School of Planning and Architecture: Vijayawada
(An institution of National Importance under the Ministry of Human Resource Development, Govt. of India)
S.No. 71/1, NH-5, Nidamanuru, Vijayawada – 521 104, Andhra Pradesh, India

Department of Architecture

Course: 10210206 Day Lighting+ Seminar
Instructors: Asst.Prof.P.Sitha MahaLakshmi

Contact Periods/ week: 04 periods, 4(Theory)
Time Table:
Attendance: Min 75% **Min. Passing Marks:** 50% Aggregate

Class: I Yr M. Arch II Sem A.Y. 2017-18
Internal Assessment: 100
External Theory Exam: Nil
Total Marks: 100
Credits: 5

Objectives of the course:
The primary objective of this subject is to introduce the contemporary theory, methods and design applications of day lighting and electrical lighting integration as key elements in sustainable architectural design. To develop an understanding of the impact and design limits that the architectural system of daylight enclosure have on lighting, energy performance, and on the attainment of sustained environmental quality. It also covers contemporary tools, analytical methods and digital media used in the simulation, evaluation and prediction of luminous and thermal performance by various options such as study and analysis methods, introduction of exploration into the use of light in space.To provide a vehicle of design synthesis acting as a catalyst to further design exploration and laboratory exercises. To explore a number of issues that surround the discussion of the appropriate application of day lighting technology in commercial and institutional buildings.

Out Line of the Course:
The seminar provides an understanding of how to shape the building and design the skin for day lighting through an integrative design approach. Day lighting design is the catalyst to applied research in architecture and allied disciplines instead of projecting component technologies. Day lighting shaped and delivered by shape, form and fabric of building envelope with reference to models, methods and simulations.

LECTURE PLAN

S. No.	Week	TOPIC OF CLASS LECTURE & DISCUSSION	CLASS ACTIVITIES & ASSIGNMENTS
1	Week 1	Orientation Session,Introductory lecture, Overall exploration of the subject ,Understanding "Daylight" . Basic introduction of How to go through the process of understandig or reading a topic or area of interest.	**Lecture**
		Exercise: Students should attempt in identifying the areas of st, prepare one page of synopsis, identify one book, two journals, five articles. for literature study. cumpulsory relative critical case study	**Library visit.**
2	Week 2	Conceptual design metricss for daylighting,dayllight dashboard ,	**Lecture**
		Identification /discussion on the areas of interests, reference books, journals, conferences etc., related to the individual area of interest. Framework of abstract.	**Lecture & Discussion**
3	Week 3	Daylight design Strategies	**Lecture**
		Formulation of tentativev abstract. Frame work of the study.	**Presentation & Discussion**

4	Week 4	National Lighting code SP 72:2010	**Lecture**
		Discussion on the literature study acquired/list of research articles/ books/ conferences/research.	**Presentation & Discussion**
5	Week 5	Daylighting and electrical llighting integration	**Lecture**
		Stage-I (Preliminary) presentation of the seminar topic- literature study, research problem, research questions.	**Presentation**
6	Week 6	**Language of Daylight**	**Guest lecture**
7	Week 7	Stage-II one-to-one discussion of the progress of - literature study, research problem, research questions, defining the scope of the study, aims and objectives.	**one-to-one discussion**
8	Week 8	Design synthesis and design exploration with daylight a major prerequisite in the foreground.	**Lecture**
		Stage-III one-to-one discussion of the progress of study incorporating the feedback of the previous session , deciding of the scope ,aims and objectives of the study.	**one-to-one discussion**
9	Week 9	Stage-IV one-to-one discussion of the progress of study incorporating the feedback of the previous session , deciding of the body of the paper.	**one-to-one discussion**
10	Week 10	Design synthesis and further design exploration guided through the majore prerequisssite as Daylighting.	**Lecture**
11	Week 11	**Assignment-2**	· **ASSESSMENT-II (30%)**
12	Week 12	Role of Daylight in shaping the building through daylight integrative design approach.	**Lecture**
13	Week 13	Session-A- one-to-one discussion of the progress of study incorporating the feedback of the previous session , and formulating the rough version of paper.	**one-to-one discussion**
14	Week 14	Daylight - apparatus and its precision.	**Lab Session**
15	Week 15	Session-B- one-to-one discussion of the progress of study incorporating the feedback of the previous session , finalizaton of body of the paper	**one-to-one discussion**

16	Week 16	Session-B- one-to-one discussion of the progress of study incorporating the feedback of the previous session , finalizaton of body of the paper	**one-to-one discussion**

Tentative break-up of Internal Assessment Marks:

S.No.	Category of Evaluation	Marks	Note
1	Assessment – I:	30	*The Marks allotted at each stage is tentative. Categories of evaluation may be increased or decreased (merged) on need-basis*
2	Assessment – II:	30	
3	Assessment – III:	40	
	TOTAL	**100**	

References:

1. Day lighting in Buildings Source Book; LBNL and International Energy Agency; 2008. Millet, M; Light Revealing Architecture; Van Nostrand Reinhold, 1996.
2. Hopkinson, R.G.; Day lighting; Heinemen; 1966.
3. Lam, William M.C.; Perception and Lighting as Form Givers for Architecture, 1968.
4. Moore, Fuller; Concepts & Practices of Architectural Daylighting; Van Nostrand Co., Inc.; 1985.
5. Robins, Claud: Day lighting, Design & Analysis; VNR, 1986.
6. Fitch, J. Marston; American Building - The Environmental Forces that Shape It; 2nd Ed 1999.
7. Banham, R; Architecture of the Well Tempered Environment; 2nd Ed.; 1984, Chicago Press, Prerequisite: Arch 3142/ 6141 Environmental Forces (ECS) or consent of instructor.
8."Strategies of Daylight Design" in AIA Journal, pp. 68-77, 104, 108, 110, 112 by Villecco, M., Selkowitz, S., and Griffith, J. W. September 1979.
9. National lighting code SP 72:2010 , by Bureau of Indian Standards.

Signatures of the Instructors: **Head of the Department:**