

**TEACHING PLAN: EE293 ILLUMINATION ENGINEERING (Credits 4:0:0)**

July 2012 to Nov 2012

Name of the Faculty member : Mr.A.Benuel Sathish Raj

Designation: Assistant Professor

Department / School : EEE / School of Electrical Sciences

Unit No.	Lecture No.	Topic	Book & Page Nos. Used for teaching	Topic No.	Date Taught
Unit 1 Language of Light and Lighting	1	Introduction	Syllabus		
	2-3	Eye & Vision	Pg. No. 2.1 – 2.4 IES Handbook	2	
	3	Light & Lighting	Pg. No. 1 - 5 Jack L. Lindsey	1	
	4	Light & Vision	Pg. No. 2.5 – 2.29 IES Handbook	2	
	5-6	Light & Color	Pg. No. 5 – 11 Jack L. Lindsey	1	
	7	Basic Concepts and Units	Pg. No. 14 - 17 Jack L. Lindsey	1	
	8-9	Photometry and Measurement	Pg. No. 5.1 – 5.4 IES Handbook	5	
	10-11	Quantity and Quality of Lighting	Pg. No. 237 – 272 Jack L. Lindsey	9	
Unit 2 Accessories	12	Light Sources - Daylight	Pg. No. 393 – 418 Jack L. Lindsey	15	
	13	Incandescent	Pg. No. 19 – 58 Jack L. Lindsey	2	
	14-15	Electric discharge, Arc lamps	Pg. No. 97 – 134 Jack L. Lindsey	4	
	16	Fluorescent	Pg. No. 59 – 95 Jack L. Lindsey	3	
	17	Lasers	Notes		
	18	Neon signs	Notes		
	19	LED-LCD displays	Notes		
	20-21	Luminaries	Lighting Fundamentals Pg. No. 12 – 14		
	22-23	Wiring, Switching & Control circuits	Pg. No. 419 – 450 Jack L. Lindsey	16	

Unit 3 Calculation and Measurement	24-25	Polar curves	Notes		
	26-27	Effect of voltage variation on efficiency and life of lamps	Notes		
	28-29	Lighting calculations - Solid angle, Inverse square and cosine laws	Pg. No. 216 – 219 Jack L. Lindsey	8	
	30-32	Illumination from point, line and surface sources	Pg. No. 227 – 230 & 236 Jack L. Lindsey	8	
	33-34	Photometry and Spectro -photometry	Pg. No. 135 – 166 Jack L. Lindsey	5	
	35	Photocells	Pg. No. 421 – 423 Jack L. Lindsey	16	
Unit 4 Interior Lighting	36-37	Lighting design procedure for Industrial	Pg. No. 303 – 339 Jack L. Lindsey	11	
	38-39	Lighting design procedure for Residential	Pg. No. 10.3 – 10.45 IES Handbook	10	
	40-41	Lighting design procedure for Office	Pg. No. 341 – 350 Jack L. Lindsey	12	
	42-43	Lighting design procedure for Departmental store	Pg. No. 351 – 362 Jack L. Lindsey	13	
	44	Lighting design procedure for Indoor stadium	Pg. No. 12.1 – 12.25 IES Handbook	12	
	45-46	Lighting design procedure for Theaters	Pg. No. 10.84 – 10.88 IES Handbook	10	
	47-48	Lighting design procedure for Hospitals	Pg. No. 10.91 – 10.93 IES Handbook	10	
Unit 5 Exterior Lighting	49-50	Environment and glare	Notes		
	51-52	Lighting Design procedure for Flood lighting	Pg. No. 365 – 370 Jack L. Lindsey	14	
	53-54	Street lighting	Pg. No. 373 – 375 Jack L. Lindsey	14	
	55-56	Aviation lighting	Pg. No. 13.23 – 13.25 Pg. No. 13.43 – 13.62 IES Handbook	13	
	57-58	Transport lighting	Pg. No. 13.1 – 13.22 IES Handbook	13	
	59-60	Lighting for Displays and Signaling	Notes		

### Text Books

1. Joseph B. Murdoch, “Illumination Engineering from Edison’s Lamp to the Laser”, Visions Communications, Washington DC, USA, 2<sup>nd</sup> Edition, 1994.
2. Jack L. Lindsey, “Applied Illumination Engineering”, Prentice Hall of India, New Delhi, 2<sup>nd</sup> Sub Edition, May 1997.

### References

1. Marc Schiler, “Simplified Design of Building Lighting”, John Wiley and Sons, 1992.
2. IES Lighting Handbook, 8<sup>th</sup> Edition, 1993.