RAMAIAH
Institute of Technology

CURRICULUM

for the Academic year 2019 – 2020

SCHOOL OF ARCHITECTURE

VII & VIII Semester B. ARCH.

RAMAIAH INSTITUTE OF TECHNOLOGY
(Autonomous Institute, Affiliated to VTU)
Bangalore – 560054.

About the Institute:

Ramaiah Institute of Technology (RIT) (formerly known as M. S. Ramaiah Institute of Technology) is a self-financing institution established in Bangalore in the year 1962 by the industrialist and philanthropist, Late Dr. M S Ramaiah. The institute is accredited with "A" grade by NAAC in 2014 and all engineering departments offering bachelor degree programs have been accredited by NBA. RIT is one of the few institutes with prescribed faculty student ratio and achieves excellent academic results. The institute was a participant of the Technical Education Quality Improvement Program (TEQIP), an initiative of the Government of India. All the departments have competent faculty, with 100% of them being postgraduates or doctorates. Some of the distinguished features of RIT are: State of the art laboratories, individual computing facility to all faculty members. All research departments are active with sponsored projects and more than 304 scholars are pursuing PhD. The Centre for Advanced Training and Continuing Education (CATCE), and Entrepreneurship Development Cell (EDC) have been set up on campus. RIT has a strong Placement and Training department with a committed team, a good Mentoring/Proctorial system, a fully equipped Sports department, large air-conditioned library with over 1,35,427 books with subscription to more than 300 International and National Journals. The Digital Library subscribes to several online e-journals like IEEE, JET etc. RIT is a member of DELNET, and AICTE INDEST Consortium. RIT has a modern auditorium, several hi-tech conference halls and all are air-conditioned with video conferencing facilities. It has excellent hostel facilities for boys and girls. RIT Alumni have distinguished themselves by occupying high positions in India and abroad and are in touch with the institute through an active Alumni Association. RIT obtained Academic Autonomy for all its UG and PG programs in the year 2007. As per the National Institutional Ranking Framework, MHRD, Government of India, Ramaiah Institute of Technology has achieved 64th rank in 2019 among the top 100 engineering colleges across India.

SCHOOL OF ARCHITECTURE

Ramaiah Institute of Technology (RIT), Bangalore, is a leading institution offering undergraduate, post graduate and research programs in the areas of Engineering, Management and Architecture. The institute was established in the year 1962 under the aegis of Gokula Education Foundation. Its mission is to deliver Global quality technical education by nurturing a conducive learning environment for better tomorrow through continuous improvement and customization.

The School of architecture, RIT, Bangalore, was established in the year 1992. Since its establishment, the school has played a vital role in providing quality education. The Council of Architecture (COA) and AICTE has recognized this program.

The Mission of the school is to uphold RIT mission, thus provide quality education to the students and mould them to be excellent Architects with adequate management skills and noble human qualities.

Full time faculty members having postgraduate qualification from prestigious institutions in India and abroad are teaching in this school. Experienced and well respected practicing architects are invited to provide their experiences as visiting faculty. New milestones are continually being set and achieved. The synergy of the progressive management, committed faculty and students ensure in excellent academic results year after year. This is reflected in the high number of University ranks that are secured.

The School of Architecture is now autonomous (affiliated to VTU) providing scope for further improvement. The focus has been towards fostering novel concepts and solutions in Architectural design. The student's response is very encouraging and the school recognizes and appreciates such good students by awarding them. Many of the students after graduation have pursued higher studies in various universities in India and abroad. There is a good demand for the school graduates in the industry and is developing initiatives towards co-branding of the industry and the institution school. Many have started their own enterprise and architectural practice as well.

All this has been possible as a result of the efforts of the impeccable faculty of the school. The faculty is committed to the welfare and success of the students. The teachers of the school are also engaged in enhancing their knowledge and skills and many are engaged in research activities as well. The school has experts in specialized disciplines like Habitat Design, Product Design, Urban Design, Urban Planning, Landscape Architecture, Heritage Conservation and Interior Design. Faculties of the school also actively participate in National and International conferences and publish and present papers.

The school as part of consultancy started off with the maiden project to redevelop the RIT engineering college campus and is now involved in various campus designs.

VISION OF THE INSTITUTE

To be an Institution of International Eminence, renowned for imparting quality technical education, cutting edge research and innovation to meet global socio-economic needs

MISSION OF THE INSTITUTE

MSRIT shall meet the global socio-economic needs through

- Imparting quality technical education by nurturing a conducive learning environment through continuous improvement and customization

- Establishing research clusters in emerging areas in collaboration with globally reputed organizations

- Establishing innovative skills development, techno-entrepreneurial activities and consultancy for socio-economic needs

QUALITY POLICY

We at MS Ramaiah Institute of Technology strive to deliver comprehensive, continually enhanced, global quality technical and management education through an established Quality Management System complemented by the synergistic interaction of the stake holders concerned.

VISION OF THE DEPARTMENT

To achieve and propagate high standards of excellence in architectural education.

MISSION OF THE DEPARTMENT

- The school's commitment is to prepare people to make a difference;
- To create an environment that shall foster the growth of intellectually capable, innovative and entrepreneurial professionals, who shall contribute to the growth of the society by adopting core values of learning exploration, rationality and enterprise; and
- To contribute effectively by developing a sustainable technical education system to meet the changing technological needs incorporating relevant social concerns and to build an environment to create and propagate innovative designs and technologies.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

PEO 1: Use the knowledge and skills of Architecture to analyze the real life problems and interpret the results.

PEO 2: Effectively design, implement, improve and manage the integrated socio-technical systems.

PEO 3: Build and lead cross-functional teams, upholding the professional responsibilities and ethical values.

PEO 4: Engage in continuing education and life-long learning to be competitive and enterprising.

PROGRAM SPECIFIC OUTCOMES (PSOs):-

a. Apply knowledge and skills of arts and sciences to the various architectural scenarios.

b. Design and develop projects based on function, form and analysis.

c. Design and improve integrated systems of people, materials, information, facilities, and technology.

d. Function as a member of a multi-disciplinary team.

e. Identify, formulate and solve industrial requirements and problems.

f. Understand and respect professional and ethical responsibility.

g. Communicate effectively both orally and in writing.

h. Understand the impact of design solutions in a global and societal context.

i. Recognize the need for and an ability to engage in life-long learning.

j. Have knowledge of contemporary issues in industrial and service sectors.

k. Use updated techniques, skills and tools of architecture throughout their professional careers.

l. Implement the concepts of project and construction management to satisfy customer expectations.

Curriculum breakdown structure:

The curriculum of Architecture program is so structured to include all the courses that together satisfy the requirements of the program specific criteria prescribed by the **Council of Architecture**. The Course code, Course title, the number of contact hours and the number of credits for each course are given in the following table. The courses are grouped in line with the major components of the curriculum namely: (i) Humanities and Social Sciences, (ii) Arts and Science, (iii) Basic Architecture and Engineering courses, (iv) Professional core courses, (v) Electives and (vi) Project and industry exposure/internship.

Breakup of Credits for B Arch Degree Curriculum. (I to X Semester)

Sem	HSS	AS	BAE	PCS	Electives	Project / Internship	Total Credits
I	1	7	6	11	-	-	**25**
II	-	8	6	11	-	-	**25**
III	-	6	8	11	-	-	**25**
IV	-	3	11	11	-	-	**25**
V	2	6	6	11	-	-	**25**
VI	2	-	12	11	-	-	**25**
VII	3	-	8	11	3	-	**25**
VIII	5		3		2	15	**25**
IX	-	-	-	-	-	25	**25**
X	-	-	-	-	-	25	**25**
Total	**13**	**30**	**60**	**77**	**5**	**65**	**250**

HSS	- Humanities and Social Sciences	-	13
AS	- Arts and Science	-	30
BAE	- Basic Architecture & Engineering	-	60
PCS	- Professional Core Subjects	-	77
Elective	- Professional Electives, relevant to the chosen specialization	-	05
Project / Internship	- Project Work and Internship in Architect's office	-	65

Board of Studies for the Term 2019-2020

1. Prof. (Dr.) Pushpa Devanathan   Chairperson
2. Ar. Chitra Vishwanath   VTU Nominee
3. Ar. Vidyadhar S. Wodeyar   External Industry Expert
4. Ar. Ulhas Rane   External Industry Expert
5. Dr. Rama RS   Academician
6. Dr. Chidambara Swamy   Academician
7. Ar. Subbiah T S   Alumni
8. Prof. Vishwas Hittalmani   Member
9. Prof. (Dr.) Rajshekhar Rao   Member
10. Prof. (Dr.) Jyotimay Chari   Member
11. Dr. Rashmi Niranjan   Member
12. Dr. Monalisa Vyas   Member
13. Er. Vijayanand M   Member

SCHOOL OF ARCHITECTURE

TEACHING STAFF SCHOOL OF ARCHITECTURE
TEACHING STAFF

Sl No	Name	Qualification	Designation
1	Ar. Pushpa Devanathan	M.Arch., P.G.D.I.(PhD)	Professor & Head of Department
2	Ar. Vishwas Hittalmani	M Des	Professor
3	Ar. Rajshekhar Rao	M L Arch (PhD)	Professor & Head-M.Arch(Landscape Architecture)
4	Ar. Jotirmay Chari	M Arch (PhD)	Professor
5	Prof. Prasad G	M.Arch	Professor (Tenure Faculty)
6	Dr. Rashmi Niranjan	PhD , MFA (Fine arts)	Associate Professor
7	Dr. Monalisa	M Arch , PhD	Associate Professor
8	Ar. Surekha R	M.L Arch	Associate Professor
9	Ar. Lavanya Vikram	M.L Arch	Associate Professor
10	Ar. Sudha Kumari	M.Arch	Associate Professor
11	Ar. Meghana K Raj	M L Arch	Associate Professor
12	Ar. Tejaswini H	M. L.Arch	Associate Professor
13	Ar.Sudhir Chougule	M L Arch	Associate Professor (Tenure Faculty)
14	Ar. Mallika P V	P G – Urban Design	Associate Professor (Tenure Faculty)
15	Ar. Nikhil V Wodeyar	M L.Arch	Associate Professor(Tenure Faculty)
16	Er. Vijayanand M	M Tech (PhD)	Assistant Professor
17	Er. Aruna Gopal	BE	System Analyst
18	Ar. Shivdeepthi Reddy	M.Arch(Architectural Conservation)	Assistant Professor

19	Ar. Kriti Bhalla	B.Arch	Assistant Professor
20	Ar. Kanika Bansal	M.Arch(Environmental Planning)	Assistant Professor
21	Ar. Apoorva Lakshmi R	B.Arch	Assistant Professor
22	Ar. Aishwarya Yoganand	M.Sc(Sustainable Building Systems)	Assistant Professor
23	Ar. Divya Susanna Ebin	M Arch (Urban Design)	Assistant Professor
24	Ar. Yashas Hegde	M Arch (Urban Design)	Assistant Professor
25	Ar. Arpita Sarkar	M L.Arch	Assistant Professor
26	Ar. Jyotsna Rao J	M LArch	Assistant Professor
27	Ar. Ranjitha Govindaraj	M L.Arch	Assistant Professor
28	Ar. Reema Harish Gupta	M.Arch (Urban Design)	Assistant Professor
29	Ar. Trisha Sinha	M.Tech (Infrastructure systems)	Assistant Professor
30	Ar. Theju V Gowda	M Sc. Architecture	Assistant Professor
31	Ar. Akshata Shagoti	M.Arch	Assistant Professor
32	Ar. Amala Anna Jacob	M.Arch (Urban Design)	Assistant Professor
33	Ar. Meghana M	M.Arch (World Heritage Studies)	Assistant Professor
34	Ar. Sheethal B S	M.Arch (Regional Planning)	Assistant Professor

ADMINISTRATIVE STAFF

1	Mrs. Padmavathy. B	MBA	FDA
2	Mrs. Ambika	M Tech	Assistant Instructor
3	Mr. Nagesh B.L	Dip. in Mech.Engg.	Assistant Instructor

SUPPORT STAFF

1	Mr. Ramachandra Chari	Attender
2	Mr. Penchaliah	Attender

SCHEME OF TEACHING & EXAMINATION VII SEMESTER B ARCH
ACADEMIC YEAR- 2019- 2020

Sl. no	Subject code	Title of the Subject	Lecture	Studio	Practical (Study Tour/ Case study)	Credits	Exam	CIE Marks	SEE Marks
2016 BATCH			**Teaching scheme per week**			**Examination scheme**			
1	AR 701	Architectural Design VI	6	0	1	7	SEE (Viva voce)	50	50
2	AR 702	Building Materials & Construction Technology VII	3	0	1	4	SEE (Viva voce)	50	50
3	AR 703	Urban and Regional Planning	2	0	1	3	SEE	50	50
4	AR 704	Professional Practice I	3	0	0	3	SEE	50	50
5	AR 705	Elective	3	0	0	3	SEE (Viva voce)	50	50
6	AR 706	Interior Design	3	0	0	3	SEE (Viva voce)	50	50
7	AR 707	Disaster Management	2	0	0	2	CIE	100	
8	AR 708	Vacation Assignment and Study Tour				P / F	SEE (Viva voce)	100	
			22	0	3	25			

CIE = CONTINUOUS INTERNAL EVALUATION
SEE = SEMESTER END EXAMINATION (3hrs duration)
P = Pass   F = Absent & fail
Evaluation Pattern   : Marks allocation for SEE

Subject Code	Subject Name	Design	Drawing	Viva Voce	Elective / Educational Tour/Book Review
AR 701	Architectural Design -VI	20	15	05	10

Subject Code	Subject Name	Portfolio	Viva
AR702	Building Materials & Construction Technology IV	40	10
AR705	Elective	40	10
AR708	Vacation Assignment and Study Tour	80	20

Subject Code	Subject Name	Theory	Project	Materials Study
AR706	Interior Design	25	15	10

Subject Code	Subject Name	Assignment & Presentation	Test
AR 707	Disaster Management	80	20

Note:-

-Electives and Educational tours are part of Architectural design.
- Literature survey will be a requirement for Architectural design study. Periodical review by an external jury for subjects going for viva voce.
- National/International tours may be arranged during vacation to students, to study examples of good Architecture. The tour details will be announced in the semester I-VI.
- For all viva voce examinations one internal faculty and one external faculty will conduct the exam.
- Portfolios have to be submitted on prescribed date for all the subjects on the date announced by the department for one year.
- All students have to register on the first day at the beginning of the **Viva voce exam.**
- All students have to register on the first day of **Term work exams**.

SCHEME OF TEACHING & EXAMINATION VIII SEMESTER B ARCH
ACADEMIC YEAR- 2019- 2020

2016 BATCH			Teaching scheme per week			Examination scheme			
Sl. no	Subject code	Title of the Subject	Lecture	Studio	Practical (Study Tour/ Case study)	Credits	Exam	CIE Marks	SEE Marks
1	AR 801	Architectural Design Project	15	0	0	15	SEE (Viva voce)	50	50
2	AR 802	Dissertation	2	0	0	2	SEE (Viva voce)	50	50
3	AR 803	IPR & Ethics	1	0	0	1	SEE	50	50
4	AR 804	Professional Practice II	3	0	0	3	SEE	50	50
5	AR 805	Constitutional Law	1	0	0	1	SEE	50	50
6	AR 806	Construction Management	3	0	0	3	SEE	50	50
			25			25			

CIE = CONTINUOUS INTERNAL EVALUATION
SEE = SEMESTER END EXAMINATION (3hrs duration)
Evaluation Pattern   : Marks allocation for SEE

Subject Code	Subject Name	Design	Drawing	Viva Voce	Elective / Educational Tour/Book Review
AR801	Architectural Design Project	20	15	05	10

		Portfolio	Viva	
AR802	Dissertation	40	10	Viva voce

Note:-

 -Electives and Educational tours are part of Architectural design.
- Literature survey will be a requirement for Architectural design study. Periodical review by an external jury for subjects going for viva voce.
- National/International tours may be arranged during vacation to students, to study examples of good Architecture. The tour details will be announced in the semester I-VI.
- For all viva voce examinations one internal faculty and one external faculty will conduct the exam.
- Portfolios have to be submitted on prescribed date for all the subjects on the date announced by the department for one year.
- All students have to register on the first day at the beginning of the **Viva voce exam.**
- All students have to register on the first day of **Term work exams**.

ARCHITECTURE DESIGN-VI

Course Code: AR701   **Credits: 6: 0:1**
Prerequisite: Nil   **Contact hours: 112 hours**
Course Coordinators: Prof. Pushpa Devanathan

Course Objectives:

To enable students to
- Understand the role of Architecture in Urban Context.
- Understand the dynamics of urban scale projects and high rise buildings.
- Understand basic design and planning of transport interchanges

Course contents:

UNIT I
Case studies of High-rise buildings.

UNIT II
Planning and design parameters of high-rise building

UNIT III
Study of urban space, large gathering spaces, multiple functions in a space, mixed use development.

UNIT IV
Introduction and basic design and planning of Transport interchanges.

References:
1. Time Saver Standards for building Types- Joseph De Chiara & John Callender
2. Time Saver Standards for Architectural Design Data-John Hancock Callender
3. Neuferts's Standards
4. Hotel and Resort Design- Anne M Schmid and Mar Scoviak - Lerner

Course Outcome (COs):

The students will be able to
- Deliver architectural solutions to projects in urban context. (PO- a, b, c, d)
- Respond to the dynamics of urban scale projects and high rise buildings confidently.
  (PO- a, b, c, d, e, f, g, h, i, j, k, l)
- Plan and design basic transport interchanges (PO- a, b, c, d, e, f, g, h, i, j, k, l)

SEMESTER - VII

BUILDING MATERIALS & CONSTRUCTION TECHNOLOGY VII

Course Code: AR702   **Credits: 3:0:1**
Prerequisite: Nil   **Contact Hours: 70 hours**
Course Coordinator: Prof. Vishwas Hittalmani

Course objectives:

To enable students
- To learn construction techniques for interior spaces.
- To gain an insight into detailing of interior elements in residential and commercial buildings.
- To gain an insight into currently available / appropriate building materials used in interior spaces.
- To gain an insight into newer sustainable building materials used in interior spaces.

Course Contents:

UNIT – I

Dividers / Cabinet shelves / Showcases **-** sizes, construction joinery and detailing, material specifications & hardware used, modular options available in market, newer sustainable materials, finishes, costs.
Wardrobes **-** sizes, construction joinery and detailing, material specifications & hard ware used, modular options available in market, finishes, costs.

UNIT – II

Modular Kitchens **-** configurations, sizes, Construction joinery and detailing, material specifications & hard ware used, modular options available in market, finishes, costs.

UNIT – III

Workstations **-** configurations, sizes, construction joinery and detailing, material specifications & hard ware used, modular options available in market, finishes, costs.
Partitions **-** Full height & half height, size, construction joinery and detailing, material specifications & hardware used, modular options available in market, newer sustainable materials, finishes, costs.

UNIT – IV

False ceiling **-** sizes, construction joinery and detailing, material specifications & hardware used, modular options available in market, finishes, costs.
Wall paneling **-** sizes, construction joinery and detailing, material specifications & hardware used, modular options available in market, newer sustainable materials, finishes, costs.

References :

1. Building Construction by Mckay
2. Indian Practical Civil Engineers Handbook
3. Construction of Buildings by Barry
4. Construction Technology by Chudley

Course outcome (COs):

The students will be able to

- Apply construction techniques for interior spaces. (PO- c, j, k)
- Undertake detailing of interior spaces in residential and commercial buildings. (PO- h, k)
- Incorporate currently available/appropriate building materials used in interior spaces. (PO- h)
- Use newer sustainable building materials and innovative details in interior spaces. (PO-j, k, c)

URBAN AND REGIONAL PLANNING

Course Code: AR703   **Credits: 2:0:1**
Prerequisite: Nil   **Contact hours: 42 hours**
Course Coordinators: Prof. Jotirmay Chari

Course Objectives:

To enable students
- To understand the principles of Urban and Regional Planning.
- To understand the theories of eminent persons who have contributed to Planning.
- To understand the process of Urbanization.
- To understand the techniques in planning.

Course contents:

UNIT -I
Introduction to urban and rural planning, Evolution of Human settlements.

UNIT -II
Urbanization, urban area, urbanism, Classification of urban systems, causes of growth and decay of cities, urban morphology, Land use planning theories, land use classifications, CBD, slum rehabilitation.

UNIT -III
Introduction to Regional Planning, Theories, Types of region – functional, formal, perceptual.

UNIT -IV
Types of planning systems (perspective plans, regional plans, development plan, local area plan, special purpose plan, annual plan), population density, age-sex ratio, economic base,etc, Surveys conducted for developing the plans, Contents of Development plans.

UNIT -V
Project work - Practical approach towards urban renewal/ land use planning/ neighborhood planning.

References:

1. "The urban pattern: City planning and Design" by Gallion and Eisner.
2. "Urban planning" by Chapin
3. "Urban and Regional planning" by Remegowda

Course Outcome (COs):

The students will be able to
- Apply basic principles of Urban and Regional Planning while designing. (PO- a ,i)
- Plan with the awareness of the trends of Urbanization. (PO- a, d, I, h)
- Use the techniques of planning. (PO- b, c, e, l)

PROFESSIONAL PRACTICE -I

Course Code: AR704   **Credits: 3:0:0**
Prerequisite: Nil   **Contact hours: 42 hours**
Course Coordinator: Prof. Pushpa Devanathan

Course Objectives:

To enable students
- To understand the responsibilities & liabilities of the profession.

Course contents:

UNIT I
Profession of architecture, Types and extent of service by architect, Types of architectural firms.

UNIT II
Duties of an architect, towards client, contractor, profession of architecture, Scale of professional charges, mode of payment.

UNIT III
Role of Council of architecture and The Indian Institute of Architect in the functioning of the profession, Code of professional conduct, Architectural competition and guidelines for the competition.

UNIT IV
Types of tenders, tender notice, various issues arising out of tendering process, Earnest money.

UNIT V
Contract – General principles, types of contract, condition of contract, Breach of contract, Duties of an architect, under the contract.

References:

1. Professional Practice for Architects and Engineers by Roshan Namavathi.
2. Legal & Contractual procedures for Architects by Bob Green Street.
3. Professional Practice by K G Krishna Murthy & S V Ravindra.

Course Outcome (COs):

The students will be able to
- Apply the basic principles of architecture profession while working. (PO- f)
- Address the various issues in the architectural practice. (PO- k)

SEMESTER – VII

ELECTIVE

Course Code: AR705   **Credits: 3:0:0**
Prerequisite: Nil   **Contact hours: 42 hours**
Course Coordinators: Prof. Pushpa Devanathan & Prof. Vishwas Hittalmani

Course Objectives:

To enable students
To pursue study in an area of special interest in architecture
To select a topic for architectural design project of their special interest.

Course content:

Unit I
Introduction regarding areas of special interest and types of projects.

Unit II
Topic selection and the norms and standards to be followed.

Unit III
Case study and collection of data.

Unit IV
Analysis and synthesis of data.

Unit V
Finalization of architectural design project with requirements, site details etc.,

Reference books:

1.   Time savers standards for architectural design data – by John Callender (Editor)
2.   Architectural design data – by Ernst Neufert
3.   National building code of India, 2005
4.   Building Byelaws and Zonal regulations

Course outcome (COs):

The students will be able to
- Select the topic of their interest. (PO- a, b)
- Finalize an architectural design project for further deliberations in the following semester. (PO- d, e, j)

SEMESTER – VII

INTERIOR DESIGN

Course Code: AR706   **Credits: 3:0:0**
Prerequisite: Nil   **Contact hours: 42 hours**
Course Coordinator: Prof. Jotirmay Chari

Course Objectives:

- To introduce the students to the discipline of interior design.
- To enable students to develop the skill required to handle simple interior design projects.

Course contents:

UNIT I
Case studies of Interior projects.

UNIT II
Activity analysis, anthropometrics, application of scale and proportion.

UNIT III
Effects of enclosure, psychological effects of space.

UNIT IV
Elements of interior space including design for comfort- climatic, natural and artificial lighting, air conditioning and acoustics, building services, furniture placement and layout, surface treatment and interior landscape.

References:

1. Time Saver Standards for building Types- Joseph De Chiara & John Callender
2. Neuferts's Standards

Course outcome (COs):

The students will be able to
- Design interior projects of the above mentioned scale of projects. (PO- a, b, g)
- Execute it on site. (PO- e, g, j)
- Analyze and apply innovative details in construction. (PO- i, j)

DISASTER MANAGEMENT

Course Code: AR707   **Credits: 2:0:0**
Prerequisite: Nil   **Contact hours: 28 hours**
Course Coordinators: Prof. Vishwas Hittalmani

Course Objectives:

Provide awareness about disaster prevention measures in buildings and introduction to building safety from natural hazards and other hazards.

Course contents:

Unit I
Introduction to earthquakes, cyclone, floods, landslide.

Unit II
Prevention measures and their impact on the buildings.

Units III
Site planning, building forms and architectural design concepts for earthquake resistance of buildings, Retrofitting of buildings and dampers.

Unit IV
Safety considerations in building and importance of construction details.

References:

1. Encyclopedia of Disaster Management by Goel, S L Deep & Deep publications Pvt. Lts.
2. Disaster Management by G K Ghosh, A P H Publishing Corporation
3. Disaster Management by R B S Singh Rawat publications

Course outcome (COs):

The students will be able to
* Handle Disaster Management in buildings & ensure safety from natural hazards. (PO- c, d, j)

VACATION ASSIGNMENT AND STUDY TOUR

Course Code: AR 708   **Credits: Nil**
Prerequisite: Nil
Course Coordinators: **Associate Prof. Meghana Raj**

Course Objectives:

- Appraisal of working drawing, detailing and architectural design.
- To train in computer applications in design and drafting, documentation of drawings.
- To provide exposure to the various dimension of architectural design.

Course Contents:

UNIT I

Provide exposure to the various dimensions of architectural design. This will include exposure to design concept, planning, form and spaces, detailing. with respect to the documentation.
Site experience helps to understand building orientation, adoption of site planning principles and appreciation of building.

Study the Chief Architectural monuments, newer works and the usage of modern construction technology.

Course outcome (COs):

Students will be able to:

- Present appreciation of Architectural design .(PO- a, b, c, e, j, h, j, k)

Present Performance will be evaluated through viva voce exam and awarded the grade as
P= Pass, F = Absent & fail

ARCHITECTURAL DESIGN PROJECT

Course Code: AR801   **Credits: 15:0:0**
Prerequisite: Nil   **Contact hours: 168 hours**
Course Co-ordinators: Prof. Pushpa Devanathan

Course Objectives:

To enable students
- To take up a design project of their choice of a suitable scale.
- To apply the knowledge of various subjects learnt in the earlier semesters while working towards a design solution addressing the technical, socio-economic, environmental, aesthetic and functional factors.
- To confidently present their works verbally and graphically.

Course Contents:

This being the last academic work before entering the practical field, it is expected to be as close to the professional work as possible. It is an opportunity for the student to display his/ her design abilities and reinforce the same by applying the technical skills garnered in the previous semesters. The student, in consultation with the faculty, is expected to demonstrate an innovative yet practical solution for a built environment. The project should clearly present an overview of almost all the subjects studied in the various semesters.

This also includes self learning component and is done through case studies, data collection, discussion with experts, site data collection etc

UNIT – I

Project finalization, Synopsis with aims, objectives, limitation and scope
Project title, Type of project, site, site location, surroundings, proximity, accessibility to be discussed;
Site Details and analysis, Zoning, Site Plan, Entry/exit, parking, pickup, drop off, Service entry/exit, service parking, loading/unloading;
Building bye-laws, norms, fire and safety regulations, Design standards.

UNIT II

Concept and design of first block and second block.

UNIT III

Design of third and fourth block.
Design of fifth block and others if any.

UNIT IV

Interior design detailing, Coordination of all services, Integration with structures.

UNIT V

Presentation drawings, Project report, Model making, Preparation of portfolio.

References:

1. Time saver standards
2. Neufert's Standard

Course outcome (COs):

The Students will be able to

- Apply the information acquired in various subjects studied during their architectural course while working on the architectural design projects. (PO- a, b, c, d, e, k ,l)
- Exhibit the graphic and verbal skills through presentation of their works. (PO- f, g, h, i, j)

DISSERTATION

Course Code: AR802   **Credits: 2:0:0**
Prerequisite: Nil   **Contact hours: 28 hours**
Course Co-ordinator: Associate Prof. Tejaswini H

Course Objectives:

To enable the student to pursue an in depth study in an area of special interest.

Course Contents:

UNIT I
Introduction to Dissertation

UNIT II
Selection of topic, reason for selection, justification, synopsis **.**

UNIT III
Literature Case study and documentation, review of case study; usefulness of case study to the selected topic; conclusion from case study.

UNIT IV
Live case study and documentation, review of case study, usefulness of case study to the selected topic; conclusion from case study.

UNIT V
Power point presentation on the actual topic based on conclusions from case studies and research; preparation of report based on research conducted under various heads.

Course outcome (COs):

 The students will be able to
•   Present the study conducted in an area of special interest.

IPR & ETHICS

Course Code: AR803   **Credits: 1:0:0**
Prerequisite: Nil   **Contact hours: 14 hours**
Course Co-ordinator: Associate Prof. Dr. Rashmi N

Course Objectives:

- Provide an insight into professional ethics, legislation aspects and intellectual property rights.

Course content:

UNIT I
 Introduction of the subject and its relevance to architectural field and society, Fundamentals Of Intellectual Property- An Introduction To The Basic Concepts Of Intellectual Property, Meaning And Scope, Comparison Intellectual Property Vs. Physical Property.

UNIT II
Different types of IPR. Fundamentals Of Intellectual Property- Introduction To Each Type, IPR Protection Procedure With Reference To Architecture-to provide an insight into the protection afforded to bioinformatics software by copyright and patent regime (case studies in other areas), Trade Secrets & Trade Marks-Overview Of Concepts Of Trade Secrets & Trademarks.

UNIT III
Prior search, Technology Transfer and Licensing -Technology Transfer And Commercialization, Patent Search Exercise using Internet, Creation of Copyright for your own Architecture Design Thesis Project types.

UNIT IV
 Filing an application, Patent Drafting, Invention Disclosures, Patent Drafting- PCT Applications.

UNIT IV
Ethics and Plagiarism in Intellectual Property, infringement Cases
Revision/Question Paper solving.

References:

1. Text book on Intellectual Property Rights by N K Acharya, 2012
2. Intellectual Property Rights in India, VK Ahuja, 2009
3. Intellectual Protection and Sustainable Development, Philippe Cullet, 2005

Course outcome (COs):

The students will be able to
- Work with the awareness of the professional ethics, legislation and intellectual property rights. (PO- c, e, j, k)

PROFESSIONAL PRACTICE II

Course Code: AR804   **Credits: 3: 0: 0**
Prerequisite: Nil   **Contact Hours: 42 hours**
Course Co-ordinators: Prof. Pushpa Devanathan

Course objectives:

- To understand the professional responsibilities within the ambit of the laws of the land by studying building byelaws and codes.
- To gain an insight into easement rights, Arbitration and Conciliation,Valuation, Dilapidation and law related to land and property.

Course contents:

UNIT I
Zoning Regulations and Building Byelaws Introduction, Land use categories, regulations of main land use types , Building Byelaws Applicable to cities-their necessity ,various building byelaws - FAR /FSI , Setbacks, Garage ,Projections into open spaces,Means of access, Basement floor,parking norms, etc

UNIT II
Easement Rights –Definition, characteristics of an easement, Natural Rights ,Various easement rights- Easement of support ,Easement of drainage Easement of light and air (ancient light) ,Easement of right of way, Easement of eave projection,etc . Continuous and Discontinuous easements,apparent and non-apparent easements, extinction of easements, Modes of acquiring easement rights ,architects role.
National Building Code Importance of the NBC, Stipulations with respect to fire norms in highrise buildings.

UNIT III
Valuation- Definition, Purpose of valuation, value classification - market value, fair market value, salvage value, etc. Brief description of various methods of valuation, valuation report.

UNIT IV
Dilapidation-Definition, Information required prior to preparation of a schedule, schedule format, Report and recommendation, architects role
Arbitration Need for Arbitration, Modes of settlement of disputes, Arbitration and the Conciliation Act-1996- objective and salient features, Procedure adopted in Arbitration, arbitrator,order of reference , selection of arbitrators ,Powers and duties of Arbitrators ,Arbitral Award.

UNIT V

Types of land holdings- freehold tenure and leasehold tenure –building lease, occupation lease

Land Acquisition– Objective, Land Acquisition Act 1894(amended in 1984), Procedure for Land Acquisition.

Latest COA rules and regulations- architects' professional liability.

References:

1. Legal and Contractual Procedures for Architects by Bob Green Street
2. AJ Legal Handbook
3. Professional Practice for Architects and engineers by Roshan Namavathi
4. **2.**Professional Practice by KG Krishnamurthy and SV Ravindra

Course outcome (COs):

 The student will be able to

- Carry out the professional responsibilities within the ambit of the laws of the land by studying building bye laws, codes. (PO- f, i)
- Apply the easement rights, arbitration and conciliation, valuation and dilapidation, laws relating to land and property where ever required. (PO- d, k)

CONSTITUTIONAL LAW

Course Code: AR805   **Credits: 1: 0: 0**
Prerequisite: Nil   **Contact Hours: 14 hours**
Course Coordinator: Humanities Dept

Course Objectives:

* To provide basic information about Indian constitutional law.
* To identify individual role and create legal awareness.

Course Content:

UNIT I
Evolution of Indian Constitution ,The Preamble, Fundamental Rights in details and exercise of rights under Part III, Limitations & Important cases.

UNIT II
Relevance of Directive Principles of State Policy under part-IV,
 Fundamental Duties & their significance. Special constitutional provisions for SC&ST,
Women & Children.

UNIT III
Union executive-President, Prime Minister, Parliament &.
State executive-Governor, Chief Minister, State legislatures.

UNIT IV
Union and state judiciary -Supreme Court of India& High courts of state.

UNIT V
 Emergency provisions, Electoral process, Amendment procedure and Major Constitutional amendments.42nd, 44th, 74th. 76th, 86th and, 91st amendments.

References:
1. Introduction to Constitution of India -Durga Das Basu   19th/20th edition 2001
2. Constitution of India and Professional Ethics – K.R PHANEESH   5th edition 2008
3. Constitutional law of India — Dr.J.N.Pandey, Central Law Agency 37th edition 2001
4. A Primer on Constitution of India & Professional ethics, VTU Publication-2002

Course outcome (COs):
The students will be able to
* Enhance legal literacy. (PO- h, i)
* Analyze and implement certain laws in their day to day activities. (PO- c)

CONSTRUCTION MANAGEMENT

Course Code: AR806   **Credits: 3:0:0**
Prerequisite: NIL   **Contact hours: 42hours**
Course Coordinator: Assnt. Prof. M. Vijayanand

Course Objectives:
- Provide an insight into management of buildings/construction projects involving management financial, machines and human resources.

Course Contents:

UNIT I

Construction Management and Planning:
Basic concepts in the development of construction plan – Choice of technology and construction method – Defining works tasks – Definition precedence relationships among activities – Estimating activity duration – Estimating resource requirements for work activities.

UNIT II

Network Analysis: Introduction – Advantages of network analysis – Activity and Event oriented network – calculation of critical path scheduling – Comparison between PERT and CPM- Activity float and schedules – Crashing and time cost tradeoffs – Improving the scheduling process, problems.

UNIT -III

Machinery for building works: Introduction – necessity to mechanize, options of procuring equipment, selection of equipment, concept, standard equipment, construction equipment deployed in large scale building works, construction equipment and their operational use.

UNIT IV

Cost Effectiveness: Introduction- role of client, contactor, consultant, architect and engineers. System improvement to achieve cost effectiveness.

References:

1. Prasanna Chandra, "Project Management", Tata McGraw Hill, New Delhi, 2007.
2. Sharma J.C., "Construction Management and Accounts", Sathyaprakasam, NewDelhi, 2006.
3. Construction Planning, Equipment and Methods by R L Peurifoy
4. Project Management for Architects by S P Mukhopadhya
5. Construction Management by K G Krishnamurthy and S V Ravindra
6. Meyyappan.P.L. "Construction Management", Pradeepa Publications, Coimbatore, 2010

Course outcome (COs):

The students will be able to
- Manage the building/construction projects. (PO- a, k, l)
- Choose the required technology in construction planning. (PO- a, k, l)
- Determine the cost of the project and estimate the resource requirements for various construction activities. (PO- a, e, k, l)
- Categorize the construction management techniques, innovations and process. (PO- a, k, l)