COURSE STRUCTURE – SEVENTH SEMESTER

S. No.	Paper Code	Paper Title	L	S	P	Credits	Marks	ESE (*)	Duration of exam (HRS)
STUDIO COURSES									
1	**BAP 401**	**Architectural Design – VII**		**10**	-	**10**	**100**	**VV**	-
2	**BAP 403**	**Building Materials & Construction Technology – VII**		**6**	-	**6**	**100**	**VV**	-
3	**BAP 405**	**Women and Sustainable Development**		**3**	-	**3**	**100**	**VV**	-
THEORY COURSES									
4	**BAP 407**	**Advanced Building Services-VII**	**2**	-	-	**2**	**100**	**WR**	**3**
PRACTICAL SUBJECTS									
5	**BAP 409**	**Seminar**	-	-	**3**	**2**	**100**	**VV**	-
6	**BAP 411**	**Strategic Design Thinking**	-	-	**3**	**2**	**100**	**VV**	-
7	**BAP 413**	**Emerging Phenomenon and Architecture**	-	-	**2**	**1**	**100**	**VV**	-
ELECTIVE COURSES									
8	**BAP 415**	**NUES * (Non University Examination Scheme)**	-	-	**2**	**2**	**100**	-	-
Total			**2**	**19**	**10**	**28**			

(*) Please see below for abbreviations:

VV – Viva Voce
WR – Written Test
NUES – Courses to be taken up from MOOC/Coursera/NPTEL/MIT Course ware etc.

ARCHITECTURAL DESIGN-VII			
Course Code:	**BAP 401**	**Credits:**	**10**
No. Of Studio (Hrs/Week):	**10**	**Mid Sem Exam Hours:**	**-**
Total No. of Studio Hrs:	**160**	**End Sem Exam Hours:**	**VV**

INTRODUCTION

This course shall create awareness about the causes and consequences of housing problems and to impart knowledge about the possible solutions.

AIM

To enable the students to understand the fundamentals of housing needs, housing finance and housing techniques with relation to social and environmental effect.

OBJECTIVES

- To sensitize students towards resource conservation through design process.
- To inculcate the importance of services integration and construction in spatial planning in the context of design of High-rise buildings and service intensive buildings.
- To sensitize concepts related to cost reduction in housing: techniques and related issues, alternative building materials. Residential environment: user's satisfaction and behavioural aspects, evaluation of housing development.

LEARNING OUTCOMES

Having successfully completed this course, the student will be able to understand:

- Housing as a social issue and as an infrastructure.
- Housing needs and demands
- Implication of statutory norms and market forces on the typology of housing and designing of housing for a given/explored number of household.
- Housing design process, different stage in project development, layout design including utilities and common facilities.

PEDAGOGY

Classroom teaching is supported by giving handouts, PowerPoint slides, exposure to Site visits/filed visits to specific building(s) pertaining to the typology chosen. Readings/Short Movies.Students may visit site for collecting context specific data for getting better understanding of real- life project details. The collected data may be analyzed and presented for evaluation.Stage by stage submission will be followed by an internal jury where the student work will be critically examined. Summative assessment of the studio work could be achieved through panel discussions, presentation, peer review, public review, Criteria based evaluation etc.

EVALUATION SCHEME:

The work will be presented as portfolio and will be evaluated through Viva Voce by a jury.

• Continuous evaluation by teacher(to be based on performance in studio/workshop/lab, attendance, assignments/projects, quizzes etc. (50 marks multi- stage evaluation)	50%
• End Semester Viva Voce	50%

CONTENT

Introduction

Introduction or acquainting with the various ways of designing a Housing Project in urban/rural context i.e. low/medium rise- high density, high rise-high density etc.
Introduction to the site and project brief.

Secondary research

Case study/Review of different forms of housing in both developed and developing countries.
Aspect of socio-economic, cultural, construction technique etc. influencing housing design may be explored.

Conceptual design

Design Proposal of the chosen typology incorporating varied formats of grouping/massing etc. on the site (as given) using specific bye-laws and regulations.

Integrating knowledge of Structures, Building Construction & Services

Integration of services and structural development to the finalized concept proposal necessary on site and making relevant drawing for the same.

REFERENCE BOOKS

1. Clapham, D., Clark, W. A. V. and Gibbs, K.,"The Sage Handbook of Housing Studies. London", Sage Publications,2012
2. Mathur G C, "Low-cost housing in developing countries"South Asia Books 1993
3. Hideaki Hareguchi, "A Comparative analysis of 20th century houses'', Academy Editions, 1988
4. Chiara Joseph De et al, "Time saver standards for housing and residential development. McGraw Hill'', New York,1995
5. Mehta, M. and Mehta, D, "Metropolitan housing market'' Sage Publications, New Delhi,1989
6. National Building code
7. Master Plan of Delhi 2021.

BUILDING MATERIALS AND CONSTRUCTION TECHNIQUES- VII			
Course Code:	**BAP 403**	**Credits:**	**06**
No. of Studio Hrs/Week:	**06**	**Mid Semester Exam Hours:**	**--**
Total No. of Studio Hrs:	**96**	**End Semester Exam Hours:**	**VV**

INTRODUCTION

This subject gives an insight about detailing aspect of construction as well as the a typical systems of construction and management of buildings.

AIM

The aim of this course is to develop the understanding about detailing aspect of construction in order to facilitate fast and modular construction and also the technology driven management systems in buildings. The aim of this course is to also familiarize the student with understanding of building components used in advanced structures, large span structures.

OBJECTIVE

- To familiarize students with working drawing of various service areas of buildings and also interiors of buildings
- To familiarize students with fast and modular construction techniques/systems.
- To familiarize students with alternative cost effective construction techniques.

LEARNING OUTCOMES

Having successfully completed this course, the student will be able to:

- Understand the proper system of dimensioning in a working drawing in a working drawing.
- Understand various constituents of a working drawing.
- Understand various fast pace and modular construction systems
- Understand cost effective construction systems.

PEDAGOGY

Classroom teaching is supported by preparation of drawings.

EVALUATION SCHEME

The work will be presented as portfolio and will be evaluated through Viva Voce by a jury.

• Continuous evaluation by teacher(to be based on performance in studio/workshop/lab, attendance, assignments/projects, quizzes etc.	50%
• End Semester Viva Voce	50%

CONTENTS

Working drawing of Interiors

Layout of a Kitchen design, public toilet design, service layout of electrical lines, fixtures and lighting, Submission and Working Drawings of any commercial space of area up to 200 sqm like restaurant, office, etc. Layout of Gas pipeline installation system.

Speedy Construction Techniques

Introduction to Pre-stressing, Post Tensioning and Pre Tensioning, Prefabrication, Lift Slab Techniques, Tilt up Construction, Precast Construction – Column Beam Joints, Staircase, Roof, Walling.

Cost effective Building structures

Bamboo Structures: Bamboo reinforced concrete, Structures like ferrocement channels, plank and joist.

Brick Roof: Pyramid, Reinforced Brick Concrete, Filler Slab.

REFERENCE BOOKS

1. Rosenthal, "Structural Decisions"
2. Levy, M. and Salvadori, M., "Why Building Fall Down"
3. Levy, M. and Salvadori, M., "Why Building Stand up"
4. Salvadori, M., "Structure in Architecture**"** Pearson; 4th Edition ,2016
5. Styles, Keith; 1998; Working Drawings Handbook,3rd Edition, Architectural Press; UK
6. McKay, W.B., Building Construction, Vols. I, II, III, Longman. 2005
7. Barry, Robbin,"The construction of Buildings", Vol. 1 to 5, Blackwell Science, 1996
8. Chudley, Roy, "Building Construction Handbook", Routledge; 8th Edition, 2010
9. Building Construction by B.C. Punmia

WOMEN AND SUSTAINABLE DEVELOPMENT			
Course Code:	**BAP 405**	**Credits:**	**03**
No. of Studio Hrs/Week:	**03**	**Mid Semester Exams Hours:**	**--**
Total No. of Periods:	**48**	**End Semester Exams Hours:**	**VV**

INTRODUCTION

Women form nearly half of global population, and hence sustainable development cannot be achieved without empowering women. Women are the primary caregivers, meal providers, and teachers and therefore they can play decisive roles in shaping the values, prejudices, virtues and opinions of the future generations, which eventually become the values, prejudices, virtues and opinions which govern the world. Hence women empowerment can have incalculable impact on humanizing of mankind, and promoting peace and dialogue in the world, which are imperatives for a sustainable future, and improvement of economic, social and environmental indicators. Hence when women are elevated, society is elevated. However, the women remain one of the most disadvantaged groups globally. The highest percentage of persons below poverty line, refugees, illiterates, continue to be women. Furthermore, globally women are the primary food producer. Hence any improvement in women's condition will directly transfer to future of the planet. But, there continues to be lack of equality and equity in access to resources legal rights by women.

AIM

This course will attempt to sensitize the students towards the need of women empowerment, women inclusive and sensitive designs and also the unique role women can play in creating a more peaceful and sustainable world.

LEARNING OUTCOMES

Having successfully completed this course, the student will be able to understand:

- To sensitize the students towards need for women empowerment to achieve the goal of sustainable development.
- To sensitize the students towards various challenges in women empowerment.
- To sensitize students towards more gender inclusive design for improvement in indicators of health, safety, education, quality of life of women.
- To sensitize students towards the unique strengths women can bring in development of peaceful societies.

PEDAGOGY

Case studies, surveys, design audit of buildings, interactions and discussions with women architects/planners, Mapping women needs and aspirations from design, Book readings, discussions, field visits, audio visual resources etc.

EVALUATION SCHEME:

The work will be presented as portfolio and will be evaluated through Viva Voce by a jury.

• Continuous evaluation by teacher(to be based on performance in studio/workshop/lab, attendance, assignments/projects, quizzes etc. (50 marks multi- stage evaluation)	50%
• End Semester Viva Voce	50%

CONTENT

Role of women in architecture

Exploring unique role women can play in sustainable design and planning process, exploring the impact and significance of women's role on social, economic and environmental indicators.

Need for women empowerment

Gender and economic development, gender and social development, gender and environmental development, challenges and hazards of disempowered women, case studies on impact of women empowerment of social, economic, environmental indicators.

Gender sensitive design

The need of gender inclusive designs, mapping the challenges of gender inclusive designs, audits of the design and planning of various building and space typologies from gender perspective, need of women professionals in decision making process and governance, mapping needs and aspirations of women from design.

REFERENCES

1. Toy Maggie," The Architect: Women in Contemporary Architecture"Watson-Guptill; First Edition (April 1, 2001)
2. Dean Dewhirst, "Chasing the Sky: 20 Stories of Women in Architecture",Unabridged, February 6, 2018
3. Madhavi Desai," Women Architects and Modernism in India: Narratives and Contemporary Practices, Routledge, 2017.
4. UNICEF document of Women and Sustainable Development.

ADVANCED BUILDING SERVICES-VII			
Course Code:	**BAP 407**	**Credits:**	**02**
No. of Practical Hrs/Week:	**02**	**Mid Semester Exam Hours:**	**1.5**
Total No. of Periods:	**32**	**End Semester Exam Hours:**	**03**

INTRODUCTION

To develop an understanding of the advanced building services and their application in the design proposals of buildings.

AIM

The objectives include creating awareness of designing energy efficient building envelopes that respond to theclimate of a place advocating of the application of renewable energy system and the promotion of efficient lighting & HVAC system to reduce energy demand.

LEARNING OUTCOMES

Having successfully completed this course, the student will be able to:

- To develop conceptual and practical understanding of the application of advanced services in advanced Structures, large span structures, high rise building and cost effective construction techniques.
- To appreciate the role of natural resources in building construction and maintenance.

PEDAGOGY

Specialized lectures from technical people in the field, Practical and site based exercises to make the data more comprehensive Site visits of buildings where different types of advanced services equipments have been installed, their working, studying the merits and demerits of the system.The thrust shall be on understanding the use and application of the services and not the calculation or numerical part.

EVALUATION SCHEME:

Continuous assessment by teacher (based on the following) • Two Class Tests of **15 marks each** (to be conducted after 6 weeks and 12 weeks of teaching in accordance with university academic calendar) • Assignments/Group Discussions/Viva-voce/Additional Test/ Quizzes/attendance = **10 marks**	40%
End Semester Examination	60%

CONTENT

Unit 1 Services for Tall Building

Introduction to advanced services related to tall buildings like vertical circulation, fire fighting systems, lighting systems, plumbing and electrical systems, green roofs .

Unit 2 Automated Parking systems and Gas Installations

Automated Parking System Introduction, Types, Working and Advantages of automated parking system.L.P.G / Bio-gas installations, their location and layouts in residential and nonresidential buildings

Unit 3 Waste Treatment & Management

Introduction to Waste collection, treatment and disposal. Understanding Reduce–Reuse–Recycle model. Thermal treatment Dumps and Landfills. Biological waste treatment. Waste water treatment, Waste Management and behavioural management for waste control at building and city level. Control Room Code of Safety prescribed in NBC.

Unit 4 Integrated Building Management Systems

Introduction to Building Energy Analysis & Ecosystem management software.

Introduction to the Integrated Building Management System (IBMS), the list of utility(water supply,electrical,plumbing,HVAC etc requirement), safety , communication systems and security systems that are generally monitored and controlled through IBMS and the basic knowledge on how they are designed and installed.

REFERENCE

1. Edwards, B.” Green: Rough Guide to Sustainability”, RIBA Publications,2010
2. Szokolay, S. V. ,“Introduction to Architectural Science”, Architectural Press,2008
3. TERI (2005) Sustainable design manual, Vols 1 & 2, The Energy and Resource Institute (TERI), New Delhi,2005
4. V.Gupta - Energy and Habitat - Wiley Easterm Limited, New Delhi.
5. Understanding Building Automation Systems (Direct Digital Control, Energy Management, Life Safety, Security, Access Control, Lighting, Building Management Programs) by Reinhold A. Carlson, Robert A. Di Giandomenico
6. Building Automation: Control Devices and Applications by In Partnership with NJATC 2008.
7. Building Control Systems, Applications Guide (CIBSE Guide) by The CIBSE 2000
8. Building Automation Online by McGowan; McGowan, John J.

SEMINAR			
Course Code:	**BAP 409**	**Credits:**	**02**
No. of Practical Hrs/Week:	**03**	**Mid Semester Exam Hours:**	**--**
Total No. of Periods:	**48**	**End Semester Exam Hours:**	**VV**

INTRODUCTION

The Seminar shall be a research paper on a subject of theoretical nature on any aspect of architecture.

AIM

The thrust of the seminar shall be on achieving a thorough understanding of the topic of study and on the ability to present it to an intelligent and critical audience.

LEARNING OUTCOME

Having successfully completed this course, the student will be able to understand:

- Write a research paper based on literature review and case study.
- Develop critical understanding, logical reasoning, structured argument / discussion about the topic chosen.
- Work in group for presentation which will also develop team building and leadership skills.

PEDAGOGY

Classroom teaching through multi-media supported by case studies of building. Encouraging students to conduct interviews through visit to various sites. Lectures/ Workshops on: Various mediums of communication

1. Oral communication: Language skills, Understanding the audience, transmitting of ideas, etc.
2. Written Communication: Language Skills, structuring of ideas, various types of written Communication, Understanding the reader /purpose of the communication, Preparation of drafts, finalization of content.
3. Graphic Communication: Use of software and other media suitable for graphic communication.
4. Electronic Communication: Introduction to presentation techniques & formats using computer.
5. Group Communication: Communication within a group, group presentations, group discussion etc.

EVALUATION SCHEME

The topic selection and literature work will be undertaken by the students in small groups. The Group of students shall present their study and understandings in a form of an Audio/Visual Presentation to an audience both from within the University and in some cases outside as well. There will be intermediate mid semester visual presentation/jury to validate the progressive learning .Jury shall conduct a Question and answer session after the final presentation. A compiled Seminar Report shall be submitted in the end.

• Continuous evaluation by teacher(to be based on performance in studio/workshop/lab, attendance, assignments/projects, quizzes etc. (50 marks multi- stage evaluation)	50%
• End Semester Viva Voce/ Practical	50%

CONTENT

Introduction to the Seminar
Defining Objectives and discussion on identifying and finalizing the study area.Formulating aims and objectives of study and assumptions.
Introduction to various written and verbal communication techniques.

Secondary Research-Study Based On Literature Survey
Formulate aims and objectives of study; prepare a methodology based on literature study, Present study findings.

Primary Research
Application of various Quantitative and Qualitative Research Methods for study. Selecting a research method for case study and document, analyze and present findings.

Analysis and Presentation
Present the documented data, insights/findings and inferences using a Visual Presentation Technique.

REFERENCES

1. Eric H Glendinning & Beverly Holmstrom, "Study reading – A course in reading skills for academic purpose", Cambridge University Press, 1992
2. John Kriman, "Good Style – writing for science and technology", E & FN Spoon, an Imprint of Chapman & Hall, 1992
3. Smith, Korydon; 2012; "Introducing Architectural Theory: Debating a Discipline"; Routledge-Taylor and Francis Group, New York, London.
4. Walliman Nicholas; 2008; "A step by step guide for the first time researcher"; Vistaar Publications; New Delhi.

STRATEGIC DESIGN THINKING			
Course Code:	**BAP 411**	**Credits:**	**02**
No. of Studio Hrs/Week:	**03**	**Mid Semester Exams Hours:**	**--**
Total No. of Periods:	**48**	**End Semester Exams Hours:**	**VV**

INTRODUCTION

Strategic Design Thinking is a course designed powered by user experience research methodologies to empower the students in designing humanistic and contextually relevant imaginative, creative, transformational and intuitive strategies, business processes, tools and techniques. This course shall offer a creative problem-solving process that uses elements from the designer's toolkit like empathy & experimentation to arrive at new solutions.

AIM

This course seeks to use, embed and innovatively apply the design based creative, empathic, integrative, systemic, synergetic, holistic and human centric thinking skills and approaches to design processes and implementation to make ecosystems more efficient, effective and efficacious.

LEARNING OUTCOMES

Having successfully completed this course, the student will be able to:

- Foster empathy and deep understanding of the users in terms of their life, needs, aspirations and challenges.
- Understand various tools and methods suitable for apply design thinking discovery, interpretation, ideation, experimentation and evolution and stimulate creativity in yourself and others and develop new thinking skills.
- Learn collaborative skills and developing systemic thinking, listening to others and understands multiplestakeholder’s perspective.
- Learn human centered methods throughout all stages of the design thinking process.
- Gain adequate competence enabling the students to understand and map the opportunities and design transformational strategies in Architecture and Design.

PEDAGOGY

The course will be offered in a highly experiential and transformational way which shall include live projects, industry and urban and rural exposure, field studies, environmental exposure and immersive and participative live-in case studies in various setups.

The course provides many opportunities to apply these new ways of thinking through class exercises and a course project, where one will develop creative concepts for an assigned topic.

EVALUATION SCHEME

The work will be presented as portfolio and will be evaluated through Viva voce by a jury.

● Continuous evaluation by teacher(to be based on performance in studio/workshop/lab, attendance, assignments/projects, quizzes etc. (50 marks multi- stage evaluation)	50%
● End Semester Viva Voce	50%

CONTENT

Introduction to Strategic Design thinking

Brief history of design, Introduction to Design Thinking and its importance in architecture. Theoretical information and short supporting assignment on topics like Role of creativity in problem solving, study of inhibitions, conformity and vertical thinking. Introduction to system design thinking. Detailed discussion on stages in design process and frameworks of various design thinking styles through Industry case studies. Complimentary nature of systematic and creative thinking in various stages of design process. Theories of well-known social psychology research studies to explain user behavior and anticipate the impact on future design.

Empathize, Learn and Ask:

It involves identifying the needs that make up the target audience, getting under their skin and finding out what they value, what they want and how they look at the world. Introduction to tools to view users and their behavior and their needs in the context of their lives.Developing questionnaires, Empathy maps development, photographic studies of products with users, deep user interview etc, field observation and selecting suitable techniques to study user behavior and reactions. Understanding of market demands and manufacturing constraints.

Define:

The Define stage in the process shall endeavor to synthesize the scattered findings in the field of the users into powerful insights. Various tools shall be introduced to synthesis the field observational study.

Ideate

Introduction to various tools for ideation in design thinking. Assignments on using ideation/ analysis techniques like brain storming, synectics etc to develop creative attitude and open mind. Generating ideas, creating scenarios, sketches and prototypes, before integrating some of the business constraints. Documenting and interpreting data and formulating conclusions, role of creativity in understanding of latest needs, comparative analytical studies in other creative fields.

Implementation

Working on iterate ideas in teams/individual to develop a range of promising possible solutions.

The Practical assignment/problem will be teamwork-oriented supported by complete readings and independent activities that support the group work and ensure individual depth of knowledge.

REFERENCE BOOKS

1. Edward De Bono Lateral Thinking: Creativity Step by Step, Edward De Bono, 1970.
2. John Fiske, "Communication Theory," in *Introduction to Communication Studies* London: Routledge, 1990.
3. Norbert Wiener, "Cybernetics in History" and other excerpts, *The Human Use of Human Beings, London*: Free Association Books, 1950
4. Jones J.C., Design Methods: Seeds of Human Futures, Wiley Inter-science, London, 1978
5. Victor Papanek "Design for the real world-Human Ecology and Social Change
6. ''Academy Chicago Publishers; Second edition ,1985
7. IDEO's *Human-Centered Design Toolkit*: Very usable guide to practising design thinking.
8. Jon Kolko," Exposing the Magic of Design: A Practitioner's Guide to the Methods and Theory of Synthesis" ,2015
9. Nadia Roumani,"Social Impact by Design", Columbia University Press,2017
10. Don Norman, "Living with Complexity", IT Press,2010

EMERGING PHENOMENON AND ARCHITECTURE			
Course Code: BAP 407	**BAP 413**	**Credits:**	**01**
No. of Practical Hrs/Week:-	**02**	**Mid Semester Exam Hours:**	**--**
Total No. of Periods:	**32**	**End Semester Exam Hours:**	**VV**

INTRODUCTION

The course would introduce students to the futuristic technological advancements having an impact on the built environment.

AIM

The course aims to sensitize students on how different seemingly un-related socio-economic, cultural and technological trends have impact on architecture and planning and vice versa.

OBJECTIVES

The objective of course is as follows:

- Understanding how access to information may help in optimizing the efficiency of built environment.
- Understanding the concept of Cyber Physical Systems in a city and its role in built environment.
- Understanding how using technology can help adapt to altering environments to improve quality of life for people.
- Understanding the need for flexible design in contemporary world.

LEARNING OUTCOMES

Having completed this course, the student would be able to:

- Understand the concepts of IT as applicable to Built environment.
- Understand how using information design could be made people centric.
- Understand how technology can help improve the efficiency and comfort in the built environment.
- Interconnectedness of seemingly isolated phenomenon and their impact on future scenarios of built environment.
- Role of technology in improving quality of life of people with given set of challenges.
- Understand the tangible and intangible interconnectivities within various phenomenon of the world.

PEDAGOGY

Classroom teaching through multi-media supported by case studies. Students may be encouraged to work in the computer lab of department for the course.

EVALUATION SCHEME

The work will be presented as portfolio and will be evaluated through Viva voce by a jury.

• Continuous evaluation by teacher(to be based on performance in studio/workshop/lab, attendance, assignments/projects, quizzes etc. (50 marks multi- stage evaluation)	50%
• End Semester Viva Voce/ Practical	50%

CONTENTS

Potentials and Hazards of various social,cultural,economical and technological trends on built environment; Cyber Physical Systems for a contemporary city; concept of Urban Informatics; Impact of Artificial Intelligence in altering environments; Conceptual understanding of spatial analytics, understanding concept of simulation; Exploring how Big Data can impact space design; Introduction to Works of Neri Oxman (MIT Media Lab).

Dynamic facades, Introduction to Automation in buildings, Impact of new materials and devices on built environment; Concept of compact cities; hazards of disconnect with nature in built environment.

Design as social capital.

REFERENCE BOOKS/ARTICLES

1. Steenson, Molly Wright; 2017; Architectural Intelligence: How Designers and Architects Created the Digital Landscape; MIT Press; USA
2. The Routledge Companion for Architecture Design and Practice: Established and Emerging Trends; Edited by Mitra, Kanaani; Dok, Kopec; Routledge Taylor and Francis Group; 2016
3. Edited by Shen, Zhenjiang; Li, Miaoyi; 2018; Big Data Support of Urban Planning and Management: The Experience in China (Advances in Geographic Information Science);Springer; Switzerland
4. Edited by Thakuriah, Piyushmita; Tilahun, Nebiyou; Zellner, Moira; 2017; Seeing Cities Through Big Data: Research, Methods and Applications in Urban Informatics (Springer Geography); Switzerland
5. Edited by Foth, Marcus; Forlano; Laura, Satchell, Christine; Gibbs, Martin; Donath, Judith; 2011; From Social Butterfly to Engaged Citizen: Urban Informatics, Social Media, Ubiquitous Computing, and Mobile Technology to Support Citizen Engagement; MIT Press; USA
6. Zito, Phil; 2016; Building Automation Systems A to Z: How to Survive in A World Full of Bas, Create Space Independent Publishing Platform; 2016
7. Easterling, Keller; 2016 Extrastatecraft: The Power of Infrastructure Space; Verso; UK and USA

NUES * (Non University Examination Scheme)			
Course Code:	**BAP 415**	**Credits:**	**02**
No. of Studio Hrs/Week:	**02**	**Mid Semester Exams Hours:**	**--**
Total No. of Periods:	**32**	**End Semester Exams Hours:**	**_**

Under NEUS scheme students shall take up Courses from MOOC/Coursera/NPTEL/MIT Course ware etc. or any as per the University Norms. Guidelines of the course taken by the students shall be finalized by the Departmental Syllabus Committee before the start of the semester.

COURSE STRUCTURE – EIGHTH SEMESTER

S. No.	Paper Code	Paper Title	L (1)	S (1)	P(0.5)	Credits	Marks	ESE (*)	Duration of exam (HRS)
STUDIO COURSES									
1	**BAP 402**	**Architectural Internship/Professional Training**	**-**	**-**	**-**	**24**	**100**	**VV**	**-**
	Total					**24**			

(*) Please see below for abbreviations:

VV – Viva Voce
WR – Written Test

ARCHITECTURE INTERNSHIP/PROFESSIONAL TRAINING			
Course Code:	**BAP 402**	**Credits:**	**24**
No. of Studio Hrs/Week:	**-**	**Mid Semester Exams Hours:**	**-**
Total No. of Periods:	**-**	**End Semester Exams Hours:**	**VV**

INTRODUCTION

To expose students to the daily realities of an architectural practice through Practical Training.

AIM

The aim of the Professional Trainingis to enable the students to gain the kind and range of practical experience which will prepare them for their likely responsibilities, immediately after qualifying B. Arch. Course.

OBJECTIVE

To enable an orientation that would include the process of development of conceptual ideas, presentation skills, involvement in office discussions, client meetings, development of the concepts into working drawings, tendering procedure, site supervision during execution and coordination with the agencies involved in the construction process.

LEARNING OUTCOMES

Having successfully completed the training, the student will be able to:

- To understand and apply the professional aspects of an architecture office/company and the multiple issues in conception, preparation and execution of project on a site.
- Students should learn to work on multiple projects in an office and learn all aspects relating to making of a building starting from Concept Development, Scheme Development, Presentation, Working Drawings, Specifications, Estimation etc. and through site visits students get exposed to practical aspects of making a building and other aspects like client meetings, project planning, project management time management.

EVALUATION SCHEME

The Practical Training should be done in offices / firms in India and abroad in which the principal architect is registered under the Council of Architecture.

The students would be evaluated based on the following criteria:

1. Adherence to time schedule and discipline.
2. Ability to carry out the instructions on preparation of schematic drawings, presentation drawings, working drawings.
3. Ability to work as part of a team in an office.
4. Ability to participate in client meetings and discussions.
5. Involvement in supervision at project site.

Students are required to submit reports supported by an intermediate weekly/monthly log.

The performance of the student in the viva- voce examination will be conducted by a panel of internal and external examiners

At the end of the Practical Training, **a portfolio of work done during the period of Practical Training along with certification from the office(s) is to be submitted for evaluation by a viva voce examination.** This will evaluate the understanding of the students about the drawings, detailing, materials, construction method and service integration and the knowledge gained during client meetings, consultant meetings and site visits.

CONTENT

Nature of works expected to be done during training

The architect may expose the trainee to difference aspects of professional practice. The task may include the following but not necessarily containing all.

- Preparation of Sketch designs, presentation drawings etc.
- Municipal drawings according to the byelaws.
- Workings drawings and details. Estimates, bill of quantities & specifications.
- Discussions with: Clients, Structural Consultants, Services Consultants.
- Inspection and management of site.
- Preparation of Models, perspectives and photographs.
- Preparation of Reports, progress charts etc.
- Other administrative works.

Critical Appraisal of a Building of National/International importance:

The trainee is required to write a report choosing any building that has been designed/ executed by the company/ firm, she / he is working for internship. This can be done through secondary research/data collection. The report should contain:

- Explanation/ Justification for the choice of the project.
- Fact file of the project- discussion on location, client profile, context (physical, cultural) and legal bindings.
- Remarkable features that make the building / complex noteworthy.
- Trainee's own assessment and experience about the same.
- References used in preparation of the appraisal.