Course No.: ENR 174
Course title: **Statistics for Engineers**
Number of credits: 2 (2-0-0)
Number of lectures-tutorial-practical: 28-0-0
Course coordinator: Dr Prateek Sharma

Course outline

The course is aimed to provide elementary knowledge of statistical techniques and enable students to apply various tools and techniques to solve problems in engineering and science.

Evaluation procedure

- Two Minor tests : 30%
- Assignments/Tutorials : 20%
- Major test : 50%

Details of course contents and allotted time.

Sr. no.	Contents	Time allotted (hours)		
		Lecture	**Tutorial**	**Practical**
	Part II: Statistical techniques			
1	Review of basic concepts Data representation; Probability theory: axioms of probability; probability distribution functions and their applications: – discrete and continuous distributions.	10	0	0
2	Data sampling Types of sampling designs –probability and non-probability sampling; sampling theory, sampling distributions; parameter estimation, point and interval estimates.	6	0	0
3	Tests of hypothesis Hypothesis testing – parametric and non-parametric tests.	8	0	0
4	Curve fitting Correlation analysis, regression analysis.	4	0	0
	Total	**28**	**0**	**0**

The course is reviewed the following experts.

Dr Neela Natraj, Associate Professor, Department of Mathematics, Indian Institute of Technology, Bombay.

Dr Pravin Chandra, Associate Professor, School of Information Technology, GGS Indraprastha University, Delhi.

Suggested readings

1. Johnson, R.A. (1999). *Miller & Freund's Probability and Statistical for Engineers.*Prentice-Hall of India Pvt. Ltd.: New Delhi.
2. Kottegoda, N.T. and Rosso, R. (2008). *Applied Statistics for Civil and Environmental Engineers*. McGraw-Hill, International Edition.
3. Kreyszig, E. (1999). *Advanced Engineering Mathematics*. John Wiley & Sons, Inc, India
4. Meyer, P.L. (1970). *Introductory Probability and Statistical Applications*. Oxford & IBH Publishing Co. Ltd, New Delhi.