GUJARAT TECHNOLOGICAL UNIVERSITY

BRANCH NAME: M. Arch. (INTERIOR ARCHITECTURE)
SUBJECT NAME: Interior Design Services
SUBJECT CODE: X26203
1st Year
Semester: II

Prerequisite:
There is no prerequisite for taking this course.

Rationale: Study of interior services: Lighting, Acoustics, Air-conditioning, Fire safety & Automation - their introduction, design and installation procedure.

Teaching and Assessment Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks	University Exam Type
Field work	Lectures	Studio	C	External exam		Internal exam			
				(ESE)Theory	(ESE) Viva	(PA)Theory	(PA)Viva		
NA	2	2	4	40	00	60	00	100	3 Hr. Exam

Content:

Sr. No.	Content	Total Hours*	% Weightage
1	Lighting: Photometry – Illuminance, Luminance, Lux. Color properties – color temperature, color rendering Index, Lumen, luminous flux, light pressure. Illumination- light fixtures, methods of lighting, forms of indoor lighting. Lamps, fixtures and its types. Lighting systems, light pollution- energy consumption, light exposure. Lighting control systems for interiors. Smart lighting- minimizing energy usage, major techniques of smart lighting. Examples based study (examples like offices, theatres, auditoriums, galleries, music clubs etc.)	24	45%
2	Acoustics: Fundamental concepts of acoustics, sound propagation, frequency, transduction in acoustics. Acoustic material, properties and sound absorbents, developments in acoustics till date, Acoustics design	12	15%
3	Air-conditioning: refrigeration cycle, systems of air conditioning: Unit, split, package, Direct expansion, Chilled water System, Ducting & air conditioning layout, fittings and fixtures.	12	15%
4	Fire Safety: Causes and spread of fire, fire-fighting, protection & fire resistance, equipment & methods of fighting fire, Code of fire safety, fire regulations, fire insurance, and combustibility of materials, Fire safely design: escape routes and elements, wet	16	25%

	risers, dry risers, sprinklers, smoke detectors, fire dampers, fire doors, water curtains etc. Building Automation: Concept and application of Automation Systems in interior. Design issues related to building automation and its effect on functional efficiency. Components of building automation system integrating HVAC, electrical, lighting, security, fire-fighting, communication etc. Current trend and innovation in building automation systems.		

*: indicative

References:

- Building Systems: Design Technology and Society by Kiel Moe, Ryan E. Smith
- Fundamentals of Lighting, 2nd Edition by Susan M. Winchip
- Handbook of Acoustics by Malcolm J. Crocker
- The Theory of Sound, Volume One: Unabridged Second Revised Edition by J. W. S. Rayleigh
- Theoretical Acoustics by Philip McCord Morse
- HVAC Design Sourcebook by W. Larsen Angel
- Building Services Handbook by Fred Hall and Roger Greeno
- Architectural Lighting Design by Gary R. Steffy
- The Architecture Of Light: A textbook of procedures and practices for the Architect, Interior Designer and Lighting... by Sage Russell
- Interior Lighting for Designers, 4th Edition by Gary Gordon (Jan 28, 2003)
- Fire safety in buildings by V. K. Jain, New Age International Publishers
- Building Systems for Interior Designers, 3rd Edition, Corky Binggeli, 2016

List of Projects/Assignments*:

Coursework shall consist of lectures/presentation on various topics listed above supported with visuals in form of drawings, sketches, photographs, models etc. Written assignments with sketches, drafted drawings for construction detailing and model making exercises, presentations etc can be given to students. Site visits, market surveys and various other ways to engage with industry must be incorporated in this course.

*- this is suggestive for common purpose.