

3D STUDIO MAX-II

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:- 3D Studio Max-II.

Subject code:-AR507.

Teaching & Examination scheme.

Total Period	Period /week	Examination duration in hours	Sessional	End Exam	Total
75	5		25	25	50

Rationale: The students will develop their skill to put materials and lights in the 3d models.

Objective: The students will get complete exposure for high end 3d modeling and rendering techniques.

Topic wise distribution of periods:-

Sl. No.	Topics	periods
1.	Materials and maps	25
2.	Lights	25
3.	Prepare an interior model	10
4.	Prepare an architectural model	15
	Total:-	<u>75</u>

1. Materials and maps

- a. Understanding the material types in 3ds Max
- b. Working with material editor
- c. The material editor interface
- d. The material/map browser
- e. The sample slots
- f. Getting new material in a sample slot
- g. Applying Materials to objects
- h. Working with standard material rollout
- i. Understanding maps and map types
- j. The bitmap map

2. Lights

- a. Understanding standard and Photometric lights
- b. Creating standard light objects
- c. Modifying parameters of a light object
- d. Working with sunlight system
- e. Modifying the color of the photometric lights.

3. Prepare an interior model

4. Prepare an architectural model.

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ARCHITECTURAL DESIGN-III

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:- Architectural Design-III.

Subject code:-AR504.

Teaching & Examination scheme.

Total Period	Period /week	Examination Duration in hours	Sessional	End Exam	Total
75	5	6hrs with 1/2hr break.	50	50	100

Topic wise distribution of periods:-

<u>Sl. No.</u>	<u>Topics</u>	<u>Periods.</u>
1.0	Study of the local prevailing BDA building bye laws.	05
2.0	Design of a two storied building, (Public, institution, commercial)	35
3.0	Design of a multi-storied building	<u>35</u>
Total: -		<u>75</u>

Course Content:

- 1.0 Study of the local prevailing BDA building bye laws & its terminologies.
 - 2.0 Undertake design of a two storied building.
Secondary school, students hostel, tourist home, Kalyan Man dap (any one of the above).
 - 2.1 Background study:
Activity analysis, space analysis, spatial flow diagram, area analysis, design recommendations. Case study of a related building.
 - 2.2 Site analysis.
Conceptual drawings.
 - 2.3 Presentation drawings.
Sheet-1-site, sheet-2-ground floor plan, sheet-3-first floor plan, sheet-4-Two side elevations, sheet-5-Two sections, Sheet-6-axonometric view (showing interior space). (Model of the building with site landscaping).
- 3.0 Design of a multi-storied building.**
Office complex, commercial complex, hotel, apartment, any one of the above.
Steps to be followed as chapter-1, perspective view of the building to be produced instead of model.

N.B:-1.0 All the sheets to be done inside the studio itself under the guidance of the teacher with evaluation in the same day.

2.0 all the design has to be develop within the frame work of the prevailing bye laws only the teacher has to explain the building bye laws in the studio before going into the design.

3.0 The students are required to visit different Kalayan mandap, Office complex. Commercial complex. Hotel, Apartment. etc.

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ARCHITECTURAL DETAILING

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:-Architectural Detailing.

Subject code:-AR508.

Teaching & Examination scheme.

Total Period	Period /week	Examination duration in hours	Sessional	End Exam	Total
75	5	6hrs with 1/2hr break.	25	25	50

Topic wise distribution of periods:-

Sl. No.	<u>Topics</u>	<u>periods</u>
1.	Doors and window joinery details	10
2.	Jamb detail and different types of window detail.	10
3.	Toilet detail, kitchen detail	10
4.	Staircase detail.	10
5.	Types of window details wall cladding.	10
6.	Parapet/Cornice detail.	5
7.	Boundary wall and Gate detail.	5
8.	Flooring detail.	5
9.	Wall partition detail	10
Total:-		75

Course Content: (Based on specific objectives).

1.0 Doors and window joiner details:

- 1.1 Draw joining details, door, window details .
- 1.2 Draw –wooden door/window. Sheet-1
- 1.3 Draw –steel door/window. Sheet-2
- 1.4 Draw-Aluminum doors/window. Sheet-3

2.0 Stair case detail

- 2.1 Draw wooden. Sheet-4
- 2.2 Draw R.C.C. Sheet-5

3.0 Toilet detail/kitchen detail.

- 3.1 Draw the architectural detail of different Types of toilet.
 - a) Residential. Sheet-6
 - b) Public Building Layout. Sheet-7

4.0 Draw the jamb detail, sky lights an ventilator, details. Sheet-8.

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|--|-----------|
| 5.0 Draw the detail of wall cladding with different types of tiles/stones etc- | Sheet-9. |
| 6.0 Parapet cornice details | Sheet-10 |
| 7.0 Boundary wall and gate details. | |
| 8.0 Draw the details Different types of Boundary walls, design and detail. | Sheet-11. |
| 9.0 Draw the details Main Gate and wicket gate details. | Sheet-12. |
| 10.0 Flooring details. | |
| Different types of following detailing. | |
| a. Draw the detail of Marble flooring. | Sheet-13. |
| b. Draw the details of Terrazzo flooring. | Sheet-14. |
| c. Draw the details of Ceramic Tile Flooring | Sheet-15. |

DIGITAL PRESENTATION

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:- Digital Presentation.

Subject code:-AR503.

Teaching & Examination scheme.

Total Period	Period /week	Examination duration in hours	Sessional	End Exam	Total
75	5		50	50	100

Rationale: The course is designed to develop presentation idea using different softwares such as **PowerPoint, Flash, Sound forge, Premiere.**

Objectives: Students will be able to do composition and able to do presentation using computer systems.

Topic wise distribution of periods:

Sl. No.	Topics	Periods
1.0	PowerPoint	15
2.0	Flash	15
3.0	Sound forge	15
4.0	Premiere	10
5.0	Project using above softwares	<u>20</u>
	Total	75

Course content: (Based on specific objectives)

1.0 PowerPoint

2.0 Flash

3.0 Sound forge

4.0 Premiere

5.0 Project using above softwares

N.B.- Students are to do the entire job inside the studio under the guidance of the teacher and to be evaluated in the same day.

DESIGN OF STRUCTURE

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:- 3D Studio Max-II.

Subject code:-AR501.

Teaching & Examination scheme.

Total Period	Period /week	Examination Duration in hours	IA.	End Exam	Total
60	4	3.0	20	80	100

Topic wise distribution of periods:-

<u>Sl. No.</u>	<u>Topics</u>	<u>Periods.</u>
1.	Introduction	2
2.	Analysis of single reinforced section	8
3.	Analysis of double reinforced section	10
4.	Shear stress in beams	10
5.	Design of slab.	10
6.	Design of axially loaded column and its foundation (square footing only).	<u>20</u>
Total:-		60

Course Content:

1.0 Introduction.

Aim and objects, scope, scope of study of the subject.

2.0 Analyze the single reinforced section.

2.1 Define the terms related to single RCC section.

2.2 State and explain the properties of reinforced concrete, grades of concrete and steel.

2.3 Discuss the basic assumptions.

2.4 Discuss the Modular ratio.

2.5 Discuss the distribution of stress in steel and concrete.

2.6 Discuss the Equivalent concrete area.

2.7 Discuss the stress and strain diagrams.

2.8 Discuss the Neutral axis and its location.

2.9 Discuss the balance, under reinforced and over reinforced.

2.10 State the Example problems-Moment of resistance calculation.

Discuss the

3.0 Analysis of double reinforced section.

4.1 Discuss the necessary of double reinforced section

4.2 State and explain the Moment of resistance calculation.

4.0 Share stress in beams.

- 4.3 Discuss the shear stress induced in homogeneous beams.
- 4.4 Discuss the shear stress induced in R.C beams.
- 4.5 Discuss the nominal shear stress.
- 4.6 Discuss the effect of shear in R.C beams.
- 4.7 Discuss the shear failure of beams.
- 4.8 Discuss the shear resistance of concrete without shear reinforcement.
- 4.9 Discuss the shear reinforcement.

5.0 Design of slabs.

- 5.1 Explain one way slabs.
- 5.2 Explain two way slabs (I.S code method only).
- 5.3 Discuss simply supported slabs with corners free to lift (Not held down).
- 5.4 Discuss the simply supported slabs with corners held down.

6.0 Design of axially loaded columned.

- 6.1 Find out the effective length of a column.
- 6.2 Find out the long and short column.
- 6.3 Find out the safe load on column.
- 6.4 State and explain the design of square and rectangular column.

INTERIOR DESIGN

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:- INTERIOR DESIGN.

Subject code:-AR506.

Teaching & Examination scheme.

Total Period	Period /week	Examination Duration in hours	Sessional	End Exam	Total
75	5	6hrs with 1/2hr break.	50	50	100

Topic wise distribution of periods:-

<u>Sl. No.</u>	<u>Topics</u>	<u>Periods.</u>
1.	Interior design of a residence.	35
2.	Interior design of a commercial space.	30
3.	Estimation of an interior scheme.	<u>10</u>
	Total:-	75

Course Content: (Based on specific objectives).

1.0 Interior design of a residence.

- 1.1 Explain the space organization of planning in interior (with furniture layout) sheet-1
- 1.2 Explain the surface treatment in interiors-on walls, floors, Ceiling, etc Sheet-2
- 1.3 Explain the different types of materials that are available and their uses in interiors-Brief report on materials to be used and their market rate,colour scheme, according to it psychological effect.
- 1.4 Show various construction details of various furniture units. Sheet-3&4.
- 1.5 Show various lighting system and electrical layout.
- 2.0 Interior design of a commercial space like restaurant, shop, small architect's office etc.
- 3.0 Discuss how to find out quantities of materials and analysis of rate for item work and approximate estimate of the interior project as per the prevailing market rate.

NB:- The student are required to visit different residential and commercial interiors.

Recommended books:

1. Graphic Savers' standard.
2. New forts' data.

WORKING DWG-III

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:- WORKING DWG-III.

Subject code:-AR505.

Teaching & Examination scheme.

Total Period	Period /week	Examination Duration in hours	Sessional	End Exam	Total
75	5	6hrs with 1/2hr break.	25	25	50

1.0 Prepare a complete album of a multistory apartment building (S+4) with following drawings.

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|---|----------|
| a. Draw the Foundation plans and sections. | 5 |
| b. Draw the stilt floor plan in detail. | 5 |
| c. Draw the ground floor working plan. | 5 |
| d. Draw the G+1 floor working plan. | 5 |
| e. Draw the G+2 floor working plan. | 5 |
| f. Draw the G+3 floor working plan. | 5 |
| g. Draw the G+4 floor working plan. | 5 |
| h. Draw the terrace floor working plan. | 5 |
| i. Draw the Four sides working elevations | 5 |
| j. Draw the sections(two of each must be Through staircase and toilet respectively). | 5 |
| k. Draw the preparation of plumbing /sanitary Layout with specification. | 5 |
| l. Draw the Electrical lay out of building. | 5 |
| m. Draw the preparation of local authority Approval drawing as per the building bye law | 5 |
| n. Draw the structural detail of the column foundation . | 5 |
| o. Draw the structural detail of the beams & slab of a typical floor. | <u>5</u> |

Total:- **75**

PROFESSIONAL PRACTICE

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:- PROFESSIONAL PRACTICE

Subject code:-AR502.

Teaching & Examination scheme.

Total Period	Period:/week	Examination Duration in hours	IA.	End Exam	Total
45	3	3 hours.	20	80	100

Topic wise distribution of periods:-

<u>Sl. No.</u>	<u>Topics</u>	<u>Periods.</u>
1.	Contracts	15
2.	Supervision	15
3.	Valuation.	<u>15</u>
Total: -		45

Course Content: (Based on specific objectives).

1.0 Contracts:

- 1.1 State and explain the types of contracts, its definition, lump-sum contract, labour contract, item rate contract, Negotiable contract and plinth area rate contract.
- 1.2 State and explain the contract document, administrative approval, Technical sanction, contingency budget, tender earning money, security deposit, Advance payment, Intermediate payment, on account payment, final payment, running bill and final bill.
- 1.3 State and explain the drafting notice inviting tender, preparing quotation, and tender documents comparative statement, and procedure and allotting contracts term and form of agreement, termination of contract, penalty for damage.

1.4 **Contract work:**

State and explain the classification of work-original, major, minor, petty, Annual quadrennial, and special, repair method of execution, setting out of works, work order and related paper, work organization of work preparation a General program, forecast of requirements, in terms of information, plant, transport, labor and materials accessing, progress of work. Introduction to application of net work planning and scheduling technique in construction management.

2.0 Supervision:

- 2.1 State and explain the duties and responsibility of Jr. Engineers.
- 2.2 State and explain the architect. Role in a construction project.
- 2.3 State and explain the duties and responsibility Architect and Architect instructions.
- 2.4 State and explain certificate of virtual completion of work.
- 2.5 Show what is a measurement book and methods of making entries and checking.
- 2.6 Discuss briefly how to maintain materials inventions in the site.

- 2.7 Discuss briefly how to record and checking common irregularities.
- 2.8 State and explain heads of Accounts.
- 2.9 Prepare survey Report Estimate of expenditure in applied disposal of surplus unusable materials.

3.0 Valuation.

- 3.1 Meaning of valuation
- 3.2 purposed of valuation.

3.3 Different terms related to valuation:

- a) Gross increase
- b) Net increase

- (i) repairs
- (ii) taxes
- (iii) sinking fund
- (iv) scrap value
- (v) salvage value
- (vi) market value
- (vii) book value
- (viii) capital cost
- (ix) capitalized value

3.4 Depreciation and valuation of building

3.5 Rent fixation for building.

NB: Student has to workout a sample valuation of a small building under the guidance of the teacher.

Reference books:-

1.0 Professional practice by Namabati.

TECHNICAL SEMINAR

Course: Diploma in Architecture.

Course code:-ARCH.

Semester:-V

Subject:- TECHNICAL SEMINAR.

Subject code:-AR509.

Teaching & Examination scheme.

Total Period	Period /week	Examination Duration in hours	Sessional	End Exam	Total
30	2		25	25	50

There will be two seminars with power point presentation on the following topics:

1. The students will prepare seminar talk on interior **material available in the market with their sample and market rates.** (15p/w)
2. The topics shall be on **GIS & remote sensing.** (15p/w)

N.B:-The students should submit the hard copy as well as soft copies of the seminar..