Engineering	Bridge Engineering	12 Weeks	<a href="https://online.vtu.ac.in/course-details/bridge-engineering">https://online.vtu.ac.in/course-details/bridge-engineering</a>	3
8	Civil Engineering	Wastewater Treatment And Recycling	12 Weeks	<a href="https://online.vtu.ac.in/course-details/wastewater-treatment-and-recycling">https://online.vtu.ac.in/course-details/wastewater-treatment-and-recycling</a>	3
10	Civil Engineering	Matrix Method Of Structural Analysis	8 Weeks	<a href="https://online.vtu.ac.in/course-details/matrix-method-of-structural-analysis">https://online.vtu.ac.in/course-details/matrix-method-of-structural-analysis</a>	2
11	Civil Engineering	Integrated Waste Management For A Smart City	12 Weeks	<a href="https://online.vtu.ac.in/course-details/integrated-waste-management-for-a-smart-city">https://online.vtu.ac.in/course-details/integrated-waste-management-for-a-smart-city</a>	3
12	Civil Engineering	Sustainable Engineering Concepts And Life Cycle Analysis	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Sustainable-Engineering-Concepts-And-Life-Cycle-Analysis">https://online.vtu.ac.in/course-details/Sustainable-Engineering-Concepts-And-Life-Cycle-Analysis</a>	2
13	Civil Engineering	Sustainable Transportation Systems	12 Weeks	<a href="https://online.vtu.ac.in/course-details/sustainable-transportation-systems">https://online.vtu.ac.in/course-details/sustainable-transportation-systems</a>	3

14	Civil Engineering	Advanced Foundation Engineering	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Advanced-Foundation-Engineering">https://online.vtu.ac.in/course-details/Advanced-Foundation-Engineering</a>	3
15	Civil Engineering	Applied Seismology for Engineers	12 Weeks	<a href="https://online.vtu.ac.in/course-details/applied-seismology-for-engineers">https://online.vtu.ac.in/course-details/applied-seismology-for-engineers</a>	3
16	Civil Engineering	Digital Land Surveying and Mapping (DLS&M)	8 Weeks	<a href="https://online.vtu.ac.in/course-details/digital-land-surveying-and-mapping-dlsm-744688">https://online.vtu.ac.in/course-details/digital-land-surveying-and-mapping-dlsm-744688</a>	2
17	Civil Engineering	Earthquake Resistant Design of Foundations	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Earthquake-Resistant-Design-of-Foundations">https://online.vtu.ac.in/course-details/Earthquake-Resistant-Design-of-Foundations</a>	2
18	Civil Engineering	Environmental Remediation of Contaminated Sites	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Environmental-Remediation-of-Contaminated-Sites">https://online.vtu.ac.in/course-details/Environmental-Remediation-of-Contaminated-Sites</a>	3
19	Civil Engineering	Expansive Soil	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Expansive-Soil-190512">https://online.vtu.ac.in/course-details/Expansive-Soil-190512</a>	2
20	Civil Engineering	Geographic Information Systems	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Geographic-Information-Systems">https://online.vtu.ac.in/course-details/Geographic-Information-Systems</a>	3
21	Civil Engineering	Geology and Soil Mechanics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/geology-and-soil-mechanics">https://online.vtu.ac.in/course-details/geology-and-soil-mechanics</a>	3
22	Civil Engineering	Geomorphic Processes: Landforms and Landscapes	8 Weeks	<a href="https://online.vtu.ac.in/course-details/geomorphic-processes-landforms-and-landscapes">https://online.vtu.ac.in/course-details/geomorphic-processes-landforms-and-landscapes</a>	2
23	Civil Engineering	GPS Surveying	4 Weeks	<a href="https://online.vtu.ac.in/course-details/gps-surveying">https://online.vtu.ac.in/course-details/gps-surveying</a>	1
24	Civil Engineering	Hydraulic Engineering	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Hydraulic-Engineering-300935">https://online.vtu.ac.in/course-details/Hydraulic-Engineering-300935</a>	3

25	Civil Engineering	Industrial Wastewater Treatment	12 weeks	<a href="https://online.vtu.ac.in/course-details/Industrial-Wastewater-Treatment">https://online.vtu.ac.in/course-details/Industrial-Wastewater-Treatment</a>	3
26	Civil Engineering	Introduction to Accounting and Finance for Civil Engineers	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-to-Accounting-and-Finance-for-Civil-Engineers">https://online.vtu.ac.in/course-details/Introduction-to-Accounting-and-Finance-for-Civil-Engineers</a>	2
27	Civil Engineering	Introduction to Civil Engineering Profession	8 Weeks	<a href="https://online.vtu.ac.in/course-details/introduction-to-civil-engineering-profession">https://online.vtu.ac.in/course-details/introduction-to-civil-engineering-profession</a>	2
28	Civil Engineering	Maintenance and Repair of Concrete Structures	12 weeks	<a href="https://online.vtu.ac.in/course-details/Maintenance-and-Repair-of-Concrete-Structures">https://online.vtu.ac.in/course-details/Maintenance-and-Repair-of-Concrete-Structures</a>	3
29	Civil Engineering	Modern Construction Materials	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Modern-Construction-materials">https://online.vtu.ac.in/course-details/Modern-Construction-materials</a>	3
30	Civil Engineering	Soil Structure Interaction	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Soil-Structure-Interaction">https://online.vtu.ac.in/course-details/Soil-Structure-Interaction</a>	3
31	Civil Engineering	Unsaturated Soil Mechanics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/unsaturated-soil-mechanics">https://online.vtu.ac.in/course-details/unsaturated-soil-mechanics</a>	3
32	Civil Engineering	Structural Dynamics for Civil Engineers - SDOF Systems	4 Weeks	<a href="https://online.vtu.ac.in/course-details/structural-dynamics-for-civil-engineers-sdof-systems">https://online.vtu.ac.in/course-details/structural-dynamics-for-civil-engineers-sdof-systems</a>	1

**MANAGEMENT**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
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1	Management	Toyota Production System	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Toyota-Production-System">https://online.vtu.ac.in/course-details/Toyota-Production-System</a>	2
2	Management	Training Of Trainers	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Training-Of-Trainers">https://online.vtu.ac.in/course-details/Training-Of-Trainers</a>	3
3	Management	Business Analytics & Data Mining Modeling Using R Part II	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Business-Analytics-Data-Mining-Modeling-Using-R-Part-II">https://online.vtu.ac.in/course-details/Business-Analytics-Data-Mining-Modeling-Using-R-Part-II</a>	1
4	Management	Yoga And Positive Psychology For Managing Career And Life	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Yoga-And-Positive-Psychology-For-Managing-Career-And-Life">https://online.vtu.ac.in/course-details/Yoga-And-Positive-Psychology-For-Managing-Career-And-Life</a>	2
5	Management	Decision-Making Under Uncertainty	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Decision-Making-Under-Uncertainty">https://online.vtu.ac.in/course-details/Decision-Making-Under-Uncertainty</a>	1
6	Management	Design Thinking - A Primer	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Design-Thinking-A-Primer">https://online.vtu.ac.in/course-details/Design-Thinking-A-Primer</a>	1
7	Management	Strategy And Technology: A Practical Primer	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Strategy-And-Technology-A-Practical-Primer">https://online.vtu.ac.in/course-details/Strategy-And-Technology-A-Practical-Primer</a>	3
8	Management	Marketing Management - I	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Strategy-And-Technology-A-Practical-Primer">https://online.vtu.ac.in/course-details/Strategy-And-Technology-A-Practical-Primer</a>	2
9	Management	Game Theory	8 Weeks	<a href="https://online.vtu.ac.in/course-details/game-theory">https://online.vtu.ac.in/course-details/game-theory</a>	2
10	Management	E-Business	12 Weeks	<a href="https://online.vtu.ac.in/course-details/E-Business">https://online.vtu.ac.in/course-details/E-Business</a>	3
11	Management	Corporate Finance	8 Weeks	<a href="https://online.vtu.ac.in/course-details/corporate-finance">https://online.vtu.ac.in/course-details/corporate-finance</a>	2

12	Management	Strategic Management For Competitive Advantage	12 Weeks	<a href="https://online.vtu.ac.in/course-details/strategic-management-for-competitive-advantage">https://online.vtu.ac.in/course-details/strategic-management-for-competitive-advantage</a>	3
13	Management	Econometric Modelling	8 Weeks	<a href="https://online.vtu.ac.in/course-details/econometric-modelling">https://online.vtu.ac.in/course-details/econometric-modelling</a>	2
14	Management	Industrial Safety Engineering	12 Weeks	<a href="https://online.vtu.ac.in/course-details/industrial-safety-engineering">https://online.vtu.ac.in/course-details/industrial-safety-engineering</a>	3
15	Management	Financial accounting	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Financial-Accounting">https://online.vtu.ac.in/course-details/Financial-Accounting</a>	3
16	Management	Financial Management For Managers	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Financial-Management-For-Managers">https://online.vtu.ac.in/course-details/Financial-Management-For-Managers</a>	3
17	Management	Leadership and Team Effectiveness	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Leadership-and-Team-Effectiveness">https://online.vtu.ac.in/course-details/Leadership-and-Team-Effectiveness</a>	3
18	Management	Management of Commercial Banking	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Management-of-Commercial-Banking">https://online.vtu.ac.in/course-details/Management-of-Commercial-Banking</a>	3
19	Management	Managing change in organizations	8 Weeks	<a href="https://online.vtu.ac.in/course-details/managing-change-in-organizations-448977">https://online.vtu.ac.in/course-details/managing-change-in-organizations-448977</a>	2
20	Management	Simulation of Business Systems: An Applied Approach	8 Weeks	<a href="https://online.vtu.ac.in/course-details/simulation-of-business-systems-an-applied-approach">https://online.vtu.ac.in/course-details/simulation-of-business-systems-an-applied-approach</a>	2
21	Management	Strategic Services Marketing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/strategic-services-marketing-747554">https://online.vtu.ac.in/course-details/strategic-services-marketing-747554</a>	3
22	Management	Systems Engineering: Theory & Practice	8 Weeks	<a href="https://online.vtu.ac.in/course-details/systems-engineering-theory-practice-277240">https://online.vtu.ac.in/course-details/systems-engineering-theory-practice-277240</a>	2
23	Management	Business Forecasting	8 Weeks	<a href="https://online.vtu.ac.in/course-details/business-forecasting">https://online.vtu.ac.in/course-details/business-forecasting</a>	2

**MECHANICAL ENGINEERING**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Mechanical Engineering	Fundamentals Of Convective Heat Transfer	12 Weeks	<a href="https://online.vtu.ac.in/course-details/fundamentals-of-convective-heat-transfer">https://online.vtu.ac.in/course-details/fundamentals-of-convective-heat-transfer</a>	3
2	Mechanical Engineering	Aircraft Propulsion	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Aircraft-Propulsion">https://online.vtu.ac.in/course-details/Aircraft-Propulsion</a>	3



3	Mechanical Engineering	Laser Based Manufacturing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Laser-Based-Manufacturing">https://online.vtu.ac.in/course-details/Laser-Based-Manufacturing</a>	2
4	Mechanical Engineering	Mathematical Modeling Of Manufacturing Processes	12 Weeks	<a href="https://online.vtu.ac.in/course-details/mathematical-modeling-of-manufacturing-processes">https://online.vtu.ac.in/course-details/mathematical-modeling-of-manufacturing-processes</a>	3
5	Mechanical Engineering	Welding Application Technology	8 Weeks	<a href="https://online.vtu.ac.in/course-details/welding-application-technology">https://online.vtu.ac.in/course-details/welding-application-technology</a>	2
6	Mechanical Engineering	Robotics	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Robotics">https://online.vtu.ac.in/course-details/Robotics</a>	2
7	Mechanical Engineering	Product Design And Development	4 Weeks	<a href="https://online.vtu.ac.in/course-details/product-design-and-development">https://online.vtu.ac.in/course-details/product-design-and-development</a>	1
8	Mechanical Engineering	Principles Of Metal Forming Technology	8 Weeks	<a href="https://online.vtu.ac.in/course-details/principles-of-metal-forming-technology">https://online.vtu.ac.in/course-details/principles-of-metal-forming-technology</a>	2
9	Mechanical Engineering	Selection Of Nanomaterials For Energy Harvesting And Storage Application	4 Weeks	<a href="https://online.vtu.ac.in/course-details/selection-of-nanomaterials-for-energy-harvesting-and-storage-application">https://online.vtu.ac.in/course-details/selection-of-nanomaterials-for-energy-harvesting-and-storage-application</a>	1
10	Mechanical Engineering	Structural Analysis Of Nanomaterials	4 Weeks	<a href="https://online.vtu.ac.in/course-details/structural-analysis-of-nanomaterials">https://online.vtu.ac.in/course-details/structural-analysis-of-nanomaterials</a>	1
11	Mechanical Engineering	Introduction To Mechanical Vibration	8 Weeks	<a href="https://online.vtu.ac.in/course-details/introduction-to-mechanical-vibration">https://online.vtu.ac.in/course-details/introduction-to-mechanical-vibration</a>	2
12	Mechanical Engineering	Fundamentals Of Manufacturing Processes	12 Weeks	<a href="https://online.vtu.ac.in/course-details/fundamentals-of-manufacturing-processes">https://online.vtu.ac.in/course-details/fundamentals-of-manufacturing-processes</a>	3
13	Mechanical Engineering	Design Of Mechatronic Systems	12 Weeks	<a href="https://online.vtu.ac.in/course-details/design-of-mechatronic-systems">https://online.vtu.ac.in/course-details/design-of-mechatronic-systems</a>	3

14	Mechanical Engineering	Functional And Conceptual Design	12 Weeks	<a href="https://online.vtu.ac.in/course-details/functional-and-conceptual-design">https://online.vtu.ac.in/course-details/functional-and-conceptual-design</a>	3
15	Mechanical Engineering	Advanced Machining Processes	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Advanced-Machining-Processes">https://online.vtu.ac.in/course-details/Advanced-Machining-Processes</a>	3
16	Mechanical Engineering	Advanced Robotics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Advanced-Robotics">https://online.vtu.ac.in/course-details/Advanced-Robotics</a>	3
17	Mechanical Engineering	Applied Ergonomics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/applied-ergonomics">https://online.vtu.ac.in/course-details/applied-ergonomics</a>	3
18	Mechanical Engineering	Automatic Control	8 Weeks	<a href="https://online.vtu.ac.in/course-details/automatic-control">https://online.vtu.ac.in/course-details/automatic-control</a>	2
19	Mechanical Engineering	Computational Fluid Dynamics For Incompressible Flows	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Computational-Fluid-Dynamics-for-Incompressible-Flows">https://online.vtu.ac.in/course-details/Computational-Fluid-Dynamics-for-Incompressible-Flows</a>	3
20	Mechanical Engineering	Convective Heat Transfer	4 Weeks	<a href="https://online.vtu.ac.in/course-details/convective-heat-transfer">https://online.vtu.ac.in/course-details/convective-heat-transfer</a>	1
21	Mechanical Engineering	Data-Enabled Tribological Engineering: From Experiments to Predictive Models	12 Weeks	<a href="https://online.vtu.ac.in/course-details/data-enabled-tribological-engineering-from-experiments-to-predictive-models">https://online.vtu.ac.in/course-details/data-enabled-tribological-engineering-from-experiments-to-predictive-models</a>	3
22	Mechanical Engineering	Electronic Packaging and Manufacturing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/electronic-packaging-and-manufacturing-482020">https://online.vtu.ac.in/course-details/electronic-packaging-and-manufacturing-482020</a>	2
23	Mechanical Engineering	Experimental Stress Analysis	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Experimental-Stress-Analysis">https://online.vtu.ac.in/course-details/Experimental-Stress-Analysis</a>	3

24	Mechanical Engineering	Fundamental Of Welding Science And Technology	8 Weeks	<a href="https://online.vtu.ac.in/course-details/fundamental-of-welding-science-and-technology-647492">https://online.vtu.ac.in/course-details/fundamental-of-welding-science-and-technology-647492</a>	2
25	Mechanical Engineering	Fundamentals of Combustion	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Fundamentals-of-Combustion">https://online.vtu.ac.in/course-details/Fundamentals-of-Combustion</a>	3
26	Mechanical Engineering	Fundamentals Of Nuclear Power Generation	12 weeks	<a href="https://online.vtu.ac.in/course-details/Fundamentals-Of-Nuclear-Power-Generation">https://online.vtu.ac.in/course-details/Fundamentals-Of-Nuclear-Power-Generation</a>	3
27	Mechanical Engineering	Heat Transfer and Combustion in Multiphase Systems	8 Weeks	<a href="https://online.vtu.ac.in/course-details/heat-transfer-and-combustion-in-multiphase-systems">https://online.vtu.ac.in/course-details/heat-transfer-and-combustion-in-multiphase-systems</a>	2
28	Mechanical Engineering	Inspection And Quality Control In Manufacturing	4 Weeks	<a href="https://online.vtu.ac.in/course-details/inspection-and-quality-control-in-manufacturing">https://online.vtu.ac.in/course-details/inspection-and-quality-control-in-manufacturing</a>	1
29	Mechanical Engineering	Manufacturing Automation	4 Weeks	<a href="https://online.vtu.ac.in/course-details/manufacturing-automation">https://online.vtu.ac.in/course-details/manufacturing-automation</a>	1
30	Mechanical Engineering	Manufacturing Guidelines For Product Design	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Manufacturing-Guidelines-For-Product-Design-872170">https://online.vtu.ac.in/course-details/Manufacturing-Guidelines-For-Product-Design-872170</a>	2
31	Mechanical Engineering	Mechanical Measurement Systems	8 Weeks	<a href="https://online.vtu.ac.in/course-details/mechanical-measurement-systems">https://online.vtu.ac.in/course-details/mechanical-measurement-systems</a>	2
32	Mechanical Engineering	Phase Transformation in Materials	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Phase-Transformation-in-Materials">https://online.vtu.ac.in/course-details/Phase-Transformation-in-Materials</a>	3

33	Mechanical Engineering	Processing of Polymers and Polymer Composites	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Processing-of-Polymers-and-Polymer-Composites">https://online.vtu.ac.in/course-details/Processing-of-Polymers-and-Polymer-Composites</a>	2
34	Mechanical Engineering	Product Design and Manufacturing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Product-Design-and-Manufacturing">https://online.vtu.ac.in/course-details/Product-Design-and-Manufacturing</a>	3
35	Mechanical Engineering	Product Engineering and Design Thinking	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Product-Engineering-and-Design-Thinking">https://online.vtu.ac.in/course-details/Product-Engineering-and-Design-Thinking</a>	2
36	Mechanical Engineering	Robotics: Basics and Selected Advanced Concepts	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Robotics-Basics-and-Selected-Advanced-Concepts">https://online.vtu.ac.in/course-details/Robotics-Basics-and-Selected-Advanced-Concepts</a>	3
37	Mechanical Engineering	Mechanics of Sheet Metal Forming	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Mechanics-of-Sheet-Metal-Forming">https://online.vtu.ac.in/course-details/Mechanics-of-Sheet-Metal-Forming</a>	2
38	Mechanical Engineering	Mechatronics	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Mechatronics-858659">https://online.vtu.ac.in/course-details/Mechatronics-858659</a>	2
39	Mechanical Engineering	Smart Materials and Intelligent System Design	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Smart-Materials-and-Intelligent-System-Design-608823">https://online.vtu.ac.in/course-details/Smart-Materials-and-Intelligent-System-Design-608823</a>	1

## ELECTRICAL AND ELECTRONICS ENGINEERING

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Electrical and Electronics Engineering	Design of Photovoltaic Systems	12 Weeks	<a href="https://online.vtu.ac.in/course-details/design-of-photovoltaic-systems">https://online.vtu.ac.in/course-details/design-of-photovoltaic-systems</a>	3
2	Electrical and Electronics Engineering	Smart Grid: Basics To Advanced Technologies	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Smart-Grid-Basics-To-Advanced-Technologies">https://online.vtu.ac.in/course-details/Smart-Grid-Basics-To-Advanced-Technologies</a>	3
3	Electrical and Electronics Engineering	Advances In Uhv Transmission And Distribution	8 Weeks	<a href="https://online.vtu.ac.in/course-details/advances-in-uhv-transmission-and-distribution">https://online.vtu.ac.in/course-details/advances-in-uhv-transmission-and-distribution</a>	2
4	Electrical and Electronics Engineering	Enclosure Design Of Electronics Equipment	12 Weeks	<a href="https://online.vtu.ac.in/course-details/enclosure-design-of-electronics-equipment">https://online.vtu.ac.in/course-details/enclosure-design-of-electronics-equipment</a>	3

5	Electrical and Electronics Engineering	Microelectronics: Devices To Circuits	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Microelectronics-Devices-To-Circuits">https://online.vtu.ac.in/course-details/Microelectronics-Devices-To-Circuits</a>	3
6	Electrical and Electronics Engineering	Advanced Linear Continuous Control Systems: Applications With Matlab Programming And Simulink	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Advanced-Linear-Continuous-Control-Systems-Applications-With-Matlab-Programming-And-Simulink">https://online.vtu.ac.in/course-details/Advanced-Linear-Continuous-Control-Systems-Applications-With-Matlab-Programming-And-Simulink</a>	2
7	Electrical and Electronics Engineering	Dc Microgrid And Control Systems	8 Weeks	<a href="https://online.vtu.ac.in/course-details/dc-microgrid-and-control-systems">https://online.vtu.ac.in/course-details/dc-microgrid-and-control-systems</a>	2
8	Electrical and Electronics Engineering	Electrical Distribution System Analysis	8 Weeks	<a href="https://online.vtu.ac.in/course-details/electrical-distribution-system-analysis">https://online.vtu.ac.in/course-details/electrical-distribution-system-analysis</a>	2
9	Electrical and Electronics Engineering	Digital Control in Switched Mode Power Converters and FPGA-based Prototyping	12 Weeks	<a href="https://online.vtu.ac.in/course-details/digital-control-in-switched-mode-power-converters-and-fpga-based-prototyping">https://online.vtu.ac.in/course-details/digital-control-in-switched-mode-power-converters-and-fpga-based-prototyping</a>	3
10	Electrical and Electronics Engineering	VLSI Interconnects	8 Weeks	<a href="https://online.vtu.ac.in/course-details/vlsi-interconnects">https://online.vtu.ac.in/course-details/vlsi-interconnects</a>	2
11	Electrical and Electronics Engineering	System Design Through Verilog	8 Weeks	<a href="https://online.vtu.ac.in/course-details/system-design-through-verilog">https://online.vtu.ac.in/course-details/system-design-through-verilog</a>	2
12	Electrical and Electronics Engineering	Applied Electromagnetics For Engineers	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Applied-Electromagnetics-For-Engineers">https://online.vtu.ac.in/course-details/Applied-Electromagnetics-For-Engineers</a>	3
13	Electronics and Communication	Analog Circuits	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Analog-Circuits">https://online.vtu.ac.in/course-details/Analog-Circuits</a>	2
14	Electronics and Communication	Analog Ic Design	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Analog-Ic-Design">https://online.vtu.ac.in/course-details/Analog-Ic-Design</a>	3
15	Electronics and Communication	CMOS Digital VLSI Design	8 Weeks	<a href="https://online.vtu.ac.in/course-details/CMOS-Digital-VLSI-Design">https://online.vtu.ac.in/course-details/CMOS-Digital-VLSI-Design</a>	2

16	Electronics and Communication	Computer Vision And Image Processing - Fundamentals And Applications	12 Weeks	<a href="https://online.vtu.ac.in/course-details/computer-vision-and-image-processing-fundamentals-and-applications-973141">https://online.vtu.ac.in/course-details/computer-vision-and-image-processing-fundamentals-and-applications-973141</a>	3
17	Electronics and Communication	Electronics Enclosures Thermal issues	8 Weeks	<a href="https://online.vtu.ac.in/course-details/electronics-enclosures-thermal-issues">https://online.vtu.ac.in/course-details/electronics-enclosures-thermal-issues</a>	2
18	Electronics and Communication	Foundations of Wavelets and Multirate Digital Signal Processing	4 Weeks	<a href="https://online.vtu.ac.in/course-details/foundations-of-wavelets-and-multirate-digital-signal-processing">https://online.vtu.ac.in/course-details/foundations-of-wavelets-and-multirate-digital-signal-processing</a>	1
19	Electronics and Communication	Medical Image Analysis	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Medical-Image-Analysis">https://online.vtu.ac.in/course-details/Medical-Image-Analysis</a>	1
20	Electronics and Communication	Microwave Integrated Circuits	8 Weeks	<a href="https://online.vtu.ac.in/course-details/microwave-integrated-circuits">https://online.vtu.ac.in/course-details/microwave-integrated-circuits</a>	2
21	Electronics and Communication	Optical Wireless Communications for Beyond 5G Networks and IoT	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Optical-Wireless-Communications-for-Beyond-5G-Networks-and-IoT">https://online.vtu.ac.in/course-details/Optical-Wireless-Communications-for-Beyond-5G-Networks-and-IoT</a>	3
22	Electronics and Communication	Physics of Nanoscale Devices	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Physics-of-Nanoscale-Devices">https://online.vtu.ac.in/course-details/Physics-of-Nanoscale-Devices</a>	3
23	Electronics and Communication	Power Management Integrated Circuits	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Power-Management-Integrated-Circuits">https://online.vtu.ac.in/course-details/Power-Management-Integrated-Circuits</a>	3
24	Electronics and Communication	Power System Dynamics, Control and Monitoring	12 Weeks	<a href="https://online.vtu.ac.in/course-details/power-system-dynamics-control-and-monitoring">https://online.vtu.ac.in/course-details/power-system-dynamics-control-and-monitoring</a>	3

25	Electronics and Communication	Recent Advances in Transmission Insulators	4 Weeks	<a href="https://online.vtu.ac.in/course-details/recent-advances-in-transmission-insulators-897570">https://online.vtu.ac.in/course-details/recent-advances-in-transmission-insulators-897570</a>	1
26	Electronics and Communication	Semiconductor device modeling and Simulation	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Semiconductor-device-modeling-and-Simulation">https://online.vtu.ac.in/course-details/Semiconductor-device-modeling-and-Simulation</a>	3
27	Electronics and Communication	Design Of Power Electronic Converters	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Design-of-Power-Electronic-Converters">https://online.vtu.ac.in/course-details/Design-of-Power-Electronic-Converters</a>	2

### TEXTILE ENGINEERING

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Textile Engineering	Principles Of Combing, Roving Preparation & Ring Spinning	12 Weeks	<a href="https://online.vtu.ac.in/course-details/principles-of-combing-roving-preparation-ring-spinning">https://online.vtu.ac.in/course-details/principles-of-combing-roving-preparation-ring-spinning</a>	3
2	Textile Engineering	Yarn Manufacture I : Principle Of Opening, Carding And Drawing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/yarn-manufacture-i-principle-of-opening-carding-and-drawing">https://online.vtu.ac.in/course-details/yarn-manufacture-i-principle-of-opening-carding-and-drawing</a>	3
3	Textile Engineering	Technical Textiles	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Technical-Textiles">https://online.vtu.ac.in/course-details/Technical-Textiles</a>	3
4	Textile Engineering	Science Of Clothing Comfort	12 Weeks	<a href="https://online.vtu.ac.in/course-details/science-of-clothing-comfort">https://online.vtu.ac.in/course-details/science-of-clothing-comfort</a>	3
5	Textile Engineering	Textile Finishing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/textile-finishing">https://online.vtu.ac.in/course-details/textile-finishing</a>	3
6	Textile Engineering	Science And Technology Of Weft And Warp Knitting	12 Weeks	<a href="https://online.vtu.ac.in/course-details/science-and-technology-of-weft-and-warp-knitting">https://online.vtu.ac.in/course-details/science-and-technology-of-weft-and-warp-knitting</a>	3



7	Textile Engineering	Advanced Textile Printing Technology	8 Weeks	<a href="https://online.vtu.ac.in/course-details/advanced-textile-printing-technology-933620">https://online.vtu.ac.in/course-details/advanced-textile-printing-technology-933620</a>	2
8	Textile Engineering	Testing of Functional and Technical Textiles	8 Weeks	<a href="https://online.vtu.ac.in/course-details/testing-of-functional-and-technical-textiles">https://online.vtu.ac.in/course-details/testing-of-functional-and-technical-textiles</a>	2
9	Textile Engineering	Textile Product Design and Development	12 Weeks	<a href="https://online.vtu.ac.in/course-details/textile-product-design-and-development">https://online.vtu.ac.in/course-details/textile-product-design-and-development</a>	3
10	Textile Engineering	Textured Yarn Technology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Textured-Yarn-Technology">https://online.vtu.ac.in/course-details/Textured-Yarn-Technology</a>	3

**GENERAL**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Economics	Economics Of Banking And Finance Markets	12 Weeks	<a href="https://online.vtu.ac.in/course-details/economics-of-banking-and-finance-markets">https://online.vtu.ac.in/course-details/economics-of-banking-and-finance-markets</a>	3
2	Multidisciplinary	Introduction To Research New title: Research Methodology	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-to-Research-Research-Methodology">https://online.vtu.ac.in/course-details/Introduction-to-Research-Research-Methodology</a>	2
3	Multidisciplinary	Solar Energy Engineering And Technology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/solar-energy-engineering-and-technology">https://online.vtu.ac.in/course-details/solar-energy-engineering-and-technology</a>	3
4	Humanities and Social Sciences	Technical English For Engineers	8 Weeks	<a href="https://online.vtu.ac.in/course-details/technical-english-for-engineers">https://online.vtu.ac.in/course-details/technical-english-for-engineers</a>	2
5	Humanities and Social Sciences	Body Language: Key To Professional Success	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Body-Language-Key-To-Professional-Success">https://online.vtu.ac.in/course-details/Body-Language-Key-To-Professional-Success</a>	1
6	Humanities and Social Sciences	Patent Law For Engineers And Scientists	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Patent-Law-For-Engineers-And-Scientists">https://online.vtu.ac.in/course-details/Patent-Law-For-Engineers-And-Scientists</a>	3
7	Humanities and Social Sciences	German - I	12 Weeks	<a href="https://online.vtu.ac.in/course-details/German-I">https://online.vtu.ac.in/course-details/German-I</a>	3
8	Humanities and Social Sciences	The Science of Happiness and Wellbeing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/The-Science-of-Happiness-and-Wellbeing-528390">https://online.vtu.ac.in/course-details/The-Science-of-Happiness-and-Wellbeing-528390</a>	2

9	Mathematics	Calculus For Economics,Commerce And Management	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Calculus-For-EconomicsCommerce-And-Management">https://online.vtu.ac.in/course-details/Calculus-For-EconomicsCommerce-And-Management</a>	2
10	Mathematics	Advanced Engineering Mathematics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/advanced-engineering-mathematics">https://online.vtu.ac.in/course-details/advanced-engineering-mathematics</a>	3
11	Management	Entrepreneurship	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Entrepreneurship">https://online.vtu.ac.in/course-details/Entrepreneurship</a>	3
12	Management	E-Business	12 Weeks	<a href="https://online.vtu.ac.in/course-details/E-Business">https://online.vtu.ac.in/course-details/E-Business</a>	3
13	Electrical and Electronics Engineering	An Introduction To Coding Theory	8 Weeks	<a href="https://online.vtu.ac.in/course-details/an-introduction-to-coding-theory">https://online.vtu.ac.in/course-details/an-introduction-to-coding-theory</a>	2
14	Electrical and Electronics Engineering	Smart Grid: Basics To Advanced Technologies	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Smart-Grid-Basics-To-Advanced-Technologies">https://online.vtu.ac.in/course-details/Smart-Grid-Basics-To-Advanced-Technologies</a>	3
15	Computer Science and Engineering	Cloud Computing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Cloud-Computing">https://online.vtu.ac.in/course-details/Cloud-Computing</a>	3
16	Computer Science and Engineering	Introduction To Machine Learning - IITKGP	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-to-Machine-Learning">https://online.vtu.ac.in/course-details/Introduction-to-Machine-Learning</a>	2
17	Computer Science and Engineering	Programming In Java	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Programming-In-Java">https://online.vtu.ac.in/course-details/Programming-In-Java</a>	3
18	Physics	Introduction To Astrophysical Fluids	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Astrophysical-Fluids">https://online.vtu.ac.in/course-details/Introduction-To-Astrophysical-Fluids</a>	3
19	Physics	Advanced Quantum Mechanics With Applications	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Advanced-Quantum-Mechanics-With-Applications">https://online.vtu.ac.in/course-details/Advanced-Quantum-Mechanics-With-Applications</a>	2
20	Mechanical Engineering	Applied Thermodynamics For Engineers	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Applied-Thermodynamics-For-Engineers">https://online.vtu.ac.in/course-details/Applied-Thermodynamics-For-Engineers</a>	3

**CHEMICAL ENGINEERING**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Chemical Engineering	Colloids And Surfaces	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Colloids-And-Surfaces">https://online.vtu.ac.in/course-details/Colloids-And-Surfaces</a>	2
2	Chemical Engineering	Chemical Process Intensification	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Chemical-Process-Intensification">https://online.vtu.ac.in/course-details/Chemical-Process-Intensification</a>	3
3	Chemical Engineering	Transport Phenomena Of Non-Newtonian Fluids	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Transport-Phenomena-Of-Non-Newtonian-">https://online.vtu.ac.in/course-details/Transport-Phenomena-Of-Non-Newtonian-</a>	3
4	Chemical Engineering	Natural Gas Engineering	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Natural-Gas-Engineering">https://online.vtu.ac.in/course-details/Natural-Gas-Engineering</a>	2
5	Chemical Engineering	Aspen Plus® Simulation Software - A Basic Course For Beginners	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Aspen-Plus%C2%AE-Simulation-Software-A-Basic-Course-For-Beginners">https://online.vtu.ac.in/course-details/Aspen-Plus%C2%AE-Simulation-Software-A-Basic-Course-For-Beginners</a>	3
6	Chemical Engineering	Chemical Process Control	8 Weeks	<a href="https://online.vtu.ac.in/course-details/chemical-process-control">https://online.vtu.ac.in/course-details/chemical-process-control</a>	2
7	Chemical Engineering	Trace And Ultra-Trace Analysis Of Metals Using Atomic Absorption Spectrometry	8 Weeks	<a href="https://online.vtu.ac.in/course-details/trace-and-ultra-trace-analysis-of-metals-using-atomic-absorption-spectrometry">https://online.vtu.ac.in/course-details/trace-and-ultra-trace-analysis-of-metals-using-atomic-absorption-spectrometry</a>	2
8	Chemical Engineering	Mechanical Operations	4 Weeks	<a href="https://online.vtu.ac.in/course-details/mechanical-operations">https://online.vtu.ac.in/course-details/mechanical-operations</a>	1
9	Chemical Engineering	Equipment Design: Mechanical Aspects	4 Weeks	<a href="https://online.vtu.ac.in/course-details/equipment-design-mechanical-aspects">https://online.vtu.ac.in/course-details/equipment-design-mechanical-aspects</a>	1

10	Chemical Engineering	Chemical Process Safety	12 Weeks	<a href="https://online.vtu.ac.in/course-details/chemical-process-safety">https://online.vtu.ac.in/course-details/chemical-process-safety</a>	3
11	Chemical Engineering	Basic Environmental Engineering And Pollution Abatement	12 Weeks	<a href="https://online.vtu.ac.in/course-details/basic-environmental-engineering-and-pollution-abatement">https://online.vtu.ac.in/course-details/basic-environmental-engineering-and-pollution-abatement</a>	3
12	Chemical Engineering	Technologies For Clean And Renewable Energy Production	8 Weeks	<a href="https://online.vtu.ac.in/course-details/technologies-for-clean-and-renewable-energy-production">https://online.vtu.ac.in/course-details/technologies-for-clean-and-renewable-energy-production</a>	2
13	Chemical Engineering	Hydrogen Energy: Production, Storage, Transportation And Safety	12 Weeks	<a href="https://online.vtu.ac.in/course-details/hydrogen-energy-production-storage-transportation-and-safety">https://online.vtu.ac.in/course-details/hydrogen-energy-production-storage-transportation-and-safety</a>	3

**EL-BM-ML**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Electrical, Electronics and Communications Engineering	Fundamentals Of Micro And Nanofabrication	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Fundamentals-Of-Micro-And-Nanofabrication">https://online.vtu.ac.in/course-details/Fundamentals-Of-Micro-And-Nanofabrication</a>	3
2	Computer Science and Engineering	Getting Started With Competitive Programming	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Getting-Started-with-Competitive-Programming">https://online.vtu.ac.in/course-details/Getting-Started-with-Competitive-Programming</a>	3
3	Computer Science and Engineering	Social Network Analysis	12 Weeks	<a href="https://online.vtu.ac.in/course-details/social-network-analysis">https://online.vtu.ac.in/course-details/social-network-analysis</a>	3
4	Computer Science and Engineering	Design & Implementation Of Human-Computer Interfaces	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Design-Implementation-Of-Human-Computer-Interfaces">https://online.vtu.ac.in/course-details/Design-Implementation-Of-Human-Computer-Interfaces</a>	3
5	Computer Science and Engineering	Ethical Hacking	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Ethical-Hacking">https://online.vtu.ac.in/course-details/Ethical-Hacking</a>	3
6	Computer Science and Engineering	Programming In Modern C++	12 Weeks	<a href="https://online.vtu.ac.in/course-details/programming-in-modern-c">https://online.vtu.ac.in/course-details/programming-in-modern-c</a>	3
7	Computer Science and Engineering	Data Structure And Algorithms Using Java	12 Weeks	<a href="https://online.vtu.ac.in/course-details/data-structure-and-algorithms-using-java">https://online.vtu.ac.in/course-details/data-structure-and-algorithms-using-java</a>	3
8	Computer Science and Engineering	Introduction To Algorithms And Analysis	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Introduction-To-Algorithms-And-Analysis">https://online.vtu.ac.in/course-details/Introduction-To-Algorithms-And-Analysis</a>	3

9	Computer Science and Engineering	Google Cloud Computing Foundations	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Google-Cloud-Computing-Foundations">https://online.vtu.ac.in/course-details/Google-Cloud-Computing-Foundations</a>	2
10	Computer Science and Engineering	Artificial Intelligence : Search Methods For Problem Solving	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Artificial-Intelligence-Search-Methods-For-Problem-Solving-IIT-Madras">https://online.vtu.ac.in/course-details/Artificial-Intelligence-Search-Methods-For-Problem-Solving-IIT-Madras</a>	3
11	Computer Science and Engineering	Python For Data Science	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Python-for-Data-Science">https://online.vtu.ac.in/course-details/Python-for-Data-Science</a>	1
12	Electrical, Electronics and Communications Engineering	Discrete Time Signal Processing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Discrete-Time-Signal-Processing">https://online.vtu.ac.in/course-details/Discrete-Time-Signal-Processing</a>	2
13	Electrical, Electronics and Communications Engineering	Fiber Optic Communication Technology	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Fiber-Optic-Communication-Technology">https://online.vtu.ac.in/course-details/Fiber-Optic-Communication-Technology</a>	3
14	Electrical, Electronics and Communications Engineering	Applied Optimization For Wireless, Machine Learning, Big Data	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Applied-Optimization-For-Wireless-Machine-Learning-Big-Data-905635">https://online.vtu.ac.in/course-details/Applied-Optimization-For-Wireless-Machine-Learning-Big-Data-905635</a>	3

## AUTOMOBILE ENGINEERING

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Mechanical Engineering	Computational Continuum Mechanics	12 Weeks	<a href="https://online.vtu.ac.in/course-details/computational-continuum-mechanics">https://online.vtu.ac.in/course-details/computational-continuum-mechanics</a>	3
2	Mechanical Engineering	Mechanism And Robot Kinematics	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Mechanism-And-Robot-Kinematics">https://online.vtu.ac.in/course-details/Mechanism-And-Robot-Kinematics</a>	2
3	Mechanical Engineering	Heat Exchangers: Fundamentals And Design Analysis	12 Weeks	<a href="https://online.vtu.ac.in/course-details/heat-exchangers-fundamentals-and-design-analysis">https://online.vtu.ac.in/course-details/heat-exchangers-fundamentals-and-design-analysis</a>	3
4	Mechanical Engineering	Power Plant Engineering	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Power-Plant-Engineering">https://online.vtu.ac.in/course-details/Power-Plant-Engineering</a>	2
5	Mechanical Engineering	Fluid Dynamics And Turbomachines	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Fluid-Dynamics-And-Turbomachines">https://online.vtu.ac.in/course-details/Fluid-Dynamics-And-Turbomachines</a>	2
6	Mechanical Engineering	Rapid Manufacturing	12 Weeks	<a href="https://online.vtu.ac.in/course-details/rapid-manufacturing">https://online.vtu.ac.in/course-details/rapid-manufacturing</a>	3
7	Mechanical Engineering	Conduction And Convection: Fundamentals And Applications	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Conduction-And-Convection-Fundamentals-And-Applications">https://online.vtu.ac.in/course-details/Conduction-And-Convection-Fundamentals-And-Applications</a>	3
8	Management	Toyota Production System	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Toyota-Production-System">https://online.vtu.ac.in/course-details/Toyota-Production-System</a>	2
9	Management	Manufacturing Strategy	8 Weeks	<a href="https://online.vtu.ac.in/course-details/manufacturing-strategy">https://online.vtu.ac.in/course-details/manufacturing-strategy</a>	2
10	Management	Product And Brand Management	12 Weeks	<a href="https://online.vtu.ac.in/course-details/product-and-brand-management">https://online.vtu.ac.in/course-details/product-and-brand-management</a>	3
11	Management	Econometric Modelling	8 Weeks	<a href="https://online.vtu.ac.in/course-details/econometric-modelling">https://online.vtu.ac.in/course-details/econometric-modelling</a>	2
12	Management	Services Marketing : Integrating People, Technology, Strategy	8 Weeks	<a href="https://online.vtu.ac.in/course-details/services-marketing-integrating-people-technology-strategy">https://online.vtu.ac.in/course-details/services-marketing-integrating-people-technology-strategy</a>	2

13	Management	Innovation, Business Models And Entrepreneurship	8 Weeks	<a href="https://online.vtu.ac.in/course-details/innovation-business-models-and-entrepreneurship">https://online.vtu.ac.in/course-details/innovation-business-models-and-entrepreneurship</a>	2
14	Management	Operations And Supply Chain Management	12 Weeks	<a href="https://online.vtu.ac.in/course-details/operations-and-supply-chain-management">https://online.vtu.ac.in/course-details/operations-and-supply-chain-management</a>	3
15	Management	Design Thinking - A Primer	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Design-Thinking-A-Primer">https://online.vtu.ac.in/course-details/Design-Thinking-A-Primer</a>	1



**ELECTRONICS AND COMMUNICATION ENGINEERING**

Sl. No	Discipline	Course Name	Duration	Course Link	Credits
1	Electronics and Communication Engineering	Artificial Intelligence: Search methods for problem solving	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Artificial-Intelligence-Search-Methods-For-Problem-Solving-IIT-Madras">https://online.vtu.ac.in/course-details/Artificial-Intelligence-Search-Methods-For-Problem-Solving-IIT-Madras</a>	3
2	Electronics and Communication Engineering	Understanding Incubation and Entrepreneurship	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Understanding-Incubation-and-Entrepreneurship-839780">https://online.vtu.ac.in/course-details/Understanding-Incubation-and-Entrepreneurship-839780</a>	3
3	Electronics and Communication Engineering	Learning Analytics Tools	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Learning-Analytics-Tools">https://online.vtu.ac.in/course-details/Learning-Analytics-Tools</a>	3
4	Electronics and Communication Engineering	Operations Research	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Operations-Research">https://online.vtu.ac.in/course-details/Operations-Research</a>	2
5	Electronics and Communication Engineering	Intellectual Property Rights and Competition Law	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Intellectual-Property-Rights-and-Competition-Law">https://online.vtu.ac.in/course-details/Intellectual-Property-Rights-and-Competition-Law</a>	2
6	Electronics and Communication Engineering	Big Data Computing	8 Weeks	<a href="https://online.vtu.ac.in/course-details/BIG-DATA-COMPUTING">https://online.vtu.ac.in/course-details/BIG-DATA-COMPUTING</a>	2
7	Electronics and Communication Engineering	Modern Digital Communication Techniques	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Modern-digital-communication-techniques">https://online.vtu.ac.in/course-details/Modern-digital-communication-techniques</a>	3
8	Electronics and Communication Engineering	Advanced Linear Continuous Control Systems: Applications With Matlab Programming And Simulink	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Advanced-Linear-Continuous-Control-Systems-Applications-With-Matlab-Programming-And-Simulink">https://online.vtu.ac.in/course-details/Advanced-Linear-Continuous-Control-Systems-Applications-With-Matlab-Programming-And-Simulink</a>	2

9	Electronics and Communication Engineering	Fundamentals of semiconductor devices	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Fundamentals-of-semiconductor-devices">https://online.vtu.ac.in/course-details/Fundamentals-of-semiconductor-devices</a>	
10	Electronics and Communication Engineering	Embedded Sensing, Actuation and Interfacing Systems	12 Weeks	<a href="https://online.vtu.ac.in/course-details/embedded-sensing-actuation-and-interfacing-systems">https://online.vtu.ac.in/course-details/embedded-sensing-actuation-and-interfacing-systems</a>	
11	Electronics and Communication Engineering	Optical Wireless Communications for Beyond 5G Networks and IoT	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Optical-Wireless-Communications-for-Beyond-5G-Networks-and-IoT">https://online.vtu.ac.in/course-details/Optical-Wireless-Communications-for-Beyond-5G-Networks-and-IoT</a>	
12	Electronics and Communication Engineering	Digital Protection of Power System	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Digital-Protection-of-Power-System">https://online.vtu.ac.in/course-details/Digital-Protection-of-Power-System</a>	
13	Electronics and Communication	Analog Circuits	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Analog-Circuits">https://online.vtu.ac.in/course-details/Analog-Circuits</a>	2
14	Electronics and Communication	Analog Ic Design	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Analog-Ic-Design">https://online.vtu.ac.in/course-details/Analog-Ic-Design</a>	3
15	Electronics and Communication	CMOS Digital VLSI Design	8 Weeks	<a href="https://online.vtu.ac.in/course-details/CMOS-Digital-VLSI-Design">https://online.vtu.ac.in/course-details/CMOS-Digital-VLSI-Design</a>	2
16	Electronics and Communication	Computer Vision And Image Processing - Fundamentals And Applications	12 Weeks	<a href="https://online.vtu.ac.in/course-details/computer-vision-and-image-processing-fundamentals-and-applications-973141">https://online.vtu.ac.in/course-details/computer-vision-and-image-processing-fundamentals-and-applications-973141</a>	3
17	Electronics and Communication	Electronics Enclosures Thermal issues	8 Weeks	<a href="https://online.vtu.ac.in/course-details/electronics-enclosures-thermal-issues">https://online.vtu.ac.in/course-details/electronics-enclosures-thermal-issues</a>	2
18	Electronics and Communication	Foundations of Wavelets and Multirate Digital Signal Processing	4 Weeks	<a href="https://online.vtu.ac.in/course-details/foundations-of-wavelets-and-multirate-digital-signal-processing">https://online.vtu.ac.in/course-details/foundations-of-wavelets-and-multirate-digital-signal-processing</a>	1

19	Electronics and Communication	Medical Image Analysis	4 Weeks	<a href="https://online.vtu.ac.in/course-details/Medical-Image-Analysis">https://online.vtu.ac.in/course-details/Medical-Image-Analysis</a>	1
20	Electronics and Communication	Microwave Integrated Circuits	8 Weeks	<a href="https://online.vtu.ac.in/course-details/microwave-integrated-circuits">https://online.vtu.ac.in/course-details/microwave-integrated-circuits</a>	2
21	Electronics and Communication	Optical Wireless Communications for Beyond 5G Networks and IoT	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Optical-Wireless-Communications-for-Beyond-5G-Networks-and-IoT">https://online.vtu.ac.in/course-details/Optical-Wireless-Communications-for-Beyond-5G-Networks-and-IoT</a>	3
22	Electronics and Communication	Physics of Nanoscale Devices	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Physics-of-Nanoscale-Devices">https://online.vtu.ac.in/course-details/Physics-of-Nanoscale-Devices</a>	3
23	Electronics and Communication	Power Management Integrated Circuits	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Power-Management-Integrated-Circuits">https://online.vtu.ac.in/course-details/Power-Management-Integrated-Circuits</a>	3
24	Electronics and Communication	Power System Dynamics, Control and Monitoring	12 Weeks	<a href="https://online.vtu.ac.in/course-details/power-system-dynamics-control-and-monitoring">https://online.vtu.ac.in/course-details/power-system-dynamics-control-and-monitoring</a>	3
25	Electronics and Communication	Recent Advances in Transmission Insulators	4 Weeks	<a href="https://online.vtu.ac.in/course-details/recent-advances-in-transmission-insulators-897570">https://online.vtu.ac.in/course-details/recent-advances-in-transmission-insulators-897570</a>	1
26	Electronics and Communication	Semiconductor device modeling and Simulation	12 Weeks	<a href="https://online.vtu.ac.in/course-details/Semiconductor-device-modeling-and-Simulation">https://online.vtu.ac.in/course-details/Semiconductor-device-modeling-and-Simulation</a>	3
27	Electronics and Communication	Design Of Power Electronic Converters	8 Weeks	<a href="https://online.vtu.ac.in/course-details/Design-of-Power-Electronic-Converters">https://online.vtu.ac.in/course-details/Design-of-Power-Electronic-Converters</a>	2