

User Manual for NPTEL

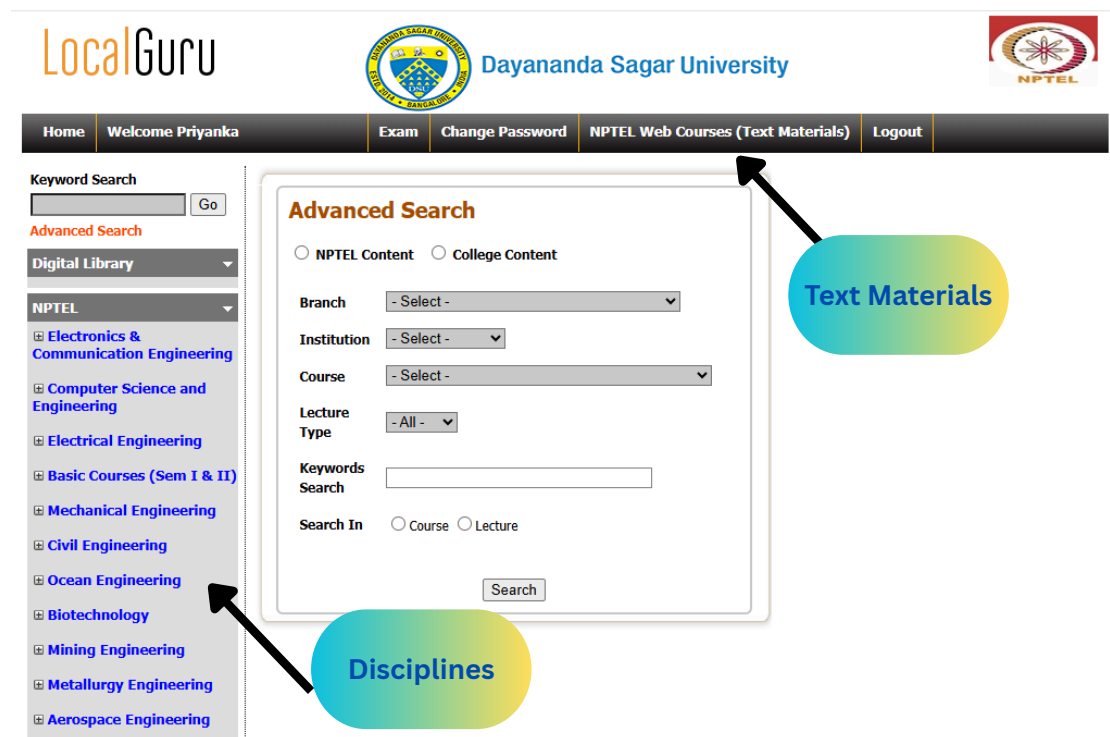
National Programme on Technology Enhanced Learning.

What you can access in NPTEL

In NPTEL users can access the video lectures and text materials by experienced professors of institutions like IIT and IISc.

Accessing the Text Materials

- **Registration** : Visit the digital library for registration.
- After the registration search the URL : <http://192.168.2.202/dsu-nptel/> in chrome. (If you are using your mobile/laptop then connect to the library Wi-Fi).
- Then login with your user name and password.
- The home page of NPTEL will appear.



The screenshot displays the NPTEL web interface. At the top, there are logos for LocalGuru, Dayananda Sagar University, and NPTEL. Below the logos is a navigation bar with links: Home, Welcome Priyanka, Exam, Change Password, NPTEL Web Courses (Text Materials), and Logout. On the left side, there is a 'Keyword Search' box with a 'Go' button. Below it, there is a 'Digital Library' dropdown menu and an 'NPTEL' dropdown menu. The 'NPTEL' menu is expanded, showing a list of disciplines: Electronics & Communication Engineering, Computer Science and Engineering, Electrical Engineering, Basic Courses (Sem I & II), Mechanical Engineering, Civil Engineering, Ocean Engineering, Biotechnology, Mining Engineering, Metallurgy Engineering, and Aerospace Engineering. An arrow points from a blue callout box labeled 'Disciplines' to this list. In the center, there is an 'Advanced Search' form with options for 'NPTEL Content' and 'College Content'. It includes dropdown menus for 'Branch', 'Institution', and 'Course', a 'Lecture Type' dropdown, a 'Keywords Search' input field, and a 'Search In' section with radio buttons for 'Course' and 'Lecture'. A 'Search' button is at the bottom of the form. An arrow points from a blue callout box labeled 'Text Materials' to the 'Advanced Search' form.

- If you want to access the text materials click on NPTEL web courses.



Discipline-Wise Listing

Aerospace Engineering	Atmospheric Science	Basic courses(Sem 1 and 2)	Biotechnology
Chemical Engineering	Chemistry and Biochemistry	Civil Engineering	Computer Science and Engineering
Electrical Engineering	Electronics & Communication Engineering	Engineering Design	Environmental Science
General	Humanities and Social Sciences	Management	Mathematics
Mechanical Engineering	Metallurgy and Material Science	Mining Engineering	Nanotechnology
Ocean Engineering	Physics	Textile Engineering	

- Select the discipline, then subjects, coordinators and names of institutions will appear.

subjectId	Discipline Name	Subject Name	Coordinators	Type	Institute	Content
101101058	Aerospace Engineering	test course	Prof. A.M Pradeep ,Prof. Bhaskar Roy	Web	IIT Bombay	Select
101101058	Aerospace Engineering	test course 2	Prof. A.M Pradeep ,Prof. Bhaskar Roy	Web	IIT Bombay	Select
101104014	Aerospace Engineering	Fundamentals of Combustion	Dr. D.P. Mishra	Web	IIT	Select
101105023	Aerospace Engineering	High Speed Aero Dynamics	Dr. K.P. Sinhamahapatra	Web	IIT	Basic Concepts
101106041	Aerospace Engineering	Flight dynamics I - Airplane performance	Prof. E.G. Tulapurkara	Web	IIT	Review of Fluid Statics
101106043	Aerospace Engineering	Flight dynamics II - Airplane stability and control	Prof. E.G. Tulapurkara	Web	IIT	Fundamental Aspects I
101108054	Aerospace Engineering	Guidance of Missiles	Prof. Debasish Ghose	Web	IISc	Integral Form-Part I
101108056	Aerospace Engineering	Navigation, Guidance, And Control	Prof. Debasish Ghose	Web	IISc	Integral Form-Part I(i)

- Select the topics from the content column, the document will open.
- Once the document opened you can access the content and make notes as needed.

Module 1 : BASIC CONCEPTS AND FUNDAMENTALS

Lecture 1 : Basic Concepts

1 2 3 4 5

BASIC CONCEPTS

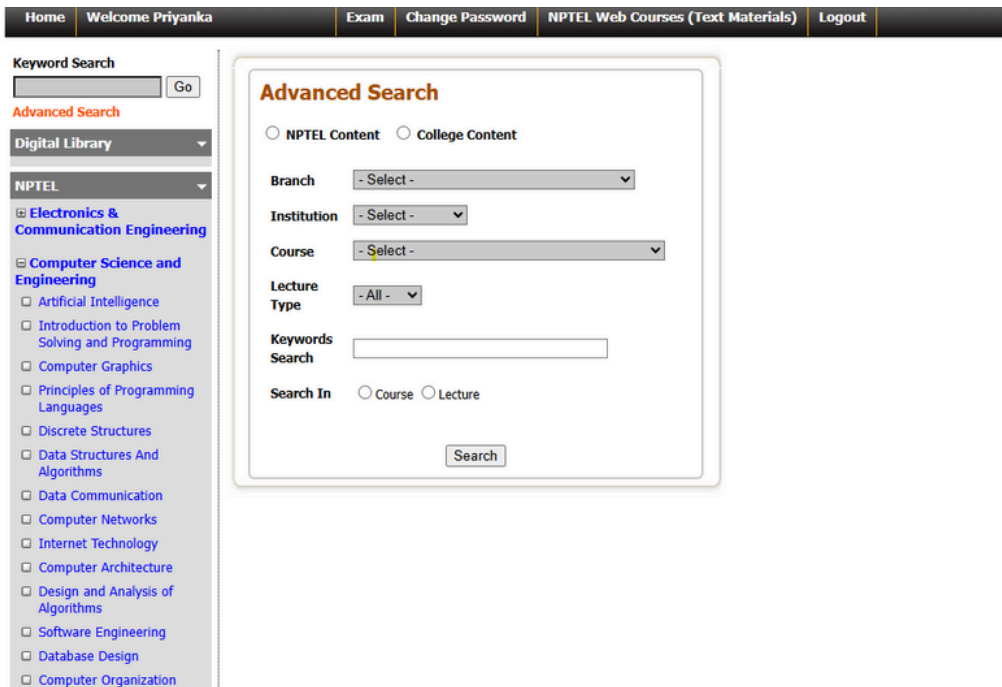
- Mechanics* is the oldest physical science that deals with both stationary and moving boundaries under the influence of forces. The branch of the mechanics that deals with bodies at rest is called *statics* while the branch that deals with bodies in motion is called *dynamics*.
- Fluid Mechanics* is the science that deals with behavior of fluids at rest (*fluid statics*) or in motion (*fluid dynamics*) and the interaction of fluids with solids or other fluids at the boundaries.
- A substance in liquid / gas phase is referred as 'fluid'. Distinction between a solid & a fluid is made on the basis of substance's ability to resist an applied shear (tangential) stress that tends to change its shape. A solid can resist an applied shear by deforming its shape whereas a fluid deforms continuously under the influence of shear stress, no matter how small is its shape. In solids, stress is proportional to strain, but in fluids, stress is proportional to 'strain rate.'

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Accessing the video lectures.

- Login with your ID and password.
- To access the video lecture browse the disciplines which are listed on the left side of the screen.

- Click on the discipline in which you are interested in.
- Then sub-subjects will appear.



- Select the subject.
- Then the Video and list of lecture on that subject will appear.



- Then click on the video to play and watch the video.
- You can access the NPTEL inside the campus.

For More information, contact us
Email: digitallibrary@dsu.edu.in
Phone: 7411616995