("ವಿಟಿಯು ಅಧಿನಿಯಮ ೧೯೯೪" ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ)
Visvesvaraya Technological University
(State University of Government of Karnataka Established as per the VTU Act, 1994)
"Jnana Sangama" Belagavi-590018, Karnataka, India

VTU Centre for Online Education
Hanchya, Sathagalli Layout (Ring Road), Mysuru-570029

HONOURS DEGREE COURSE LIST

Subject: **Concerning the selection of courses for the Honours Degree programme and the evaluation criteria required for enrollment and qualification**."

Students who have registered for Honours degree (academic year 2024-25) has to enroll to courses, attend quizzes and complete exams of all courses (totaling 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.

1. Students should enroll the courses in the BoS approved Honours degree list provided in the circular tab.
2. Students should enroll the courses in their respective regular branch stream .

Note: Exams for these courses will be conducted by VTU in online mode.

Below are the steps for:

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

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 Now**. **My Learning**.
3. Now you are enrolled in the Course, Click on **Profile** Picture then Click **Dashboard.**
4. In the **dashboard**, from the sidebar, click on **My Courses**. All the Courses that you are enrolled to will be in **My Courses**, you can Start accessing the Course content by clicking on **Start Course** 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 Courses** tab in the **Dashboard**.

3. You will see a list of all the courses you are enrolled in.
4. Click on the **Start Course** 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.

> **NOTE :** Each internal assessment consists of 25 questions, with a minimum passing score of 40% (10 out of 25). If a student fails to meet this threshold, a second attempt is allowed. However, in the second attempt, only the passing marks (40%) will be considered, regardless of the actual score.

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. In the dropdown select the course which you would like to appear for the exam.
5. Click on **Submit Application**.
6. Payment will be initiated. Complete the payment.
7. You can check the status of your exam application under **Exam Applications** 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 a slot** button in front of the course name to initiate the slot booking process. A slot booking pop-up window will appear, prompting you to select your preferred slot details.
5. Select the **course** from the **dropdown** menu.
6. Choose a **date and time** slot from the available options.
7. Verify that the selected slot details are correct.
8. Click on the **Confirm slot booking** button to **confirm** your slot booking.
9. View Booked Slot Details in **Booked Slot** page for confirmation.

NOTE : Quiz/assignment completion is mandatory before booking an exam slot.

E. Procedure for Attending Online Proctored Exam :

1. On the **Slot booking page**, click the **Start** button next to your course at the scheduled date and time.
2. Read and agree to the **terms and conditions**.
3. Click **Enter Exam** to begin.
4. Complete the exam, **submit** your answers, and view your score

System requirement for online exam:

1. Laptop or desktop with a working webcam & microphone.
2. minimum of 4 GB RAM & dual core or above processor (pentium dual core or i3/i5/i7).
3. 10mbps or above internet connection speed.
4. latest updated Google Chrome browser.
5. Operating system: Windows or Linux or Mac.

Instructions for attending online exam

1. Students should take exams in a room with proper lighting and the background should be clear/plain.
2. There should be no/minimal background noise.
3. Students are not permitted to take exams in public places or while traveling. A quiet, private location is required
4. Once the exam is started students should not navigate to other tabs/windows/browsers.
5. Students are not permitted to wear earphones, headphones, or any electronic gadgets, including Bluetooth devices, during the exam/session.
6. Exams will be automatically terminated if multiple faces/persons are detected.
7. Students should not use or talk on mobile phones during examinations.
8. Exams will be terminated automatically if the student's face is not clearly visible/if the student walks away from the screen during the examination.
9. Closing the browser directly during the examination will result in termination of the exam automatically.

COMPUTER SCIENCE AND TECHNOLOGY

Sl. No	Discipline	Course Name	Duration	Course Link	Credits	Eligible Branches to take the CSE branch
1	Computer Science and Engineering	Artificial Intelligence : Search Methods For Problem Solving	12 Weeks	https://online.vtu.ac.in/course/1-artificial-intelligence-search-methods-for-problem-solving-iit-madras	3	**"Students from Computer Science and allied branches are eligible to take up these courses, provided the courses are not already part of their regular curriculum. In cases where a course is repeated, it shall be permitted only if the syllabus offered under the Honours program is at a higher academic level than that in the regular curriculum. The college-level coordinator or designated faculty member must assist the students in selecting appropriate courses and ensuring compliance with these guidelines."**
2	Computer Science and Engineering	Introduction To Haskell Programming	8 Weeks	https://online.vtu.ac.in/course/1-introduction-to-haskell-programming	2	
3	Computer Science and Engineering	C Programming And Assembly Language	4 Weeks	https://online.vtu.ac.in/course/1-c-programming-and-assembly-language	1	
4	Computer Science and Engineering	Software Testing (IITKGP)	4 Weeks	https://online.vtu.ac.in/course/1-software-testing-iitkgp	1	
5	Computer Science and Engineering	Introduction To Industry 4.0 And Industrial Internet Of Things	12 Weeks	https://online.vtu.ac.in/course/1-introduction-to-industry-40-and-industrial-internet-of-things	3	
6	Computer Science and Engineering	Natural Language Processing	12 Weeks	https://online.vtu.ac.in/course/1-natural-language-processing	3	
7	Computer Science and Engineering	The Joy Of Computing Using Python	12 Weeks	https://online.vtu.ac.in/course/1-the-joy-of-computing-using-python	3	

8	Computer Science and Engineering	Modern Algebra	8 Weeks	https://online.vtu.ac.in/course/1-modern-algebra	2	
9	Computer Science and Engineering	Data Base Management System	8 Weeks	https://online.vtu.ac.in/course/1-data-base-management-system	2	
10	Computer Science and Engineering	Python For Data Science	4 Weeks	https://online.vtu.ac.in/course/1-python-for-data-science	1	
11	Computer Science and Engineering	Introduction To Machine Learning	12 Weeks	https://online.vtu.ac.in/course/1-introduction-to-machine-learning	3	
12	Computer Science and Engineering	Data Science For Engineers	8 Weeks	https://online.vtu.ac.in/course/1-data-science-for-engineers	2	
13	Computer Science and Engineering	Programming, Data Structures And Algorithms Using Python	8 Weeks	https://online.vtu.ac.in/course/1-programming-data-structures-and-algorithms-using-python	2	
14	Computer Science and Engineering	Google Cloud Computing Foundations	8 Weeks	https://online.vtu.ac.in/course/1-google-cloud-computing-foundations	2	
15	Computer Science and Engineering	Cloud Computing	12 Weeks	https://online.vtu.ac.in/course/1-cloud-computing	3	
16	Computer Science and Engineering	Programming In Java	12 Weeks	https://online.vtu.ac.in/course/1-programming-in-java	3	

17	Computer Science and Engineering	Getting Started With Competitive Programming	12 Weeks	https://online.vtu.ac.in/course/1-getting-started-with-competitive-programming	3	
18	Computer Science and Engineering	Advanced Computer Networks	12 Weeks	https://online.vtu.ac.in/course/1-advanced-computer-networks	3	
19	Computer Science and Engineering	Advanced Graph Theory	8 Weeks	https://online.vtu.ac.in/course/1-advanced-graph-theory	2	
20	Computer Science and Engineering	Block Chain and its Applications	12 Weeks	https://online.vtu.ac.in/course/1-block-chain-and-its-applications	3	
21	Computer Science and Engineering	Circuit Complexity Theory	12 Weeks	https://online.vtu.ac.in/course/1-circuit-complexity-theory	3	
22	Computer Science and Engineering	Cloud Computing and Distributed Systems	8 Weeks	https://online.vtu.ac.in/course/1-cloud-computing-and-distributed-systems	2	
23	Computer Science and Engineering	Computational Number Theory and Algebra	12 Weeks	https://online.vtu.ac.in/course/1-computational-number-theory-and-algebra	3	
24	Computer Science and Engineering	Data Mining	8 Weeks	https://online.vtu.ac.in/course/1-data-mining	2	
25	Computer Science and Engineering	Digital Design with Verilog	12 Weeks	https://online.vtu.ac.in/course/1-digital-design-with-verilog	3	

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

35	Computer Science and Engineering	User-centric Computing For Human-Computer Interaction	8 Weeks	https://online.vtu.ac.in/course/1-user-centric-computing-for-human-computer-interaction	2	
36	Computer Science and Engineering	Linear programming and its applications to computer science	8 Weeks	https://online.vtu.ac.in/course/1-linear-programming-and-its-applications-to-computer-science	2	
37	Computer Science and Engineering	Affective Computing	12 Weeks	https://online.vtu.ac.in/course/1-affective-computing	3	
38	Computer Science and Engineering	AI: Constraint Satisfaction	8 Weeks	https://online.vtu.ac.in/course/1-ai-constraint-satisfaction	2	
39	Computer Science and Engineering	Data Analytics with Python	12 Weeks	https://online.vtu.ac.in/course/1-data-analytics-with-python	3	
40	Computer Science and Engineering	Discrete Mathematics - IITB	12 Weeks	https://online.vtu.ac.in/course/1-discrete-mathematics-iiitb	3	
41	Computer Science and Engineering	Foundations of Cyber Physical Systems	12 Weeks	https://online.vtu.ac.in/course/1-foundations-of-cyber-physical-systems	3	
42	Computer Science and Engineering	GPU Architectures and Programming	12 Weeks	https://online.vtu.ac.in/course/1-gpu-architectures-and-programming	3	

AEROSPACE ENGINEERING

Sl. No	Discipline	Course Name	Duration	Course Link	Credits	Eligible Branches to take the CSE branch
1	Aerospace Engineering	Aircraft Stability and Control	12 Weeks	https://online.vtu.ac.in/course/1-aircraft-stability-and-control	3	3. Aeronautical Engineering 4. Aerospace Engineering
2	Aerospace Engineering	Introduction To Airplane Performance	8 Weeks	https://online.vtu.ac.in/course/1-introduction-to-airplane-performance	2	
3	Aerospace Engineering	Introduction To Air breathing Propulsion	12 Weeks	https://online.vtu.ac.in/course/1-introduction-to-air-breathing-propulsion	3	
4	Aerospace Engineering	Design Of Fixed Wing Unmanned Aerial Vehicles	8 Weeks	https://online.vtu.ac.in/course/1-design-of-fixed-wing-unmanned-aerial-vehicles	2	
5	Aerospace Engineering	Introduction To Aircraft Design	12 Weeks	https://online.vtu.ac.in/course/1-introduction-to-aircraft-design	3	
6	Aerospace Engineering	Space Flight Mechanics	12 Weeks	https://online.vtu.ac.in/course/1-space-flight-mechanics	3	
7	Aerospace Engineering	Vibration And Structural Dynamics	8 Weeks	https://online.vtu.ac.in/course/1-vibration-and-structural-dynamics	2	
8	Aerospace Engineering	Aerodynamic Design Of Axial Flow Compressors & Fans	12 Weeks	https://online.vtu.ac.in/course/1-aerodynamic-design-of-axial-flow-compressors-fans	3	
9	Aerospace Engineering	Introduction to Experiments in Flight	4 Weeks	https://online.vtu.ac.in/course/1-introduction-to-experiments-in-flight	1	

BIOTECHNOLOGY AND BIOENGINEERING						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Biotechnology and Bioengineering	Genetic Engineering: Theory And Application	12 Weeks	https://online.vtu.ac.in/course/1-genetic-engineering-theory-and-application	3	**1. Agriculture Engineering** **2. Biomedical Engineering** 3. **Biotechnology and Bioengineering**
2	Biotechnology and Bioengineering	Cellular Biophysics: A Framework For Quantitative Biology	8 Weeks	https://online.vtu.ac.in/course/1-cellular-biophysics-a-framework-for-quantitative-biology	2	
3	Biotechnology and Bioengineering	Medical Image Analysis	12 Weeks	https://online.vtu.ac.in/course/1-medical-image-analysis	3	
4	Biotechnology and Bioengineering	Computer Aided Drug Design	8 Weeks	https://online.vtu.ac.in/course/1-computer-aided-drug-design	2	
5	Biotechnology and Bioengineering	Plant Cell Bioprocessing	8 Weeks	https://online.vtu.ac.in/course/1-plant-cell-bioprocessing	2	
6	Biotechnology and Bioengineering	Bioreactors	4 Weeks	https://online.vtu.ac.in/course/1-bioreactors	1	
7	**Biotechnology and Bioengineering**	Introduction To Biomedical Imaging Systems	12 Weeks	https://online.vtu.ac.in/course/1-introduction-to-biomedical-imaging-systems	3	

8	Biotechnology and Bioengineering	Organ Printing	8 Weeks	https://online.vtu.ac.in/course/1-organ-printing	2	
9	Biotechnology and Bioengineering	Genome Editing And Engineering	12 Weeks	https://online.vtu.ac.in/course/1-genome-editing-and-engineering	3	
10	Biotechnology and Bioengineering	Functional Genomics	4 Weeks	Link will be updated	1	
11	Biotechnology and Bioengineering	Conservation Geography	12 Weeks	https://online.vtu.ac.in/course/1-conservation-geography	3	
12	Biotechnology and Bioengineering	Experimental Biotechnology	12 Weeks	https://online.vtu.ac.in/course/1-experimental-biotechnology	3	
13	Biotechnology and Bioengineering	Introduction To Mechanobiology	8 Weeks	https://online.vtu.ac.in/course/1-introduction-to-mechanobiology	2	
14	Biotechnology and Bioengineering	Industrial Biotechnology	12 Weeks	https://online.vtu.ac.in/course/1-industrial-biotechnology	3	
15	Biotechnology and Bioengineering	Basics of Biology	12 Weeks	https://online.vtu.ac.in/course/1-basics-of-biology	3	
16	Biotechnology and Bioengineering	Biochemistry - IITM	12 Weeks	https://online.vtu.ac.in/course/1-biochemistry-iitm	3	
17	Biotechnology and Bioengineering	Bioengineering: An Interface with Biology and Medicine	8 Weeks	https://online.vtu.ac.in/course/1-bioengineering-an-interface-with-biology-and-medicine	2	
18	Biotechnology and Bioengineering	Biointerface Engineering	8 Weeks	https://online.vtu.ac.in/course/1-biointerface-engineering	2	

19	Biotechnology and Bioengineering	Biomechanics	12 Weeks	https://online.vtu.ac.in/course/1-biomechanics	3	
20	Biotechnology and Bioengineering	Bioreactor Design and Analysis	8 Weeks	https://online.vtu.ac.in/course/1-bioreactor-design-and-analysis	2	
21	Biotechnology and Bioengineering	Biostatistics and Design of experiments	8 Weeks	https://online.vtu.ac.in/course/1-biostatistics-and-design-of-experiments	2	
22	Biotechnology and Bioengineering	Cell Biology: Cellular organization, division and processes	8 Weeks	https://online.vtu.ac.in/course/1-cell-biology-cellular-organization-division-and-processes	2	
23	Biotechnology and Bioengineering	Computational Systems Biology	12 Weeks	https://online.vtu.ac.in/course/1-computational-systems-biology	3	
24	Biotechnology and Bioengineering	Data Analysis for Biologists	8 Weeks	https://online.vtu.ac.in/course/1-data-analysis-for-biologists	2	
25	Biotechnology and Bioengineering	Demystifying the Brain	4 Weeks	https://online.vtu.ac.in/course/1-demystifying-the-brain	1	
26	Biotechnology and Bioengineering	Environmental Chemistry and Microbiology	12 Weeks	https://online.vtu.ac.in/course/1-environmental-chemistry-and-microbiology	3	
27	Biotechnology and Bioengineering	Interactomics: Basics & Applications	12 Weeks	https://online.vtu.ac.in/course/1-interactomics-basics-applications	3	
28	Biotechnology and Bioengineering	Introductory Mathematical Methods for Biologists	8 Weeks	https://online.vtu.ac.in/course/1-introductory-mathematical-methods-for-biologists	2	
29	Biotechnology and Bioengineering	Material and Energy Balances	12 Weeks	https://online.vtu.ac.in/course/1-material-and-energy-balances	3	

30	Biotechnology and Bioengineering	Maternal Infant Young Child Nutrition	12 Weeks	https://online.vtu.ac.in/course/1-maternal-infant-young-child-nutrition	3	
31	Biotechnology and Bioengineering	Medical Biomaterials	8 Weeks	https://online.vtu.ac.in/course/1-medical-biomaterials	2	
32	Biotechnology and Bioengineering	Nanotechnology in Agriculture	8 Weeks	https://online.vtu.ac.in/course/1-nanotechnology-in-agriculture	2	
33	Biotechnology and Bioengineering	Plant Developmental Biology	4 Weeks	https://online.vtu.ac.in/course/1-plant-developmental-biology	1	
34	Biotechnology and Bioengineering	Structural Biology	12 Weeks	https://online.vtu.ac.in/course/1-structural-biology	3	
35	Biotechnology and Bioengineering	Thermodynamics for Biological Systems: Classical and Statistical Aspect	12 Weeks	https://online.vtu.ac.in/course/1-thermodynamics-for-biological-systems-classical-and-statistical-aspect	3	

CIVIL ENGINEERING						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Civil Engineering	Finite Element Method And Computational Structural Dynamics	12 Weeks	https://online.vtu.ac.in/course/1-finite-element-method-and-computational-structural-dynamics	3	**1. Civil Engineering**
2	Civil Engineering	Mechanics Of Materials	12 Weeks	https://online.vtu.ac.in/course/1-mechanics-of-materials	3	
3	Civil Engineering	Project Planning & Control	8 Weeks	https://online.vtu.ac.in/course/1-project-planning-control	2	
4	Civil Engineering	Principles Of Construction Management	8 Weeks	https://online.vtu.ac.in/course/1-principles-of-construction-management	2	
5	Civil Engineering	Municipal Solid Waste Management	12 Weeks	https://online.vtu.ac.in/course/1-municipal-solid-waste-management	3	
6	Civil Engineering	Introduction to Multimodal Urban Transportation Systems (MUTS)	12 Weeks	https://online.vtu.ac.in/course/1-introduction-to-multimodal-urban-transportation-systems-muts	3	
7	Civil Engineering	Bridge Engineering	12 Weeks	https://online.vtu.ac.in/course/1-bridge-engineering	3	
8	Civil Engineering	Wastewater Treatment And Recycling	12 Weeks	https://online.vtu.ac.in/course/1-wastewater-treatment-and-recycling	3	
10	Civil Engineering	Matrix Method Of Structural Analysis	8 Weeks	https://online.vtu.ac.in/course/1-matrix-method-of-structural-analysis	2	

11	Civil Engineering	Integrated Waste Management for A Smart City	12 Weeks	https://online.vtu.ac.in/course/1-integrated-waste-management-for-a-smart-city	3	
12	Civil Engineering	Sustainable Engineering Concepts and Life Cycle Analysis	8 Weeks	https://online.vtu.ac.in/course/1-sustainable-engineering-concepts-and-life-cycle-analysis	2	
13	Civil Engineering	Sustainable Transportation Systems	12 Weeks	https://online.vtu.ac.in/course/1-sustainable-transportation-systems	3	
14	Civil Engineering	Advanced Foundation Engineering	12 Weeks	https://online.vtu.ac.in/course/1-advanced-foundation-engineering	3	
15	Civil Engineering	Applied Seismology for Engineers	12 Weeks	https://online.vtu.ac.in/course/1-applied-seismology-for-engineers	3	
16	Civil Engineering	Digital Land Surveying and Mapping (DLS&M)	8 Weeks	https://online.vtu.ac.in/course/1-digital-land-surveying-and-mapping-dlsm	2	
17	Civil Engineering	Earthquake Resistant Design of Foundations	8 Weeks	https://online.vtu.ac.in/course/1-earthquake-resistant-design-of-foundations	2	
18	Civil Engineering	Environmental Remediation of Contaminated Sites	12 Weeks	https://online.vtu.ac.in/course/1-environmental-remediation-of-contaminated-sites	3	
19	Civil Engineering	Expansive Soil	8 Weeks	https://online.vtu.ac.in/course/1-expansive-soil	2	
20	Civil Engineering	Geographic Information Systems	12 Weeks	https://online.vtu.ac.in/course/1-geographic-information-systems	3	

21	Civil Engineering	Geology and Soil Mechanics	12 Weeks	https://online.vtu.ac.in/course/1-geology-and-soil-mechanics	3	
22	Civil Engineering	Geomorphic Processes: Landforms and Landscapes	8 Weeks	https://online.vtu.ac.in/course/1-geomorphic-processes-landforms-and-landscapes	2	
23	Civil Engineering	GPS Surveying	4 Weeks	https://online.vtu.ac.in/course/1-gps-surveying	1	
24	Civil Engineering	Hydraulic Engineering	12 Weeks	https://online.vtu.ac.in/course/1-hydraulic-engineering	3	
25	Civil Engineering	Industrial Wastewater Treatment	12 weeks	https://online.vtu.ac.in/course/1-industrial-wastewater-treatment	3	
26	Civil Engineering	Introduction to Accounting and Finance for Civil Engineers	8 Weeks	https://online.vtu.ac.in/course/1-introduction-to-accounting-and-finance-for-civil-engineers	2	
27	Civil Engineering	Introduction to Civil Engineering Profession	8 Weeks	https://online.vtu.ac.in/course/1-introduction-to-civil-engineering-profession	2	
28	Civil Engineering	Maintenance and Repair of Concrete Structures	12 weeks	https://online.vtu.ac.in/course/1-maintenance-and-repair-of-concrete-structures	3	
29	Civil Engineering	Modern Construction Materials	12 Weeks	https://online.vtu.ac.in/course/1-modern-construction-materials	3	
30	Civil Engineering	Soil Structure Interaction	12 Weeks	https://online.vtu.ac.in/course/1-soil-structure-interaction	3	
31	Civil Engineering	Unsaturated Soil Mechanics	12 Weeks	https://online.vtu.ac.in/course/1-unsaturated-soil-mechanics	3	

32	Civil Engineering	Structural Dynamics for Civil Engineers - SDOF Systems	4 Weeks	https://online.vtu.ac.in/course/1-structural-dynamics-for-civil-engineers-sdof-systems	1	

MANAGEMENT						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Management	Toyota Production System	8 Weeks	https://online.vtu.ac.in/course/1-toyota-production-system	2	1. Management
2	Management	Training Of Trainers	12 Weeks	https://online.vtu.ac.in/course/1-training-of-trainers	3	
3	Management	Business Analytics & Data Mining Modeling Using R Part II	4 Weeks	https://online.vtu.ac.in/course/1-business-analytics-data-mining-modeling-using-r-part-ii	1	
4	Management	Yoga And Positive Psychology For Managing Career And Life	8 Weeks	https://online.vtu.ac.in/course/1-yoga-and-positive-psychology-for-managing-career-and-life	2	
5	Management	Decision-Making Under Uncertainty	4 Weeks	https://online.vtu.ac.in/course/1-decision-making-under-uncertainty	1	

6	Management	Design Thinking - A Primer	4 Weeks	https://online.vtu.ac.in/course/1-design-thinking-a-primer	1	
7	Management	Strategy And Technology: A Practical Primer	12 Weeks	https://online.vtu.ac.in/course/1-strategy-and-technology-a-practical-primer	3	
8	Management	Marketing Management - I	8 Weeks	https://online.vtu.ac.in/course/1-marketing-management-i	2	
9	Management	Game Theory	8 Weeks	https://online.vtu.ac.in/course/1-game-theory	2	
10	Management	E-Business	12 Weeks	https://online.vtu.ac.in/course/1-e-business	3	
11	Management	Corporate Finance	8 Weeks	https://online.vtu.ac.in/course/1-corporate-finance	2	
12	Management	Strategic Management For Competitive Advantage	12 Weeks	https://online.vtu.ac.in/course/1-strategic-management-for-competitive-advantage	3	
13	Management	Econometric Modelling	8 Weeks	https://online.vtu.ac.in/course/1-econometric-modelling	2	
14	Management	Industrial Safety Engineering	12 Weeks	https://online.vtu.ac.in/course/1-industrial-safety-engineering	3	
15	Management	Financial accounting	12 Weeks	https://online.vtu.ac.in/course/1-financial-accounting	3	
16	Management	Financial Management for Managers	12 Weeks	https://online.vtu.ac.in/course/1-financial-management-for-managers	3	

17	Management	Leadership and Team Effectiveness	12 Weeks	https://online.vtu.ac.in/course/1-leadership-and-team-effectiveness	3	
18	Management	Management of Commercial Banking	12 Weeks	https://online.vtu.ac.in/course/1-management-of-commercial-banking	3	
19	Management	Managing change in organizations	8 Weeks	https://online.vtu.ac.in/course/1-managing-change-in-organizations	2	
20	Management	Simulation of Business Systems: An Applied Approach	8 Weeks	https://online.vtu.ac.in/course/1-simulation-of-business-systems-an-applied-approach	2	
21	Management	Strategic Services Marketing	12 Weeks	https://online.vtu.ac.in/course/1-strategic-services-marketing	3	
22	Management	Systems Engineering: Theory & Practice	8 Weeks	https://online.vtu.ac.in/course/1-systems-engineering-theory-practice	2	
23	Management	Business Forecasting	8 Weeks	https://online.vtu.ac.in/course/1-business-forecasting	2	

MECHANICAL ENGINEERING						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Mechanical Engineering	Fundamentals Of Convective Heat Transfer	12 Weeks	https://online.vtu.ac.in/course/1-fundamentals-of-convective-heat-transfer	3	**1. Industrial & Production Engineering** **2. Mechatronics** **3. Robotics & Automation** **4. Robotics and Artificial Intelligence** 5. **Mechanical Engineering**
2	Mechanical Engineering	Aircraft Propulsion	12 Weeks	https://online.vtu.ac.in/course/1-aircraft-propulsion	3	
3	Mechanical Engineering	Laser Based Manufacturing	8 Weeks	https://online.vtu.ac.in/course/1-laser-based-manufacturing	2	
4	Mechanical Engineering	Mathematical Modeling Of Manufacturing Processes	12 Weeks	https://online.vtu.ac.in/course/1-mathematical-modeling-of-manufacturing-processes	3	
5	Mechanical Engineering	Welding Application Technology	8 Weeks	https://online.vtu.ac.in/course/1-welding-application-technology	2	
6	Mechanical Engineering	Robotics	8 Weeks	https://online.vtu.ac.in/course/1-robotics	2	
7	Mechanical Engineering	Product Design And Development	4 Weeks	https://online.vtu.ac.in/course/1-product-design-and-development	1	
8	Mechanical Engineering	Principles Of Metal Forming Technology	8 Weeks	https://online.vtu.ac.in/course/1-principles-of-metal-forming-technology	2	

9	Mechanical Engineering	Selection Of Nanomaterials For Energy Harvesting And Storage Application	4 Weeks	https://online.vtu.ac.in/course/1-selection-of-nanomaterials-for-energy-harvesting-and-storage-application	1	
10	Mechanical Engineering	Structural Analysis Of Nanomaterials	4 Weeks	https://online.vtu.ac.in/course/1-structural-analysis-of-nanomaterials	1	
11	Mechanical Engineering	Introduction To Mechanical Vibration	8 Weeks	https://online.vtu.ac.in/course/1-introduction-to-mechanical-vibration	2	
12	Mechanical Engineering	Fundamentals Of Manufacturing Processes	12 Weeks	https://online.vtu.ac.in/course/1-fundamentals-of-manufacturing-processes	3	
13	Mechanical Engineering	Design Of Mechatronic Systems	12 Weeks	https://online.vtu.ac.in/course/1-design-of-mechatronic-systems	3	
14	Mechanical Engineering	Functional And Conceptual Design	12 Weeks	https://online.vtu.ac.in/course/1-functional-and-conceptual-design	3	
15	Mechanical Engineering	Advanced Machining Processes	12 Weeks	https://online.vtu.ac.in/course/1-advanced-machining-processes	3	
16	Mechanical Engineering	Advanced Robotics	12 Weeks	https://online.vtu.ac.in/course/1-advanced-robotics	3	
17	Mechanical Engineering	Applied Ergonomics	12 Weeks	https://online.vtu.ac.in/course/1-applied-ergonomics	3	
18	Mechanical Engineering	Automatic Control	8 Weeks	https://online.vtu.ac.in/course/1-automatic-control	2	

19	Mechanical Engineering	Computational Fluid Dynamics For Incompressible Flows	12 Weeks	https://online.vtu.ac.in/course/1-computational-fluid-dynamics-for-incompressible-flows	3	
20	Mechanical Engineering	Convective Heat Transfer	4 Weeks	https://online.vtu.ac.in/course/1-convective-heat-transfer	1	
21	Mechanical Engineering	Data-Enabled Tribological Engineering: From Experiments to Predictive Models	12 Weeks	https://online.vtu.ac.in/course/1-data-enabled-tribological-engineering-from-experiments-to-predictive-models	3	
22	Mechanical Engineering	Electronic Packaging and Manufacturing	8 Weeks	https://online.vtu.ac.in/course/1-electronic-packaging-and-manufacturing	2	
23	Mechanical Engineering	Experimental Stress Analysis	12 Weeks	https://online.vtu.ac.in/course/1-experimental-stress-analysis	3	
24	Mechanical Engineering	Fundamental Of Welding Science And Technology	8 Weeks	https://online.vtu.ac.in/course/1-fundamental-of-welding-science-and-technology	2	
25	Mechanical Engineering	Fundamentals of Combustion	12 Weeks	Link Will be updated	3	
26	Mechanical Engineering	Fundamentals Of Nuclear Power Generation	12 weeks	https://online.vtu.ac.in/course/1-fundamentals-of-nuclear-power-generation	3	
27	Mechanical Engineering	Heat Transfer and Combustion in Multiphase Systems	8 Weeks	https://online.vtu.ac.in/course/1-heat-transfer-and-combustion-in-multiphase-systems	2	

28	Mechanical Engineering	Inspection And Quality Control In Manufacturing	4 Weeks	https://online.vtu.ac.in/course/1-inspection-and-quality-control-in-manufacturing	1	
29	Mechanical Engineering	Manufacturing Automation	4 Weeks	https://online.vtu.ac.in/course/1-manufacturing-automation	1	
30	Mechanical Engineering	Manufacturing Guidelines For Product Design	8 Weeks	https://online.vtu.ac.in/course/1-manufacturing-guidelines-for-product-design	2	
31	Mechanical Engineering	Mechanical Measurement Systems	8 Weeks	https://online.vtu.ac.in/course/1-mechanical-measurement-systems	2	
32	Mechanical Engineering	Phase Transformation in Materials	12 Weeks	https://online.vtu.ac.in/course/1-phase-transformation-in-materials	3	
33	Mechanical Engineering	Processing of Polymers and Polymer Composites	8 Weeks	https://online.vtu.ac.in/course/1-processing-of-polymers-and-polymer-composites	2	
34	Mechanical Engineering	Product Design and Manufacturing	12 Weeks	https://online.vtu.ac.in/course/1-product-design-and-manufacturing	3	
35	Mechanical Engineering	Product Engineering and Design Thinking	8 Weeks	https://online.vtu.ac.in/course/1-product-engineering-and-design-thinking	2	
36	Mechanical Engineering	Robotics: Basics and Selected Advanced Concepts	12 Weeks	https://online.vtu.ac.in/course/1-robotics-basics-and-selected-advanced-concepts	3	

37	Mechanical Engineering	Mechanics of Sheet Metal Forming	8 Weeks	https://online.vtu.ac.in/course/1-mechanics-of-sheet-metal-forming	2	
38	Mechanical Engineering	Mechatronics	8 Weeks	https://online.vtu.ac.in/course/1-mechatronics	2	
39	Mechanical Engineering	Smart Materials and Intelligent System Design	4 Weeks	https://online.vtu.ac.in/course/1-smart-materials-and-intelligent-system-design	1	

ELECTRICAL AND ELECTRONICS ENGINEERING

Sl. No	Discipline	Course Name	Duration	Course Link	Credits	Eligible Branches to take the CSE branch
1	Electrical and Electronics Engineering	Design of Photovoltaic Systems	12 Weeks	https://online.vtu.ac.in/course/1-design-of-photovoltaic-systems	3	1. Electronics & Instrumentation Engineering 2. Electronics & Telecommunication Engg 3. Telecommunication Engineering 4. Industrial IoT 5. Medical Electronics Engineering 6. Electronics Engg (VLSI
2	Electrical and Electronics Engineering	Smart Grid: Basics To Advanced Technologies	12 Weeks	https://online.vtu.ac.in/course/1-smart-grid-basics-to-advanced-technologies	3	
3	Electrical and Electronics Engineering	Advances In Uhv Transmission And Distribution	8 Weeks	https://online.vtu.ac.in/course/1-advances-in-uhv-transmission-and-distribution	2	
4	Electrical and Electronics Engineering	Enclosure Design Of Electronics Equipment	12 Weeks	https://online.vtu.ac.in/course/1-enclosure-design-of-electronics-equipment	3	
5	Electrical and Electronics Engineering	Microelectronics: Devices To Circuits	12 Weeks	https://online.vtu.ac.in/course/1-microelectronics-devices-to-circuits	3	
6	Electrical and Electronics Engineering	Advanced Linear Continuous Control Systems: Applications With Matlab Programming And Simulink	8 Weeks	https://online.vtu.ac.in/course/1-advanced-linear-continuous-control-systems-applications-with-matlab-programming-and-simulink	2	
7	Electrical and Electronics Engineering	Dc Microgrid And Control Systems	8 Weeks	https://online.vtu.ac.in/course/1-dc-microgrid-and-control-systems	2	

8	Electrical and Electronics Engineering	Electrical Distribution System Analysis	8 Weeks	https://online.vtu.ac.in/course/1-electrical-distribution-system-analysis	2	**Design and Technology)**
9	Electrical and Electronics Engineering	Digital Control in Switched Mode Power Converters and FPGA-based Prototyping	12 Weeks	https://online.vtu.ac.in/course/1-digital-control-in-switched-mode-power-converters-and-fpga-based-prototyping	3	**7. Electronics Communication (Advanced Communication Technology)**
10	Electrical and Electronics Engineering	VLSI Interconnects	8 Weeks	https://online.vtu.ac.in/course/1-vlsi-interconnects	2	
11	Electrical and Electronics Engineering	System Design Through Verilog	8 Weeks	https://online.vtu.ac.in/course/1-system-design-through-verilog	2	**8. Electronics and Computer Engineering**
12	Electrical and Electronics Engineering	Applied Electromagnetics For Engineers	12 Weeks	https://online.vtu.ac.in/course/1-applied-electromagnetics-for-engineers	3	
13	Electronics and Communication	Analog Circuits	8 Weeks	https://online.vtu.ac.in/course/1-analog-circuits	2	
14	Electronics and Communication	Analog Ic Design	12 Weeks	https://online.vtu.ac.in/course/1-analog-ic-design	3	**9. Electronics and Communication Engineering**
15	Electronics and Communication	CMOS Digital VLSI Design	8 Weeks	https://online.vtu.ac.in/course/1-cmos-digital-vlsi-design	2	
16	Electronics and Communication	Computer Vision And Image Processing - Fundamentals And Applications	12 Weeks	https://online.vtu.ac.in/course/1-computer-vision-and-image-processing-fundamentals-and-applications	3	
17	Electronics and Communication	Electronics Enclosures Thermal issues	8 Weeks	https://online.vtu.ac.in/course/1-electronics-enclosures-thermal-issues	2	

18	Electronics and Communication	Foundations of Wavelets and Multirate Digital Signal Processing	4 Weeks	https://online.vtu.ac.in/course/1-foundations-of-wavelets-and-multirate-digital-signal-processing	1	
19	Electronics and Communication	Medical Image Analysis	4 Weeks	https://online.vtu.ac.in/course/1-medical-image-analysis	1	
20	Electronics and Communication	Microwave Integrated Circuits	8 Weeks	https://online.vtu.ac.in/course/1-microwave-integrated-circuits	2	
21	Electronics and Communication	Optical Wireless Communications for Beyond 5G Networks and IoT	12 Weeks	https://online.vtu.ac.in/course/1-optical-wireless-communications-for-beyond-5g-networks-and-iot	3	
22	Electronics and Communication	Physics of Nanoscale Devices	12 Weeks	https://online.vtu.ac.in/course/1-physics-of-nanoscale-devices	3	
23	Electronics and Communication	Power Management Integrated Circuits	12 Weeks	https://online.vtu.ac.in/course/1-power-management-integrated-circuits	3	
24	Electronics and Communication	Power System Dynamics, Control and Monitoring	12 Weeks	https://online.vtu.ac.in/course/1-power-system-dynamics-control-and-monitoring	3	
25	Electronics and Communication	Recent Advances in Transmission Insulators	4 Weeks	https://online.vtu.ac.in/course/1-recent-advances-in-transmission-insulators	1	
26	Electronics and Communication	Semiconductor device modeling and Simulation	12 Weeks	https://online.vtu.ac.in/course/1-semiconductor-device-modeling-and-simulation	3	
27	Electronics and Communication	Design Of Power Electronic Converters	8 Weeks	https://online.vtu.ac.in/course/1-design-of-power-electronic-converters	2	

TEXTILE ENGINEERING						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Textile Engineering	Principles Of Combing, Roving Preparation & Ring Spinning	12 Weeks	https://online.vtu.ac.in/course/1-principles-of-combing-roving-preparation-ring-spinning	3	4. Textile Engineering
2	Textile Engineering	Yarn Manufacture I : Principle Of Opening, Carding And Drawing	12 Weeks	https://online.vtu.ac.in/course/1-yarn-manufacture-i-principle-of-opening-carding-and-drawing	3	
3	Textile Engineering	Technical Textiles	12 Weeks	https://online.vtu.ac.in/course/1-technical-textiles	3	
4	Textile Engineering	Science Of Clothing Comfort	12 Weeks	https://online.vtu.ac.in/course/1-science-of-clothing-comfort	3	
5	Textile Engineering	Textile Finishing	12 Weeks	https://online.vtu.ac.in/course/1-textile-finishing	3	
6	Textile Engineering	Science And Technology Of Weft And Warp Knitting	12 Weeks	https://online.vtu.ac.in/course/1-science-and-technology-of-weft-and-warp-knitting	3	
7	Textile Engineering	Advanced Textile Printing Technology	8 Weeks	https://online.vtu.ac.in/course/1-advanced-textile-printing-technology	2	
8	Textile Engineering	Testing of Functional and Technical Textiles	8 Weeks	https://online.vtu.ac.in/course/1-testing-of-functional-and-technical-textiles	2	

9	Textile Engineering	Textile Product Design and Development	12 Weeks	https://online.vtu.ac.in/course/1-textile-product-design-and-development	3	
10	Textile Engineering	Textured Yarn Technology	12 Weeks	https://online.vtu.ac.in/course/1-textured-yarn-technology	3	

GENERAL						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Economics	Economics Of Banking And Finance Markets	12 Weeks	https://online.vtu.ac.in/course/1-economics-of-banking-and-finance-markets	3	**Students can choose only 2 courses respected to their regular branches**
2	Multidisciplinary	Introduction To Research New title: Research Methodology	8 Weeks	Link will be updated	2	
3	Multidisciplinary	Solar Energy Engineering And Technology	12 Weeks	https://online.vtu.ac.in/course/1-solar-energy-engineering-and-technology	3	
4	Humanities and Social Sciences	Technical English For Engineers	8 Weeks	https://online.vtu.ac.in/course/1-technical-english-for-engineers	2	
5	Humanities and Social Sciences	Body Language: Key To Professional Success	4 Weeks	https://online.vtu.ac.in/course/1-body-language-key-to-professional-success	1	

6	Humanities and Social Sciences	Patent Law For Engineers And Scientists	12 Weeks	https://online.vtu.ac.in/course/1-patent-law-for-engineers-and-scientists	3	
7	Humanities and Social Sciences	German - I	12 Weeks	https://online.vtu.ac.in/course/1-german-i	3	
8	Humanities and Social Sciences	The Science of Happiness and Wellbeing	8 Weeks	https://online.vtu.ac.in/course/1-the-science-of-happiness-and-wellbeing	2	
9	Mathematics	Calculus For Economics,Commerce And Management	8 Weeks	https://online.vtu.ac.in/course/1-calculus-for-economics-commerce-and-management	2	
10	Mathematics	Advanced Engineering Mathematics	12 Weeks	https://online.vtu.ac.in/course/1-advanced-engineering-mathematics	3	
11	Management	Entrepreneurship	12 Weeks	https://online.vtu.ac.in/course/1-entrepreneurship	3	
12	Management	E-Business	12 Weeks	https://online.vtu.ac.in/course/1-e-business	3	
13	Electrical and Electronics Engineering	An Introduction To Coding Theory	8 Weeks	https://online.vtu.ac.in/course/1-an-introduction-to-coding-theory	2	
14	Electrical and Electronics Engineering	Smart Grid: Basics To Advanced Technologies	12 Weeks	https://online.vtu.ac.in/course/1-smart-grid-basics-to-advanced-technologies	3	
15	Computer Science and Engineering	Cloud Computing	12 Weeks	https://online.vtu.ac.in/course/1-cloud-computing	3	

16	Computer Science and Engineering	Introduction To Machine Learning - IITKGP	8 Weeks	https://online.vtu.ac.in/course/1-introduction-to-machine-learning-iitkgp	2	
17	Computer Science and Engineering	Programming In Java	12 Weeks	https://online.vtu.ac.in/course/1-programming-in-java	3	
18	Physics	Introduction To Astrophysical Fluids	12 Weeks	https://online.vtu.ac.in/course/1-introduction-to-astrophysical-fluids	3	
19	Physics	Advanced Quantum Mechanics With Applications	8 Weeks	https://online.vtu.ac.in/course/1-advanced-quantum-mechanics-with-applications	2	
20	Mechanical Engineering	Applied Thermodynamics For Engineers	12 Weeks	https://online.vtu.ac.in/course/1-applied-thermodynamics-for-engineers	3	

CHEMICAL ENGINEERING

Sl. No	Discipline	Course Name	Duration	Course Link	Credits	Eligible Branches to take the CSE branch
1	Chemical Engineering	Colloids And Surfaces	8 Weeks	https://online.vtu.ac.in/course/1-colloids-and-surfaces	2	
2	Chemical Engineering	Chemical Process Intensification	12 Weeks	https://online.vtu.ac.in/course/1-chemical-process-intensification	3	

3	Chemical Engineering	Transport Phenomena Of Non-Newtonian Fluids	12 Weeks	https://online.vtu.ac.in/course/1-transport-phenomena-of-non-newtonian-fluids	3	**5. Chemical Engineering**
4	Chemical Engineering	Natural Gas Engineering	8 Weeks	https://online.vtu.ac.in/course/1-natural-gas-engineering	2	
5	Chemical Engineering	Aspen Plus® Simulation Software - A Basic Course For Beginners	12 Weeks	https://online.vtu.ac.in/course/1-aspen-plus-simulation-software-a-basic-course-for-beginners	3	
6	Chemical Engineering	Chemical Process Control	8 Weeks	https://online.vtu.ac.in/course/1-chemical-process-control	2	
7	Chemical Engineering	Trace And Ultra-Trace Analysis Of Metals Using Atomic Absorption Spectrometry	8 Weeks	https://online.vtu.ac.in/course/1-trace-and-ultra-trace-analysis-of-metals-using-atomic-absorption-spectrometry	2	
8	Chemical Engineering	Mechanical Operations	4 Weeks	https://online.vtu.ac.in/course/1-mechanical-operations	1	
9	Chemical Engineering	Equipment Design: Mechanical Aspects	4 Weeks	https://online.vtu.ac.in/course/1-equipment-design-mechanical-aspects	1	
10	Chemical Engineering	Chemical Process Safety	12 Weeks	https://online.vtu.ac.in/course/1-chemical-process-safety	3	
11	Chemical Engineering	Basic Environmental Engineering And Pollution Abatement	12 Weeks	https://online.vtu.ac.in/course/1-basic-environmental-engineering-and-pollution-abatement	3	

12	Chemical Engineering	Technologies For Clean And Renewable Energy Production	8 Weeks	Link will be updated	2	
13	Chemical Engineering	Hydrogen Energy: Production, Storage, Transportation And Safety	12 Weeks	https://online.vtu.ac.in/course/1-hydrogen-energy-production-storage-transportation-and-safety	3	

EL-BM-ML						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Electrical, Electronics and Communications Engineering	Fundamentals Of Micro And Nanofabrication	12 Weeks	https://online.vtu.ac.in/course/1-fundamentals-of-micro-and-nanofabrication	3	**6. Computer Science and Engineering** **7. Electrical, Electronics and Communications Engineering**
2	Computer Science and Engineering	Getting Started With Competitive Programming	12 Weeks	https://online.vtu.ac.in/course/1-getting-started-with-competitive-programming	3	
3	Computer Science and Engineering	Social Network Analysis	12 Weeks	https://online.vtu.ac.in/course/1-social-network-analysis	3	

4	Computer Science and Engineering	Design & Implementation Of Human-Computer Interfaces	12 Weeks	https://online.vtu.ac.in/course/1-design-implementation-of-human-computer-interfaces	3	**3. Machine Learning**
5	Computer Science and Engineering	Ethical Hacking	12 Weeks	https://online.vtu.ac.in/course/1-ethical-hacking	3	
6	Computer Science and Engineering	Programming In Modern C++	12 Weeks	https://online.vtu.ac.in/course/1-programming-in-modern-c	3	
7	Computer Science and Engineering	Data Structure And Algorithms Using Java	12 Weeks	https://online.vtu.ac.in/course/1-data-structure-and-algorithms-using-java	3	
8	Computer Science and Engineering	Introduction To Algorithms And Analysis	12 Weeks	https://online.vtu.ac.in/course/1-introduction-to-algorithms-and-analysis	3	
9	Computer Science and Engineering	Google Cloud Computing Foundations	8 Weeks	https://online.vtu.ac.in/course/1-google-cloud-computing-foundations	2	
10	Computer Science and Engineering	Artificial Intelligence : Search Methods For Problem Solving	12 Weeks	https://online.vtu.ac.in/course/1-artificial-intelligence-search-methods-for-problem-solving-iit-madras	3	
11	Computer Science and Engineering	Python For Data Science	4 Weeks	https://online.vtu.ac.in/course/1-python-for-data-science	1	
12	Electrical, Electronics and Communications Engineering	Discrete Time Signal Processing	8 Weeks	https://online.vtu.ac.in/course/1-discrete-time-signal-processing	2	

13	Electrical, Electronics and Communications Engineering	Fiber Optic Communication Technology	12 Weeks	https://online.vtu.ac.in/course/1-fiber-optic-communication-technology	3	
14	Electrical, Electronics and Communications Engineering	Applied Optimization For Wireless, Machine Learning, Big Data	12 Weeks	https://online.vtu.ac.in/course/1-applied-optimization-for-wireless-machine-learning-big-data	3	

AUTOMOBILE ENGINEERING						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Mechanical Engineering	Computational Continuum Mechanics	12 Weeks	https://online.vtu.ac.in/course/1-computational-continuum-mechanics	3	**1. Automobile Engineering**
2	Mechanical Engineering	Mechanism And Robot Kinematics	8 Weeks	https://online.vtu.ac.in/course/1-mechanism-and-robot-kinematics	2	
3	Mechanical Engineering	Heat Exchangers: Fundamentals And Design Analysis	12 Weeks	https://online.vtu.ac.in/course/1-heat-exchangers-fundamentals-and-design-analysis	3	
4	Mechanical Engineering	Power Plant Engineering	8 Weeks	https://online.vtu.ac.in/course/1-power-plant-engineering	2	
5	Mechanical Engineering	Fluid Dynamics And Turbomachines	8 Weeks	https://online.vtu.ac.in/course/1-fluid-dynamics-and-turbomachines	2	

6	Mechanical Engineering	Rapid Manufacturing	12 Weeks	https://online.vtu.ac.in/course/1-rapid-manufacturing	3	
7	Mechanical Engineering	Conduction And Convection: Fundamentals And Applications	12 Weeks	https://online.vtu.ac.in/course/1-conduction-and-convection-fundamentals-and-applications	3	
8	Management	Toyota Production System	8 Weeks	https://online.vtu.ac.in/course/1-toyota-production-system	2	
9	Management	Manufacturing Strategy	8 Weeks	https://online.vtu.ac.in/course/1-manufacturing-strategy	2	
10	Management	Product And Brand Management	12 Weeks	https://online.vtu.ac.in/course/1-product-and-brand-management	3	
11	Management	Econometric Modelling	8 Weeks	https://online.vtu.ac.in/course/1-econometric-modelling	2	
12	Management	Services Marketing : Integrating People, Technology, Strategy	8 Weeks	https://online.vtu.ac.in/course/1-strategic-services-marketing	2	
13	Management	Innovation, Business Models And Entrepreneurship	8 Weeks	https://online.vtu.ac.in/course/1-innovation-business-models-and-entrepreneurship	2	
14	Management	Operations And Supply Chain Management	12 Weeks	https://online.vtu.ac.in/course/1-operations-and-supply-chain-management	3	
15	Management	Design Thinking - A Primer	4 Weeks	https://online.vtu.ac.in/course/1-design-thinking-a-primer	1	

ELECTRONICS AND COMMUNICATION ENGINEERING						
Sl. No	**Discipline**	**Course Name**	**Duration**	**Course Link**	**Credits**	**Eligible Branches to take the CSE branch**
1	Electronics and Communication Engineering	Artificial Intelligence : Search methods for problem solving	12 Weeks	https://online.vtu.ac.in/course/1-artificial-intelligence-search-methods-for-problem-solving-iit-madras	3	2. Electronics & Instrumentation Engineering 3. Electronics & Telecommunication Engg 4. Telecommunication Engineering 5. Industrial IoT 6. Medical Electronics Engineering 7. Electronics Engg (VLSI Design and Technology) 8. Electronics Communication (Advanced Communication Technology)
2	Electronics and Communication Engineering	Understanding Incubation and Enterprenurship	12 Weeks	https://online.vtu.ac.in/course/1-understanding-incubation-and-enterprenurship	3	
3	Electronics and Communication Engineering	Learning Anlystics Tools	12 Weeks	https://online.vtu.ac.in/course/1-learning-analytics-tools-prof-rajkumar-rajendran	3	
4	Electronics and Communication Engineering	Operations Research	8 Weeks	https://online.vtu.ac.in/course/1-operations-research	2	
5	Electronics and Communication Engineering	Intellactual Property Rigths and Competition Law	8 Weeks	https://online.vtu.ac.in/course/1-intellectual-property-rights-and-competition-law	2	
6	Electronics and Communication Engineering	Big Data Computing	8 Weeks	https://online.vtu.ac.in/course/1-big-data-computing	2	
7	Electronics and Communication Engineering	Modern Digital Communication Techniques	12 Weeks	https://online.vtu.ac.in/course/1-modern-digital-communication-techniques	3	

						9. Electronics and Computer Engineering
8	Electronics and Communication Engineering	Advanced Linear Continuous Control Systems: Applications WithMatlab Programming And Simulink	8 Weeks	https://online.vtu.ac.in/course/1-advanced-linear-continuous-control-systems-applications-with-matlab-programming-and-simulink	2	10. Electronics and Communication Engineering