ALAGAPPA UNIVERSITY

(Accredited with A+ Grade by NAAC (CGPA: 3.64) in the Third Cycle,
Graded as Category-I University and granted autonomy by MHRD-UGC)

DIRECTORATE OF COLLABORATIVE PROGRAMMES

P.G. Diploma in Interior Design

Regulations and Syllabus

[For those who join the Course in July 2023 and after]

CHOICE BASED CREDIT SYSTEM

Regulations and Syllabus

PG DIPLOMA – INTERIOR DESIGN

Name of the Programme	: **PGDID. (PG Diploma)**
Pattern	: Semester System
Mode	: Collaborative Programs
Medium	: English
Duration	: One Year
Eligibility	: Any Under graduate program of minimum 3-year duration in any specialization, after 10+2 system, from any university or institute recognized by law in India. (or) Full-time Diploma of minimum 3-year duration in Design / Fine Arts / Applied Arts / Architecture, Visual Communication, Animation, Film & Video Making or any courses related to Interior Design curriculum after 10th SSLC system, from any university or institute recognized by law in India

STANDARD OF PASSING AND AWARD OF DIVISION:

a) Students shall have a minimum of 50% of total marks of the University examinations in each subject. The overall passing minimum is 50% both in aggregate of Continuous Internal Assessment and External Assessment in each subject.
b) The overall passing minimum is 50% both in the external and aggregate of Internal and external in each subject. There are no minimum prescribed marks for pass in the internal assessment.
c) A candidate who secures 50% or more marks but less than 60% of the aggregate marks shall be awarded **SECOND CLASS.**
d) A candidate who secures 60% or more of the aggregate marks shall be awarded **FIRST CLASS.**

CONTINUOUS INTERNAL ASSESSMENT:

The respective course faculty will continuously assess the performance of students in each course. The continuous Internal Assessment marks shall be awarded by the concerned course faculty based on the performance of the students in case studies, presentations, quizzes, practical, tests and other assignments.

ATTENDANCE:

Students who secure at least 80% of attendance in the year will only be eligible to appear for the examination of that year. Those who fail to secure the required attendance shall repeat the same year/ course during the subsequent academic year**.**

UNIVERSITY EXAMINATIONS:

The University theory examinations will be held at the end of each Semester that has a theory paper for a duration of three hours for each subject.

EVALUATION OF ANSWER PAPERS:

Answer papers of the University Examinations shall be subjected to evaluation by a Board of Examiners constituted by Alagappa University.

COURSE COMPLETION

Students shall complete the programme within a period not exceeding 5 years from the year of completion for the period of study.

PROGRAMME CONTENT AND SCHEME OF EXAMINATIONS

The course of study shall comprise the following subjects according to the syllabus prescribed from time to time.

P.G. Diploma in Interior Design

Semester	Course Code	Sub. Code	Title of the Paper	Theory| Practical	Credits	Hours/W	Marks		Total
							Int.	Ext.	
I	CC	100211	Elements of Interior Design	T	4	5	25	75	100
	CC	100212	Building materials	T	4	5	25	75	100
	CC	100213	Architectural Drawings	P	5	10	25	75	100
	CC	100214	Residential Interior space Design	P	5	10	25	75	100
		Total			**18**	**30**	**100**	**300**	**400**
II	CC	100221	Building Services	T	4	5	25	75	100
	CC	100222	Professional Practice & Estimation	T	4	5	25	75	100
	CC	100223	Office Design	P	5	10	25	75	100
	CC	100224	Computer Aided Design	P	5	10	25	75	100
		Total			**18**	**30**	**100**	**300**	**400**
Grand Total					**36**	**60**	**200**	**600**	**800**

Note:

For Theory: 1 Credit = 1 Hour

For Practical: 1 Credit = 2 Hours

GLOSSARY

MIL	Modern Indian Language
E	English
CC	Core course (*Core competency, critical thinking, analytical reasoning, research skill &team work*)
GEC(Allied)	Exposure beyond the discipline
AECC	Ability Enhancement Compulsory Course ((*Professional English & Environmental Studies*) - *Additional academic knowledge, psychology and problem solving etc*.,)
OE	Open Elective
SEC	Skill Enhancement Course (*Exposure beyond the discipline -Value Education, Entrepreneurship Course, Computer Application for Science, etc.,*)
NME	Non-Major Elective (*Exposure beyond the discipline*)
DSE	Discipline Specific Elective
MOOC	Massive Open Online Course
IT	Information Technology

Programme Educational Objectives (PEOs)

Programme Educational Objectives	**On successful completion of the P.G. Diploma in Interior design program, the graduate student is expected to achieve the following after graduation**
PEO1	Graduates will demonstrate a deep understanding of interior design concepts and principles, enabling them to create aesthetically pleasing and functional spaces.
PEO2	Graduates will have the ability to critically analyze and select appropriate building materials and finishes for interior design projects, considering sustainability and environmental impact
PEO3	Graduates will be proficient in interpreting and creating architectural drawings, allowing them to effectively communicate design ideas to clients and stakeholders.
PEO4	Graduates will excel in residential interior space design, integrating user needs, cultural aspects, and safety considerations into their designs.
PEO5	Graduates will possess the knowledge and skills required to incorporate building services and technology into interior design solutions, ensuring comfortable and efficient spaces.

Programme Specific Outcomes (PSOs)

Programme Specific Outcomes	After the successful completion of the Interior Design Program
PSO1	Graduates will be able to analyze and evaluate building materials and finishes to make informed decisions that enhance interior design projects.
PSO2	Graduates will demonstrate proficiency in creating architectural drawings and using computer-aided design tools to produce accurate and comprehensive design documentation.
PSO3	Graduates will apply principles of residential interior space design to develop innovative and practical solutions that meet user needs and expectations.
PSO4	Graduates will integrate building services seamlessly into interior design projects, optimizing the functionality and sustainability of spaces.
PSO5	Graduates will exhibit a strong understanding of professional practices and estimation methods, enabling them to manage interior design projects effectively.

Programme outcomes (POs)

Programme Outcomes	On the successful completion of P.G. Diploma in Interior design
PO1	Demonstrate a comprehensive knowledge of the fundamental elements and principles of interior design.
PO2	Analyze and select appropriate building materials, finishes, and furnishings for interior design projects, considering aesthetic, functional, and environmental aspects.
PO3	Interpret and create architectural drawings and design documentation using industry-standard software and techniques.
PO4	Apply design principles to residential interior space design, considering user needs, cultural influences, and safety requirements.
PO5	Integrate building services, including HVAC, lighting, and plumbing, into interior design solutions to enhance comfort and functionality.
PO6	Implement professional practices and estimation methods to effectively plan, execute, and manage interior design projects.
PO7	Design office spaces that optimize productivity, functionality, and employee well-being.
PO8	Utilize computer-aided design tools for efficient and accurate interior design communication
PO9	Apply principles of sustainable design and environmental responsibility in interior design projects.
PO10	Evaluate and adapt to modern trends and technologies in the field of interior design, including computer-aided design and building services integration.

SEMESTER 1

CC	100211	Elements of Interior Design	T	Credits -4	Hours - 5
Objectives	1. Master interior design fundamentals, principles, and concepts to create captivating spaces. 2. Excel in lighting design to illuminate diverse interior atmospheres. 3. Perfect finishes and decor elements to enhance visual appeal. 4. Innovate furniture design to optimize comfort and functionality. 5. Enhance interior aesthetics through careful composition of elements				
Unit I	Introduction to Interior Design - Definition of interior design. Elements and Principles. Themes and Concepts. Color. Anthropometrics details				
Unit II	Elements of Interior Design - Elements – Ceiling, walls, Flooring, Fenestrations. Openings – Doors and Windows. Access – Corridor, Staircase enclosing, Fenestration. Functions of Access element. Character – Aesthetic and psychological. Their Composition in terms scale proportion, texture, color etc. Methods of treatment in terms of material construction to express functional aesthetics and psychological effects.				
Unit III	Lighting - Study of interior lighting. Artificial and natural lighting. Requirement of light for specific purpose. Different types of lighting and their effects. Locating lighting points in interiors and planning electrical layouts.				
Unit IV	Finishes and Decorative Accessories- Carpets, Rugs, Wall papers, Valances, Painting. Murals, Sculpture. Indoor Plants. Wall hanging, Venetian blinds.				
Unit V	Furnitures- Study of relationship of furnitures to space human movements. Furniture design as related to human comfort, functions. Materials, Methods of construction. Innovations and design ideas. Study on furnitures for specific function of interior, like office furniture, residential furniture, display systems etc. cabinet, ward robes, curio shelves, room dividers				

Reference and Text books

- *Interior Design- John F Pile- Harry Abrams Inc.*
- *Principles of Design in Architecture- Smithies- Chapman and Hall*
- *Human Dimension and Interior Space: A source book of Design Reference standards- Julius Panero and Martin Zelnick- Watson- Guptill*

Web Resources https://www.extension.iastate.edu/4hfiles/statefair/eehandbook/eehjpdesign4h634.pdf
https://guides.lib.berkeley.edu/c.php?g=920740&p=6634741
https://www.wichita.edu/services/mrc/oir/creative/1design/design-elements.php
https://www.uncp.edu/sites/default/files/2017-12/guidelines27.pdf
https://www.slideshare.net/SurashmieKalmegh/finishes-to-wooden-furniture-and-otherspdf
https://hosting.iar.unicamp.br/lab/luz/ld/Arquitetural/manuais/Lighting%20Design%20Basics.pdf

Course Outcomes		Knowledge Level
CO1	Identify, understand, compose, and apply the elements of interior design	**K1**
CO2	Illustrate the use of components, composition, and materials to create and construct interior spaces.	**K3**
CO3	Learn to design and implement effective interior lighting schemes.	**K2**
CO4	Explain use of components, composition, and materials to create and construct interior spaces.	**K4**
CO5	Develop how to create and choose useful and comfortable furniture for certain interior spaces.	**K6**

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3(S)	1(L)	-	2(M)	-	1(L)	2(M)	-	1(L)	-
CO2	-	3(S)	1(L)	1(L)	1(L)	-	2(M)	1(L)	-	-
CO3	2(M)	1(L)	2(M)	2(M)	-	2(M)	2(M)	1(L)	-	-
CO4	2(M)	3(S)	-	-	-	-	1(L)	-	1(L)	-
CO5	1(L)	1(L)	1(L)	-	-	1(L)	3(S)	2(M)	-	1(L)
W. AV	**1.6**	**1.8**	**0.8**	**1**	**0.2**	**0.8**	**2**	**0.8**	**0.4**	**0.2**

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	-	-	2(M)	1(L)	1(L)
CO2	2(M)	3(S)	1(L)	1(L)	2(M)
CO3	1(L)	-	2(M)	-	3(S)
CO4	3(S)	-	-	2(M)	1(L)
CO5	-	2(M)	2(M)	-	1(L)
W. AV	**1.2**	**1**	**1.4**	**0.8**	**1.6**

CC	100212	Building materials	T	Credits -4	Hours - 5
Objectives	1. Master various construction materials for interior design applications. 2. Develop construction expertise in brick, stone, timber, glass, and steel. 3. Learn material selection based on properties and aesthetics. 4. Apply materials in interior projects effectively and creatively. 5. Embrace safety and sustainability in material choices.				
Unit I	Brick: Qualities of good brick, Field test, Terminology, Precautions to be taken in brick laying & size. Stone: Classification, Qualities of good stone Laying Dressing Different textures and applications. Sand: Types and application Cement: Types, Field test for cement Application of cement				
Unit II	Timber: Types, Cross sections of exogenous tree Defects in timber, Seasoning, Application in interior, Timber joinery Application of artificial timber e.g. veneers, plywood, block boards etc. Wood Based Products: Comparative properties and uses of the commercial plywood, block board, particle board, teak plyboard etc. Roof Trusses & Floor construction.				
Unit III	Glass: Properties, sizes, design, prices and availability of sheet, plate, wired, laminated, safety, insulating, coloured, tinted, heat resistant and glass blocks. Types Applications of glass in various interiors. Clay products: - wall & floor tiles, roof tiles, Terracotta Products				
Unit IV	Paints, Varnishes: Types and applications in various interiors. Hard ware: Types and application				
Unit V	Steel & other metal alloys. Steel used for furniture making, sizes and availability of steel for various functions and various shapes. Properties & use of steel, aluminum for construction. Construction of floors, roof & walls using steel.				

Reference and Text books

- Building construction- Dr. B.C.Punmia- Laxmi publications Pvt.Ltd
- Engineering materials used in India- Chowdary K P- Oxford and IBH
- Building Construction: Materials and types of Construction- Rangwala- John Wiley and Sons

Web Resources

https://uomustansiriyah.edu.iq/media/lectures/5/5_2022_02_11!07_31_54_PM.pdf
https://www.scribd.com/document/448439488/timber-notes-pdf
https://www.slideshare.net/HNGfloatglass/glass-in-interior-design
https://bharatskills.gov.in/pdf/E_Books/IDD_Volume_II_of_II_Theory.pdf
https://www.slideshare.net/deepthithangaraj/building-materials-and-construction-steel-interiors

Course Outcomes		Knowledge Level
CO1	Recognize the materials and processes used in bricklaying and masonry, gain information, skills, and abilities required to design, build, and assess brick and stone buildings.	**K1**
CO2	Convey knowledge on timber, wood-based goods, joinery processes, and structural systems used in interior design and construction.	**K4**
CO3	Justify and select glass and clay products, incorporating them effectively in diverse interior design applications.	**K5**
CO4	Showcases competence in the selection and application of paints, varnishes, and hardware to improve and functionalize interior spaces.	**K3**
CO5	Presenting skills in choosing and employing steel and metal alloys for furniture, building, and structural components in interiors.	**K5**

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	-	2(M)	-	-	-	-	-	-	-	-
CO2	-	3(S)	-	-	-	-	-	-	1(L)	-
CO3	-	2(M)	-	3(S)	-	1(L)	1(L)	-	2(M)	-
CO4	2(M)	2(M)	-	1(L)	-	1(L)	1(L)	-	1(L)	-
CO5	2(M)	2(M)	-	2(M)	-	-	2(M)	1(L)	-	-
W. AV	**0.8**	**2.2**	**0**	**1.2**	**0**	**0.4**	**0.8**	**0.2**	**0.8**	**0**

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3(S)	-	-	2(M)	-
CO2	-	-	-	1(L)	1(L)
CO3	1(L)	-	1(L)	-	-
CO4	2(M)	-	2(M)	-	1(L)
CO5	2(M)	-	1(L)	2(M)	-
W. AV	**1.6**	**0**	**0.8**	**1**	**0.4**

CC	100213	Architectural Drawings	P	Credits -5	Hours - 10
Objectives	1. Master draftsmanship techniques and tools. 2. Communicate design ideas with precision. 3. Effectively use symbols for architectural elements. 4. Enhance presentation skills with rendering techniques. 5. Accurately represent building components in drawings.				
Unit I	Draftsmanship- Introduction to Draftsmanship. Draftsmanship 1. Introduction to Draftsmanship 2. Need for training, duties determining needs and wishes of the client 3. Relationship between two-dimensional and three dimensional diagrams Drafting Tools and techniques.				
Unit II	Lines – Types of lines and lines thickness - Lettering – Single stroke letter, Gothic letters. Dimensioning – Types of dimensioning, different types of dimensioning lines				
Unit III	Architectural Symbols, Structural symbols, window and door symbols , Plumbing symbols and electrical symbols.				
Unit IV	Rendering Techniques – Understanding the significance of rendering techniques required for a plan, section and elevation in the context of presentation – sketching techniques may be used to prepare the presentation drawing of a residential building. Understanding the techniques required for perspective view. Principles and technical method of casting sciography in planned elevation of simple objects like, rectangle, square, circle, sunshade, fin, portico.				
Unit V	Architectural Drawings- Architectural representation of various building components like doors, windows, partitions, furniture and other necessary design components in the context of a plan, section and elevation. Measured Drawing.				

Reference and Text books

- *Drawing- A creative process, Francis D K, Ching, John Wiley Sons, New York.*
- *Geometrical drawing for art students, 2nd revised edition- I.H.Morris, Orient Longman. Calcutta, 1995.*
- *Architectural drafting and design, 4th edition- Earnest R. Weidhaas, Allyn and Bacon, Boston.*

Web Resources

https://fac.ksu.edu.sa/sites/default/files/ch_3_free_hand_sketching.pdf
https://www.iitg.ac.in/kpmech/me111-2016/orthographic%20projections-1%20(2016).pdf
https://www.ktunotes.in/wp-content/uploads/2018/02/session-5-isometric-projection.pdf
https://www.scribd.com/document/471242922/shade-and-shadows

Course Outcomes		Knowledge Level
CO1	Understand the principles of drafting, such as customer needs analysis and the translation of 2D and 3D designs utilizing drafting tools and methods.	**K2**
CO2	Investigate line kinds, lettering styles, and dimensioning procedures, which are necessary for clear and exact architectural drawing.	**K4**
CO3	Utilize architectural, structural, window, door, plumbing, and electrical symbols for accurate design representation.	**K6**
CO4	Incorporate rendering techniques like as drawing, perspective views, and sciography to create excellent architectural presentations.	**K5**
CO5	Ability to create architectural drawings displaying building components, furnishings, and measured drawings with precision.	**K6**

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	-	-	3(S)	-	-	1(L)	1(L)	3(S)	-	2(M)
CO2	1(L)	-	2(M)	-	-	1(L)	1(L)	1(L)	-	-
CO3	2(M)	-	1(L)	-	-	2(M)	-	1(L)	-	1(L)
CO4	-	-	3(S)	-	-	`-	-	3(S)	-	3(S)
CO5	-	2(M)	3(S)	-	-	1(L)	-	3(S)	-	2(M)
W. AV	**0.6**	**0.4**	**2.4**	**0**	**0**	**1**	**0.4**	**2.2**	**0**	**1.6**

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	-	3(S)	1(L)	-	2(M)
CO2	-	2(M)	2(M)	-	1(L)
CO3	1(L)	1(L)	-	-	2(M)
CO4	-	3(S)	1(L)	-	1(L)
CO5	-	3(S)	-	-	1(L)
W. AV	**0.2**	**2.4**	**0.8**	**0**	**1.4**

CC	**100214**	**Residential Interior space Design**	**P**	**Credits - 5**	**Hours - 10**

Objectives	1. Plan residential spaces efficiently considering physical, social, and psychological needs. 2. Bridge the gap between academic knowledge and industry needs in interior design. 3. Create comprehensive project plans, including layouts, sections, and perspectives. 4. Develop detailed working drawings for residential buildings. 5. Proficiently prepare service drawings for drainage, electrical, water supply, and stormwater management in residential projects.
Unit I	Residential space planning with respect to physical, social & psychological needs. Developing the plan as per the design brief. Developing schematic space planning solutions for residential buildings
Unit II	To get acquainted with the basic interior design concepts related to the Interior Business. Learn and understand the gap between the technological knowledge acquired through curriculum and the actual industrial need and to compensate it by acquiring additional knowledge as required. Preparing concept drawings & Mood boards, make freehand sketches use elements and principles of design effectively. Preparing Bubble Diagrams
Unit III	Preparation of Furniture layout Plan, section and elevations of a residential project. Flooring layout, electrical plan, false ceiling plan, service plan, Perspective views. Preparation of material board, estimation and Model
Unit IV	A working drawing of a residential building has to be prepared showing all necessary details. A center line drawing has to be prepared for a typical residential building in the context of marking. An approval drawing of a residential building to be prepared with all necessary details.
Unit V	Service drawing- A drainage service drawing to be prepared for a typical residential building. An electrical service drawing to be prepared for a typical residential building. A water supply service drawing to be prepared for a typical residential building. Storm water drainage along with rainwater harvesting details are to be shown for a residential building.

Reference and Text books

- *Introduction to Home Furnishings- Stepat, D.D- The Mac Millan Co, New York,(1971),*
- *Contemporary Decorating- Wilhide, E and Copestick, I- Conron octopus Ltd, London (2000)*
- *Textbook of Home Science- Mullick.P- Kalyani publishers, New, Delhi(2000)*
- *Gardening with Containers- Carter,G.- Ryland peters and small, London,(1997)*
- *BONSAI – The Art of Growing Miniature Trees- Dey, S.C- Agrobios (India) publishers, Jodhpur. (2001)*
- *House Plant Style- Conder, S- Michael o' mara Books limited, London, (1993)*
- *Dried Flower Arranging- Lawrence, M- Anaya publishers, London, (1994)*

Web Resources

https://www.scribd.com/document/555070829/Residential-Interior-Design-A-Guide-to-Planning-Spaces
https://www.perlego.com/book/2065884/the-interior-design-reference-specification-book-updated-revised-everything-interior-designers-need-to-know-every-day-pdf
https://pdfcoffee.com/time-saver-standards-interior-design-4-pdf-free.html
https://eastridgedesin.com/pdf/interior-design-master-class.pdf

Course Outcomes		Knowledge Level
CO1	Produce residential space layouts with skill, considering physical, social, and psychological concerns while sticking to design briefs.	**K6**
CO2	Interpreting interior design concepts, bridging the gap between schooling and industry expectations, and excelling at concept generating, sketching, and diagramming are all skills required.	**K4**
CO3	Produce detailed interior design plans, views, material boards, estimates, and models for residential projects.	**K6**
CO4	Skill to develop detailed working, center line, and approval drawings for residential projects.	**K6**
CO5	Produce service drawings for residential structures that include drainage, electricity, water supply, and storm water management.	**K6**

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	-	1(L)	2(M)	1(L)	-	-	-	2(M)	-	2(M)
CO2	1(L)	-	2(M)	-	-	1(L)	1(L)	2(M)	-	1(L)
CO3	1(L)	-	3(S)	1(L)	-	1(L)	-	2(M)	-	1(L)
CO4	-	-	3(S)	2(M)	-	2(M)	-	3(S)	-	1(L)
CO5	-	-	2(M)	1(L)	1(L)	1(L)	-	2(M)	-	1(L)
W. AV	**0.4**	**0.2**	**2.4**	**1**	**0.2**	**1**	**0.2**	**2.2**	**0**	**1.2**

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	-	2(M)	1(L)	-	1(L)
CO2	-	3(S)	-	-	2(M)
CO3	1(L)	3(S)	-	-	1(L)
CO4	-	3(S)	1(L)	-	2(M)
CO5	-	3(S)	1(L)	-	1(L)
W. AV	**0.2**	**2.8**	**0.6**	**0**	**1.4**

CC	100221	Building services	T	Credits - 4	Hours - 5
Objectives	1. Master electrical installations, symbols, and layout planning for various building types. 2. Understand mechanical services like elevators, escalators, and air conditioning systems. 3. Optimize lighting, ventilation, and acoustics for building comfort and functionality. 4. Ensure fire protection with precautions, fire-resistant materials, and firefighting systems. 1. Explore renewable energy sources and their advantages, such as biomass, and learn about acoustics and sound insulation principles for better building environments. storm water management in residential projects.				
Unit I	Electrical Services- Electrical Services: Conventional symbols for electrical Installations– Various systems of wiring –Electrical meters – Use of generators, invertors, emergency lamps. Electrical Layout: Planning of Electrical Installations and distribution- Preparation of Electrical layout for a small residence, small work shop, show room, school building etc – Estimation of load.				
Unit II	Mechanical Services - Mechanical Services: Lifts – Definition – Location – Sizes — Different types of Elevators Escalators –Locations and Functions – Advantages of Escalators. Air Conditioning: Definition – Purpose – Principles – Temperature control – Types of Air Conditioners – Central type – Window Type – Split unit.				
Unit III	Lighting and Ventilation - Lighting: Natural and Artificial Lighting – Requirements of good lighting – Day light factors – Day light Penetration – Aims of good lighting – General Principles of openings to afford good lighting – Reflection factors –Illumination – Units of measurement– Orientation of buildings – External reflected component – Internal reflected component – Necessity of artificial lighting - Arrangement of luminaries – Distribution of Illumination – Utilization factor – Temperature rise due to artificial lighting – Remedial measures. Ventilation: Definition – Necessity – Types – Natural / Mechanical Ventilation– Factors to be considered in the design of Ventilation – respiration, vitiation of air, air changes, heat balance of body -General rules for Natural ventilation – Advantages and Disadvantages of Mechanical Ventilation – Methods of Mechanical Ventilation – Combined Systems.				
Unit IV	Fire Protection - Fire Protection: Causes and Effects of fire – Precautionary Measures – Factors to be considered for limiting fire spread area – Characteristics of fire resisting materials – General requirements for fire resisting buildings – Fire protection systems – Fire exits – General requirements – maximum travel distance – Horizontal exit, roof exit, fire lifts, external stairs Intelligent Architecture and Fire Fighting: Smart materials – Fire detection and alarm systems – Fire fighting Installations – requirements as per NBC –- Fire fighting in multistoried buildings				
Unit V	Renewable Energy Sources - Renewable Energy Sources: Introduction – Merits of renewable energies – Sources – Bio mass energy – Advantage over fossil fuels – Wood heating. Acoustics And Sound Insulations: Acoustics of Buildings – Characteristics of Sound – Behavior of sound and its effects Requirements of good Acoustics – Principles and factors to be considered in acoustical designs – Sound absorbent				

Reference and Text books

- Building Services Handbook, Fourth Edition: Incorporating Current Building and Construction Regulations (Building Services Handbook)- Fred Hall; Roger Greeno
- Building Services Design Methodology- David Bownass- Taylor & Francis; 1 edition (2001)
- Building Services Handbook- Fred Hall, Roger Greeno- Butterworth-Heinemann (2001)
- Building Services Engineering- DavChadderton- Routledge; (2007)
- Advanced Constructions Technology- Eric Fleming- Blackwell Pub (2009)
- Fire and Human Behaviours- David Guntee- John Willy and Sons

Web Resource

https://www.slideshare.net/PrashantMalagi/electrical-services-design-ppt-pdf
https://www.aiktc.ac.in/wp-content/uploads/2019/05/VERTICAL-TRANSPORT.pdf
https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SDE2302.pdf
https://www.iitmandi.ac.in/research/amrc/fire_safety.pdf
https://www.slideshare.net/mickeyjai/architectural-acoustic-notes

Course Outcomes		Knowledge Level
CO1	Analyze symbols, create electrical layouts, and estimate loads for various home and commercial situations.	**K4**
CO2	comprehension of mechanical services such as lifts, escalators, and air conditioning systems.	**K2**
CO3	Gain an in-depth overview of lighting and ventilation concepts, design issues, and architectural applications.	**K2**
CO4	Understand the fundamentals of fire protection, including fire prevention, building materials, safety systems, and firefighting procedures.	**K2**
CO5	Remember renewable energy sources, acoustic concepts, and sound insulation in order to construct a sustainable and acoustic environment.	**K1**

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	1(L)	-	3(S)	2(M)	1(L)	1(L)	2(M)	2(M)	-	1(L)
CO2	-	1(L)	-	2(M)	1(L)	-	2(M)	-	-	1(L)
CO3	2(M)	1(L)	-	1(L)	1(L)	-	2(M)	1(L)	-	-
CO4	-	-	-	1(L)	1(L)	1(L)	1(L)	-	1(L)	-
CO5	1(L)	1(L)	-	2(M)	1(L)	2(M)	3(S)	-	2(M)	-
W. AV	**0.8**	**0.6**	**0.6**	**1.6**	**1**	**0.8**	**2**	**0.6**	**0.6**	**0.4**

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	-	2(M)	-	1(L)	1(L)
CO2	-	-	1(L)	2(M)	1(L)
CO3	-	-	-	2(M)	1(L)
CO4	-	-	1(L)	-	1(L)
CO5	1(L)	-	2	1(L)	-
W. AV	**0.2**	**0.4**	**0.8**	**1.2**	**0.8**

CC	100222	Professional practice & Estimation	T	Credits -4	Hours - 5
Objectives	1. Master professional practice for successful interior design projects, including tendering and contract management. 2. Understand various contract types and their advantages, disadvantages, and legal considerations. 3. Develop estimation and specification skills for accurate project planning. 4. Learn to prepare Bills of Quantities (BoQ) and their dependencies. 5. Gain expertise in project detailing and execution, with a focus on restaurant design concepts, layouts, services, lighting, and aesthetics.				
Unit I	Professional Practice. Learn the process of putting together professional practice to be followed for successful completion of an interior design project. Tender and Contract -Invitation of tender – Condition of tender – Types of tender – Tender documents – Scrutiny and acceptance of tender – Work order. Various forms of contracts – Agreements – Conditions of contract – Legal aspects Completion period – Maintenance period – Advantages and disadvantages of various types of contracts				
Unit II	Estimation & Specifications for Interior projects. Estimating problem-solving in general conditions. Hands-on estimating with quantity take-off, pricing				
Unit III	Preparing Bill of Quantities. Learn to prepare the bill of quantities (sometimes referred to as 'BoQ') is a document prepared by the cost consultant (often a quantity surveyor) that provides project specific measured quantities of the items of work identified by the drawings and specifications in the tender documentation. The quantities measuring techniques e.g. number, length, area, volume, weight or time. Requirements of preparing a bill of quantities and respective dependencies.				
Unit IV	Specification Writing - Specifications as part of contract document, definition, need and importance, its relationship with working drawings, bill of quantities and schedule of rates. Types of specifications, open, closed, restricted, prescriptive, performance based, or combination of above types. Use of manufacturers guide etc Specification writing method to include master list, sectional formats, page formats, general material items, tests, performance, mode of measurements etc. Methodology of writing detailed specifications including methods and forms of writing descriptive notes on materials and workmanship based on working drawings. Project Detailing & Execution: Learn the basics of detailing an interior design project and identifying dependencies for execution.				
Unit V	Restaurant Design Project: A project specifically designed to learn the practice of designing a restaurant including the following concepts. ● Restaurant planning layouts ● Planning services ● Lighting &Aesthetics				
Reference and Text books • Specification Writing for Architects and Engineers- Donald A.Watson- McGraw-Hill Inc.,US (1964) • Professional Practice (Estimation & Valuation)- Roshan Namavati- Lakha-ni Book Depot					

• Architectural Detailing in Residential Interiors- Roshan Namavati- Lakhani Book Depot • A Guide to Business Principle and Practices for Interior Designers- Harry Siegel, CPA, Alan Sigel- Whitney library of Design • Professional Practice in Interior Design- Christine M Pitrowski- Van Nostrand Reinhold
Web Resources https://www.sevenmentor.com/estimation-in-interior-design https://issuu.com/hannahoppelt/docs/hannahoppelt_booklet1 https://www.studocu.com/in/document/bharathiar-university/interior-design/estimation-costing-bsc-interior-design-2nd-year-lecture-notes-for-reference/23693710 http://nsmarjiwe.blogspot.com/2012/10/estimation-in-interior-designing.html

Course Outcomes		**Knowledge Level**
CO1	Understand professional practice, tendering, and contract procedures, assuring project completion with legal conformity.	**K2**
CO2	Competent in estimating and specifying interior projects, demonstrating problem-solving abilities in quantity take-off and price.	**K3**
CO3	Ability to create a full Bill of Quantities, providing precise project cost prediction.	**K6**
CO4	Professionallywrite specifications, create detailed project plans, and identify execution dependencies for interior design projects.	**K6**
CO5	Represent expertise in restaurant design, including layouts, service planning, lighting, and aesthetics.	**K3**

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	-	1(L)	2(M)	-	-	1(L)	-	-	-	-
CO2	-	-	1(L)	-	-	2(M)	-	-	-	1(L)
CO3	1(L)	1(L)	1(L)	1(L)	-	3(S)	-	3(S)	-	2(M)
CO4	-	-	2(M)	1(L)	1(L)	2(M)	2(M)	1(L)	-	1(L)
CO5	1(L)	2(M)	2(M)	2(M)	1(L)	2(M)	3(S)	1(L)	1(L)	2(M)
W. AV	**0.4**	**0.8**	**1.6**	**0.8**	**0.4**	**2**	**1**	**1**	**0.2**	**1.2**

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1(L)	-	-	-	2(M)
CO2	-	1(L)	1(L)	-	1(L)
CO3	-	1(L)	-	-	3(S)
CO4	1(L)	1(L)	1(L)	-	2(M)
CO5	1(L)	3(S)	1(L)	1(L)	2(M)
W. AV	**0.6**	**1.2**	**0.6**	**0.2**	**2**

CC	100223	Office Design	P	Credits - 5	Hours - 10
Objectives	1. Master office workstation types and space planning principles. 2. Learn about office furniture, including partitions, tables, chairs, and storage. 3. Understand the role of lighting, air conditioning, and equipment in office design. 4. Apply design concepts to create practical office space solutions. 5. Demonstrate design proficiency through a project with comprehensive documentation and research				
Unit I	Office / work station types & space planning. Learning various workstations and their use cases. Understanding the relationship between shapes and how they affect design. A study and application of the design process from programming through presentations to working drawings based upon client needs and applicable commercial spaces				
Unit II	Office furniture – partitions, workspace table, chair, filing cabinets & storage units. Study various types of partitions, workspace tables, chairs, filing cabinates and storage units.				
Unit III	Lighting, Air conditioning & Equipment. Identify use of lighting, air conditioning and respective equipment				
Unit IV	Individual project (Practical) Design an office space – Areas & design brief will be provided.				
Unit V	Project Documentation, Presentation & Research report.				
Reference and Text books • Building construction Illustrated; Francis D.K. Ching • Construction drawings and details for interiors; Basic skills, Rosemary Kilm					
Web Resources https://www.keyinteriors.us/download-modern-office-design-pdf/ https://bharatskills.gov.in/pdf/E_Books/IDD_Volume_II_of_II_Theory.pdf https://www.academia.edu/36218043/Interior_Design_Handbook_of_Professional_Practice https://www.uou.ac.in/sites/default/files/slm/BHM-602CT.pdf https://www.osi.biz/wp-content/uploads/2017/01/OSI_A-Guide-to-Office-Space-Planning-Design.pdf					

Course Outcomes		Knowledge Level
CO1	Design office workstations, apply design processes, and address client needs in commercial spaces.	**K6**
CO2	Illustrate knowledge of office furniture selection and design, including partitions, tables, seats, cabinets, and storage.	**K3**
CO3	Determine the role of lighting, air conditioning, and associated equipment in interior design projects.	**K2**
CO4	Create an office environment based on the specified regions and brief to demonstrate practical design abilities.	**K6**
CO5	Prepare project documentation, explain design thoughts, and write thorough research reports.	**K6**

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2(M)	1(L)	1(L)	1(L)	1(L)	-	2(M)	2(M)	-	2(M)
CO2	1(L)	1(L)	1(L)	-	-	2(M)	3(S)	1(L)	-	1(L)
CO3	1(L)	2(M)	1(L)	1(L)	2(M)	-	3(S)	1(L)	1(L)	1(L)
CO4	2(M)	3(S)	1(L)	-	2(M)	1(L)	3(S)	1(L)	-	1(L)
CO5	-	2(M)	2(M)	-	-	1(L)	-	1(L)	-	2(M)
W. AV	**1.2**	**1.8**	**1.2**	**0.4**	**1**	**0.8**	**2.2**	**1.2**	**0.2**	**1.4**

Mapping Course Outcome VS Programme Specific Outcomes

OUTCOME	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1(L)	2(M)	1(L)	-	2(M)
CO2	1(L)	1(L)	-	1(L)	1(L)
CO3	1(L)	1(L)	1(L)	-	2(M)
CO4	-	1(L)	1(L)	2(M)	2(M)
CO5	1(L)	2(M)	-	-	3(S)
W. AV	**0.8**	**1.4**	**0.6**	**0.6**	**2**

CC	100224	Computer Aided Design	P	Credits -5	Hours - 10
Objectives	1. Master AutoCAD basics and its user interface. 2. Organize drawings and use drawing tools effectively. 3. Add annotations, text, and dimensions with precision, handle plotting, layouts, and viewports proficiently 4. Master 3ds Max for 3D modeling with navigation tools and basic shapes. 5. Explore lighting and camera settings for creating realistic 3D scenes and Understand material types, rendering techniques, and post-processing				
Unit I	Workspace, User Interface & Basic Tools: Study the User Interface of AutoCAD. Working with Commands. Cartesian Workspace – Precision input. Opening an Existing Drawing File. Viewing/Saving Drawing.				
Unit II	Using Drawing, editing & viewing tools. Organizing and getting information from drawing objects. Organising and creating drawing				
Unit III	Drawing objects, layers, blocks & line weights. Organizing Your Drawing with Layers, What are Layers? Layer States, Transparency, Changing an Object's Layer. Drawing Lines, rectangles, circles, polygons, ellipses. Using Running Object Snaps. Using Object Snap Overrides. Polar Tracking and Polar Snap. Object Snap Tracking. Grid Mode. Erasing Objects. Undo and Redo Actions.				
Unit IV	Creative Tools - Introduction to 3ds Max – User Interface – Main tool bar, Menu bar, Command panel, View port, tab panel, roll out, View port navigation tools. Time Controls & Time Slider – View port control–Snaps and Grids – Basic primitives – Box, sphere, cylinder, tube, pyramid & plane. Customize – Unit setup – Shapes and extrude–Line, Text, Arc, Circle, Rectangle & Star – Selection and Customization – Compound objects				
Unit V	Modifying Tools, Parametric modifiers – Deformers – AEC extended objects – Doors, Windows, Stairs & Handrails. Lighting And Cameras - Lights and Parameters – General parameters Cameras and parameters – Variables – Map, Background and Environmental settings. Material Applications and Rendering Techniques - Materials – Basic and Standards Advanced Lighting–Rendering image. Animation–Walkthrough–Creating a movie file– Export and Import options.				

Reference and Text books

- Auto Cad 2021 fundamentals, Elise Moss
- AutoCAD 2022 for beginners, CAD folks
- Mastering AutoCAD 2021 and AutoCAD LT 2021, Brain C. Bento
- Introducing 3ds Max 9: 3D for Beginners, Dariush Derakhshani, Randi Lorene Munn, Jon McFarland- Sybex (2007)
- 3ds Max 9 Bible- Kelly L. Murdock- Wiley; (2007)
- 3D Studio MAX: Tutorials from the Masters- Michele Bousquet- Delmar Cengage Learning; (1996)
- 3ds Max 9 Essentials: Autodesk Media and Entertainment Courseware- Autodesk- Focal Press (2006)

Web Resources

https://lnct.ac.in/wp-content/uploads/2020/03/AutoCAD.pdf
https://www.thesourcecad.com/autocad-commands-pdf/
https://jamiesjewels.typepad.com/3dsmaxshortcut_3dWorld.pdf
https://pt.scribd.com/document/367156737/80884139-3Ds-Max-Keyboard-shortcuts-pdf

Course Outcomes		Knowledge Level
CO1	Competent to navigate AutoCAD's user interface, utilize commands efficiently, and alter drawings with precision and expertise.	**K2**
CO2	Apply drawing, editing, and viewing tools proficiently to organize, generate, and retrieve information from drawings.	**K3**
CO3	Creating and modify exact drawings, utilize AutoCAD's drawing tools, layers, and object manipulation functions expertly.	**K6**
CO4	Develop the use of 3ds Max's creative tools, interface, navigation, and object manipulation.	**K6**
CO5	Understand 3ds Max's modifying tools, parametric modifiers, selection modifiers, and numerous deformers.	**K2**

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	-	-	3(S)	-	-	2(M)	1(L)	3(S)	-	1(L)
CO2	-	1(L)	3(S)	1(L)	-	-	-	2(M)	-	1(L)
CO3	1(L)	-	3(S)	1(L)	1(L)	1(L)	-	2(M)	-	1(L)
CO4	-	-	3(S)	-	-	2(M)	-	2(M)	-	2(M)
CO5	-	-	3(S)	-	-	2(M)	-	3(S)	-	2(M)
W. AV	**0.2**	**0.2**	**3**	**0.4**	**0.2**	**1.4**	**0.2**	**2.4**	**0**	**1.4**

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1(L)	3(S)	-	-	2(M)
CO2	-	3(S)	-	-	1(L)
CO3	1(L)	3(S)	1(L)	-	2(M)
CO4	1(L)	3(S)	-	-	2(M)
CO5	1(L)	3(S)	1(L)	1(L)	2(M)
W. AV	**0.8**	**3**	**0.4**	**0.2**	**1.8**

PG Diploma Programmes

19.1 Passing minimum

- A candidate shall be declared to have passed each course if he/she secures not less than 40% marks in the End Semester Examinations and 40% marks in the Internal Assessment and not less than 50% in the aggregate, taking Continuous Assessment and End Semester Examinations marks together.
- The candidates not obtain 40% in the Internal Assessment are permitted to improve their Internal Assessment marks in the subsequent semesters (2 chances will be given) by writing the CIA tests and by submitting assignments.
- Candidates, who have secured the pass marks in the End-Semester Examination and in the CIA but failed to secure the aggregate minimum pass mark (E.S.E + C I.A), are permitted to improve their Internal Assessment mark in the following semester and/or in University examinations.
- A candidate shall be declared to have passed the Project/Dissertation/Internship if he/she gets not less than 40% in the End Semester Examinations and 40% marks in the Internal Assessment and not less than 50% in the aggregate in each of the Project/Dissertation/Internship Report and Viva-Voce.
- A candidate who gets less than 50% in the Project/Dissertation/Internship Report must resubmit the thesis. Such candidates need to take again the Viva-Voce on the resubmitted Project report.

19.2 Grading

The following table gives the marks, Grade points, Letter Grades, and classifications meant to indicate the overall academic performance of the candidate.

Conversion of Marks to Grade Points and Letter Grade (Performance in Paper/ Course)

RANGE OF MARKS	GRADE POINTS	LETTER GRADE	DESCRIPTION
90 - 100	**9.0 – 10.0**	**O**	**Outstanding**
80 - 89	**8.0 – 8.9**	**D+**	**Excellent**
75 - 79	**7.5 – 7.9**	**D**	**Distinction**
70 - 74	**7.0 – 7.4**	**A+**	**Very Good**
60 - 69	**6.0 – 6.9**	**A**	**Good**
50 - 59	**5.0 – 5.9**	**B**	**Average**
00 - 49	**0.0**	**U**	**Re-appear**
ABSENT	**0.0**	**AAA**	**ABSENT**

a) Successful candidates passing the examinations and earning a GPA between 9.0 and 10.0 and marks from 90 – 100 shall be declared to have Outstanding (O).

b) Successful candidates passing the examinations and earning a GPA between 8.0 and 8.9 and marks from 80 - 89 shall be declared to have Excellent (D+).

c) Successful candidates passing the examinations and earning a GPA between 7.5 – 7.9 and marks from 75 - 79 shall be declared to have Distinction (D).

d) Successful candidates passing the examinations and earning a GPA between 7.0 – 7.4 and marks from 70 - 74 shall be declared to have Very Good (A+).

e) Successful candidates passing the examinations and earning a GPA between 6.0 – 6.9 and marks from 60 - 69 shall be declared to have Good (A).

f) Successful candidates passing the examinations and earning a GPA between 5.0 – 5.9 and marks from 50 - 59 shall be declared to have an Average (B).

g) Candidates earning a GPA between 0.0 and marks from 00 - 49 shall be declared to have Re-appear (U).

h) Absence from an examination shall not be taken as an attempt.

From the second semester onwards the total performance in a semester and continuous performance starting from the first semester are indicated respectively as Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA). These two are calculated by the following formulate

GRADE POINT AVERAGE (GPA) = $\Sigma_i C_i G_i / \Sigma_i C_i$

$$\text{GPA} = \frac{\text{Sum of the multiplication of Grade Points by the credits of the courses}}{\text{Sum of the credits of the courses in a Semester}}$$

19.3 Classification of the final result

CGPA	Grade	Classification of Final Result
9.5 – 10.0 9.0 and above but below 9.5	**O+** **O**	First Class – Exemplary*
8.5 and above but below 9.0 8.0 and above but below 8.5 7.5 and above but below 8.0	**D++** **D+** **D**	First Class with Distinction*
7.0 and above but below 7.5 6.5 and above but below 7.0 6.0 and above but below 6.5	**A++** **A+** **A**	First Class
5.5 and above but below 6.0 5.0 and above but below 5.5	**B+** **B**	Second Class
0.0 and above but below 5.0	**U**	Re-appear

The final result of the candidate shall be based only on the CGPA earned by the candidate.

a) Successful candidates passing the examinations and earning a CGPA between 9.5 and 10.0 shall be given Letter Grade (O+), and those who earned a CGPA between 9.0 and 9.4 shall be given Letter Grade (O) and declared to have First Class –Exemplary*.

b) Successful candidates passing the examinations and earning a CGPA between 7.5 and 7.9 shall be given Letter Grade (D), those who earned a CGPA between 8.0 and 8.4 shall be given Letter Grade (D+), those who earned a CGPA between 8.5 and 8.9 shall be given Letter Grade (D++) and declared to have First Class with Distinction*.

c) Successful candidates passing the examinations and earning a CGPA between 6.0 and 6.4 shall be given Letter Grade (A), those who earned a CGPA between 6.5 and 6.9 shall be given Letter Grade (A+), those who earned a CGPA between 7.0 and 7.4 shall be given Letter Grade (A++) and declared to have First Class.

d) Successful candidates passing the examinations and earning a CGPA between 5.0 and 5.4 shall be given a Letter Grade (B), and those who earned a CGPA between 5.5 and 5.9 shall be given a Letter Grade (B+) and declared to have passed in Second Class.

i) Candidates who earned a CGPA between 0.0 and 4.9 shall be given Letter Grade (U) and declared to have Re-appear.

e) Absence from an examination shall not be taken as an attempt.

CUMULATIVE GRADE POINT AVERAGE (CGPA) = $\Sigma_n \Sigma_i C_{ni} G_{ni} / \Sigma_n \Sigma_i C_{ni}$

CGPA = Sum of the multiplication of Grade Points by the credits of the entire Programme

Sum of the credits of the courses for the entire Programme

Sum of Grade Points X credits of the entire Programme

Where '**Ci**' is the Credit earned for Course i in any semester; '**Gi**' is the Grade Point obtained by the student for Course i and 'n' refers to the semester in which such courses were credited.

CGPA (Cumulative Grade Point Average) = Average Grade Point of all the Courses passed starting from the first semester to the current semester.

Note: * The candidates who have passed in the first appearance and within the prescribed Semesters of the PG Programme are alone eligible for this classification.