

DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE):

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical / Practice		
Crafting Digital Experiences: A Practical Approach to Web Design and Programming (DSE)	4	0	0	4	Class XII pass	Database Management System, Data Communication and Networking

Learning Objectives

The objective is to introduce with the fundamentals of how the Internet and the Web function, a basic understanding of graphic production with specific stress on creating graphics for the Web, and a general grounding introduction to more advanced topics such as programming and scripting. This will also expose students to the basic tools and applications used in Web publishing.

Learning outcomes

After completing this course, student should be able to;

- Acquire knowledge of web protocols and develop understanding of concepts of Internet security.
- Able to implement studied technologies in systematically developing a website with due regard to ethical and environmental issues.
- Understand the significance of emerging web technologies for the advancement of society.

Syllabus

Practice/Labs -

(120 hours)

The course will be conducted completely in a hands-on mode and project-based learning. The following tasks will be covered in the lab:

- Exercise based on developing websites and portals using HTML.
- Exercise based on developing websites and portals using CSS.
- Exercise based on developing websites and portals using JavaScript.

- Projects based on PHP and MySQL to be implemented.
- Domains: Healthcare, Criminal, resource management projects, etc.

Essential/recommended readings

1. Data Communication and Networking, Forouzan, B.A., Tata McGraw-Hill. 2013
2. Internet and World Wide Web: How to Program, 5th Edition, Deitel and Deitel, Pearson Education. 2008
3. List of Web links prescribed by instructor

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE):

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Partial Differential Equations (DSE)	4	3	1	0	Class XII pass	Ordinary differential equations

Learning Objectives

This course helps to develop Partial differential equation models, in the context of modeling heat and mass transport and, in particular, wave phenomena, such as sound and water waves. This course develops students' skills in the formulation; find a solution, understanding and interpretation of PDE models. As well as developing analytic solutions, this course establishes general structures and characterizations of PDEs. The course will also expose the students to various applications of the partial differential equations.

Learning outcomes

- Understand how partial differential equations (PDEs) represent real-world problems.
- Able to use computational tools to solve problems and applications of PDEs.
- Understand the importance of Laplace's equation, heat equation, wave equation,