

BACHELOR OF DESIGN (Interior Design)
ACADEMIC REGULATIONS, COURSE STRUCTURE
AND SYLLABUS
(EFFECTIVE FROM ACADEMIC YEAR 2017-18)



SCHOOL OF PLANNING & ARCHITECTURE
JAWAHARLAL NEHRU ARCHITECTURE
AND FINE ARTS UNIVERSITY

Mahaveer Marg, Masab Tank, Hyderabad – 500 028

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JAWAHARLAL NEHRU ARCHITECTURE AND FINE ARTS UNIVERSITY

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Academic Regulations for Interior Design Programs

(Under the CBCS, Effective from the Academic Year 2017-2018)

Preamble :

JNAFAU's Choice Based Credit System (CBCS) aims to provide comprehensive learning opportunities which takes into account individual interests and abilities of the students. Apart from the compulsory core courses, the students can choose from the elective courses on offer in the university or also from approved online platforms like the MHRD's SWAYAM or MOOCs.

These regulations are subject to amendments as may be decided by the Academic Council / Committee of the University from time to time. Any or all such amendments will be effective from such date and to such batches of students (including those already in the middle of the program) as may be decided by the Academic Council / Committee.

1. Glossary of Terms

- 1.1. Program: An educational program leading to award of a Degree in a discipline.
- 1.2. Course: Generally referred as a 'subject' offered under the degree program. Each course is identified by a unique course code and course title. A course may be designed to comprise lectures/ studio/tutorials/ laboratory work/ fieldwork/ outreach activities/ project work/vocational training /seminars /term papers/ assignments/ presentations/ self-study etc. or a combination of some of these. All courses do not carry the same credits.
- 1.3. Choice Based Credit System (CBCS): In addition to the compulsory core courses in a program, CBCS provides choice for students to select from a number of elective courses offered. The term credit refers to the weightage given to the course and is usually the number of periods per week allotted to it.
- 1.4. Re-admission: When a student is detained in a course due to shortage of attendance or the student takes a break of study, the student has to take re-admission to continue the program.
- 1.5. Re-registration: When a student has failed in a course due to low

internal assessment marks, but has satisfactory attendance, the student can re-register to improve performance in internal assessment as well as external evaluation.

- 1.6. Re-appearance/ supplementary examinations: When a student has failed in a course and wishes to improve performance only in end semester external examination he/she can register to reappear for the supplementary examination.
- 1.7. Director of Evaluation (DE) means the Authority of the University who is responsible for all activities of the End Semester Examinations of the University.
- 1.8. Director, Academic and Planning (DAP) means the authority of the University who is responsible for all academic activities for the implementation of relevant rules and regulations

2. Program Structure

- 2.1. **Category of Courses** : The program shall have a curriculum with syllabi consisting of courses as prescribed by the Board of Studies, and broadly categorized under:
 - 2.1.1. **Compulsory Core (C)** are courses deemed to be the core learning required for the discipline. These courses are part of the compulsory requirement to complete the program of study. A core course cannot be substituted by any other course. A core course offered in this program may be treated as a Professional or Open Elective by other programs.
 - 2.1.2. **Professional Electives (E)** are courses which are elective courses relevant to the discipline. An Elective course is generally a course that can be chosen from a pool of courses on offer. Every student shall be required to opt for the electives from the list of electives offered. Students can also opt for the electives on offer from any of the other Programs, besides his / her own discipline courses, or even do online courses subject to the respective Program specific regulations.
 - 2.1.3. **Open Electives (O)** are chosen generally from an unrelated discipline/ subject, with an intention to seek exposure/ add generic proficiency. These may include Liberal Arts courses, Humanities and Social Science courses, etc. and essentially facilitate the student to do courses (including Core Courses or Professional Electives) offered by other departments/ programs / institutions or online. Open Electives may not be specified in the course structure and the University may approve and offer any Open Elective courses in any semester as an option for the students.

- 2.1.4. **Ability Enhancement Courses (AEC) or (A).** These are mandatory courses based upon content that lead to general knowledge, ability and soft skills enhancement, such as, Environmental Studies, Communication Skills, Value Education, etc.
- 2.1.5. **Non- Credit Courses / Activities mandatory for award of Degree:** There are some non-credit courses / activity such as: 1) Co-Curricular Activity / Extension Activity (EA), 2) any other as specified in the respective course structure / syllabus. A 'Satisfactory' grade in the above, is compulsory for the award of degree.
- 2.1.6. **Online Courses :** Students may be permitted, with the prior approval of the Department, to take online courses through SWAYAM or MOOCs or any other approved online facility, in lieu of the Electives (both E and O) offered in the University.

2.2. Credits:

- 2.2.1. Credits are indicative of the importance of the course. In the case of core courses 1 period of direct teaching per week (Theory / Tutorial/ Studio/ Practical) = 1 credit
- 2.2.2. In the case of other courses like the Electives and the AEC courses, the credits are based on their level of importance as decided by the Board of Studies and as described in their respective course structures.

- 2.3. **Pre-requisites:** Some of the courses may have pre-requisites (i.e. the student may be required to have registered and attended the course specified as a pre-requisite.)

2.4. Types of Courses and Learning Sources

Types of Courses	Learning Sources
Compulsory Core (C)	Parent Department (PD)
Professional Elective (E)	PD / OD / online
Ability Enhancement Course (AEC) or (A)	PD / OD / online / Univ.
Open Elective (OE)	PD / OD / online / Univ.
Extension Activity (EA)	PD, OD, Univ.

Note: PD = Parent Department; OD = Other Departments / Institutions / Universities

3. Duration of Program

- 3.1. A student is normally expected to complete the Program in four academic years (8 Semesters) but in any case not more than 8 years (including break of study for personal reasons or suspension/ detention due to disciplinary action, etc.).
- 3.2. Each semester shall normally consist of 90 working days (excluding end semester examination days).
- 3.3. Gap Year: A student may be permitted to take a break of study for one academic year for starting an enterprise or for any personal or medical reason with prior approval. In exceptional cases, this may be extended to another year after an appraisal process approved by the State Govt. / University. In such cases also the student will be eligible for award of First Class with Distinction/ other awards. Rules of re-admission will apply to such cases

4. Registration for choice of Electives:

- 4.1. Each student shall be deemed to have registered for all the compulsory core and other mandatory (AEC) courses of every semester that he/ she is admitted to / promoted to, on the payment of the requisite fees.
- 4.2. However, in the case of electives (as per the course structure), students shall submit their preferences from the list of electives on offer (including approved online courses), and after allotment of the elective course, register for elective courses of their choice – both professional and open electives.
- 4.3. The information on the list of all the courses offered in every department specifying the course code, course title, credits, prerequisites, the timetable slots and the registration process with the time schedules will be made available on the University website. Every student is expected to go through the above information, consult the faculty members, understand the choices and select their choice of elective courses.
- 4.4. Every student shall submit their preferences from the list of electives on offer (including approved online courses), register / re-register as per the registration process and the schedule notified.
- 4.5. The departments shall put up the list of electives allotted to the students, using their (departments') discretion based on physical and other capacities, with first preference given to the students from the parent department and later, considering a first come first and/or SGPA basis for students from other departments. However, students who have registered for elective courses previously are allowed to re-register for courses in which they have failed.
- 4.6. In case none of the student's preferred choices is allotted, or even otherwise, the student may propose an alternative choice from among the available ones after due consultation with the respective faculty.

In any case, the students shall register (which is effected only on their choice of elective being approved) for the courses within the given schedule/ deadline.

- 4.7 After registering for a course, a student shall attend the classes, satisfy the attendance requirements, earn Internal Assessment marks and appear for the End Semester Examinations.
- 4.8 A student is permitted to cancel his/her registration for the elective courses, within two weeks of starting of the semester.
- 4.9 To enable the students to choose electives from across the departments, the DAP shall in consultation with all the departments, facilitate the announcement of a common time-slot for the elective periods in the individual time tables of the departments.
- 4.10 No elective course shall be commenced unless a minimum number of students are registered (this number may be different for different courses and Programs and may be decided by the Departments / College/ University every semester)

5. Attendance Requirements

- 5.1 A student has to put in a minimum of 75% of attendance, in aggregate of all the courses registered in the semester (excluding approved online elective courses) for becoming eligible to register for the end examinations and for acquiring credits in each semester.
- 5.2 Shortage of attendance in aggregate up to 10% (65% and above, and below 75%) in each semester may be condoned by the College Academic Committee on genuine and valid (including medical grounds), based on the student's representation with supporting evidence.
- 5.3 Condonation of shortage of attendance as stipulated above, shall not be automatic but on the merits of the case to the satisfaction of the College Academic Committee.
- 5.4 A stipulated fee shall be payable along with the application for condonation.
- 5.5 Shortage of attendance below 65% in aggregate (including medical grounds) shall in no case be condoned.
- 5.6 A student will not be promoted to the next semester unless the attendance requirement of the present semester is satisfied. In case of such detention the student is not eligible to take the End Examination of that semester and the course registration shall stand cancelled. The student shall seek re admission for that semester when offered next.
- 5.7 In the case of re-registration (clauses 10.4 to 10.7) for a course/s, the attendance requirement is not applicable.

6. Assessment

- 6.1 Distribution of Internal Assessment and End Exam Marks: Performance in each course shall be evaluated as prescribed in the respective Program's course structure and syllabus. As a general pattern, 50%

of the marks in a course are through internal assessment and 50% through end semester examinations. A few courses may have 100% of the assessment purely through internal assessment. The thesis, the internship courses and many of the studio courses are assessed through a jury and viva-voce for the end semester examination.

- 6.2 Schedule for Internal Assessment: The students shall diligently follow the given internal assessment schedule for the semester including submissions and tests.
- 6.3 The compiled cumulative internal assessment marks and attendance of the students will be displayed periodically at least twice during the Semester, for information to the students. 50% of the marks allotted for the internal assessment courses shall be submitted before the 12th week. All internal assessment marks have to be finalized and uploaded / submitted in the prescribed format, on or before the last day of End Semester Examinations of the semester.
- 6.4 Assessment for Online Courses: In case of credits earned through approved online modes, the credits and grades shall be assigned by a committee consisting of Head of the Department or a teacher nominated by the HoD and a senior faculty member nominated by the DAP/ Principal (in case the credits or grades are not included by the online course faculty).
- 6.5 Non-Credit, Mandatory Courses / Activity: Assessment in these courses or activity will be only in terms of "Satisfactory" or "Not Satisfactory". A 'Satisfactory' grade in these listed courses/ activities is compulsory for the award of degree.
 - 6.5.1 Co-Curricular Activity / Extension Activity (EA) (for all round development) : Every student has to participate in any one of the following activities like NCC/ NSS/ Sports/ FSAI University's Pro-bono project activity/ any national or international student camp /any other community development activity listed by the University and acquire a "Satisfactory" grade to be considered eligible for award of a degree.
 - 6.5.2 Co-Curricular Activity / Extension Activity (EA) (for all round development) : Every student has to participate in any one of the following activities like NCC/ NSS/ Sports/ University's Pro-bono project activity/ any national or international student camp /any other community development activity listed by the University and acquire a "Satisfactory" grade to be considered eligible for award of a degree.
 - 6.5.2.1 The student's performance shall be examined by the faculty in-charge of the relevant extension activity along with the Head/ Coordinator of the Department/ activity.
 - 6.5.2.2 Physically challenged students who are unable to participate in any of the above activities shall be required to

take an appropriate test in the relevant area of any one of the above activities and be graded and certified accordingly.

6.5.3 Internship of 4 weeks or less: The assessment shall be as specified in the respective Program's course structure or syllabus.

6.5.4 Any other course or activity as specified (including the mode of assessment) in the respective course structure or syllabus.

7. Award of Letter Grades

S. No.	% of Marks		Letter Grade	Grade Points
	Minimum	Maximum		
1.	90.00	100.00	A+	10
2.	80.00	89.99	A	9
3.	70.00	79.99	B	8
4.	60.00	69.99	C	7
5.	50.00	59.99	D	6
6.	40.00	49.99	E	5
7.	Shortage of attendance and hence prevented from writing end semester examination		SA	0
8.	Absent for End semester examination		Ab	0
9.	Satisfactory *		Satisfactory	0

Note: * Satisfactory grade will be given only for the non-credit courses/ activity such as mentioned in clause 6.5. A 'Satisfactory' grade in these listed course/ activities is compulsory for the award of degree.

Example of assignment of letter grade and grade points for marks:

Course Title	Int. Marks	End Exam	Total	Grade	Grade point (GP)
Course X1	22	25	47	F	0
Course X2	39	41	80	A	9
Course X3	37	34	71	B	8
Course X4	29	30	59	D	6
Course X5	25	25	50	E	5

7.1 The performance of a student will be reported using letter grades, each carrying certain points as detailed below:

7.2. A student who earns at least an E grade in a course is declared to have successfully completed the course, and is deemed to have earned

the credits assigned to that course. A course successfully completed cannot be repeated.

- 7.3. Students who fail to appear for end semester examinations will be marked as 'Ab' (Absent) and should register for supplementary examination by paying the prescribed fees.

8. **Academic Requirements:** The following academic requirements have to be satisfied, in addition to the attendance requirements mentioned in clause 5.

8.1 A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course, if the student secures not less than 50% marks in the semester end examination, and a minimum of 50% of marks in the sum total or aggregate of the Internal Assessment and Semester End Examination taken together; in terms of letter grades, this implies securing 'E' grade or above in that subject/ course.

8.2 A student eligible to appear in the end semester examination for any course, but absent from it or failed (thereby failing to secure 'E' grade or above) may reappear for that course in the supplementary examination as and when conducted. In such cases, the internal marks obtained earlier for that course will be retained, and added to the marks obtained in the end semester supplementary examination for evaluating performance in that course.

9. **Promotion between Semesters:**

9.1. A student shall be promoted from odd to even semester if the minimum requirement of attendance as in clause 5 is fulfilled.

9.2. A student shall be promoted from even to odd semester, if the minimum requirement of attendance as in clause 5 is fulfilled and as per the other requirements specified in the following table.

9.3. Table indicating promotion requirements from even to odd semesters:

From 2nd sem. to 3rd sem.	If the student does not have more than three backlog courses in the 1st semester.
From 4th sem. to 5th sem.	Secured all the credits upto 2nd semester and does not have more than three backlog courses in the 3rd semester
From 6th sem. to 7th sem.	Secured all the credits upto 4th semester and does not have more than three backlog courses in the 5th semester

Note: Upto the 4th semester all the credits have to be secured and optional (only for elective courses) credits are available only from the 5th semester onwards.

10. Re-admission and Re-registration

- 10.1 A student may be detained in a semester either due to shortage of attendance, or due to having more than the permissible number of backlog courses. Students detained due to shortage of attendance may be re-admitted when the same semester is offered in the next academic year for fulfillment of academic requirements.
- 10.2 A student detained due to not having enough credits or having more than the permissible number of backlog courses, shall be promoted to the next academic semester only after fulfilling the requirements as per Table 9.3.
- 10.3 No grade allotments or SGPA/ CGPA calculations will be done for the entire semester in which student has been detained.
- 10.4 The academic regulations under which a student has been first admitted shall be applicable in all cases of re-admission.
- 10.5 If a student fails in a Professional Elective or an Open Elective, the student may re-register for the same or register afresh for any other Professional Elective or Open Elective course respectively in the subsequent semesters. In case of re-registration in the same courses, attendance is not mandatory, whereas registration for any other elective course/s requires the student to attend the classes and fulfill the attendance requirements as per Clause 5.
- 10.6 A student who fails in any course may be permitted the option of re-registering in that subject only if the internal assessment marks are less than 50%, so as to enable him/her to improve/redo and resubmit the work for internal evaluation. In such cases of re-registration, the student's previous performance both in the internal evaluation and end evaluation in the particular subject/s shall stand cancelled and he/she shall be required to appear for the end semester evaluation again (end examination and /or external jury as the case may be).
- 10.7 The maximum number of courses a student may be permitted for 're-registration' in a semester, is limited to three. Re- registration of any course should be done within 7 days from the date of declaration of the relevant results. A stipulated fee shall be payable towards re registration in any subject.
- 10.8 The student may attend classes in the case of the re-registered courses, if the student wishes. However, the attendance requirement is not compulsory for such courses.

11. Grade Points, SGPA and CGPA Calculation

- 11.1. After the results are declared, Grade Sheets will be issued to each student which will contain the list of courses registered during the semester and the performance in each with details of whether passing

or failing, credits earned in that semester, promoted or not, letter grades, grade points, etc.

- 11.2. Grade Points: The grade points obtained in a subject multiplied by the credits for that subject will be the weighted grade points.

Weighted Grade Points (WGP) = C x GP

Where 'C' is the number of credits assigned for the subject and 'GP' is the Grade Point obtained as per the Table in clause 7.1 above.

- 11.3. SGPA: The sum of the weighted grade points divided by the total number of credits in a semester will give the Semester Grade Point Average (SGPA).

$$SGPA = \sum C_i GP_i / \sum C_i \quad i = 1 \text{ to } n$$

Where n is the number of courses the student registered for in the semester, 'C' is the number of credits allotted to each of the courses, and 'GP' is the grade-point obtained by the student in the respective courses.

An example follows:

Course Title	Credits (C)	Grade (GP)	Weighted Grade Points (WGP)
Course X1	3	7	21
Course X2	8	8	64
Course X3	8	7	56
Course X4	7	7	49
Course X5	2	6	12
Course X6	2	6	12
Total	30		214
Semester Grade Point Average (SGPA) = Total WGP/ Total credits =			7.13

- 11.4. CGPA: The Cumulative Grade Point Average (CGPA) will be computed for every student as:

$$CGPA = \sum C_i GP_i / \sum C_i \quad i = 1 \text{ to } m$$

Where 'm' is the number of subjects registered for in all the semesters from the 1st semester onwards. 'C' is the number of credits allotted to each of the courses, and 'GP' is the grade-point obtained by the student in the respective courses.

- 11.5. The CGPA and SGPA will be rounded off to the second decimal place and recorded as such.
- 11.6. For the purpose of computation of the final CGPA, award of degree, award of the class as in clause 14, and other honours if any, including

medals, the performance in the best MTC (Minimum Total Credits) only, as specified in Table in clause 12.2, will be taken into account.

12. **Eligibility for the Award of Degree** : A student shall be eligible for the award of the "B.Des (ID)" Degree in the specific discipline into which he/she was admitted, if the following academic regulations are fulfilled:

12.1. Has pursued the program of study for not less than four academic years and not more than eight academic years. Students, who fail to fulfill all the academic requirements for the award of the degree within eight academic years from the year of their admission, shall forfeit their seat in the program and their seat shall stand cancelled.

13. **Withholding of the results** : The results of a student may be withheld if:

13.1. He/she has not cleared any dues to the University/Institution/ Hostel.

13.2. A case of disciplinary action against the student is pending disposal.

14. **Classification of the Degree Awarded**

After a student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of the B.Tech. Degree in the Program to which he/she was admitted, he/she shall be placed in one of the four classes as shown in the Table.

15. **Malpractice** : If a student indulges in malpractice in any of the examinations, he/she shall be liable for punitive action as prescribed by the University from time to time.

16. **General**

16.1 In case of any doubt or ambiguity in the interpretation of the academic regulations, the decision of the Vice-Chancellor is final.

16.2 The University may from time to time revise, amend or change the Regulations, Curriculum, Syllabus and Scheme of Assessment.

First Class with Distinction	1. Have a CGPA of 8.0 and above. 2. Should have passed the examination in all the courses of all the eight semesters within five years, which includes any authorized break of study of one year (clause 3.3). 3. Should NOT have been prevented from writing end semester examination due to lack of attendance in any of the courses.
First Class	Below 8.0 but not less than 7.0 of CGPA and
Second Class	Below 7.0 CGPA but not less than 6.0
Pass Class	Below 6.0 CGPA but not less than 5.0

Note : In all the above cases CGPA shall be calculated from the Grade Points secured for the best 283 credits. For calculating the 'best' 283 credits, the credits secured in all the Core and AEC courses (which are compulsory) shall be included. The choice of 'best' credits to be included in the calculation shall be from only those credits secured in the Electives – both Professional and Open Electives.

TRANSITORY REGULATIONS (from Academic Year 2017-18)(Approved on 6th Feb., 2018)**Preamble:**

The CBCS regulations and courses (referred to collectively as R-17) introduced from the academic year 2017-18, have brought in significant changes in the course structures and academic regulations of the programs in the University as indicated below.

	Aspects	Remarks
1	Course Codes	All changed
2	Course Names / Titles	Some changes
3	Course Structure	Major changes – introduction of AEC courses; electives from 4th sem. onwards. Total No. of courses in a program have generally increased (Eg. B.Arch. from 53 to 62)
4	Pass Marks	Changed in BFA and BTech. programs
5	Promotional Requirements	Changed in all programs
6	Award of Degree	Changed in all programs
7	Performance Evaluation and Award of Class	Changed in all programs – is now based on a system of letter grades, SGPA and CGPA
8	Choice in terms of credits	Changed – Now available in all programs

Considering the significant changes in all the aspects as indicated above, the following transitory regulations have been approved.

The following regulations shall be applicable for the students from the pre CBCS programs (referred to as pre R17) applying for 're-admission':

- Readmission into 1st semester of R-17:** Only students readmitted into the full 1st semester of R-17 will, for all purposes be subject to the entire provisions of R-17.
- Readmission from 2nd semester onwards:**
Students readmitted from the 2nd semester onwards will be subject to the provisions of the pre R-17 in which they were first admitted. The student will be facilitated in completing the academic requirements by either permitting him/her to attend "equivalent" coursework in the R-17 (as approved by the respective Boards of Studies), wherever available, or if equivalent coursework is not available, then by special arrangement for conducting the coursework as per the regulations in which admitted.

Academic Regulations for Re-registration cases of Students admitted prior to 2017

- Students originally admitted in the pre R17 programs, may be assigned teacher/s wherever possible, to enable them to complete their internal assessment as per their pre R17 regulations. Student has to complete the courses whenever offered. Special arrangement for the course/s may be made in case it effects the time line of the student's academic engagement
- Wherever "equivalent" courses are available in the CBCS programs, reregistered students may be permitted to attend such courses if they choose to, but the academic regulations (and course codes / course titles, marks, credits, etc.) shall be as per the older regulations into which they were first admitted.
- Wherever there is a change of syllabi, end semester examinations based on the old syllabi will be conducted in order to enable the students to clear the backlogs.

NOTE :

1. The term “Prerequisites” implies having registered in the course/s specified as prerequisite/s and fulfilled the attendance requirements.
2. The term “Open” mentioned in the remarks column in the courses structure indicates the courses that are open to students from other departments or Programs. These courses which are open may be taken by students from other programs, either as professional electives or open electives.
3. Abbreviations used in the course structure :

In the case of Periods per week:

L = Lecture S = Studio

F = Fieldwork P = Practicals

T = Tutorial O = Others (including workshops, seminars, colloquiums, etc.)

In the case of type of End Semester Examination:

W = Written / Drawing J = Jury P = Practical

4. Course /Subject codes and type:

In the 9-digit alphanumeric course code:

a. the first two characters represent the Program or Department that offers the course:

- AR = Architecture
- AA = Applied Arts and Visual Communication
- AN = Animation;
- ID = Interior Design
- PL = Planning
- DT=Digital Techniques for Design and Planning
- FS = Facilities and Services
- PA = Painting
- SC = Sculpture
- PH = Photography and Visual Communication

and in the case of common courses- FA = Fine Arts; GN = General

- b. The 3rd and 4th digits denote the Academic Year of starting the course structure,
- c. The 5th character denotes the level of the course (Bachelors / Masters/ Diploma),
- d. The 6th digit denotes the semester number followed by a decimal and a number indicating the serial number of the course in that semester.
- e. The last alphabet in the course code indicates the type of course.

C = Core A = AEC E = Professional Elective

O = Open Elective.

Course Structure for B. Design (Interior Design)

(Under the CBCS, Effective from the Academic Year 2017-2018)

SEMESTER - I

S. No.	Course Code	Course Title	Pre Req	Periods per Week				Credits	Marks			End Exam W/J/P	Remarks
				L	S/F	P/T/O	Total		Int.	Ext.	Total		
1	ID17 B1.1C	Fundamentals of Design	NIL	1	9		10	10	100	100	200	J	
2	ID17 B1.2C	ID Drawing & Graphics -I	NIL	1	3		4	4	50	50	100	S	
3	ID17 B1.3C	Measured Drawings	NIL		1	3	4	4	50	50	100	P	
4	ID17 B1.4C	ID Materials & Applications I	NIL	2	2		4	4	50	50	100	W	
5	ID17 B1.5C	Introduction to Art & Design	NIL	2	1		3	3	50	50	100	W	
6	ID17 B1.6C	Basic Computer Applications	NIL	1		2	3	3	50	50	100	P	
7	GN17 B1.2A	Environmental Studies	NIL	2	0		2	2	50	50	100	W	
		Total					30	30	400	400	800		

SEMESTER - II

S. No.	Course Code	Course Title	Pre Req	Periods per Week				Credits	Marks			End Exam W/J/P	Remarks
				L	S/F	P/T/O	Total		Int.	Ext.	Total		
1	ID17 B2.1C	Space Planning	ID17 B1.3C	1	9		10	10	100	100	200	S	
2	ID17 B2.2C	Creativity & Problem Solving	ID17 B1.1C	1	3		4	4	50	50	100	J	
3	ID17 B2.3C	ID Drawing & Graphics -II	ID17 B1.2C	1	1	2	4	4	50	50	100	S	
4	ID17 B2.4C	ID Materials & Applications II	ID17 B1.4C	1	2		3	3	50	50	100	W	
5	ID17 B2.5C	Materials as Media For Creations					3	3	100		100		
6	ID17 B2.6C	Computer Aided Drawing for Interior Design		1		1	2	2	50	50	100	P	
7	GN17 B2.1A	Communication Skills		2			2	2	50	50	100	P	
8	GN17 B2.2A	Value education		2			2	2	50		50		
		TOTAL					30	30	450	400	850		

L : Lecture, S/F : Studio and Field Work, P/T/O : Practical Theory and Oral

W/J/P/S : Written, Jury, Practical, Studio Exam

JNAFAU_CBCS for B.Design (Interior Design) Program, effective from 2017-18

SEMESTER - III

S. No.	Course Code	Course Title	Pre Req	Periods per Week				Credits	Marks			End Exam W/J/P	Remarks
				L	S/F	P/T/O	Total		Int.	Ext.	Total		
1	ID17 B3.1C	Interior Design -I	ID17 B2.1C	1	9		10	10	100	100	200	S	-
2	ID17 B3.2C	Introduction to Ergonomics		1	2		3	3	50	50	100	W	-
3	ID17 B3.3C	Interior Construction Details		2	3		5	5	50	50	100	W	-
4	ID17 B3.4C	History of Interior Design		3			3	3	50	50	100	W	-
5	ID17 B3.5C	Furniture Design Workshop- I			1	2	3	3	100		100		Open
6	ID17 B3.xE	Elective-1		3			3	3	50	50	100		Open
7	ID17 B3.3E	Open Elective – 1		3			3	3	100		100	€	
		TOTAL					30	30	500	300	800		

SEMESTER - IV

S. No.	Course Code	Course Title	Pre Req	Periods per Week				Credits	Marks			End Exam W/J/P	Remarks
				L	S/F	P/T/O	Total		Int.	Ext.	Total		
1	ID17 B4.1C	Interior Design – II	ID17 B3.1C	1	9		10	10	100	100	200	J	
2	ID17 B4.2C	Furniture Design	ID17 B3.4C	1	2		3	3	50	50	100	W	
3	ID17 B4.3C	Introduction to Architectural Engineering		2			2	2	50	50	100	W	
4	ID17 B4.4C	Interior Landscape, Signage & Graphics		2	1		3	3	50	50	100	W	
5	ID17 B4.5C	Building Services for Interior Design		2	1		3	3	50	50	100	W	
6	ID17 B4.6C	Revitalization of Arts & Crafts	ID17 B2.5C	1		2	3	3	50	50	100	J	Open
7	ID17 B4.xE	Elective-II		3			3	3	50	50	100	W	
8	ID17 B4.3E	Open Elective – II		3			3	3	50	50	100	€	
		TOTAL					30	30	450	450	900		

SEMESTER - V

S. No.	Course Code	Course Title	Pre Req	Periods per Week				Credits	Marks			End Exam	Remarks
				L	S/F	P/T/O	Total		Int.	Ext.	Total	W/J/P	
1	ID17 B5.1C	Interior Design – III	ID17 B4.1C	1	9		10	10	100	100	200	J	-
2	ID17 B5.2C	Interior Working Drawings	ID17 B3.3C	1	3		4	4	50	50	100	W	-
3	ID17 B5.3C	Environmental Control – I		3			3	3	50	50	100	W	-
4	ID17 B5.4C	Furniture Design Workshop – II	ID17 B3.5C	1	3		4	4	100		100		Open
5	ID17 B5.5C	Integrated Project Work	ID17 B4.1C	2		1	3	3	50	50	100	J/W/P	-
6	ID17 B5.xE	Elective-III		3			3	3	50	50	100	W	Open
7	ID17 B5.3E	Open Elective - III		3			3	3	50	50	100	€	
		TOTAL					30	30	400	400	800		

SEMESTER - VI

S. No.	Course Code	Course Title	Pre Req	Periods per Week				Credits	Marks			End Exam	Remarks
				L	S/F	P/T/O	Total		Int.	Ext.	Total	W/J/P	
1	ID17 B6.1C	Interior Design – IV	ID17 B5.1C	1	9		10	10	100	100	200	J	
2	ID17 B6.2C	Environmental Control – II		2		1	3	3	50	50	100	W	
3	ID17 B6.3C	Estimation & Project Management		1		1	2	2	50	50	100	W	
4	ID17 B6.4C	Life Style Accessories Design	ID17 B4.6C	1	1	1	3	3	100		100		Open
5	ID17 B6.5C	Pre-Thesis Seminar		1		5	6	3	100		100		
6	ID17 B6.6C	Summer Internship					Nil	3	100	-	100		
7	ID17 B6.xE	Elective - IV		3			3	3	50	50	100	W	
8	ID17 B6.3E	Open Elective - IV		3			3	3	50	50	100	€	
		TOTAL					30	30	500	400	900		

SEMESTER - VII

S. No.	Course Code	Course Title	Pre Req	Periods per Week				Credits	Marks			End Exam	Remarks
				L	S/F	P/T/O	Total		Int.	Ext.	Total	W/J/P	
1	ID17 B7.1C	Design Thesis	Passing Studios	2	14		16	16	200	200	400	J	-
2	ID17 B7.2C	Professional Practice		4			4	4	50	50	100	W	-
3	ID17 B7.3C	Psychology of space and Behavioral Science		4			4	4	50	50	100	W	-
4	ID17 B7.xE	Elective – V		3			3	3	50	50	100	W	Open
5	ID17 B7.xxE	Elective – VI		3			3	3	50	50	100	W	Open
		TOTAL					30	30	400	400	800	J	

SEMESTER - VIII

S. No.	Course Code	Course Title	Pre Req	Periods per Week				Credits	Marks			End Exam	Remarks
				L	S/F	P/T/O	Total		Int.	Ext.	Total	W/J/P	
1	ID17 B8.1C	Practical Training	nil				30	30		300	300	J	-

Total Credits to be earned 240

Minimum Credits to be earned 224

Note

- ** Pre requisites shall be a mandatory of 75% attendance in that subject
- † Total instructions period is excluding the Open Electives assuming the Open Electives to be 3 sessions per week
- ‡ Including the Open Electives assuming the Open Electives to be of 3 credits
- § Including the Open Electives assuming the Open Electives to be of 100 marks
- ⊠ Mode of Exams for open Electives shall be as per the mode of evaluation specified for that Elective

LIST OF ELECTIVES**3rd SEMESTER - ELECTIVE - I**

Discipline	Course Code	Course Title	Offered by	Duration	Credits	Evaluation
ID	ID17B3.1E	Photo Journalism	Department	3 sessions /Week	3	Internal & External assessment
ID	ID17B3.2E	Interior Sketching & rendering				Internal & External assessment

4TH SEMESTER - ELECTIVE - II

Discipline	Course Code	Course Title	Offered by	Duration	Credits	Evaluation
ID	ID17B4.1E	Digital Technology in Design	Department	3 sessions /Week	3	Internal & External assessment
ID	ID17B4.2E	Fundamentals of Graphic Design				

5TH SEMESTER - ELECTIVE - III

Discipline	Course Code	Course Title	Offered by	Duration	Credits	Evaluation
ID	ID17B5.1E	Visual Merchandising	Nil	3 sessions /Week	3	Internal & External assessment
ID	ID17B5.2E	Product Design & Innovation				

6TH SEMESTER - ELECTIVE - IV

Discipline	Course Code	Course Title	Offered by	Duration	Credits	Evaluation
ID	ID17B6.1E	Design Ethnography	Nil	3 sessions /Week	3	Internal & External assessment
ID	ID17B6.2E	Foundation of Lighting Design				

7TH SEMESTER - ELECTIVE - V

Discipline	Course Code	Course Title	Offered by	Duration	Credits	Evaluation
ID	ID17B7.1E	Green Buildings	Nil	3 sessions /Week	3	Internal & External assessment
ID	ID17B7.2E	Barrier free Built Environment				

7TH SEMESTER - ELECTIVE - VI

Discipline	Course Code	Course Title	Offered by	Duration	Credits	Evaluation
ID	ID17B7.4E	Advance Design & Estimation software – MS PROJECTS	Nil	3 sessions /Week	3	Internal & External assessment
ID	ID17B7.6E	Building Automation				

SEMESTER-I**ID17B1.1C: FUNDAMENTALS OF DESIGN**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	10	10	100	100	200	J

Course Overview:

Basic Design provides the framework for understanding design as a new language by sensitizing students to the conceptual, visual and perceptual issues involved in the design process.

Objectives of the Course:

To impart an understanding of design process and provide knowledge of the principles & elements of design. Exercises complement the lectures and ensure that the students learn to develop a series of compositions in two and three dimension.

Expected Skills / Knowledge Transferred:

The course prepares ground for the students to gain an understanding into the fundamental issues in interior design and develop the skill to create interior design solutions for simple problems.

Course Contents:**Unit I**

Introduction to Design: Definitions and meaning of design, importance of design, examples of design from nature. Fundamental elements of design in 2D and their definitions; point, line, shape, form, space, texture, value, color and material. Introduction to the principles of design in 2D and 3D - unity, balance, symmetry, proportion, scale, hierarchy, rhythm, contrast, harmony, focus, etc; use of grids, creating repetitive patterns.

Assignment: to compose patterns with different elements of design by incorporating the principles of design.

Unit II:

Concepts of Geometry: Introduction to different 2D shapes & 3D forms. Transformation of 2D shapes to 3D forms.

Suggested Assignment: To sketch the basic geometric forms and to analyze them based on transformation of simple to complex forms.

Unit III:

Principles of composition using grids, symmetrical/ asymmetrical, Rule Of Thirds, Center Of Interest, Gestalts Theory of Visual Composition, etc

Suggested Assignment: to compose patterns using grids and to incorporate the principles.

Unit IV:

Introduction – Physics, physiology and psychology of colors – visible spectrum, colored light, color temperature, color interaction, color blindness.

Color Systems: An overview of Ostwald, DIN, CIE, NCS colour systems, An introduction to Munsell's colour system, Color aid system, Color systems in practice, simplified color system, color terminology, special color issues, mixed color effects, effects of texture, using color systems.

Unit – V

Color wheel – primary, secondary, tertiary colors, color wheel, color schemes color value, intensity, and modification of color hues – tints, shades, neutralization. Color charts – types, making and using. Color harmony, use of color harmony.

Unit – VI

Psychological impact of color – warm, cool and neutral colors, impact of specific hues, meanings of color, color and form, color and light, color and surface qualities, color and distances and scales. Problems with color. Use of colors in various functional contexts – e.g. residential interiors. Use of color in special situations – out door/indoor spaces, accessories, art works etc.

Assignment: Prepare a color wheel, and compositions based on color theory. **Note:** The end exam shall be a jury based portfolio evaluation & Viva voce.

Reference Books:

- Ching, Francis D.K. Architecture Form, space, and Order, 2nd ed. Van Nostrand Reinhold, New York, 1996.
- Hanks, A.David. Decorative Designs of Frank Lloyd Wright, Dover Publications, Inc. New York, 1999.
- Helper, E.Donald, Wallach, I.Paul. Architecture Drafting and Design, 3rd ed. McGraw-Hill Book Company, New York, 1977.
- John.F. Pile, Color in Interior Design, Mc-Graw Hill professional, 1st edition, 1997
- Johannes Itten, The Art of color, John Wiley & Sons; Revised edition, 1997
- Jonathan Pore, Interior Color by Design, Volume 2: A design tool for Home owners, Designers and Architects, Rockport publishers, 2005.
- Ethel Rompilla, Color for Interior Design, Harry N. Abrams, 2005.
- Itten, Johannes. Design and Form: The basic course at the Bauhaus, Thames and Hudson Ltd., London 1997.
- Krier, Rob. Architectural Composition, Academy Editions, London, 1988.

- Meiss, pierre Von. Elements of Architecture: Form to place, E and FN Spon, London, 1992.
- Pipes, Alan. Drawing for 3-Dimensional Design. Thames and Hudson Ltd., London, 1990.
- Wucius, Wong. Principles of two Dimensional Design. Van Nostrand Reinhold 1972

ID17B1.2C: INTERIOR DESIGN DRAWING AND GRAPHICS - I

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	04	04	50	50	100	S

Course Overview:

The course introduces the fundamental techniques of concept sketches, design development sketches, presentation sketches, presentation renderings and architectural drawing and develops the appropriate skills for visualization and representation.

Objectives of the course:

To introduce representation and design drawing techniques and to facilitate effective visual communication.

Expected Skills / Knowledge Transferred: Freehand drawing of lines and shape, tone and texture, form and structure, space and depth. Scaled drawing skills for design thinking and conventional design representations in drawings and graphics.

Course Contents:

Unit – I

Introduction to pencil exercises – Knowledge about usage of different points of pencils, handling of pencils, practicing lines and tone building exercises.

Unit – II

Simple exercises of object drawings – natural geometric forms with emphasis on depth and dimension, detail & texture, sunlight & shadow.

Unit – III

Introduction – Fundamentals of drawing and its practice, introduction to drawing equipment, familiarization, use and handling.

Unit – IV

Drawing – Drawing sheet sizes, composition, fixing. Simple exercises in drafting, point and line, line types, line weights, straight and curvilinear lines, dimensioning, lettering, borders, title panels, tracing in pencil, ink, use of tracing cloth. Portfolio-preparation.

Unit – V

Architectural symbols – representation of building elements, openings, materials, accessories etc., terminology and abbreviations used in architectural presentation.

Unit- VI

Architectural representation of landscape elements such as trees, indoor plants, planters, hedges, foliage, human figures in different postures, vehicles, street furniture etc.; by using different media and techniques and their integration to presentation drawings.

Unit – VII

Measuring and drawing to scale – scales, simple objects, furniture, rooms, doors and windows etc. in plan , elevation and section etc. reduction and enlargement of drawings.

Unit – VIII

Interiors and furniture sketching – Interior still life, perspectives, lighting & composition, textures and details, material expressions, individual pieces of furniture, elevations & plans etc. using different media. Drawing from photographs.

Unit – IX

Orthographic projections of planes and solids, sections of solids, development of surfaces of solids and intersections of solids. Use of geometry in building interiors - isometric, axonometric, and oblique views. Working with models to facilitate visualization.

Note: This is a studio subject and students should be made to prepare construction drawings as studio exercises along with the theoretical inputs. The studio work should be supplemented with appropriate site visits.

References:

- Stephen Kliment, Architectural Sketching and Rendering: Techniques for Designers and Artists, Watson Guptill, 1984.
- Ivo.D. Drpic, Sketching and Rendering of Interior Space, Watson- Guptill, 1988.
- Maureen Mitton, Interior Design Visual Presentation: A Guide to graphics, models and presentation techniques, 3rd edition, wiley publishers, 2007
- Mogali Delgade Yanes and Ernest Redondo Dominquez, Freehand drawing for Architects and Interior Designers, ww.Norton & co., 2005
- Francis D.Ching, Design Drawing, Wiley publishers
- Moris, I.H.Geometrical Drawing for Art Students.
- Thoms, E.French. Graphics Science and Design, New York: MC Graw Hill.

- Nichols, T.B. and Keep, Norman. Geometry of Construction, 3rd ed. Cleaver – Hume Press Ltd., London, 1959.
- Bhatt, N.D. and Panchal V.M. Engineering Drawing: Plane and Solid Geometry, 42nd ed. Charotar Pub., Anand, 2000.
- Gill, P.S.T.B. of Geometrical Drawing, 3rd ed. Dewan Suhil Kumar kataria, Ludhiana, 1986.
- Shah, M.G., Kale, C.M. and Patki, S.Y. Building Drawing: with an integrated approach to built environment, 7th ed. Tata Mc Graw Hill Pub., Delhi, 2000.
- Bies, D. John. Architectural Drafting: Structure and Environment Bobbs – Merrill Educational Pub., Indianapolis.
- Nelson, A. John. H.B. of Architectural and Civil Drafting, Van Nostrand Reinhold, New York, 1983.
- Francis D. Ching – Architectural Graphics , Wiley publishers, 2002

ID17B1.3C: MEASURED DRAWINGS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	04	04	50	50	100	P

Course overview:

To explain the different techniques and instruments used in survey of built environment

Objective of the course:

To explain the techniques and instruments used in survey indoors

Expected Skills / Knowledge Transferred:

Survey skills and related theory

Course contents:

Unit – I

Introduction to the basic principles of drawing, Scale of conversion, Fonts and lettering. Exercises related to lettering practice.

Unit II:

Automated Surveying – Introduction to use of Digital Surveying – Instruments such as Leveling laser, Laser Measuring, inclinometer, Point Laser, Rotary laser, Optical levels etc.- total station, Electronic Theodolite.

UNIT – III Sketching

Indoor objects – Still Life – Furniture, Equipment – Understanding Depth, light, shade, Shadow Etc.

Outdoor Sketching: Natural Forms/Built Forms. Understanding variety in Forms.

Sketching Human Form: Anatomy and Expressions – Graphical Representations.

UNIT – IV

Drawing to scale of existing furniture and other accessories Doors, Windows, Entrance gate, window grills etc

UNIT – V Measured Drawing

Understanding of different scales and their uses in practice. Survey of a small size Interior space of a building (small residence, room, Toilet) and representation of the same in scaled drawings.

End Exam : Practical measured drawing & Viva

References:

- Arora, K.R. Surveying Vol. 1, 6th ed, Standard Book House, Delhi – 2000.
- Lynch, Kevin, Site Planning. MIT Press, Massachusetts, 1962.
- Punmia, B.C. Surveying Vol. 1, 13th ed. Laxmi Publications Pvt. Ltd., New Delhi

ID17B1.4C: INTERIOR DESIGN MATERIALS AND APPLICATIONS – I

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	4	4	50	50	100	W

Course Overview:

The course provides information on the properties, management, specifications, use, application and costs of the materials used in the interiors.

Objectives of the course:

To impart knowledge on the various materials while highlighting the current trends and innovations in the usage of interior design materials.

Expected Skills / Knowledge Transferred: Knowledge required for specifying appropriate materials for various spaces in interiors of buildings.

Course Contents:

Materials to be studied based on –

Physical and behavioral properties, tools and technology of its application in the construction of floors, walls, ceilings, doors, windows, partitions and other interior design components.

Visual quality of materials in terms of finishes through color, texture, modulations and pattern evolution. Material and workmanship, specification etc.

Unit- I

Masonry – bricks, lime, sand, mortars, cement and aggregates, concrete, stone masonry, gypsum based plaster etc.

Unit- II

Timber, cane, bamboo – characteristics of good timber, defects, availability in India & world, types of timber, selection of timber.

Applications of timber : doors, windows, furniture, interior accessories, etc

Finishes to timber – types of polish – manual: spirit - French polish, wax, spray – readymade coatings : melamine, PU, etc

Cane & Bamboo : availability, types, characteristics, applications

Unit- III

Wood Derivatives – Plywood, block boards, particle board, medium density fiber board, agro wood, etc. – their properties, process of manufacture, tools and technology of its application and quality assessment, finishes to reconstituted wood, - lamination, polishing etc. Surface finishes for wood products and derivatives etc., Coatings – clear and pigmented finishes technical or protective coatings etc.

Unit – IV

Paints – Protective coating paints, types of paints – water based paints, distempers, cement based paints, emulsion paints, anti corrosive paints etc. – composition, functions, preparation and application method, painting on different surfaces, defects in painting, etc

Varnishes (oil and spirit) – various types, damp proofing finishes etc. and methods of application

Unit – V

Glass and glass products – Composition and fabrication of glass, classification, all types of glass annealed, float, mirrored, tinted, etc. – including wired glass, fiber glass, laminated glass, glass blocks, etc - their properties and uses in buildings. Commercial forms available – their physical and behavioral properties.

Application of glass : tools and technology of its application in built forms – glass doors, partitions, etc. Material and workmanship, specifications.

Unit – VI

Adhesives – Types of adhesives, natural, synthetic, thermoplastic and thermosetting adhesives, epoxy resin. Method of application, bond strength etc.

Expected Output – Students should do case studies, market surveys, visual presentations, site visits and detailed drawings of joinery, parts & types of doors, windows, partitions & wall paneling, etc

Note: Market surveys to be conducted to find out the commercial and technical names, sizes, wastages, BIS and codes for materials, testing, fabrication, rates, commercial methods of pricing, billing etc.

References:

- Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and Methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
- Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
- Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
- Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.
- Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi, 1990.
- Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.
- Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008.

ID17B1.5C: INTRODUCTION TO ART AND DESIGN

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	03	03	50	50	100	W

Course Overview:

Provides knowledge on traditional art form, innovations in art and influences on interior design. Creates an awareness of social and cultural dimensions to interior design.

Objectives of the Course:

To analyze various art forms and understand their application in interiors. To analyze the influences of social and cultural aspects on interior design.

Expected Skills / Knowledge Transferred:

Understanding various art forms, appreciation of art along with social and cultural influences on design.

Course Contents:**Unit – I**

Introduction to art, Purpose and relevance of Art in Interior Design.

Unit – II

Development of art: A survey of history of art forms: pre historic times to present times: changing nature of art through time in terms of content: form and material.

Unit - III

Exploration of art forms – study of traditional and contemporary art forms – painting , sculpture, architecture, decorative arts, design arts, digital art. Relationship between art and design from the earliest time. Study of famous and influential Artists, Craftsmen and people who pioneered innovations in their own fields and their influence on design and other fields. For e.g.: Van Gogh, Dali, William Morris, etc.

Unit – IV

Study of Ornaments & Accessories in Interior Design. Different types of Ornamentation & Accessories in the interiors. Study and evaluation of artifacts, historic examples and their applicability.

Suggested Assignment: to document artifacts, historical sites, and to understand them with respect to the surround environment; to incorporate them in the design aspects to present day context or usage.

Unit – V

Introduction to Heritage Building Interiors: Evolution of Interiors in different regions of India with examples. Heritage and identity at different spatial scales. Dimensions and scope of Heritage building Interiors.

Unit – VI

General understanding of Interior Design, difference between interior design & Interior decoration, Interior Design and integration with Architecture. Introduction to Role of Interior Designer in a building project. Scope of Interior Design. Various subjects to be learnt by Interior Design students and their relevance to practice.

References:

- Alan Barnard & Jonathan Spencer, Encyclopedia of social and cultural anthropology, Taylor & Francis, 1996
- Niggel Rapport, Social and Cultural Anthropology: The Key Concepts, Routledge, 2000
- Philip Carl Salzman, Understanding Culture: An Introduction to Anthropological Theory, Waveland press, 2001.
- Clifford Geertz, The Interpretation of Cultures, Basic Books, 1977.
- Charles. V. Stanford, Studies in Indian society, culture and Religion, South Asia Books, 1988.
- Human Behavior in the Social Environment: A Social Systems Approach, Gary Lowe, Irl Carter, Ralph Anderson, Aldine Transaction, 1999
- Elizabeth. D. Hutchinson, Sage publications, Dimensions of Human Behavior, person and Environment, 2007.
- Kumar Raj (Ed) Essays on Indian Art and Architecture. Discovery pub., New

Delhi, 2003

- Fisher E. Robert. Buddhist Art and Architecture. Thames and Hudson, London. 1993.
- Ghosh. A (Ed). Jain Art and Architecture Vol 1-3. Bharatiya Jnanpith. New Delhi.
- Christine M. Piotrowski, Becoming an Interior Designer, John Wiley and Sons, 2003.
- Arnold Friedmann , Forrest Wilson, John F. Pile, Interior Design, Elsevier Publishing company, 3rd

edition, 1982.

- Henry Wilson, India: Decoration, Interiors, Design, Watson Guptill, First American edition, 2001
- Michael Freeman, India Modern, Periplus editions, 2005
- Sunil Sethi, Angelika Taschen, Indian Interiors, TASCHEN America Ltd; 25th ed. edition, 200

ID17B1.6C: BASIC COMPUTER APPLICATIONS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	03	03	50	50	100	P

Course Overview:

The course imparts basic knowledge on computers to upgrade the general understanding and ability in computing in the realm of Interior Design.

Objectives of the course:

To enable the student to make audio visual presentations, word processing, and other basic computing.

Expected Skills / Knowledge Transferred:

Knowledge on basic hardware and software required for Design applications. MS office, photo editing techniques, use of world wide web.

Course Contents:

Unit – I

Introduction: Brief overview of computer components – ROM, RAM, input devices, output devices, platforms, securities, operating systems, relevant software for interior design. Introduction to word processing package (like MS office), toolbar, creating a new document, formatting text, inserting tables, pictures, page numbers and date / time, spelling and grammar checking, taking print outs.

UNIT – II

Spread Sheets: Introduction to spread sheets. Microsoft Excel, creating formulae, basic operations, borders and shading, inserting charts, taking printouts.

Unit – III

Multi-media Presentations: Introduction to multimedia presentation (like MS Power Point), creating a presentation, opening an existing presentation, creating a blank presentation, different power point views, slide manipulation, slide animation, slide transitions, view slide show, navigating while in slideshow, hyper linking to other applications, scanning in different formats, setting of options, resolution settings, management of file size, integrating partial scans of large documents. Pack up a presentation for use on another computer, taking print outs.

Unit – IV

Internet Concepts : Introduction to internet, use of internet, various search engines, searching strategies, saving images and documents from internet in different formats, e-mails, conferencing etc.

Unit – V

Graphical concepts – I : Photo editing and desktop publishing, application, software introduction, software and system requirements, preferences, workspace, graphics terminology, image depth, resolution and image size, up sampling and down sampling, image sources, straightening an image, cropping an image, basic image correction, printing photo edited documents, selections, choosing foreground and background colors, filling with color, options and preferences revisited, file browser, stepping back in time, use ram efficiently, sharpening images, working with layers, painting in photo editing software, color theory, image modes, channels, more advanced adjustment commands, file format categories.

Unit – VI

Graphical Concepts – II: Photo editing and Desktop publishing (application) – Import and export of photo edited files, objects in photo editing, fills, outlines, total text control, basic toolbox of vector based software (like Corel Draw or Adobe page maker), color management tools, starting your page right etc. Introduction to Flash.

Reference books:

- Adobe Creative Team, Adobe Photoshop CS (Class Workbook)
- Droblas, Adele Greenberg, Fundamental Photoshop: A Complete Introduction.
- Sagman, Microsoft Office for Windows, Indian Addison Wesley, 1999.
- Woody Leon Hard, Microsoft Office 2000, Prentice Hall of India, New Delhi.
- Adobe Creative Team, 2003
- Adele Croblas Greenberg ,Fundamental Photoshop: A complete introduction.

GN17B1.2A: ENVIRONMENTAL STUDIES

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	02	02	50	50	100	W

Course Overview: A compulsory subject for all the undergraduate students of various discipline highlights significance of maintaining balance and sustainability of various components of the environment.

Objectives of the Course : To sensitize the students towards sustainable environment.

Course Contents:**Unit – I**

Environmental studies – Introduction: - Definition, scope and importance, Measuring and defining environmental development indicators.

Unit – II

Environmental and Natural Resources: Renewable and non-renewable resources - Natural resources and associated problems - Forest resources - Use and over - exploitation, deforestation, case studies - Timber extraction - Mining, dams and other effects on forest and tribal people - Water resources - Use and over utilization of surface and ground water - Floods, drought, conflicts over water, dams-benefits and problems - Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. - Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. - Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources. Case studies. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

Unit - III

Basic Principles of Ecosystems Functioning: Concept of an ecosystem. - Structure and function of an ecosystem. - Producers, consumers and decomposers.- Energy flow in the ecosystem Ecological succession. - Food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the following ecosystem:

- a. Forest ecosystem
- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

Unit - IV

Biodiversity and its conservation: Introduction - Definition: genetic, species and ecosystem diversity. Bio-geographical classification of India - Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values - Biodiversity at global, National and local levels. - India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. - Endangered and endemic species of India - Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

Unit - V

Environmental Pollution: Definition, Cause, effects and control measures of:

a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. Nuclear hazards

Solid waste Management: Causes, effects and control measures of urban and industrial wastes. - Role of an individual in prevention of pollution. - Pollution case studies. - Disaster management: floods, earthquake, cyclone and landslides.

Unit - VI

Social Issues and the Environment: From unsustainable to sustainable development -Urban problems related to energy -Water conservation, rain water harvesting, and watershed management -Resettlement and rehabilitation of people; its problems and concerns. Case Studies -Environmental ethics: Issues and possible solutions. -Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. -Wasteland reclamation. - Consumerism and waste products. -Environment Protection Act. -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act -Issues involved in enforcement of environmental legislation. -Public awareness.

Unit - VII

Human Population and the Environment: Population growth, variation among nations. Population explosion - Family Welfare Programme. -Environment and human health. -Human Rights. -Value Education. -HIV/AIDS. -Women and Child Welfare. -Role of information Technology in Environment and human health. -Case Studies.

Unit - VIII

Field work: Visit to a local area to document environmental assets River /forest grassland/hill/mountain -Visit to a local polluted site-Urban/Rural/industrial/ Agricultural Study of common plants, insects, birds. -Study of simple ecosystems - pond, river, hill slopes, etc.

TEXT BOOK:

ErachBharucha, A Text Book of Environmental Studies for Undergraduate Courses, University Grants Commission.

SEMESTER - II**ID17B2.1C: SPACE PLANNING**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B1.3C	10	10	100	100	200	S

Course overview:

Space Planning provides a specific design methodology for understanding the nature of spaces, scales and space within a space along with elements and organization.

Objectives of the course:

To impart an understanding of perception of interior space through architectural elements.

Expected skills/ knowledge Transferred:

The course prepares a base for the students to gain an understanding into the fundamental issues in designing spaces and develops the skill to create floor plans considering all the factors affecting spatial composition.

Course Contents:**Unit – I:**

Basic anthropometrics – average measurements of human body in different postures – its proportion and graphic representation, application in the design of simple household and furniture. Role of mannequins in defining spatial parameter of design. Basic human functions and their implications for spatial planning. Minimum and optimum areas for various functions.

Unit –II

Introduction to design methodology, Detailed study of residential spaces: such as, living, dining, bedrooms, kitchen, toilet etc. including the furniture layout, circulation, clearances, etc. Case study of existing residential spaces and the analysis of the spaces therein, to be taken up. Preparing user profile, bubble and circulation diagrams.

Unit – III

Visual analysis of designed spaces noted for comfort and spatial quality; analysis of solid and void relations, positive and negative spaces. Integration of spaces and function in the design of kiosk for - traffic police, ATM center, etc; stalls inside a shopping mall, - jewellery stall, flower stall, ice cream stall, etc; booths - bus ticketing booth, smokers' booths, etc.

Note: at least 2 major problems and 4 minor time problems shall be given The end exam shall be a 5 hour space planning based time problem.

Reference books:

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.
- Julius Panero & Martin Zelnick, Human Dimension & Interior Space : A source book of Design Reference standards, Watson – Guphill, 1979.
- Karlen Mark, Kate Ruggeri & Peter Hahn, Space Planning Basics, Wiley publishers, 2003

ID17B2.2C: CREATIVITY AND PROBLEM SOLVING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B1.1C	04	04	50	50	100	J

Course Overview:

The course introduces the different tools and techniques of creativity as applicable to problem solving in design,

Objectives of the course:

To introduce lateral thinking and facilitate innovative design solutions.

Expected Skills / Knowledge Transferred:

Exploring creativity and challenging assumptions of design and generating alternatives by using tools and techniques of creativity.

Course Contents:**Unit – I**

Introduction – Definitions of creativity, understanding components of creativity, definitions of problem solving, theories of creativity, goals and objectives, value judgments, defining problems, information gathering, creative incubation, creative thinking and creative process.

Unit- II

Thinking techniques – Principles in generative, convergent, lateral, interactive, graphical thinking, check lists, analysis and synthesis simulation, action ability and implementations of intentions. Blocks in creative thinking.

Unit- III

Tools and techniques of creativity – mind mapping, brain storming with related stimuli and unrelated stimuli, positive techniques for creativity, creative pause, Focus, Challenge, alternatives, concepts, sensitizing techniques, group or individual techniques.

Unit – IV

Problem statements – Brain writing with unrelated stimuli, idea mapping, random input, story boarding exercises, problem solving techniques –brain storming, lateral thinking of De Bono

Unit – V

Creative solutions applicable to designs – Design, Invention, opportunity, problems, improvement, planning, projects, conflicts. Simple Design exercises. Creative Design process – conceptual design, embodiment design, detail design, Iterations

Suggested Assignments : students are to design & produce at least 24 minor & 12 major basic products of day to day use and submit conceptual sketches along with a written report for internal and external assessment.

References:

- Geoffrey Broadbent. Design in Architecture, London:D.Fulton
- Christopher Alexander. Pattern Language. New York: Oxford University Press
- Thomas Mitchell. Redefining Designing: Form to Experience
- Edward De Bono, Lateral Thinking
- James Snyder and Anthony Y Catanse, Introduction to Architecture, McGraw-Hill Book company, New York, 1979.
- Design Basics for Creative Results by Bryan L.Peterson, F&W Publications, Inc.
- Noone, Donald.J, Creative Problem solving, Hauppauge, 1993.
- De Bono, Edward, Serious Creativity: Using the power of Lateral thinking to create new ideas, Harper Collins publishers, 1992

ID17B2.3C: INTERIOR DESIGN DRAWING AND GRAPHICS – II

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B1.2C	04	04	50	50	100	S

Course Overview:

The course introduces the techniques of architectural drawing pertaining to 3D views and perspectives, sciography and rendering.

Objectives of the course:

To impart the techniques of rendering in different media and skills of three dimensional visualization and presentation.

Expected Skills / Knowledge Transferred:

Perspective and three dimensional drawings with rendering in different media for presentation.

Course Contents:

Unit – I

Introduction to pen and brush exercises – Simple exercises of shapes and lines, lines and textures, pen lines, ruling with pen and brush, brush lines etc.

Unit – II

Tones and Rendering – tones in pen drawings, value scales, Gray values, Grading tones etc. Simple exercises of tonal values and textures with pen. Color study, monochrome and wash rendering etc.

Unit – III

Introduction to Sciography – Simple and composite forms, shadows on horizontal, vertical planes and on their own surfaces. Study of shade and shadows of simple geometrical solids of various forms and groups of forms in Interiors.

Unit –IV

Perspective: Characteristics of perspective drawings, perspectives of simple geometric solids and spaces and complex geometries. Advanced examples in one point or parallel perspective, two point Interior perspectives of rooms. Introduction to three point perspective of furniture.

Unit – V

Rendering of the perspectives in different media through drawing pencil, sketch pen, pencil color, monochrome, wash rendering etc.,. Integrating landscape elements, human figures, shadows, foreground etc in the perspectives.

Unit – VI

Drawing from imagination – speculative drawings, diagramming, drawing compositions, concept sketches, design development sketches, presentation sketches , Presentation drawings, Graphical presentations etc.

References:

- Stephen Kliment, Architectural Sketching and Rendering: Techniques for Designers and Artists, Watson Guptill, 1984.
- Ivo.D. Drpic, Sketching and Rendering of Interior Space, Watson- Guptill, 1988.
- Maureen Mitton, Interior Design Visual Presentation: A Guide to graphics,

models and presentation techniques, 3rd edition, Wiley publishers, 2007

- Mogali Delgade Yanes and Ernest Redondo Dominquez, Freehand drawing for Architects and Interior Designers, Wiley & Sons, 2005
- Francis D. Ching, Design Drawing, Wiley publishers
- Atkin William W. Corbellent, Raniero and Fiore. R. Vincent, Pencil Techniques in Modern Design. 4th ed. Reinhold pub Corporation. New York, 1962.
- Bately, Claude. Design Development of India Architecture.
- Bellings, Lance Bowen. Perspective space and Design.
- Burden, Ernest, Architectural Delineation: A photographic approach to presentation, 2nd ed, McGraw Hill, Inc., New York, 1982.
- Conli, Claudius. Drawings by Architects.
- John. F. Pile, Perspective for Interior Designers, Watson – Guptill, 1989.
- Ernest. R. Norling, Perspective made easy, Dover publications, 1999
- Joseph D, Amelio, Perspective Drawing Hand book, Dover publications, 2004

ID17B2.4C: INTERIOR DESIGN MATERIALS AND APPLICATIONS –II

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B1.4C	03	03	50	50	100	W

Course Overview:

The course provides information on the properties, management, specifications, use, application and rates of the materials used in the interiors.

Objectives of the course:

To impart knowledge on the various materials while highlighting the current trends and innovations in the usage of interior design materials.

Expected Skills / Knowledge Transferred:

Knowledge required for specifying appropriate materials for various spaces in interiors of buildings.

Course Contents:

Materials to be studied based on – Physical and behavioral properties, tools and technology of its application in the construction of floors, walls, ceilings, walls, doors, windows, staircase, built in furniture, partitions and other interior design components. Visual quality of materials in terms of finishes through color, texture, modulations and pattern evolution. Material and workmanship, specification etc.

Unit – I

Metals – Steel, iron, aluminum, bronze, brass, copper – SS, alloys, characteristics, form and uses, properties, definition of terms, methods of working with metals, fixing and joinery in metals, finishing and treatment to metals. Application of metals to built form and interiors - special doors and windows, ventilators, doors – sliding, sliding and folding, revolving, pivoted, rolling, collapsible, dormer, skylights, clerestory etc.

Hardware & Accessories : all hardware required for residences, offices, other public & private spaces, etc including all types of hinges, drawer slides, handles, locks, wire managers, etc, accessories for toilet, kitchen, office, glass patch fittings, profiles, etc

Unit- II

Stones : Igneous, metamorphic & sedimentary – classifications, types, properties, availability, applications

Unit – III

Rubber – Natural rubber, latex, coagulation, vulcanizing and synthetic rubber-properties and application. Plastics – Types, thermosetting and thermo plastics, resins, common types of moldings, fabrication of plastics, polymerization and condensation. Plastic coatings, reinforced plastic, plastic laminates – properties, uses and applications.

Unit – IV

Fabrics and other furnishing materials – fibers – natural – silk, cotton, linen, damask, furs, etc: artificial - polyester, nylon, rayon, etc , textiles, fabric treatments, carpets, durries, tapestries, Drapery, upholstery, wall coverings, etc. – properties, uses and application in the interiors.

Unit – V

Miscellaneous materials such as, foam, cork, leather, leatherite, UPVC, paper, Rexene, water proofing materials, termite treatment chemicals, Insulation materials – various insulating materials & their properties, uses and applications in the interiors.

Unit –VI

Roofing tiles : terracotta, sheets and fiber boards – properties and application.

Flooring tiles : Various natural as well as artificial flooring materials like, ceramic tiles, full body vitrified tiles, terracotta tiles, glass mosaic tiles, stone tiles, Mosaic, Rubber, Linoleum, PVC and PVA flooring, their Properties, other uses and applications in the interiors.

Unit – VII

Green materials – roofing, flooring, luminaries, water controls, sensors, etc

Expected Output – Students shall do case studies, market surveys, visual presentations, site visits and drawings.

Note: Market surveys to be conducted to find out the commercial and technical names, sizes, wastages, BIS and codes for materials, testing, fabrication, commercial methods of pricing, billing etc.

References:

- Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and Methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
- Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
- Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
- Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.
- Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi, 1990.
- Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.
- Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008.

ID17B2.5C: MATERIALS AS MEDIA FOR CREATIONS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	100		100	

Course Overview:

The course has been designed to provide:

- the foundation and capability to represent the concepts three dimensionally through photography & different materials.
- Skill based practical ability involving to develop fundamental and technical capabilities necessary for developing a product. It enables students to see things, analyze them and express them in a strong visual form both in 2D & 3D.
- information on working with Bamboo and wood which are among the major materials used in the interiors. Understanding of wood as building material, finishing material for surfaces and as furniture material.
- an understanding of comparative analysis of various metals and their design parameters facilitating usage in the interiors.
- scientific understanding of woven fabrics as soft interior element of design as

space making element and its various uses as art forms which can be used in the interiors. This course also provides an understanding of scientific base of printing and its relationship with types of fabrics.

Objectives of the course:

- **Model Making** : To introduce various fabrication skills and techniques necessary to produce scale models and to encourage preparation of models as an essential phase in design development and evaluation.
- **Photography**: To develop a basic sense of visual perception for students through observation of composition, color and light interaction, shades and shadows and positive and negative space relationship. To develop competency in basic photographic techniques required for Interior Design.
- **Ceramics** : To introduce various fabrication skills and techniques necessary to produce scale models and to encourage preparation of models as an essential phase in design development and evaluation.
- **Wood** : To give an exposure to the materials and introduce various tools and techniques in making wooden & cane objects.
- **Metal** : To introduce various methods of working with metals with an exposure to fixing, joinery and treatment
- **Fabric** : To introduce various weaving techniques necessary to produce art forms as an essential phase in design development and evaluation and shall also introduce visual perception of printing principles and their applications in developing soft interior elements.

Expected Skills / Knowledge Transferred:

- Dexterity; knowledge of materials used and their properties, craft skills; visualization skills through model making.
- The course prepares students to gain an understanding into the basic principles and techniques in using and handling photography necessary for the profession, craft skills in ceramics, fabrication & casting skills, & visualization skills of woven & printed fabrics. Ability to make products and elements of various scales for interiors with bamboo, cane, metal, wood.

Unit –I

Model Making : Introduction to model making: Need; role of scale models in design: general practices: Essentials of model making: understanding of various tools and machines employed, best practices involved in operating the tools and the techniques. Introduction to the Mount Board for model making – types, properties etc. Hand building techniques on different planes - making rigid forms like, cubic, spherical, pyramidal shaped forms, depiction of steps, free forms, sculptures, etc

Expected Output : With the above knowledge the students should make a model of a furniture for internal & external assessment.

Unit – II

Photography : Introduction to the basic principles of photography and photographic equipment - Analog and digital photography. Types of camera – Digital cameras (min 10 – 12 Mega pixel), Mobile phone cameras, understanding of the camera & its various parts and controls. Basic information about Accessories

- studio equipment, tripod, flashlight, lens filters, hood, adapters, grid screen, memory cards, batteries and rechargeable, etc., use of fixed focal lenses, black and white negative films, etc. An overview of Lenses, sensors, scanners, shutter speeds and movement, focus and aperture, choice of exposure, changing focal length, flash and its control, light conditions, light compensation. Seeing and photographing, using the view finder, framing up, creating a point of emphasis, picking lighting conditions, pattern, texture and shape, color etc., Lighting in photography: quality and quantity - soft and hard, lighting direction, types of lights, tungsten, flash, fluorescent etc., proper accessories - reflectors, filters, daylight, artificial light, mixed light, simple setups for adding light, multiple light sources etc. Digital photography : introduction to digital photography tools, different aspects of taking images, steps in image processing, editing techniques, sequencing, image manipulation using a computer, storage formats, printing digital files, presentation of photographs.

Interior photography : Analysis of subject and content, perspective – vanishing points, distortion, converging verticals, usage of shift lens, camera position, picture format, image frame and composition – stationary surrounding objects, moving objects. Shooting parameters – light sensitivity, exposure, shadows and reflections.

Close-up photography of interior accessories : creatively correct exposure, specific lighting, foreground and background framing, filling the frame horizontal vs. vertical, texture up close, final image of interior accessories, clear glass, etc

Expected Output : With the above knowledge the students should make portfolio of photography with their own digital camera - of interiors - in natural light & artificial light, close-ups of sculptures and any art work or details in different materials – wood, metal, glass, pieces of furniture, etc, for internal & external assessment.

Unit III

Ceramics – clay/ plaster of Paris : Introduction to model making, Need; role of scale models in design: general practices - The potter's wheel – kneading the clay, function of hands in throwing. Learning basic techniques in making different objects like bowl, plate, cylinder, vase, etc. Essentials of model making: understanding of various tools and machines employed, best practices involved in operating the tools and the techniques. Introduction to the Ceramic materials used for model making – clay, types and mixtures, properties etc. Hand building techniques- coiling, hand building with clay strips- making a small sculpture in Relief work – addition - making a mural, scooping – tile work.

Expected Output: With the above knowledge the students should make a useful interior product or ceramic sculpture or ceramic mural with moulds along with a written report for internal & external assessment.

Unit – IV:

Wood : Working with wood and wood derivatives to understand material parameters. Wooden joinery and its strength, Wood polishes and other finishes – colour and surface quality. Making of elements of various scales in the built form, such as, interior space making elements, furniture forms, various products, Art & Artifacts by using wood. Understanding the material and tools by making objects which allow students to explore the forms, surfaces, textures and patterns. Explore different joinery, support conditions, and woven surfaces.

Cane & Bamboo : Introduction to cane, bamboo, working with bamboo/cane and their products to understand material parameters. Bamboo and cane joinery and its strength. Polishes and other finishes. Expected Output: With the above knowledge the students should make an useful interior product in wood / cane or bamboo along with a written report for internal & external assessment.

Unit – V:

Metal : Types of metals, properties of metals, definitions of terms with reference to properties and uses of metals, various methods of working with metals, fixing and joinery in metals, finishing and treatment of metals., finishes on metals. Standard specifications. Metals in built form activity – horizontal, vertical and inclined surfaces – in interior environment elements- products and furniture forms - doors, windows, grilles, railing, stair etc. Metals and other materials – form and joinery.

Expected Output: With the above knowledge the students should make an useful interior product in metal along with a written report for internal & external assessment.

Unit VI

Textiles – Weaving & printing : Introduction to fibers and yarns, table loom and floor loom, preparing warp, setting up loom for weaving. Basic weaves and their variations. Variation weaves and design quality, weaves as light controlling device, weaves and its quality for upholstery, curtains and floor coverings, Rugs and durries – motifs design, patterns and color variations. Development of textile design in different cultures from primitive art to contemporary designs. Criteria of design of the elements and principles of textile design. Analysis of a motif, developing repeat as a basic unit of design in textile printing.

Printing – developing block, understanding the material used, colors, types and their mixing process, various color printing. Screen printing – design evolution for wall hangings, preparing screen and understanding the technique, printing on paper and printing on fabric.

Assignments: Extensive market survey of available fabrics for interior spaces – product specifications and manufacturers.

Expected Output: With the above knowledge the students should make a portfolio of swatches & techniques of block and screen printing along with a report to be made for Internal & external assessment. End exam shall be a Viva exam.

Reference Books:

- Carol Strangler, The crafts and art of Bamboo, Rev. updated edition, Lark books, 2009.
- Dr Angelika Taschen, Bamboo style: Exteriors, Interiors, Details, illustrated edition, 2006.
- Albert Jackson & David Day, The complete manual of wood working, Knopf publishers, 1996.
- Lonnie Bird, Jeff Jewitt, Thomas lie- Nielsen, Taunton's Complete Illustrated Guide to Woodworking, Taunton, 2005.
- Peter Korn, Wood working Basics : Mastering the essentials of craftsmanship, Taunton , 2003
- John .F. Pile, Interior Design, Harry. N Abrams, Inc. New York . 1995.
- Ron Fournier, Metal Fabricator's Handbook, Rev. Illustrated edition, HP Books, 1990.
- Stanford Hohauser, Architectural and Interior models, Van Nostrand Reinhold, 1970.
- Liz Gibson, Weaving Made Easy: 17 Projects Using a Simple Loom (Paperback), Interweave press, 2008
- Deoborah Chandler, Learning to weave, Revised edition, Interweave press, 2009.
- Kirsten Glasbrook, Tapestry Weaving, Search Press, 2002.
- June Fish, Designing and printing textiles, Crowood press, 2005
- R.W.Lee, Printing on Textiles by Direct and Transfer Techniques, Noyes Data Corporation, 1981
- Fabrics: A guide for architects and Interior Designers, Marypaul Yates, Norton publishers, 2002.
- Materials for Interior Environments, Corky Bingelli, John wiley and sons, 2007

ID17B2.6C: COMPUTER AIDED DRAWING FOR INTERIOR DESIGN

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	02	02	50	50	100	P

Objectives of the Course: To orient the student to create two and three dimensional objects in space with special emphasis on presentation and visualization of interiors using rendering techniques using CAD.

To explore computer modeling techniques using CAD.

Expected Skills / Knowledge Transferred:

To learn basic skills of modeling, scripting (rendering) in CAD, and to exercise methods of interface within CAD.

Course Overview:

Unit – I

Starting AutoCAD: Introduction to the menu, starting drawings from scratch. Creating and using templates- starting drawings with setup wizards. Saving and closing a file.

Unit – II

Using co-ordinate systems – The UCS. Working with Cartesian and polar coordinate systems. Using displays with shortcuts.

Unit – III

Setting up the drawing environment – setting the paper size, setting units, grid limits, drawing limits, snap controls. Use of paper space and model space.

Unit – IV

Basic commands dealing with drawing properties: Layer control, change properties, line weight control, etc.

Unit – V

Inquiry methods: Using data base information for objects, calculating distance, angle, areas etc.

Unit – VI

Dimensioning commands and blocks: Dimensioning the objects in linear, angular fashions along with quick time dimensioning etc. Creating and working with blocks, creating symbols, use of blocks in creating a layout, of a residential area- one exercise to be done as lab assignment.

Unit – VII

Orientation towards 3D : 2D to 3D conversion, perspective view, walk through the layout.

Unit – VIII

3D-Max : Understanding 3D, theory behind 3D modeling. Preparing for construction of 3D models. Construction of 3D surface models- extrusion, wire frame, creation of a shell, elaborate surfaces.

Unit –IX

Solid modeling : concepts behind solid modeling, composite solids creation and modification, solids display and inquiry.

Unit – X

Introduction to REVIT

Unit - XI

Rendering and presentation. Printing and plotting.

GN17B2.1A: COMMUNICATION SKILLS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	02	02	50	50	100	P

Course Overview: To prepare students to acquire understanding and fluency in English for professional work

Objectives of the Course: To provide an adequate mastery of technical and communicative English Language training primarily, reading and writing skills, and also listening and speaking skills.

Expected Skills / Knowledge Transferred: To prepare students for participation in seminars, group discussions, paper presentation and general personal interaction at the professional level.

Unit I

Communication: Importance of Communication; Elements of good individual communication; organizing oneself; different types of communication; Barriers in the path of Communication

Unit II

Listening skills: Listening to conversation and speeches (Formal and Informal)

Reading: Techniques of reading, skimming, Scanning, SQ3R technique

Unit III

Creative Writing: Scope of creative writing; Writing skills Signposting, Outlines, Rephrasing

Writing a report/ format of the report; Paragraph, Letter Writing, Essay writing, Memo, Circular, Notice, Cover Letter, Resume, Writing with a thesis, Summary, Précis, Product description – Description of projects and features

Oral Report; Periodical Report; Progress Report; Field Report

Preparation of minutes; Video conference; Tele conference / Virtual meeting

Unit IV

Speaking: How to converse with people, How to communicate effectively; Language and grammar skills; Pronunciation drills, Phonetics, vowels, Diphthongs, consonants, Stress, Rhythm and intonation, Conversational skills

Features of effective speech- practice in speaking fluently –role play – telephone skills – etiquette.

Short Extempore speeches – facing audience – paper presentation – getting over nervousness – Interview techniques – preparing for interviews – Mock Interview – Body Language.

Unit V

Impact of internet on communication; communication through computers; voice mail; broadcast messages; e-mail auto response; etc.

Reference books:

1. Krishna Mohan & Meera Banerji: Developing Communication Skills Macmillan India
2. C S Rayudu: Principles of Public Relations, Himalaya Publishing House
3. K. Ashwathappa: Organizational Behavior, Himalaya Publishing House
4. Daniel Colman: Emotional Intelligence,

GN17B2.2A: VALUE EDUCATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	02	02	50	Nil	50	-

Course Overview: To provide guiding principles and tools for the development of the whole person, recognizing that the individual is comprised of Physical, Intellectual, Emotional and Spiritual dimensions.

Knowledge Transfer /Expected Skills:

To help individuals think about and reflect on different values.

To deepen understanding, motivation and responsibility with regard to making personal and social choices and the practical implications in relation to themselves and others, the community and the world at large to inspire individuals to choose their own personal, social, moral and spiritual values and be aware of practical methods for developing and deepening them.

Unit I

Value Education—Introduction – Definition of values – Why values? – Need for Inculcation of values – Object of Value Education – Sources of Values – Types of Values: i) Personal values ii) Social values iii) Professional values iv) Moral and spiritual value Behavioral (common) values

Unit II

Personal values – Definition of person – Self confidence – Relative and absolute confidence, being self-determined, swatantrata (loosely equivalent to freedom).

Self discipline – Self Assessment – Self restraint –Self motivation – Determination – Ambition – Contentment Self-respect and respect to others; expression of respect

Unit III

Social values – Units of Society - Individual, family, different groups – Community – Social consciousness – Equality and Brotherhood – Dialogue – Tolerance –

Sharing – Honesty-Responsibility – Cooperation; Freedom – Repentance and Magnanimity.

Peer Pressure – Ragging - examples - making one's own choices

Unit IV

Professional values-Definition-Competence-Confidence-Devotion to duty-Efficiency-Accountability.

– Respect for learning /learned – Willingness to learn-Open and balanced mind – Team spirit – Professional

Ethics – Willingness for Discussion; Difference between understanding and assuming.

Time Management: Issues of planning, as well as concentration (and aligning with self goals) Expectations from yourself. Excellence and competition, coping with stress, Identifying one's interests as well as strengths.

Unit V

Behavioural values – Individual values and group values. Anger: Investigation of reasons, watching one's own anger; Understanding anger as: a sign of power or helplessness, distinction between response and reaction.

Right utilization of physical facilities. Determining one's needs, needs of the self and of the body, cycle of nature.

Relationship with teachers. Inside the class, and outside the class, interacting with teachers.

Unit VI

Complimentary nature of skills and values. Distinction between information & knowledge

Goals: Short term goals and long term goals; How to set goals; How to handle responsibilities which have to be fulfilled while working for goals.

Reference Books

1. Ramancharla Pradeep Kumar. Compiled Reading Material IIIT Hyderabad
2. Dr. S. Ignacimuthu S. J., Values for life, Better yourself Books, Bandra Mumbai- 600 050 (1999).
3. Values (Collection of Essays), Published by : Sri Ramakrishna Math., Chennai—(1996)
4. Prof. R.P.Dhokalia., Eternal Human Values NCRT –Campus Sri Aurobindo Marg., New Delhi
5. Swami Vivekananda., Education., Sri Ramakrishna Math., Chennai-4(1957)

SEMESTER III**PA17B3.1C INTERIOR DESIGN 1**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B2.1C	10	10	100	100	200	S

Course overview:

This course is intended to provide skills for designing single use interior spaces or products etc.

Objectives of the course:

To develop creative conceptual visualization, hand skill building, and the process of design.

Expected skills/ knowledge Transferred:

Use of anthropometry, ergonomics, handling of space and application of knowledge gained from other subjects, in design.

Course Contents:

The primary focus should be on –

- Anthropometry
- Design methodology
- Conceptual exploration and representation.
- Creativity
- Scale/proportion
- Documenting space
- Graphic design (page layout and composition)
- Concepts sketching
- Application of design principles and elements
- Portfolio development

The list of suggested topics to be covered as design problems shall be a single space like: Single room residence, Doctor's clinic, kindergarten class room, Crèche, Architect's studio, Lawyer's office, small cafeteria, bank extension counter, florist shops, medical outlets, clothing store, shoe store, accessory store, book shop, waiting lounges for – hospitals, corporate, hotels, etc.

Note: At least three major exercises and four minor design/time problems should be given. Internal marking shall be done in stages project wise:

- Schematic layouts

- Final layout
- Sectional elevations
- Typical details
- Complete project with all details
- 3D drawings with colour rendering

The end exam shall be a 5 hours duration design project to be conducted in the institution premises.

References:

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.
- Julius Panero & Martin Zelnick, Human Dimension & Interior Space : A source book of Design Reference standards, Watson – Guptill, 1979.
- Maureen Mitton, Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003
- Mark.W. Lin, Drawing and Designing with Confidence: A step-by-step guide, Wiley and Sons, 1993.
- Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals ,2002

ID17B3.2C: INTRODUCTION TO ERGONOMICS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W

Course overview:

The course provides a framework to analyze and design furniture forms scientifically and sensitizes the student's visual perception of furniture as a single form and as a system in a given interior space.

Objectives of the course:

Imparts knowledge of Man as the prime system component; Man-machine - environment interaction system and user-friendly design practice; Human compatibility, comfort and adaptability; Physical (anthropometrics, human body-structure and function, posture, movement and biomechanics), Physiological (work physiology) and Psychological aspects (behavior, cognitive aspects and

mental workload); Information processing, human error and risk perception; Visual performance and visual displays; environmental factors influencing human performance; Occupational stress; safety and health issues; Ergonomics criteria/ check while designing; Design process involving ergonomics check and ergonomic design evaluation and Participatory ergonomics aspects.

Imparts the knowledge of various styles, systems and products available in the market. Enhances the knowledge of ergonomics, materials, design and working parameters in designing furniture. Develops systematic design approach and space planning through furniture as elements of design.

Expected skills/ knowledge Transferred:

The course prepares the student in scientific process of furniture design. This enables the students in designing for various classes of people with the parameters of economy and culture.

Course Contents:

UNIT – I

Introduction to Ergonomics, Design today- Human aid to lifestyle, Environmental factors influencing human performance, Ergonomics in India: scope for exploration

UNIT – II

Discipline approach: Ergonomics/ Human factors, Journey, Fitting task to man their contractual structure, Domain, Philosophy and Objective, Mutual task comfort: two way dialogue, communication model, Ergonomics/ human Factors fundamentals, Physiology (work physiology) and stress.

UNIT –III

Human physical dimension concern : Human body- structure and function, anthropometrics, Anthropometry: body growth and somatotypes, Static and dynamic anthropometry, Stand Posture- erect, Anthropometry landmark: Sitting postures, Anthropometry: squatting and cross-legged postures, Anthropometric measuring techniques, Statistical treatment of data and percentile calculations

UNIT – IV

Human body structure and function : Posture and job relation, Posture and body supportive devices, Chair characteristics, Vertical work surface, Horizontal work surface , movement , work Counter.

UNIT - V

Behavior and perception : Communication and cognitive issues, Psycho-social behavior aspects, behavior and stereotype, Information processing and perception , Cognitive aspects and mental workload , Human error and risk perception

UNIT – VI

Visual ergonomics: Visual performance , Visual displays, visual comfort and designing for different functions and designing for differently abled.

Unit - VII

Ergonomic design process : Ergonomics design methodology, Ergonomics criteria/check while designing, Design process involving ergonomics check, Some checklists for ease of task.

Unit – VIII

Performance support and design intervention: Occupational safety and stress at workplace in view to reduce the potential fatigue, errors, discomforts and unsafe acts : Workstation design, Furniture support , Vertical arm reach and design application possibility .

References:

- Bridger, RS: Introduction to Ergonomics, 2nd Edition, Taylor & Francis, 2003.
- Dul, J. and Weerdmeester, B. Ergonomics for beginners, a quick reference guide, Taylor & Francis, 1993.
- Green, W.S. and Jordan, P.W, Human Factors in & Product Design, Taylor & Francis, 1999
- D. Chakrabarti, Indian Anthropometric Dimensions for ergonomic design practice, National Institute of Design, Ahmedabad, 1997
- G. Salvendy (edit), Handbook of Human Factors and ergonomics, John Wiley & Sons, Inc., 1998
- Singh, S (Edt), Ergonomics Interventions for Health and Productivity, Himanshu Publications, Udaipur, New Delhi, 2007

ID17B3.3C: INTERIOR CONSTRUCTION DETAILS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	05	05	50	50	100	W

Course Overview :

The focus of this course is to impart skills related to the preparation of detailed drawings for Interior Design execution.

Objectives of the Course :

To impart training in the preparation of construction details of different types of wood work with specific requirements.

Expected skills & knowledge to be transferred :

The course shall prepare the students to generate technical presentation of design at the built form level, product & and furniture design at finishing level.

Course Contents :

Unit – 1

Details of Interior civil work : wall finishes, wall plastering, chamfered corners, gulta finish, dado, wall cladding, fixing of doors & windows, etc

Details of floor finishes : tiling/ stone flooring, wooden flooring, access flooring

Plans, sections & elevations of staircases : Types of staircase, different materials – RCC, wood, steel staircase, etc

Unit - 2

Detailed plan, sections & elevations of :

All woodworks : joinery, types of doors, windows, etc

Partition walls : all types of partitions – full height, half & dwarf, double skinned, single skinned, frameless glass, etc

Wall paneling : plywood, leather, acoustic boards, etc

False Ceiling : all types, with full system, insulation, acoustical, etc

Unit -3

Detailed plan, sections, elevations and isometrics of the standard residential furniture like: Sofas – double, single seat

Tables – peg, nested, dining, etc Chairs –study, dining, sofa chairs, etc

Beds with side tables – TW frame, box frame, with storage, etc

Storage & display units : dressing table units, showcase, cutlery cabinets, home bar, entertainment units, book case, tall boy units, chest of drawers, etc

Bar counter with bar stool

Detailed plan, sections, elevations with one point perspectives of kitchen with details of each units, etc.

Unit – 4

Detailed plan, sections, elevations and isometric views of office furniture – hierarchy of work stations, tables, return units, filing units, Reception table, etc

Unit - 5

Detailed plan, sections, elevations and isometric views of furniture of Institutional spaces, Retail spaces & hospitality spaces – bank counters, reception counters/ tables, restaurant service counters, storage & display, awnings, etc

Unit – 6

Details of soft furnishings : types of Draperies, curtains, blinds, types of stitches, valences, linings, tiebacks, hanging details, etc

Note :

Students shall prepare detailed drawings of all the above of utilitarian design as per standards. The students shall be required to submit all manual drawings of :

- Plans, elevations, sections
- Isometric views / 2 point perspective view with colour rendering denoting the finish of the furniture.
- Market survey for latest hardware for specification writing
- Specification writing : detailed specification of materials, pre & post execution, mode of measurements, manufacturer's details & brand names, etc
- Joinery details
- At least 2 full size details per furniture
- All drawings to be done manually

End exam shall be a 3 hr drawing exam.

References:

- Macy, W. Frank, Specification in details, 5th edition, Technical Press Ltd, London, 1955
- Shah, M G & others, Building Drawing : An Integrated approach to build Environment, 3rd edition, Tata McGraw Hill Publications Company Ltd, New Delhi, 1996
- Kilmer, Working Drawings & Details for Interiors, John Wiley & Sons

ID17B3.4C: HISTORY OF INTERIOR DESIGN

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W

Course Overview:

The course emphasizes on developments of interior elements in response to social, religious, aesthetic and environmental factors. The course focuses on the three dimensional forms, plan forms and ornamentation.

Objectives of the course:

To understand the effect of design movements and various schools of thought on interior environment. This investigation in the historical imperative in relation with design should be used by the students as an aid to the design process.

To understand the historical progression of art and architecture in India and its application to formulate themes and concepts for contemporary designs.

Expected Skills / Knowledge Transferred:

- Acquire the knowledge to identify the common characteristics among the monuments of a particular style.
- Acquire graphic skills to present and analyze the elements and explain its composition.
- Acquire knowledge on good practices of Interior Design in the past.
- Acquire Knowledge related to the use of colours in different Historical period and in different parts of India

Course Contents:

Unit – I:

Elements of style and determinants of Interior environments in Ancient Civilization, Classical world & the Middle ages : emphasis shall be on Architectural elements, furniture, decorative arts, colours & materials.

- Egyptian
- The ancient Near East - Samaritans, Babylonians, Assyrians, Persians
- The Classical World – Greek, Roman
- The Middle Ages - Early Christian and Byzantine, Romanesque and Gothic , Renaissance in Italy, Spain, France and England, Baroque, Rococo, Neoclassicism.
- Eastern influences - China and Japan

Unit – II:

- Reviewing Industrialisation :- Industrial revolution and its influence on social, economic conditions of that period, Scientific and technological progress, invention of new materials. An overview of Art and Crafts movement in Europe and America
- Art Nouveau, Bauhaus, International style, Post Modernism.
- 20 century Birth of modern art, Cubism, Impressionism, Post impressionism and others.

Unit – III:

Indian architecture and interiors-

- Hindu and Islamic, Secular architecture of the princely states like Rajasthan, etc
- Critical Regionalism and the neo-vernacular with examples from Jammu and Kashmir, Southern India, Gujarat, , Himachal Pradesh , states of North & eastern India, Maharashtra, Uttar Pradesh, Orissa etc.

Unit – IV:

History of modern movement in interior Design and architecture – developments of modern movements – various fields of design affecting interior ambiances directly – international modernism, regionalism and concerns with vernacular, colour, etc. Introduction to art movement of 1920-modern: abstract art, constructivism action painting, use of modern materials and technique

Unit – V:

Designers and their works with respect to interior architecture and interior elements of design. Contemporary expressions of styles and art forms.

- Theories and projects of F L Wright; Le Corbusier; Gaudi; Gropius; Aalto; Mies; Eisenmann; Zaha Hadid; Soleri; Hasan Fathy; Ando; Bawa; Gehry; Libeskind; Toyo Ito; Louis Khan; Tschumi; Greg Lynn; Assymptote
- Theories and projects of Indian Architects like : B V Doshi; Ananth Raje; Raj Rewal; Laurie Baker; Nari Gandhi; Kanvinde, Shirish Beri, Charles Correa, I M Kadri, etc

References:

- John F. Pile, A history of interior design, 2nd edition, Laurence King Publishing, 2005.
- Jeannie Ireland, History of Interior Design, air child publications, illustrated ed., 2009.
- Elaine, Michael Dywer, Christopher Mackinnon, Norman A. J. Berisford Denby , A History of Interior Design, Rhodex International, 1983.
- Giedion Sigfried, Space, Time and Architecture: The growth of a new tradition, 4th ed. Harvard University Press, Cambridge, 1962.
- Tadgell Cristopher, The History of Architecture in India: From the dawn of civilization to the End of the Raj , Om Book Service, New Delhi, 1990.
- Rowl Benjamin. Art and Architecture of India

ID17B3.5C: FURNITURE MAKING WORKSHOP– I

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	100		100	

Course Overview:

The course is intended to provide hands on working with materials used for the production of furniture. Understanding the process that are involved from the pre-design to finishing of furniture.

Objectives of the course:

To give an exposure to the materials and introduce various tools and techniques & processes in making furniture.

Expected Skills / Knowledge Transferred:

Ability to make products and elements of various scales for interiors.

Course Contents:

Unit – I:

Working with wood , wood products, metals & textiles to understand material parameters in the design of a furniture piece in terms of finishes – color and surface quality etc

Suggested Assignment: making different joinery in mount board or wood, plywood, etc

Unit – II:

Making of elements of various scales in the built form such as interior space making elements, furniture forms, evolution of furniture.

Unit – III:

Use of anthropometry, ergonomics, and handling of space and application of knowledge gained from other subjects, and design a piece of furniture

Unit – IV:

Template making

Expected Output: To design a piece of simple day to day furniture with wood or metal or combination of materials - Drawings, details, templates of the same piece of furniture with detailed study and documentation with a scaled model is required for submission for Internal & external assessment.

End exam will be Viva exam

References:

- Laura Slack, What is product Design? Roto Vision publishers, 2006
- Treena Crochet and David Vleck, Designer's Guide to Decorative Accessories, Prentice Hall, 1st edition, 2008.
- Michael Ashby, Kara Johnson, Materials and Design: The Art and Science of material selection in product design, Butter Worth Heinemann, 1st edition, 2002.
- International Design Yearbook, 1995: Furniture, Lighting, Tableware, Textiles and Products, Books Nippan, 1996.
- Karl. T. Ulrich, Steven D. Eppinger, Product Design and Development, McGraw-Hill Education Singapore; 4th edition, 2007

ID17B3.xE: Elective - I

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Nil	3	3	50	50	100	W/S/J/P

ID17B3.1E: INTERIOR PHOTO JOURNALISM**Course Overview:**

The Course prepares ground for the students to gain an understanding into the fundamental issues in Interior & Architectural Photography and develop the skill to create Articles/presentation capturing the essence through the photographs.

Objectives of the Course:

Develop skills for extra skills in the field of Interior Journalism which is an emerging field in Interior Design.

Expected skills/ knowledge Transferred:

The students shall gain knowledge and develop the skill to create Articles/presentations capturing the essence through the photographs.

Course Contents:**Unit -I**

Definition of Photo Journalism – Brief History – photographs as social documentaries – Birth of modern Photo Journalism since 1950s – Visual awareness – visual survey – EDFAT methods in using the camera – Equipment required for Photo Journalism.

Unit –II

Development of writing skills: Usage of language and Vocabulary and grammar introduction to methodology of writing essays, news writing, précis writing, writing in architectural blogs; listening comprehension, analyze talks and information gathered and to edit gathered information to build an article. Originality of topic. Collecting clippings from articles, blogs and books.

Unit –III

Photo Journalism in perspective – Snap shots – Advance amateur Photography – Art Photography – Photo Journalism – Approach to Photo Journalism – News Papers and Magazine Design elements: Page make –up – Layout – color scheme – Font – Blurb – Pictures – Ads etc – Other magazines – Documenting of Places – Rural – Urban – Public relations.

Unit – IV

Key texts concerning Interior architectural journalism and journalists; to critically contrast their outputs in terms of production, content and/or presentation; to develop an ability to critically appraise selected individual pieces of journalism. Awards of Architectural Journalism and some of the important recipients People journalism and law - legal boundaries - issues libel and invasions of privacy-ethics- the photo journalist on scene

Unit – V

Production of contemporary architectural journalism; Building pictures – Instant, Report – Editing – Editorial thinking – the picture Editor – Editing practices, creating drama – Photo editing – Documentary- evolution of the word document-methods and techniques.

Assignments should include an article based on ability to originate, plan, research, present and produce a piece of Interior architectural journalism. The techniques and processes used in the production should be identified by the student.

References:

- Kopelow, Gerry. How to photograph buildings and interiors, 3rd edition. New York: Princeton Architectural Press, 2002.
- Busch, Akiko. The photography of architecture: twelve views, New York: Van Nostrand Reinhold Co., 1987.
- Mehta, Ashvin. Happenings: \b a journal of luminous moments, Vapi, Gujarat: Hindustan Inks, 2003.
- Mohd, Al Asad. Architectural Criticism and Journalism
- Sommer, Robert. Tom Wolfe on Modern Architecture

ID17B3.2E: INTERIOR SKETCHING & RENDERING

Course Overview:

The course introduces the techniques of architectural drawing pertaining to 3D views and perspectives, sciography and rendering.

Objectives of the course:

To enable free-hand sketching & rendering skills and to impart the techniques of rendering in different media and skills of three dimensional visualization and presentation.

Expected Skills / Knowledge Transferred:

Perspective and three dimensional drawings with rendering in different media for presentation with free- hand.

Course Contents:

Unit – I

Introduction to free-hand sketching with pen and brush exercises – Simple exercises of shapes and lines, lines and textures, pen lines, ruling with pen and brush, brush lines etc.

Unit – II

Tones and Rendering – tones in pen drawings, value scales, Gray values, Grading

tones etc. Simple exercises of tonal values and textures with pen. Color study, monochrome and wash rendering etc.

Unit –III

Perspective: Characteristics of perspective drawings, perspectives of simple geometric solids and spaces and complex geometries. Advanced examples in one point or parallel perspective, two point Interior perspectives of rooms.

Unit – IV

Rendering of the perspectives in different media through drawing pencil, sketch pen, pencil color, monochrome, wash rendering etc., Integrating landscape elements, human figures, shadows, foreground etc in the perspectives.

References:

- Athavankar, U., (1990). Thinking Style and CAD. Proceedings of Conference on Design Research, (pp 109-116). University of Compiègne, France.
- Athavankar, U., (1997). Mental Imagery as a Design Tool. Cybernetics and Systems, (pp 25-42). Vol 28, No 1.
- Athavankar, U., (1999). Gestures, Imagery and Spatial Reasoning. 'Visual and Spatial Reasoning', Eds. John S. Garo and Barbara Tversky, Preprints of the International Conference on Visual Reasoning (VR 99), (pp 103-128). MIT
- Kahneman, D., (2011). Thinking, Fast and Slow. Allen Lane, London.
- Mckim, R., (1972). Experiences in Visual Thinking. Brooks/Coles.
- Miller, G., (1966). The Magical Number Seven, Plus or Minus Two. In Readings in Perception, Eds. Wertheimer M., (pp 90-114). Van Nestrand, New York.
- Sommer, R., (1978). The Mind's Eye. Delta Book, New York.
- Tuvey, M., (1986). Thinking Styles and Modeling Systems. Design Studies, (pp 20-30). V 7, No.1.
- Tovey, M., (1989). Drawing and CAD in Industrial Design. Design Studies, (pp 24-34). V 10, No.1

ID17B3.3E: Open Elective – I

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	100	-	100	

Course Overview:

The course provides the students to select any subject which they feel would help them to release their potential.

SEMESTER - IV**ID17B4.1C: INTERIOR DESIGN – II**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B3.1C	10	10	100	100	200	J

Course overview:

This course is intended to provide skills for designing medium scale interior spaces or products etc.

Objectives of the course:

To develop creative conceptual visualization, hand skill building, and the process of design and emphasis shall be on graphic layout and elevations as a design process.

Expected skills/ knowledge Transferred:

Use of standards, functions of spaces and application of knowledge gained from other subjects, in design.

Course Contents:

The primary focus should be on –

- i. Documenting space (sketch and photo documentation)
- ii. Space planning process (block diagram, concept statement)
- iii. Concept sketching
- iv. Application of design principles and elements
- v. Creativity /originality
- vi. Design Process/methodology
- vii. Structural integration
- viii. Style
- ix. Color Rendering
- x. Anthropometry and ergonomics
- xi. Furniture Design
- xii. Material selection
- xiii. Graphic design (page layout and composition)
- xiv. Portfolio development

Design portfolio to include designs in response to today's situation of urban society, i.e., contemporary spaces required in modern society – needs, realities, value system etc.. The spaces to be considered shall be : home, office, bank, school, college, public level spaces - restaurant, lounge (hotel), etc.

The list of suggested topics to be covered as design problems:

- Thematic space making with Art and craft forms of our own culture in India – East, West, North, Central and so on.
- Design of built units of various geographical locations and culture by involving historical periods, styles and use of craft in its inherent quality and form - integrating craft and living environment.

Note: At least two major exercises and three minor time problems should be given. Internal marking shall be done in stages and project wise:

- Schematic layouts
- Final layout
- Sectional elevations
- Designs & details

Submission & marking of project work shall be done in stages for internals. In the end exam, which is a viva-voce the students have to present the entire semester work for assessment.

References:

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.
- Julius Panero & Martin Zelnick, Human Dimension & Interior Space : A source book of Design Reference standards, Watson – Guptill, 1979.
- Maureen Mitton, Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003
- Mark.W. Lin, Drawing and Designing with Confidence: A step-by-step guide, Wiley and Sons, 1993.
- Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals ,2002
- Neufert Ernest, Architect's Data, Granada pub. Ltd. London, 2000.
- John F. Pile, A history of interior design, Laurence King Publishing, 2005.

- Robin D. Jones, Interiors of Empire: Objects, Space and Identity within the Indian Subcontinent, Manchester University Press; illustrated edition, 2008

ID17B4.2C: FURNITURE DESIGN

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B3.4C	03	03	50	50	100	W

Course overview:

The course provides a framework to analyze and design furniture forms, specially built in furniture, scientifically and sensitizes the student's visual perception of furniture as a single form and as a system in a given interior space.

Objectives of the course:

To Impart knowledge about various styles, systems and products available in the market. Enhances the knowledge of ergonomics, materials, design and working parameters in designing furniture. Develops systematic design approach and space planning through furniture as elements of design.

Expected skills/ knowledge Transferred:

The course prepares the student for mass production of furniture for various classes of people with the parameters of economy and culture.

Course Contents:

Unit – I

Functional and formal issues in design: study and evaluation of popular dictums such as "Form follows function", "Form and function are one", "God is in Details", "Less is more" or "Less is bore" etc.

Evaluation of visual design: study of Gestalt theory of design – law of closure, law of proximity, law of continuity etc.

Typology of furniture with respect to the different states in India.

Unit - II

Human factors, engineering and ergonomic considerations: Principles of Universal Design and their application in furniture design.

Unit – III

Evolution of furniture from Ancient to present: Various stylistic transformations. Furniture designers and movements.

Unit – IV

Design approaches in furniture design. An introduction of various manufacturing processes most frequently adopted in furniture design such as Injection Molding, investment casting, sheet metal work, die casting, vacuum - forming etc.

Assignments : Survey of different types of molded or casted furniture available for different functions in the market.

Unit – V

Modular approach to furniture design – various materials, combination of materials, their hardware and applications. Cost criteria of furniture design.

Assignments : Survey of several modular systems available for different functions in the market..

Unit - VI

Furniture categories – role of furniture in interior design, exploration of the idea of furniture as elements of living units, education institutes, health facilities, street elements office, educational institutes, banks, stores, street furniture, etc.

Seating Design: Different types of seating with a focus on the following –

- Functionality
- Aesthetics
- Style
- Human factors and ergonomics
- The other component to be considered is the cost of the designed furniture piece.

Suggested Assignment: Design with wood, metal and combination of materials. Drawings, details. Market survey of available products and economics of products.

Design of furniture for upper middle, middle and lower middle income groups - elements of living units, educational institutes, health facilities, street elements etc.

Exploration of wood, metal, glass, plastics, FRP, etc as materials for furniture design – traditional and modular. Cost criteria of furniture design.

Unit - VII

Storage systems: Functional analysis of storage systems and thereby deriving types of cabinets needed for interior spaces – kitchen cabinets, wardrobes closets, book cases, show cases , display systems, compactors, mechanical storage, etc. and hardware for modular kitchen. Survey of several modular systems available for different functions in the market.

Suggested Assignment: Exercise to design kitchen cabinets for a given kitchen in details.

End exam shall be a theory exam.

Reference Books :

- Joseph Aronson, The Encyclopedia of Furniture: Third Edition ,1961
- Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details, Conran Octopus Interiors, 2006.
- Jim Postell, Furniture Design, Wiley publishers, 2007.

- Edward Lucie-Smith , Furniture: A Concise History (World of Art) , Thames and Hudson, 1985
- Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe, Wiley publishers, 2005.
- John.F. Pile, Interior Design, 2nd edition, illustrated, H.N.Abrams, 1995.

ID17B4.3C: INTRODUCTION TO ARCHITECTURAL ENGINEERING

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	02	02	50	50	100	W

Course Overview:

The course provides an in-depth understanding the concepts associated with framed structures.

Objectives of the course:

To provide knowledge of the different forces, force systems and structural behavior of different members due to applied forces.

Expected Skills / Knowledge Transferred:

Basic principles of mechanics and behavior of elements and ability to analyze the standard members in structures.

Course Contents:

Unit – I:

Introduction to built elements – study of built elements in the interiors with respect to materials used. Basic construction methods and general specifications. General types and classification of different types of buildings: overview of different functional, structural and architectural elements.

Unit – II:

Introduction to basic structural systems, elements of structure, their functions and behavior, beams, slabs, columns, walls, foundations, frame structures, composite structures, load bearing wall systems, trusses, rigid frames, linear and curved elements, simply supported, cantilever and overhanging beams for various loads, effect of simple geometric forms in the overall structural behavior. Construction of elements like lintels, sunshades, staircases, arches – parts, types, types of columns – RCC, fabricated, built-up brick column, floating column, etc.

Unit – III:

Primary and secondary forces acting on the structures – gravitational force, live load, wind, temperature variation, distribution of loads through the elements of the structural system.

Unit – IV:

Characteristic requirements of a structural design – stress and strains, strength, stiffness and stability. Discussion on factors affecting them and the ways of satisfying these requirements. Study of behavior of structures through models and testing them for given loads.

Unit – V:

Structural properties of basic materials like masonry, timber, concrete and steel etc. Light weight space structure, small and large scale surface structure, integrated display system and structural elements.

Unit – VI:

Structural systems and their layout for a small building. Structural systems for elements of interior spaces – false ceilings, false flooring, suspended floors & ceilings, etc. Structural system for urban interior spaces – malls, fair grounds, exhibition spaces, etc. Awnings, space frames, etc

Suggested Assignments :Sketches of various types of structures, trusses, arches, lintels, sections of chajjas, awnings, etc

References:

- Rowland J. Mainstone : Development of Structural Form
- Rangwala : Engineering Materials
- S.P.Bindra, S.P.Arora, Building Construction
- B.C. Punmia : Strength of Materials vol – I

ID17B4.4C: INTERIOR LANDSCAPE, SIGNAGE AND GRAPHICS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W

Course Overview:

This course introduces students to the knowledge of landscaping design parameters, landscape elements, plant materials etc. to use in the interiors effectively for aesthetic enhancement and visual comfort. Graphics and Signage provides a framework for the development of a systematic, visually cohesive graphic

communication system for a given site in the built environment. It sensitizes the students to visual aspects of way finding and shaping the idea of space.

Objectives of the Course:

- To develop a conceptual understanding of landscaping design parameters for various built forms.
- To develop skills in integrating landscape design with built environments.

- To impart an understanding of the theory of signs and symbols, gestalt design theory, visual analogy, branding and branded environments and signage and way finding systems.

Expected Skills / Knowledge Transferred:

- To develop the skill of using and integrating landscape elements and plant materials to transform different interior spaces through interior landscaping.
- The course also prepares ground for the student to gain an understanding into the practical design problems related to way finding and develop the skill to create various types of signage and way finding systems in the built environment.

Course Content:

Unit – I

Introduction and role of landscape design in the built environment. Types of natural elements – stones, rocks, pebbles, water forms, plants and vegetation. Introduction to the study of plants in relation to landscape design and interiors. Types of indoor plants, visual characteristics: i.e., color, texture, foliage. Flowers- its colors, texture and its visual perception in various indoor spaces and science of flower arrangement Indoor plants in Indian context. Plant biology, soil, moisture, light nutrient, atmospheric conditions, growing medium, pests & diseases. Botanical nomenclature, anatomy and physiology of plant growth. Market survey and costs.

Unit – II

Design with plants – Basic principles of designs. The physical attribute of plants and relation to design. Appearance, functional and visual effects of plants in landscape design and built environment. Selection and management of plant material in relation to the built environment. Design concepts related to use of sculpture , lightings, garden furniture , architectural feature and grouping them into meaningful composition s for visual and functional effects.

Unit – III

Landscaping design parameters for various types of built forms- indoor and outdoor linkage to spaces. Landscaping of courtyards- residential and commercial forms. Indoor plants and their visual characteristics- Science of maintaining and growing greenery. Automatic irrigation costing and installation of micro irrigation systems.

Unit – IV

Introduction – environmental graphic Design, way finding, Need, importance etc. Information content system – kinds of sign information, hierarchy of content, developing the sign information content, Navigation – message hierarchy and proximity, Other factors affecting sign information content, pictorial information content, signage master plans.

Unit – V

The Graphic system - Typography overview, choosing a typeface, typographic

treatment, typographic considerations in signage for the unsighted and low sighted people, symbols and arrows, other graphic elements, color, layout, overview of signage graphic process.

Unit – VI

The hardware system – shape, connotations of form, sign mounting considerations, sign size considerations, sign lighting overview, sign materials overview, basic sign materials, electronic message displays, stock sign hardware systems, sign materials and codes, overview of coatings and finishes applied to signs.

Unit – VII

Signage Design – Eyelevel, light, Fonts, typographical systems and type area, pictograms, arrows, color – contrast, language, systems, tones, Coding, privacy and protection, Room identification. Signage Planning – contract, obtaining information, preliminary design, design, construction, work plan and prototypes, tenders, specifications, on-site management, completion.

Audio visual display – types, locations, types of electronic display, equipments, etc

References:

- Laurie, Michael, An Introduction to Landscape. 2nd edition, Prentice Hall, New Jersey, 1986.
- Trivedi. P.Prathiba. Beautiful Shrubs. Indian council of Agricultural Research. New Delhi, 1990.
- Hacheat, Blan. Plant Design.
- Gerald Robert Vizenor , A Guide to Interior Landscapes, Univ of Minnesota Press, 1990.
- Nelson Hammer and Mel Green, Interior Landscape Design, Mc Graw Hill, 1991.
- Joseph DeChiara, Julius Panero, and Martin Zelnik Time-Saver Standards for Interior Design and Space Planning, 2nd edition, Mc-Graw Hill Professional,2001.
- Andreas Uebele, Signage Systems and Information Graphics , Thames and Hudson, 2007
- Craig Berger, Wayfinding: Designing and Implementing Graphic Navigational Systems, Rotovision, 2009.
- Chris Calori, Signage and Wayfinding Design: A Complete Guide to Creating Environmental Graphic Design Systems, Wiley and sons, 2007.
- David Gibson, The Wayfinding Handbook: Information Design for Public Places, Princeton Architectural Press; 1st edition, 2009.
- Rayan Abdullah and Roger Hubner, Pictograms, Icons and Signs, Thames and Hudson, illustrated edition, 2006.

ID17B4.5C: BUILDING SERVICES FOR INTERIOR DESIGN

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W

Course overview:

This course is intended for the

- understanding the significance of design and functioning of water and sewerage systems as essential components in Interior Design
- understanding the electrical services and utilities generally installed and special types of services and facilities in the interiors and focusing on the principles as well as practical aspects and solutions

Objectives of the course:

- To expose the students to various ways to provide information on the principles of water supply and sanitation.
- To develop the understanding of layout, functioning and application of utilities and services in the interiors

Expected skills/ knowledge Transferred:

- To enable students to design sanitary and water supply systems in the interiors.
- To enable students to understand principles and installations of general and specialized services in the interiors.

Course Contents:**Unit - I**

General idea of sources of water supply. Standards for quality of water. Domestic water systems, suction and storage tanks and their capacity. Pipes and their sizes and jointing. Consumption of water. Down take supply to various fittings. Types of fittings like taps, ball valves, hot water supply systems, bathtubs, showers, jets, cocks, valves etc. Faucets for kitchens, bathrooms and toilets. Check valves, foot valves, sump pump check valves etc.

Unit – II

Basic principles of sanitations and disposal of waste materials from buildings. Connection to outdoor drainage system, size requirements, types of pipes available in the market. Water carriage systems, standard sanitary fittings, traps, pipes and their jointing. Flushing systems. Bathroom interior layouts, extensive market survey of products available, economies of products available, fixing of the products with other finishing materials.

Unit – III

Waste management: Refuse, different forms of refuse garbage, house refuse, refuses chutes etc.

Unit – IV

Electrical Installations: Building wiring system. Service wires, metering distribution boards, circuits, MCB cutouts. Conductors, wiring methods, switch boards, electrical devices in the buildings, light and power circuits. Indian electricity rules, relevant provisions of NBC. Preparation of electrical layout scheme for interior using standard electrical symbols.

Unit – V

Heating Ventilation & Air Conditioning (HVAC) systems: Air conditioning, Mechanical ventilation – mechanical inlet and extraction systems. Functions of air conditioning, Principles of AC, capacity of AC, Types of AC systems – window AC, split, duct, central AC and their details. Air distribution systems – ducts, air inlets.

Unit - VI

Fire – causes and spread of fire. Design considerations for fire safety, Devices for firefighting – portable, built in wet riser system, sprinkler system, fire hydrant. Class of fire and occupancy, study of fire regulations as per NBC

Unit – VII

Services for multi storied buildings - Vertical transportation systems – Introduction – lifts, escalators- vertical & horizontal, definition, location, arrangement, structure, drives, traffic analysis, supervisory control, remote monitoring.

Unit – VIII

Security and safety systems – introduction, designing a security system – burglar alarm, CCTV, central alarm systems, intrusion sensors and space sensors. Other services – cable TV, PABX, computer labs – access flooring, server rooms.

Unit – IX

Building automation and energy management – Introduction, History of development of BAS, typical BAS, criteria for choosing the right BAS, open system architecture. Information technology, communications & artificial intelligence in intelligent buildings. Design in computer age, engineering intelligence through nature.

Reference Books:

- Hussain S.K, T.B of water supply and sanitary engineering, 3rd edition, Oxford and IBH pub. Ltd., New Delhi, 1994
- Kshirsagar, S. R, Water supply engineering, 6th ed, Roorkee publications, 1980.
- Rangwala, S.C. water supply and Sanitary Engineering: Environmental Engineering, 19th ed, Charotar pub house, Anand, 2004.
- Electrical wiring and contracting (vol. 1 to vol.4), London. The New era Publishing Company.
- Dr Frith Abnwos and others, Electrical Engineering hand book.

- William. J. Guinness, Mechanical and Electrical Systems for Buildings, New York: Mc Graw Hill.
- Faber, Oscar and Kell, J.R. Heating and Air conditioning of Building. Architectural Press, Surrey, 1945.
- Prasad Manohar, Refrigeration and air-conditioning. 5th ed, New Age Intl. pub, New Delhi, 1996.
- Derek Clements-Croome, Derek J. Croome, Intelligent buildings: Design, Management and Operation, Thomas Telford Books, London, 2004.
- Albert Ting-pat So, Wai Lok Chan, Intelligent Building Systems, Kluwer Academic Publishers, 1999.

ID17B4.6C: REVITALISATION OF ARTS & CRAFTS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B2.5C	03	03	50	50	100	J

Course Overview:

The course provides an understanding of the role of revitalization of Art/craft form in interior spaces.

Objectives of the course:

- Understanding of Art/craft forms as design elements and its relevant application in the modern society.
- Modernization of old craft technology for better forms for interior use.

Expected Skills / Knowledge Transferred:

Dexterity; knowledge of materials, process, technology and products of craft forms-production of craft forms and technology.

Course Content:

Identification of private and public craft activity around the nation – various crafts and its perception in the society - design issues in transforming old craft forms into modern context by keeping its original spirits.

Assignment: Select one of the art/ craft form with the consultation of the faculty. Visit to the craft pockets. Document people, life, culture and craft and understand the materials, tools, technology, processes and forms. Suggest suitable changes in technology to improve the products so as to make it acceptable in today's context. Design and produce a product related to interiors in contemporary design.

Note: The work will be periodically reviewed. The study has to be presented in the form of a report with illustrations and photographs, as a seminar for final assessment, along with the final product to the jury

ID17B4.xE: Elective II

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W/S/J/P

ID17B4.1E: DIGITAL TECHNOLOGY IN DESIGN**Course overview**

To orient the students towards the digital Technologies, to effectively and responsibly select and use appropriate technologies, materials, data, systems, tools and equipment when designing and creating healthy, socially, economically and environmentally sustainable products, services or environments.

Objectives of the course

In Digital Technologies the focus is on the use of digital systems, relevant software's, information and computational thinking to create solutions for identified needs and opportunities.

Expected skills/knowledge transferred

Techniques to generate and test ideas communicate and represent alternatives, solutions and document processes. This includes freehand and technical drawings, diagrams, simulations, physical and virtual prototypes, 3-D models, report writing and the development of portfolios.

Course contents**Unit-I :**

Introduction to digital technology; importance of Software's like AutoCAD, Revit, Photoshop, adobe illustrator, Sketch-Up with V-Ray rendering, Rhinoceros etc.. in digital technology.. And Hardware requirements for the software's for creating digital images; Working knowledge of digital image structure; Understanding of file size, bit depth, image modes, channels, file format and resolution; Make decisions about the most appropriate form of digital output; Options for scanning images; High quality digital images: RAW files.

Unit-II :

Understanding of how colour is formed and defined in the digital medium; Appropriate pixel dimensions for required output needs; Resize and crop images to optimum; Adjust colour, tonality and sharpness of digital images; Duplicate, optimize and save image files for print and for web; Creative techniques to enhance and optimize images; Control shadow and highlight tonality whilst preserving mid- tone contrast.

Unit-III :

Explore the creative potential of image editing; selectively convert RGB images into black and white, Tone images using the Gradient Map technique, Control apparent depth-of-field using Gaussian Blur and Lens Blur techniques; The procedures involved in using a digital camera: appropriate workflow in the creation of the final

image & workflow suitable for various types of photographic capture; Importance of file management; the power and importance of meta-data.

Unit-IV :

Procedures involved in producing printed outputs that match colour expectations; Managed workflows, Outcomes of the workflows, working colour space and selection Colour management policies; Understand the procedures involved in printing a digital image; how to control an image when translated onto a paper surface; Print digital image files for portfolios.

References:

- A complete Guide to Digital Graphic Design by Thames & Hudson The Ilex Press Limited (2005).
- Digital Imaging by Mark Galer & Les Horvat Focal Press (2005).
- Creative Photoshop CS5: Digital Illustration and Art Techniques by Darek Lea Focal Press (March 24, 2009)

ID17B4.2E: FUNDAMENTALS OF GRAPHIC DESIGN

Course Overview

Basic Graphic Design is a foundation course that develops a student's ability to analyze design application of the fundamental elements of art. The student is introduced to tools and techniques used in today's communication industry. This course lays the foundation for more advanced design courses using basic principles and theory applicable to all forms of art.

Objectives of the Course

To familiarize the student with basic principles and fundamentals in visual art and design. To develop basic skills using tools and theory used in design process.

To understand the creative process, develop techniques and methods of creative problem solving.

Course Content:

Unit I

Introduction to Graphic Design: History and role of graphic design in society, Role and responsibilities of graphic designers. Indigenous graphic design practices.

Unit II

Basic terminology and graphic design principles, introduction to the fundamentals of design that lead to the discovery and comprehension of the visual language. Form, balance, structure, rhythm, and harmony are studied in black and white and in color.

Unit III

Introduction and design process of logo design. Design and explorations with fonts, Lettering and their implications in graphic design. Colour theory and its importance in graphic design.

Assignments should be based on the elements and principles of design and each assignment should focus on at least two elements.

References:

- Design Basics by David A. Lauer(8th Edition)
- Graphic Design: The New Basics By Ellen Lupton Princeton Architectural Press, ISBN 1568987706
- The Visual Design Primer by Susan G Wheeler and Gary S. Wheeler Prentice Hall, ISBN 0-13- 028070-4
- Graphic Design: Vision Process, Product by Louis D. Ocepek Prentice Hall, ISBN 0-13-041883-8
- Design For Communication: Conceptual Graphic Design Basics By Elizabeth Resnick, Wiley Publishers, ISBN 0-471-41829-3

ID17B4.3E: OPEN ELECTIVE II

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	

Course Overview:

The course provides the students to select any subject which they feel would help them to release their potential.

Objectives of the course:

To introduce various aspects of design what the student want to opt for

Expected Skills / Knowledge Transferred:

As per the subject selected

Course Content:

The student can opt for any Open course offered at the University or any online course approved by the University.

SEMESTER - V**ID17B5.1C: INTERIOR DESIGN STUDIO III**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B4.1C	10	10	100	100	200	J

Course overview:

This course is intended to provide skills for designing interior spaces with emphasis on transformation through controlled environment and building corporate identity as important aspects of interior design of public & institutional spaces

Objectives of the course:

To develop creative conceptual visualization and the process of design. To understand accessibility and universal design issues.

Expected skills/ knowledge Transferred:

Use of standards, transformation of spaces by creating a controlled indoor environment and application of knowledge gained from other subjects.

Course Contents:

The primary focus should be on –

- Introduction to building codes
- Way finding, Signage and graphics
- Universal Design ,Accessible design, Design for the Disabled
- Materials, furniture and finish selections
- Construction detailing
- Ergonomics and Human Factors
- Digital representation (3 D modeling)
- Space planning process
- Color psychology
- Interior environmental control issues
- Rendering

The list of suggested topics to be covered as design problems:

- Retail Design – clothing outlets, boutiques, medical, musical, etc
- Healthcare Design – hospitals, poly clinic, multi-specialty nursing homes, crèches, geriatric care facility, etc.
- Office systems - Institutional spaces in urban & semi-urban contexts – like: library, corporate office, software office, etc.

- Mobile units – buses, cars, railway coaches, boats, metro rail, etc

Design issues in addition to the primary focus for the above are statement of institutional character, creation of a corporate identity through interior environmental responses to site and context, integration of interior architectural elements to other interior elements, interpretation of institutional activities and their spatial correlation.

Note: At least two major exercises and four minor design/time problems should be given to be drafted manually.

Internal marking shall be done in stages project wise:

- Schematic layouts
- Final layout
- Sectional elevations
- Full project with all details

In the end exam, which is a viva-voce the students have to present the entire semester work for assessment by the external jury.

Reference Books:

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.
- Julius Panero & Martin Zelnick, Human Dimension & Interior Space: A source book of Design Reference standards, Watson – Gupitll, 1979.
- Maureen Mitton, Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003
- Mark.W. Lin, Drawing and Designing with Confidence: A step-by-step guide, Wiley and Sons, 1993. Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals, 2002
- Neufert Ernest, Architect's Data, Granada pub. Ltd. London, 2000.
- Maryrose McGowan & Kelsey Kruse, Interior Graphic Standards, Wiley and sons, 2004.
- Robert F. Erlandson, Universal and Accessible Design for Products, Services, and Processes, CRC; 1st edition, 2007.
- Oliver Herwig & L. Bruce, Universal Design: Solutions for Barrier-free, Birkhäuser Basel; 1st edition, 2008

ID17B5.2C: INTERIOR WORKING DRAWINGS

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B3.3C	04	04	50	50	100	W

Course overview:

The focus of the course is to impart skills related to the preparation of drawings meant for execution on the site.

Objectives of the course:

To impart training in the preparation of working drawings for interiors with specific reference to code of practice and incorporating specifications as complementary to the working drawings. Knowledge related to drawings being submitted to various Govt Depts in various regions of India & abroad.

Expected skills/ knowledge Transferred:

The course prepares students to generate Technical presentation of Design at built form level, finishing level, product and furniture level.

Course Contents:**Unit – I**

Preparation of working drawings – Suitable scales of drawings, methods of giving dimensions and standards on plans, sections, elevations, details etc.

Unit – II

Preparation of plans – Architectural plans, furniture layout floor plans with clearances, different level floor plans, and detailed floor plans of each room / space.

Unit – III

Elevations and Sections – Detailed sectional elevations of all the walls in the interior with all the required dimensions and specifications.

Unit - IV

Details of all services – layouts for flooring, ceiling, electrical, plumbing, lighting, fire fighting etc., toilet details, interior finishing details, material, color and texture details, fixture and fixing and joinery details.

Unit – V

Specifications writing: Writing detailed clause by clause specifications for materials pre and post execution, mode of measurements, manufacturers details and specifications etc.

Unit – VI

Manufacturer's specifications – Database of manufacturers specifications for the following materials based on surveys

Glass, plywood and laminates, hardware, electrical, wiring, accessories, plumbing fitting and fixtures, flooring, cladding etc.,

Note : Students shall prepare at least 3 working drawing sets, 1 major for a large public space & 2 minor/time problem for a small residence / for a small office / retail store / small restaurant .

The sets of working drawings required shall be:

- All level plans with 4 side aspects – room wise
- Detail of each item of furniture
- Electrical layout plan
- Sanitary layout plan,
- False ceiling plan
- Floor pattern,
- Typical door / window details, etc

One minor set of WD shall be submitted as manual drawings and the rest by Computer Aided Drawings.

Reference Books:

- Leibing. W. Ralph, Architectural Working Drawings, 4th edition, John Wiley and sons, New York, 1999.
- Macey. W. Frank, Specification in detail, 5th edition, Technical press ltd, London, 1955.
- Shah, M.G.; and others, Building Drawing: An integrated approach to build environment, 3rd

edition, Tata McGraw Hill Pub. Co. Ltd, New Delhi, 1996.

- Fredd Stitt, Working Drawing Manual, McGraw-Hill Professional; 1st edition, 1998.
- Kilmer, Working Drawings and Details for Interiors, John Wiley and Sons,

ID17B5.3C: ENVIRONMENTAL CONTROL – I

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W

Course overview:

The focus of the course is to impart scientific interior design of a built space as related to climate, particularly to tropical climates as found in India by giving importance for human comfort in interior spaces through natural elements.

Objectives of the course:

To equip the students with the basic understanding of climatic types in India and the impact on requirements of Interior design. To introduce them for planning for day lighting, familiarize them with the data, methods, principles, standards and tools for planning and designing of lighting for visual comfort.

Expected skills/ knowledge Transferred:

The student should be able to predict climatic conditions in a given building and redesign for given parameters.

Course Contents:

Unit – I

Introduction – Climate and built form interaction: Earth and Global Climate: Introduction to climatology

- Movement of earth around sun,
- Elements of climate (Wind, temp, humidity, precipitation, pressure). Implications of climatic forces in nature of spaces and forms.
- Climatic zones of the world
- Ecological balance

Unit - II

Study of the different climatic zones of India (Hot –dry, Hot-Humid, Composite, Cold-dry, Cold-humid) along with data analysis.

Study measurement and analysis of micro climatic elements and its use for a Designer.

Unit- III

Introduction – Lighting and vision, basic units, photometry and measurement. Effects of good lighting, considerations for good lighting, brightness, glare, contrast and diffusion.

Unit - IV

Natural lighting – as a source of light

Day light and its advantages, admitting daylight, controlling daylight – window treatments – soft dressing like draperies, blinds, and sun control films, etc

Introduction to GREEN Design:

- Potentials of day lighting as an energy resource.
- Introduction and objectives of solar passive design.
- Introduction to Passive Solar heating system (direct gain, indirect gain, isolated gain)

Unit – V

Artificial lighting - color characteristics of artificial lighting, integration of day lighting with artificial lighting, lighting controls, switches, dimmers, etc

- An introduction to intelligent building systems for lighting,

Unit VI

Quality and quantity of different sources of artificial light –incandescent, fluorescent, halogen, electric gas discharge, high discharge, neon, cold cathode, mercury, sodium vapor etc. lighting levels, visual field.

- Survey of lamps available in the market with cost and technical specifications is to be taken up.

Unit VII

Planning lighting – general aims, lighting needs, overview of calculation of lighting levels, intensity levels, energy and installation costs and other factors, selection of fixtures, location and placing of fixtures.

Unit - VIII

Lamps and lighting fixtures –

- Direct lighting: Floor, table and desk, wall mounted, ceiling units, built in lighting, miscellaneous types, decorative lighting, spot lighting, task lighting, underwater lighting etc.
- Indirect lighting : cove, backlit, etc

Note: Detailed lighting design should be done for any one type of building.

Reference Books:

- John.F. Pile, Interior Design, 2nd edition, illustrated, H.N.Abrams, 1995.
- Wanda jankowski, Lighting: In Architecture and Interior Design, pbc intl, 1995.
- Moore Fuller, Concepts and practice of Architectural Day lighting, Van Nostrand Reinhold co., New York, 1985.
- David Egan. M. Concepts in Architectural lighting McGraw Hill Book Company, New York, 1983.
- Markus, T.A and Morris. E.N. Buildings. Climate and Energy, Pitman Pub Ltd., London, 1980.
- Kukreja. C.P. Tropical Architecture. Tata McGraw Hill Pub. Co. Ltd. New Delhi, 1978

ID17B5.4C: FURNITURE DESIGN WORKSHOP - II

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B3.5C	04	04	100		100	

Course Overview:

The course is intended to provide hands on working with materials used for the production of furniture. Understanding the process that is involved from the pre-design to the finishing of furniture.

Objectives of the course:

To give an exposure to the materials and introduce various tools and techniques & processes in making furniture.

Expected Skills / Knowledge Transferred:

Ability to make products and elements of various scales for interiors.

Course Contents:**Unit – I:**

Use of anthropometry, ergonomics, and handling of space and application of knowledge gained from other subjects, and design a piece of furniture

Unit – II:

Design approach with limited constraints inherent in furniture design. Evolving the strategy of design with integration of technical complexities and lifestyle influences. Development of the design of a furniture piece to specific interiors and prevailing trends. Broad based approach towards innovative design and application to multi products and multi materials in manufacturing interior products and lifestyle accessories.

Unit – III:

Making of the furniture in various scales – a scaled model, template

Unit – IV:

Prototype making

Assignment: Individual assignment: To design & execute a piece of furniture with wood or metal or combination of materials. Drawings, details, templates and prototype of the same piece of furniture with detailed study and documentation is required for submission to the jury along with a report...

Reference Books:

- Laura Slack, What is product Design? Roto Vision publishers, 2006
- Treena Crochet and David Vleck, Designer's Guide to Decorative Accessories, Prentice Hall, 1st edition, 2008.

- Michael Ashby, Kara Johnson, Materials and Design: The Art and Science of material selection in product design, Butter worth Heinemann, 1st edition, 2002.
- International Design Yearbook, 1995: Furniture, Lighting, Tableware, Textiles and Products, Books Nippan, 1996.
- Karl. T. Ulrich, Steven D. Eppinger, Product Design and Development, McGraw-Hill Education Singapore; 4th edition, 2007
- William Lidwell, Kritina Holden, Jill Butler ,Universal principles of Design, Rockport

ID17B5.5C: INTEGRATED PROJECT WORK:

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B4.1C	03	03	100	-	100	-

Course Overview:

The student will be required to produce a project feasibility report for the specific design undertaken in the design studio.

Objectives of the Course:

To sensitize the student to the technical and socio-economic feasibility of the design project.

Expected Skills / Knowledge Transferred:

Analyzing a design project for technical and socio-economic feasibility.

Course contents:

The student has to submit a project feasibility report on the project done in the design studio by integrating the knowledge and skills acquired from all the subjects studied till date.

The report may consist of the following -

- Environmental impact assessment of the project following the standards and specifications
- Socio-economic appraisal of the project and the design considering factors such as behavioral aspects, security considerations, costs for different user groups, aesthetic preferences etc.
- Technical feasibility – through execution and detailing of different spaces and elements of design, checking the feasibility of layout for service systems and specifications
- Costing of the project – bill of quantities, schedule of rates, specifications etc. economic viability and financial viability

- Space planning aspects/ issues – user activity spaces, access to physically challenged, fire safety, other services, green rating etc.

Note: The report has to be presented for internal assessment

Reference Books:

- M.P. Birkett, An appraisal of project work as an educational tool within interior design education at tertiary level and its relation to professional practice, Royal College of Art, 1985.
- Griff Boyle, Design Project Management, Ashgate Publishing; illustrated edition, 2003

ID17B5.xE: ELECTIVE III

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W/S/J/P

ID17B5.1E: VISUAL MERCHANDISING

Course Overview: The course exposes students to various technical aspects of retail design and visual merchandising. The Student is expected to work on Store layouts and theme-based window displays during the course work.

Objectives of the Course: The Course aims to equip the students with the knowledge about the technical aspects of retail design and visual merchandising.

Expected Skills/Knowledge Transferred: This course equips the students with skills required for preparation of store layouts, Use of colour, lighting, materials for visual merchandising using windows, Point of purchase and display of merchandise planning.

Course Contents:

Unit I:

The History of Visual Merchandising, Role of a visual Merchandiser, The Visual Merchandiser's Studio, Overview of Visual merchandising of Departmental Stores, multiple chain stores and small retail outlets.

Unit II:

Store Design: Introduction to store design and its importance in retail success. Store layout and zoning for successful visual merchandising.

Unit III:

Windows: Understanding the window sizes and technical aspects involved, Types of windows, planning a window display, budgeting. Designing a window display: Layout, props, Signage, Graphics, colour and lighting. Window prepping, installing the window display.

Unit IV:

In-Store Visual Merchandising: Product Adjacencies, Floor Layouts, Fixtures, Wall Fixtures, Product Handling, Trend areas, Point of Purchase and add-on sales.

References:

1. Tony Morgan, 'Visual Merchandising: Window and in-store displays for retail', Laurence King Publishing, 2011.
2. Swati Bhalla, Anurag S, 'Visual Merchandising', Tata McGraw Hill Education Pvt. Ltd. 2010.

ID17B5.2E: PRODUCT DESIGN AND INNOVATION

Course Overview:

This course includes overview of innovation, product design process, user study, need/problem identification, development of design brief, understanding competitive benchmarking, aspects of human factors in product design, tools for creative concept generation, prototyping/model making and evaluation techniques for user-product interaction.

Course Objective:

Product Design and Innovation course is intended to introduce overall awareness of the product design process. This course will give an understanding of methods, tools and techniques applied in product design.

Skills Expected/ Knowledge Transferred:

This course will be explained with lectures including case studies and hands-on exercises. This will help students to generate creative ideas in to product design, considering human factors aspects.

Unit I:

Need for Innovation and design, User Innovation, Introduction to product and Product Design, Difference between Product development and product design

Unit II:

Need/Problem Identification, User study by contextual enquiry, Questionnaire study, Interview techniques, Persona and scenario mapping, Product Study and market study, Design Brief.

Unit III:

Importance of Human factors in product design, Physical Ergonomics principles and issues, Ergonomic assessment tool, Cognitive issues in product design.

Unit IV:

Creative techniques and tools for Concept generation, concept evaluation

Unit V:

Product prototyping/ model making work flow, tools and techniques for model making and prototyping, introduction to prototype driven innovation, Overview of materials and processes

Unit - VI

Evaluation tools and techniques for user-product interactions.

References:

1. Eppinger, S., & Ulrich, K.(2015). Product design and development. McGraw-Hill Higher Education.
2. Green, W., & Jordan, P. W. (Eds.).(1999).Human factors in product design: current practice and future trends. CRC Press.
3. Sanders, M. S., & McCormick, E. J. (1993). Human factors in engineering and design. McGRAW- HILL book company.
4. Roozenburg, N. F., & Eekels, J. (1995). Product design: fundamentals and methods (Vol. 2). John Wiley & Sons Inc.
5. Lidwell, W., Holden, K., & Butler, J.(2010). Universal principles of design, revised and updated: 125 ways to enhance usability, influence perception, increase appeal, make better design decisions, and teach through design. Rockport Pub

ID17B5.3E: OPEN ELECTIVE III

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	

Course Overview:

The course provides the students to select any subject which they feel would help them to release their potential.

Objectives of the course:

To introduce various aspects of design what the student want to opt for

Course Content:

The student can opt for any Open course offered at the University or any online course approved by the University.

SEMISTER - VI**ID17B6.1C: INTERIOR DESIGN IV**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B5.1C	10	10	100	100	200	J

Course overview:

This course is intended to provide skills for designing larger scale institutional and commercial projects with emphasis on detailing, custom designs, specification writing etc.

Objectives of the course:

To develop skills for a comprehensive design approach and to integrate dimensions of functions to interior spaces and interior elements of space making with an emphasis on transformation and adaptive re-use as one of the important aspects in interior design.

Expected skills/ knowledge Transferred:

To develop the skill of design vocabulary, enhancement and sensitization of student in design preparation and its relation to tradition, culture, behavior patterns, use of space etc. by the use of standards & transformation of spaces for reuse and application of knowledge gained from other subjects.

Course Contents:

The primary focus should be on –

- Interior Construction Detailing
- Way finding/signage and graphic identification
- Decorative Accessories
- Building Codes.
- Rendering (computer generated).
- Custom designed furniture and cabinetry
- Specification Writing
- Cost estimating / analysis
- Selection of sustainable/green materials

The list of suggested topics to be covered as design problems:

- Hospitality Design - of hotels, coffee house, restaurant, pub & bars, lounge bars, hookah bar, banquet halls,
- Ports – air ports, Bus stations / terminals, MMTS / Metro Railway stations, sea / river ports, cruise terminals, etc

- Institutional spaces in urban, semi-urban and rural contexts with an aim to explore and understand transformation and adaptive re-use.

Note: One major design in detail and 3 minor design/time problems should be given.

Reference Books:

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.
- Julius Panero & Martin Zelnick, Human Dimension & Interior Space: A source book of Design Reference standards, Watson – Guptill, 1979.
- Maureen Mitton, Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003
- Mark.W. Lin, Drawing and Designing with Confidence: A step-by-step guide, Wiley and Sons, 1993.
- Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals, 2002
- Neufert Ernest, Architect's Data, Granada pub. Ltd. London, 2000.
- Maryrose McGowan & Kelsey Kruse, Interior Graphic Standards, Wiley and sons, 2004.
- Mary Jo Peterson, Universal Kitchen and Bathroom Planning: Design That Adapts to People, McGraw-Hill Professional Publishing, 1998.
- David Kent Ballast, Interior Construction & Detailing for Designers and Architects, Professional Publications, Inc.; Fourth Edition, 2007.

ID17B6.2C: ENVIRONMENTAL CONTROL II

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W

Course overview:

The focus of the course is to impart scientific interior design in relation to Acoustics and thermal controls for human comfort in interior spaces.

Objectives of the course:

To equip the students with the basic understanding of tools for application of acoustical Design in interiors. To introduce them for planning for thermal comfort,

and natural ventilation, familiarize them with the data, methods, principles, standards and tools for planning and designing for climatic comfort.

Expected skills/ knowledge Transferred:

- The knowledge of specific acoustic and air circulation requirements of different spaces.
- Skills to deal with acoustic and ventilation problems within buildings.
- Knowledge that enables to deal effectively with specialists and consultants in acoustics and thermal controls.

Course Content:

Unit – I

Thermal comfort and heat flow: Thermal comfort factors, physiological and aspects.

- Body heat balance
- Physiological comfort - indoors,
- heat flow within buildings
- steady state conditions and periodic flow
- Thermal performance of indoor building elements.

Introduction to basics of:

- comfort diagrams
- thermal units
- theory of heat flow
- heat transmission
- thermal properties of materials

Unit –II

Wind Control: Orientation for Wind, path of wind – with special reference to the seasonal wind & prevailing wind pattern in India and its relation to a built space

Unit – III

Solar: Introduction to Passive solar heating & cooling (direct solar radiation, convective cooling, conductive cooling, evaporative cooling system)

Unit –IV

Need to study acoustics, methods used for good acoustics. Basic theory: Generation, propagation, transmission, reception of sound: Frequency, wave length and velocity of sound, sound intensity, inverse square law, and Decibel scale.

Room acoustics: Behavior of sound in enclosed spaces. Sound paths, effect of geometry and shapes, sound absorption, sound absorption coefficients, Sabine's formula, reverberation and resonant panels.

Unit – V

Sound: Human ear & its Loudness perception, subjective effects, Speech privacy and annoyance, background noise. Communication in open plans, electronic sound systems, P A system layout.

Unit –VI

Acoustic Design process in different types of buildings – auditoriums, concert halls, cinema halls, seminar rooms, lecture halls, classroom, open offices, open arena, stadium, function halls, etc

Unit – VII

Noise reduction, sound isolation, transmission loss. TL for walls, sound leaks in doors, noise reduction between rooms, construction details for noise reduction. Overview of Noise reduction from mechanical equipment & material like - Rubber mounts, etc, vibration isolation guidelines, noise in AC ducts vibration isolation of pumps and generators.

Note: Detailed acoustic design and thermal comfort design should be done for any one type of building.

Reference Books:

- Koeinsberger, O.H. and others, Manual of Tropical Housing and Building. Orient Longman, Chennai, 2003.
- Konya Allan, Design for Hot Climates.
- Kukreja. C.P. Tropical Architecture. Tata McGraw Hill Pub. Co. Ltd. New Delhi, 1978.
- Markus, T.A and Morris. E.N. Buildings. Climate and Energy, Pitman Pub Ltd., London, 1980.
- Poella. L. Leslie, Environmental Acoustics.
- Moore J.E., Design of good acoustics, the architectural press, London, 1961.
- Burris, Harold, Acoustics for Architect.
- Lord, Peter and Tempelton, Duncan, The Architecture of sound, Designing places of Assembly , Architectural press ltd, London, 1986.
- Egan David, Architectural acoustics, Mc-Graw Hill Book Company, New York, 1988.
- John.F. Pile, Interior Design, 2nd edition, illustrated, H.N.Abrams, 1995.

ID17B6.3C: ESTIMATION & PROJECT MANAGEMENT

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	02	02	50	50	100	W

Course overview:

The course deals with –

- Methods for working out quantities and costs to make an estimate of the project with all specifications.
- Management of the projects based on time and budget.

Objectives of the course:

To equip the students with the basic understanding of –

- Working out quantities of different materials and their costs to prepare an estimate of the project before execution.
- Preparation of schedule of charts for time and budget, to have a control over the project.

Expected skills/ knowledge Transferred:

The student should develop techniques of -

- Estimating and costing related to the interior projects.
- Preparing schedules of time and budget for the projects to execute efficiently.

Course Content:**Unit – I**

Types of measurements, modes of measurements: methods of taking out quantities, preparation of schedule or bill of quantities. Data collection for interior works.

Unit – II

Specifications: Definition, purpose & importance of Specifications, general or brief specifications, detailed specifications, writing of specifications for interior works.

Unit – III

Rate analysis of various items of work: preparation of various items of work in the interior works.

Unit – IV

Estimating interior items manually and through spreadsheet programs, types of estimates, abstract and detailed estimates for interior works.

Unit – V

Introduction to project management for interior works – Definitions and meanings, Importance, Reasons or shortfall in its performance, Planning and control.

- Project organization: matrix organization, task forces, And project teams: monitor and control of project.
- Project management strategies: Introduction to Tools and techniques for project management, new techniques of management by objectives (MBO).

Unit – VI

Development of project network. : Introduction to PERT and CPM. Difference between PERT & CPM

Unit – VII

Methods of Scheduling - Integrated reporting system, flow diagrams, bar charts, milestone charts, GHANTT chart. An overview of Techniques of monitoring of development works.

Reference Books:

- Carol Simpson, Estimating for Interior Designers, Watson Guptill, Rev. Sub edition, 2001.
- Carol E Farren, Planning and Managing Interior projects, Robert Snow Means Company, 2000.
- Barbori Balboni, Interior Cost Data, R.S. Means company, 2001.
- Harold Kerzner, Project Management : A systems approach to planning, scheduling and controlling, 2006

ID17B6.4C: LIFESTYLE ACCESSORIES DESIGN

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
ID17B4.6C	03	03	100		100	

Course overview:

The course provides a framework in understanding the socio-cultural and historical aspects that influence the design of accessories and products based on their life style.

Objectives of the course:

Imparts the knowledge of various styles, systems and products available in the market. Enhances the aesthetic perception, materials, design and working parameters in designing products and life style accessories. Develops systematic design approach and integration of designed accessories with the interior.

Expected skills/ knowledge Transferred:

The course prepares the student for mass production of decorative accessories and products for various life styles of people with the parameters of economy.

Course Contents:

Unit –I

Insight of various products and lifestyle accessories in the interiors. Role of accessories in interiors. Integration of accessories in interior design. Design approaches in product and lifestyle accessories design with a focus on functionality, ergonomics, aesthetics, multiple usages etc.

Unit – II

Stylistic development of decorative accessories from the past to present with insight into technological advances and the influences of social, economic and political factors on their design. Brief study of period room settings with the context of decorative accessories complementing the architecture and interior design.

Unit – III

Study of materials and processes adopted in accessories design. Basic understanding of construction principles, anthropometrics, principles of sizes and proportions, modeling, rapid prototyping, color, texture etc. With broad orientation to socio-cultural and historical context of the sector. Orientation to Indian as well as global context of interiors, trends and market.

Unit – IV

Design approach with limited constraints inherent in accessory products. Evolving the strategy of design with integration of technical complexities and lifestyle influences. Development of the design of products and accessories to specific interiors and prevailing trends. Broad based approach towards innovative design and application to multi products and multi materials in manufacturing interior products and lifestyle accessories.

Unit – V

A detailed study involving all the design aspects of any of the following lifestyle accessories: luminaries design, glassware, lighting fixtures, textiles, mirrors, clocks, wall & floor coverings etc.

Reference Books:

- Laura Slack, What is product Design? Roto Vision publishers, 2006
- Treena Crochet and David Vleck, Designer's Guide to Decorative Accessories, Prentice Hall, 1st edition, 2008.
- Michael Ashby, Kara Johnson, Materials and Design: The Art and Science of material selection in product design, Butter Worth Heinemann, 1st edition, 2002.
- International Design Yearbook, 1995: Furniture, Lighting, Tableware, Textiles and Products, Books Nippan, 1996.
- Karl. T. Ulrich, Steven D. Eppinger, Product Design and Development, McGraw-Hill Education Singapore, 4th edition, 2007

- William Lidwell, Kritina Holden, Jill Butler ,Universal principles of Design, Rockport publishers, 2003.

ID17B6.5C: PRE-THESIS SEMINAR:

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	06	03	100		100	

Course overview:

The course provides students with a framework to understand some emerging concepts in Interior design & its complexity and equip the student with adequate Interior design research methods for the realization of thesis concept. During the course of study, the subject of the thesis is developed and the project articulated.

Objectives of the Course: to impart knowledge to students, on the tools and methods needed to handle a design project of reasonable complexity individually,

Expected Skills / Knowledge Transferred: The skills required to collect, assimilate and synthesis data relevant to handle a design thesis project independently.

Course Contents:

Unit – I

Introduction to Interior Design thesis Project, Difference between design thesis and design studio, selection of topics for Interior design thesis, based on building typologies, preparation of synopsis, Methodology of design thesis

Unit – II

Emerging concepts in Interior Design due to changes in social, economic, technological variables. Review of design projects related to real world instances and relevant to community on the whole. Review of projects of design complexity, involving themes, sub themes and design expressions.

Unit – III

Research in Interior Design: Tools and Methods required to handle a design project. Scientific methods of research with special emphasis on design research methods, enquiry, visual, observations, questionnaire formats of enquiry. Literature Review and desktop case studies. Data analysis techniques interpretation of data.

Unit – IV

Thesis report writing and presentation;

- Formats for presentation of data, desk top case studies and analysis.
- Formats for presentation of thesis design- media appropriate in the Interior Design profession such as two dimensional drawing, physical model three dimensional computer models.

- Report Writing: Techniques in report writing, presentation of contextual information relevant to interpretation of the data collected and design; reporting the design development from concept to design solution, explain the relation of the design to existing knowledge on the topic in the form of coherently written thesis report.

The inputs to the students on various design thesis topics would be in the form of Expert/Guest Lectures

Each student in consultation with the faculty shall choose thesis topics, collect necessary data, review literature on the chosen topic and present a written paper and seminar at the end of the semester.

Reference Books:

- Mukhi, H.R. Technical Report Writing: Specially prepared for Technical and Competitive Examinations, New Delhi: Satya Prakashan, 2000.
- Barrass, Robert. Writing At work \b a guide to better writing in administration, business and management, London: Routledge, 2003.
- Seely, John, The Oxford guide to effective writing and speaking, 2nd ed., Oxford; New York: Oxford University Press, 2005.
- Jo Ray McCusn, Anthony Winkler. Readings for writers, 9th ed., Fort Worth Harcourt Brace College Publishers, 1998.
- Treece, Maira. Effective reports, 2nd ed., Boston: Allyn and Bacon, 1985.

ID17B6.6C: SUMMER INTERNSHIP :

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
		03	100	Nil	100	

Course overview:

Internship for a period of 4 weeks during the summer vacation with product designers, artists, carpenters, artisans, fabricators, interior furnishers, painters, plumbers, electricians and flooring layers and false ceiling, lighting, Acoustics, Air conditioning, Fire safety and security system consultants.

Objectives of the course:

To observe, document and work with hand to gain experience of materials, tools, technology, process and management and understand the integration among all the consultants involved in the field of interior design.

Expected Skills / Knowledge Transferred:

The skills required for an interior designer to grow into a complete professional.

Course Contents:

Every student must work with product designers, carpenters, fabricators, interior furnishers, painters, plumbers, electricians and flooring layers and false ceiling, lighting, Acoustics, Air conditioning, Fire safety and security system consultants involved in the project. The student should involve in the work of these people and observe and document the materials, tools, techniques and process used by them in the projects. They should understand the coordination of the work of the consultants in the project. Students shall seek professionals except for Interior Designers or Architects.

After the summer vacation, every student will have to submit a detailed report with drawings, photographs of the work in which the student was involved with the consultants for Internal & External assessment. End exam shall be Viva examination.

ID17B6.xE: ELECTIVE IV

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W

ID17B6.1E: DESIGN ETHNOGRAPHY**Course Overview:**

Design Ethnography provides the framework of research for creating products that better serve user needs. The Students will learn basic and core anthropological & ergonomic principles that guide ethnographic fieldwork and how these techniques are applied to design process.

Objectives of the Course:

Through Case Study Examples, the student will be able to articulate the ways in which design ethnographic techniques make for a more efficacious product.

Expected Skills/ Knowledge Transferred:

The Course Prepares the students to define ethnography and its uses, understand core anthropological principles and their connection to the design field and also recognize the ways in which design ethnography enhances the overall design of a given product to technology.

Course Content:**Unit I:**

Introduction to Ethnography, relation to design & product, relation to the user, relation to culture, language, history.

Unit II:

Understanding Human behavior as a mechanism for change, application of ethnography and use in industry.

Unit III:

Relevance of anthropology in Ethnology, Cultural anthropology, relevance of Ergonomics to Ethnography.

Unit IV:

Problems of Ethnocentrism, seeing things from someone else's point of view, Linking Ethnography and Day to day design.

Unit V:

Methods in the study of Ethnography, People's behavior to be studied in everyday context, the approach to data collection, the analysis of the data, rapid ethnography.

Unit VI:

Ethnographic Filed Methods: Case Studies, analysis & inferences.

Every student shall take up one project and do a complete research and design a new product or re-design lifestyle accessory.

The report shall be assessed periodically and at the end of the semester.

References:

1. Rothstein, P. (2010). Ethnographic research: Teaching a young professional old tricks. *Innovation*. 19(4): 32.
2. Robert M. Emerson, Rachel I. Fretz, and Linda L. Shaw. *Writing Ethnographic Field notes*. (2011)
3. M Hammersley, P Atkinson – 2007 *Ethnography: Principles in practice*, 3rd edition, Routledge.
4. Kurt A. Raaflaub (Editor), Richard J. A. Talbert (Editor): *Geography & Ethnography: Perceptions of the world in Pre-Modern Societies*, (2013)

ID17B6.2E: FUNDAMENTALS OF LIGHTING DESIGN

Course Overview:

The course gives an overview of lighting design for interior lighting. Basic terminology, technical aspects of lighting design. The course is designed to develop the basic skills involved in solving lighting design problems.

Objective of the Course:

To equip knowledge regarding Lighting design concepts and selection and placement of fixtures to provide optimal lighting and aesthetically satisfying spaces for visual tasks.

Course Content:**Unit I:**

Introduction to Lighting Design, Day Lighting & Artificial Lighting. Types of Lighting systems and sources in artificial lighting. Lighting design process and technical terminology. Standards for lighting design.

Unit II:

Patterns of Brightness: Direction and distribution of light, surface finishes & Reflections, Glare and Sparkle.

Unit III:

Colour of Light: Colour temperature, colour rendering, surface finishes and colour of light.

Unit IV:

Measurement of Light: Quantitative illumination and selection of light sources for optimal lighting in interior spaces.

Unit V:

Luminaries: Housings, Light & Glare control, Decorative Luminaries.

References:

1. Designing with Light: The art, science and practice of architectural lighting design by Jason Livingston.
2. Interior Lighting for Designers by Gary Gordon

ID17B6.3E: OPEN ELECTIVE IV

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	

Course Overview:

The course provides the students to select any subject which they feel would help them to release their potential.

Objectives of the course:

To introduce various aspects of design what the student want to opt for

Expected Skills / Knowledge Transferred:

As per the subject selected

Course Content:

The student can opt for any Open course offered at the University or any online course approved by the University.

SEMESTER - VII**ID17B7.1C: DESIGN THESIS**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
Should have cleared all Design studio courses	16	16	200	200	400	J

Course Overview:

Thesis should reflect the knowledge gained from all the courses undertaken by the student in all the previous semesters.

Objectives of the course:

The course aims to provide skills for developing assimilation, synthesis and application of research in Interior Design.

Expected Skills / Knowledge Transferred:

Student should be in a position to comprehend the design philosophy, theories, data analysis and application in a chosen area of study.

Course Contents:

Each student is expected to prepare a design thesis based on the preliminary work undertaken in the Interior design studio under an approved guide.

Thesis should reflect the knowledge gained from all the courses undertaken by the student in all the previous semesters.

The particulars of the schedule, content, presentation, format etc is to be decided by the department from time to time and shall be strictly followed.

At the end of the semester a student shall be expected to submit original drawings, theory content, analysis, etc prepared as per the department specifications. Three copies of the report in the specified format should be submitted to the department after the approval of the respective guides for final viva- voce to the external examiner in the documented format.

The department shall schedule the viva voce at its convenience only after the receipt of the thesis by the guide. The performance sheet submitted by the guide and thesis committee should be the basis for allowing the student to appear for the final viva voce.

The final viva-voce shall be conducted by a jury comprising of an external examiner, guide and head of the department or his nominee.

ID17B7.2C: PROFESSIONAL PRACTICE:

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	4	4	50	50	100	W

Course overview:

This course provides an overview of rules and regulations in Interior Design practice.

Objectives of the course:

Course objective is to impart awareness and technicalities of code of conduct in professional practice as per the Institute of Indian Interior Designers.

Expected skills/ knowledge Transferred:

The student will be exposed to knowledge regarding legal, technical and financial aspects of Interior Design practice and management skills for professional practice.

Course Content:**Unit – I**

Role of Interior Designer in society: Interior Design Profession as compared to other professions. Difference between profession and business. IIID and other organizations related to interior design profession.

Interior Designers approach to works, ways of getting works: types of works, works partly executed by other Interior Designers: various precautions to be taken before taking up the work, conditions of engagement between interior Designer and client: commencement of work.

Unit – II

Interior Designer's duties: drawings to be prepared: Interior Designer's relation with other parties connected with works such as client, contractor, sub contractors, consultants and authorities. IIID Code of professional conduct: scale of charges. Inspection of work, certificate of payment to contractor.

Preliminary knowledge of Consumer protection Act and other related acts on Interior Designers

Unit – III

Issues of professional practice: Professional behavior, Ethics, Types of clients, Career opportunities, styles of interior design practice, relationship between client and professional, type of fees, process of fees negotiations, billing methods, tax liabilities – Service Tax, Professional tax, GST, duties,

Unit – IV

Contracts, Tenders, Arbitration: as defined in terms of Interior Design field and current day context. Work contracts – types of contracts – item rate, labor, lump sum, cost plus percentage etc.

Clerk of work and his duties, bill of quantities, schedule of rates, tenders, public, limited and negotiated tender documents and allied formalities.

Unit – V

Types of offices for interior design practice: staff structure, filing of records, correspondence and drawings, maintenance of accounts, presentations in meetings, recording minutes of meeting.

Note: a report to be prepared by each student after visiting an interior designer's office. Knowledge of role of consultants and coordination between different consultants on a big project.

Reference Books:

- Indian Institute of Architects. H.B. Professional Practice, the Architects pub. Bombay.
- Namavati. H. Roshan. Professional Practice. 8th edition, Lakshani Book Depot, Bombay, 2001.
- Christine .M. Piotrowski , Professional practice for Interior Designers, 3rd edition, Wiley and sons, 2001.
- Cindy Coleman, Interior Design Handbook practice, Mc Graw Hill professional, 1st edition, 2001
- Ronald Veitch, Professional practice for Interior Designers, Penguins Publishers, Limited, 1987.

ID17B7.3C: PSYCHOLOGY OF SPACE AND BEHAVIOURAL SCIENCE

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	04	04	50	50	100	W

Course overview:

This course provides an overview of the relationship between man and space and behavior patterns of human beings in space planning.

Objectives of the course:

To acquire the knowledge to design a space for the based on his perception and behavior to the space.

Expected skills/ knowledge Transferred:

Integration of psychology and user behavior in space planning.

Course content:

Unit – I

Perception of space through understanding associative aspects relating to space.

Understanding cognitive theories and Gestalt principles of psychology related in the field of space making to develop an understanding of place making.

Unit – II

Relationship of spatial elements like floor, column, wall, window, door, stair, roof, light, color, textures to the psychology and perception of space.

Unit – III

Kinesthetic – Understanding perception while in movement and space organization around such a phenomena.

Unit – IV

Analysis of human mind and his/her image of the world - social behavior patterns, traditional thinking and behavior and reflection of social world into physical environment. Perception of our society and culture – scientific knowledge of what is sociology, anthropology, culture etc. Major role of these aspects in Interior Design and how they create design bound dimensions.

Unit – V

Various human elements of society – modernization and change in society, change in thought process and behavior patterns. Role of communication media in change patterns. Behavior patterns and its correlation to design elements. Perception of Indian value systems and assimilation of 'East & West'.

Unit - VI

Human being and his behavior in various public and private areas – change of patterns in various cultures. Human behavior in a group. Activities and its relationship with grouping of people

Assignment: Conceptual Space planning for public areas - restaurant, café, theatre lounge, waiting rooms, hotel foyer etc based on analysis of human behavior and perception of space.

Reference Books:

- Bryan Lawson, Language of Space, Architectural Press, 2001.
- Yi- Fu Tuan, Steven Hoelscher, Space and Place: The perspective of experience, University of Minnesota Press, 2001.
- Setha. M. Low, Denise Lawrence – Zunigias, Anthropology of Space and place: Locating Culture, Wiley – Blackwell publishers, 2003.
- Irwin Altman & Erwin. H. Zube, Public spaces and places, (Human Behavior and environment), Springer link, 1989.
- Roger Downs, David Stea, Kenneth. E. Boulding, Image and environment, Transaction Publishers, 2005.

ID17B7.xE: Elective V

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	Internal & External assessment

ID17B7.1E: GREEN BUILDINGS**Course Overview:**

The course focuses on developing an understanding regarding environmental sustainability and environmentally responsible green buildings. It addresses the design concerns in interiors / architecture to develop resource-efficient buildings that have minimum adverse impact on the natural environment.

The emphasis is to gain an understand regarding the existing concepts, ideas and processes in Architecture and built environment and also recognize rapidly emerging building solutions and technological initiatives that complement current practices in order to attain human health and environmental goals.

Objectives of the Course:

Develop skills to promote eco friendly characteristics in the area of architecture and buildings and identify crucial technologies, facilities and applications that help in developing GREEN buildings.

Expected skills/ knowledge Transferred:

The students are expected to gain knowledge about sustainable materials and technologies and resource utilization.

Course Contents:**Unit - I**

Introduction to Macro Environment: Elements of climate, weather, Water cycle, Carbon cycle, Environmental quality, Deforestation, climatic change, Ozone depletion and implications.

Unit - II

Micro-environment: Natural environment components and weight age, agencies and institutions, LEED, IGBC, TERI's GRIHA, etc, GREEN buildings in the contexts of Indian sub continent,

Unit - III

GRIHA Building rating system – overview & process, Certification strategy, Regional priority, Credit point Distribution, Different levels of certification, terminology.

Credits for: Sustainable Sites (SS), Water Efficiency (WE), Energy & Atmosphere (EA), Materials & Resources (MR), Indoor Environmental Quality (IEQ), Innovation in Design (ID), Regional Priority (RP). ETC

Reference books:

- Green Building Technologies - Godrej Centre CII a Madhapur, Hyderabad.
- Greening Building – Green Congress, US. (Web).
- TERI, the Building Energy Audit – TERI (Tata Energy Research Institute).
- HMDA Hyderabad- Green building guidelines
- GRIHA manuals vol 1 – 5, ISBN 9788179934067, Paperback (in slip box) TERI Press

ID17B7.2E: BARRIER-FREE BUILT-ENVIRONMENT

Course Overview:

Indian Disabilities Act is promulgated in 1995 for the purpose of ensuring equal opportunities to persons with disabilities in society for their development through education, training and rehabilitation services. The principle objective is to ensure their full participation by preventing discrimination and integrating them into the mainstream of society

Objectives of the Course:

An Interior Designer plays a very crucial role in the endeavor by designing the needed barrier free environment. The objectives of this course are to acquaint the students regarding the various provisions of designing a barrier free built environment.

Knowledge Transfer / Expected Skills:

Multi sectoral collaborative approaches in design for persons with disabilities and elderly persons, to inculcate skills required for designing a barrier free built environment for physically challenged persons. Techniques involved in making such provisions.

Course Contents: Unit-I

Introduction to Provisions of persons with Disabilities (Equal, opportunities, Protection of Rights and Full Participation) Act, 1995, Type of disabilities – Orthopedic, Hearing, Visual impairments, National policy for provisions for elderly persons, Concept of equal opportunity, human rights, social justice and empowerment of physically challenged persons.

Unit-II

Introduction to similar efforts in other countries. Initiatives at global and international level of protection of rights of disabled and also elderly person, American disabilities Act 1990 etc.

Unit-III

Design principles for creating environments friendly for various types of physically challenged persons. Educational institutions, Hospitals, Transportation terminals such as bus, railway stations and airports for barrier free spaces. Study of Standards as given in TS

Unit – IV

Provisions in design of public buildings – Details in, ramps, guide rails, lifts, dimensions of wheel chairs, accessibility in public buildings, Signage, audio visual facilities etc.

Unit - V

Design of Toilets and interior spaces for use of physically challenged. Exercises in design of user friendly spaces for physically challenged persons.

Reference books:

- Micheal J. Badnar. "Barrier Free Environments", Dowden, Hutchinson and Ross, Ives 1977.
- Ministry of Urban Affairs and Employment. Central Public Works Department India, "guidelines and Space Standards for Barrier Free Environment for Disabled and Elderly Person, 1998.
- Unnati. "Design Manual for a Barrier – Free Built Environment". Handicap International, December, 2004.

ID17B7.*E: ELECTIVE VI**ID17B7.3E: ADVANCED DESIGN & ESTIMATION SOFTWARE**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	50	50	100	W/S/J/P

Course Overview:

The course focuses on developing an understanding of the integration of a design, assigning resources to tasks, tracking progress, managing the budget, and analyzing workloads. It addresses the design concerns along with estimation & project management. The emphasis is to gain an understanding regarding the existing concepts, ideas and processes in a built environment and also recognize rapidly emerging building solutions and technological initiatives that complement current practices professionally.

Objectives of the Course:

Develop skills to promote handle a project from design to execution through the integration of software.

Expected skills/ knowledge Transferred:

The students are expected to gain knowledge about integration of design, estimation & project management on a software platform for a smooth execution of a project.

Course Contents:**Unit – I**

Introduction to MS Projects : interoperability, scheduling, timeline, list

synchronization, critical path, critical chain, resource leveling, Gantt chart, Inactive tasks, The Team Planner view.

Unit – 2

Tracing task paths: highlighting link chain, predecessor task, successor task concepts, and multiple timeline bars,

Unit – 3

Sharing: sharing and communication features of its predecessors in multiple ways, Lync installation, IM session, a video chat, an email, or a phone call with MS Projects. Integration with Microsoft Office suite, syncing content to Sharepoint or a SkyDrive, Project Online - online project management web app access from any web enabled device.

Unit – 4

Reports: creating graphical reports, adding clipart, Burn down reports for planned work, completed work and remaining work as lines on a graph. Comparing projects, dashboards, exporting to Visual Reports.

Unit - 5

Resource Agreements: resource planning coordination between Project Manager and Resource Manager End exam shall be a practical & VIVA exam Vis a Vis built environment. Living environment Characteristics and components of Urban Ecosystem solar radiation, heat flow, air-movement, Land use, drainage and sanitation.

Unit - III

Concepts of green field development: Brown field development, environmental impact and ecological balance, FAR, layouts, sustainable Site development, vegetation, landscape elements, alternative services and technologies, rain water harvesting, on site sewerage retention, treatment, recycle and reuse

Unit - IV

Building Resources: Passive energy system Design, Building envelope, orientation and components of building fabric and Shading, High rise buildings, modular building Construction, curtain walls, Sourcing and recycling of building materials, alternative Calcareous, metallic and non metallic, materials

Unit - V

Building Infrastructure: Active Energy Systems in buildings, Utilities and services, building automation. Electro-mechanical systems, lifts and transportation, captive power plant and equipment, operation & maintenance

Unit - VI

Indoor air quality: fresh air requirements standards, Sick Building Syndrome, VOC and pollutants.

Unit - VII

Introduction to building rating systems: building auditing, points system

ID17B7.4E BUILDING AUTOMATION

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	03	03	100	Nil	100	

Course Overview:

The course focuses on developing an understanding regarding building automation. The emphasis is to gain an understand regarding the existing concepts, ideas and processes in a built environment and also recognize rapidly emerging building solutions and technological initiatives that complement current practices in order to attain human health, safety & security.

Objectives of the Course:

Develop skills to promote automated characteristics in Interiors of buildings and identify crucial technologies, facilities and applications that help in developing a safe & secure built environment.

Expected skills/ knowledge Transferred:

To enable students to understand principles and installations of general and specialized services in the interiors.

Course Contents:**Unit – I**

Introduction: Need for building controls, Defining building automation, Introduction of various concept like Automation in acoustical design, illumination, water supply, fire-fighting, HVAC, emergency systems, etc. Effect on indoor environment and the global environment, Energy conservation benefits, Advantage of a BMS

Unit – II

Components: Sensors, Actuators, Controllers

Unit – III

Protocol and Industry standards in building automation: ZigBee, BACnet, LonTalk, Modbus, DALI, C.Bus, oBIX, DSI

Unit – IV

Building Management System- BMS: Light control, Transportation, Lifts and elevators, Air conditioning, Assess controlling, Fire systems

Reference Books:

- Intelligent Buildings and Building Automation by Shengwei Wang
- Understanding Building Automation Systems by Reinhold A.Carison (Author). Robert A. Di Giandomenico (Author)
- A guide for building and facility automation systems by John P.Cilia;

SEMESTER - VIII**ID17B8.1C: PRACTICAL TRAINING**

Pre-requisites	P/Wk	Credits	Int.	Ext.	Total	W/S/J/P
	30	30	Nil	300	300	J

Course Overview:

Internship for a period of not less than 20 weeks.

Objectives of the course:

To provide experience in Interior Design.

Expected Skills / Knowledge Transferred:

The skills required for an interior designer to grow into a complete professional.

Course contents:

Every student shall work in an interior designer's office as a full time trainee for a period of 20 calendar weeks (excluding viva – voce) from the date of commencement of training. The chief Interior Designer in the firm should preferably be:

- An Architect: Should be registered with the Council of Architecture for a minimum of 5 years. Should be having practical/ professional experience in the field of Interior Design.
- A 4 years degree holder in Interior Design : with a minimum of 10yrs years of practical/ professional experience in the field of Interior Design after his /her graduation.
- A 1 year diploma holder in Interior Design: with a PG Degree in any subject and a minimum of 15yrs years of practical/ professional experience in the field of Interior Design after his /her graduation.

The student should involve herself /himself in various aspects of work in an office like working drawings, presentation drawings, quantity estimation, site supervision etc. Students should understand professional practice methods of various interior designers, design process from client contacts to production documents, tender documents, production drawings for various works, site supervision etc. for various types of works. They should also learn the coordination of various agencies – client, members of design team, consultants, contractors, craftsmen and construction supervisors.

Detailed instructions regarding the training, the frequency of reporting to the department etc shall be issued at the end of Seventh semester, which the student shall strictly follow.

After completion of the practical training, every student will have to submit a detailed report with a set of drawings on at least two projects in which he / she has worked during the hundred and twenty calendar days of the practical training period. This report will be evaluated at viva – voce by a jury consisting of one external, one internal and head of the department or his/her nominee