

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

DEPARTMENT OF ARCHITECTURE

COURSE PLAN – PART I			
Course Title	LIGHTING DESIGN		
Course Code	AR706	No. of Credits	3
Department	Architecture	Faculty	Dr.G.Subbaiyan
Session	January 2021		
Pre-requisites Course Code	Nil		
Course Coordinator(s) (if, applicable)	NA		
Other Course Teacher(s)/Tutor(s) E-mail	subbaiah@nitt.edu	Telephone No.	0431-2503557
Course Type	<input checked="" type="checkbox"/> Core course <input type="checkbox"/> Elective course		

SYLLABUS (approved in BoS)

Electromagnetic spectrum. Visual response visual acuity, Glare & visual comfort. Colour perception, Visual Task Requirements. Side lighting concepts, Top lighting concepts. Designing Atria / Light Courts. Daylight Controls. Daylighting Design, Daylighting Analysis.

Electrical light sources and Luminaires. Task requirements, point-by-point method, Lumen method, Qualitative calculations and Supplementary Artificial Lighting.

REFERENCES:

1. Benjamin Evans, "Daylight in Architecture", McGraw Hill Book Co., New York, 1981
2. Pritchard, D.C., "Lighting", Longman Scientific & Technical, Harlow, 1995
3. MEBc Schiler, "Simplified Design of Building Lighting", John Wiley & Sons, Inc., New York, 1992
4. Hopkinson, R. G., "Architectural Physics –Lighting", HMS Office, London, 1963
5. Tregenza Peter & Loe David, "The Design of Lighting", E & FN Spon, London, 1998.

COURSE OBJECTIVES

- i. To make an awareness about the benefits of day lighting in buildings.
- ii. To understand about different daylighting concepts, day lighting analysis and design.
- iii. To be knowledgeable about the salient features of various Artificial light sources and luminaires.
- iv. To understand the Artificial lighting design methods.
- v. To get introduced to the software used for lighting design of buildings.

COURSE OUTCOMES (CO)			
Course Outcomes			Aligned Programme Outcomes (PO)
i. Assessment of day lighting availability in existing buildings (Analysis). ii. Design of Fenestration for Day lighting of interior spaces. iii. Artificial lighting design for interior spaces of different types of buildings. iv. Integration of Day lighting and Artificial lighting – Permanent Supplementary Artificial Lighting Design. v. Make acquainted about the software used for lighting design of buildings.			
COURSE PLAN – PART II			
COURSE OVERVIEW			
This course focus on day lighting concepts, day lighting analysis and design of fenestration for day lighting of interior spaces, articial lighting design for interior spaces, permanent supplementary artificial lighting design and the software used for lighting design of buildings .			
COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	Week	Topic	Mode of Delivery
1	1 st	Lighting Fundamentals - Light and Optics, Measurement of Light, Vision and Perception, Color	PPT/ Lecture
2	2 nd	Quality of the Visual Environment, Lighting requirements of different types of buildings	PPT/ Lecture/ Discussion
3	3 rd & 4 th	Day Lighting – Introduction and Concepts	PPT/ Lecture
4	5 th & 6 th	Day lighting – Analysis and Design	PPT/ Lecture/ Tutorials
5	7 th	Electrical light sources	PPT/ Lecture
6	8 th	Luminaires and Interior lighting systems.	PPT/ Lecture
7	9 th	Artificial lighting design – Lumen Method	PPT/ Lecture/ Tutorials
8	10 th	Artificial lighting design – Point by point method	PPT/ Lecture/ Tutorials
9	11 th	Supplementary Artificial Lighting Design	PPT/ Lecture
10	12 th & 13 th	Lighting – Economics, Control and Maintenance	PPT/ Lecture

11	14 th & 15 th	Lighting design - software	Lecture / Tutorials
12	16 th	Conclusion and Feedback	PPT

COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Assignment/ Tutorial	6 th week	10 days	20%
2	Test	8 th week	1 hr.	15%
3	Assignment/ Tutorial	10 th week	10 days	20%
4	Assignment/ Tutorial	14 th & 15 th week	Class hours	15%
5	End-semester examination	3rd week – May 2021	2 hours	30%

COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)

- Feedback survey about course content and suggestions for any improvement/ modification - online
- Assessment of the knowledge the students have gained through this subject - online
- Feedback regarding the teaching-learning process - online

COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)

- For a student to secure a minimum of E grade he/ she has to secure a minimum of 30% in the final assessment and also secure maximum of 35% or Class Average/2 in all assessments put together.
- The minimum attendance requirement to be eligible for appearing in the final semester examination is 75%. A maximum of 10% shall be allowed under On Duty (OD) category.
- If any student is absent on the day of tutorial session, he/ she shall forfeit the marks for that particular tutorial exercise.
- If any candidate is absent in the test due to genuine reasons, he/ she can appear for retest.
- Assignments are required to be prepared independently by each of the candidate. If any student submits assignments directly copied from other students / books/ journals (cut and paste) he/ she shall forfeit the marks for that particular assignment.

ADDITIONAL COURSE INFORMATION

The faculty member is available for consultation during working hours on all working days. The students can also e-mail their queries to **subbaiah@nitt.edu**.

FOR APPROVAL


 Dr. G. Subbaiyan
Course Faculty _____


CC-Chairperson _____


HOD Dr. K. Thirumaran

gsangeetha 02.2021