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Course Structure of B.Arch (Credit Pattern) 2019-20

FIRST SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|--------------|--------------|---|----------------------------------|----------|-----------|-----------|-----------|
| | | | L | T | S | TP | |
| 1 | ARC111 | Basic Design - I | 2 | 1 | 7 | 10 | 10 |
| 2 | ARC112 | Building Materials and Construction - I | 2 | -- | 3 | 5 | 5 |
| 3 | ARC113 | Architectural Drawing and Graphics - I | 2 | -- | 3 | 5 | 5 |
| 4 | ARC114 | Applied Mathematics | 2 | 1 | -- | 3 | 3 |
| 5 | ARC115 | Theory of Architecture | 2 | 1 | -- | 3 | 3 |
| 6 | ARC116 | Design Communication | 2 | 1 | -- | 3 | 3 |
| Total | | | 12 | 4 | 13 | 29 | 29 |

SECOND SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|--------------|--------------|--|----------------------------------|----------|-----------|-----------|-----------|
| | | | L | T | S | TP | |
| 1 | ARC121 | Basic Design - II | 2 | 1 | 7 | 10 | 10 |
| 2 | ARC122 | Building Materials and Construction - II | 2 | -- | 3 | 5 | 5 |
| 3 | ARC123 | Architectural Drawing and Graphics - II | 2 | -- | 3 | 5 | 5 |
| 4 | ARC124 | Introduction to Structures | 2 | 1 | -- | 3 | 3 |
| 5 | ARC125 | History of Architecture - II | 2 | 1 | -- | 3 | 3 |
| 6 | ARC126 | Environmental Sciences | 2 | 1 | -- | 3 | 3 |
| Total | | | 12 | 4 | 13 | 29 | 29 |

THIRD SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|--------------|--------------|---|----------------------------------|----------|-----------|-----------|-----------|
| | | | L | T | S | TP | |
| 1 | ARC211 | Architectural Design - III | 2 | 1 | 7 | 10 | 10 |
| 2 | ARC212 | Building Materials and Construction - III | 2 | - | 3 | 5 | 5 |
| 3 | ARC213 | Geomatics and Site Planning | 2 | - | 2 | 4 | 4 |
| 4 | ARC214 | Structural Mechanics | 2 | - | 2 | 4 | 4 |
| 5 | ARC215 | History of Architecture - II | 2 | 1 | -- | 3 | 3 |
| 6 | ARC216 | Climate and Built-form | 2 | - | 1 | 3 | 3 |
| Total | | | 12 | 2 | 15 | 29 | 29 |




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FOURTH SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|--------------|--------------|--|----------------------------------|----------|-----------|-----------|-----------|
| | | | L | T | S | TP | |
| 1 | ARC221 | Architectural Design - IV | 2 | 1 | 7 | 10 | 10 |
| 2 | ARC222 | Building Materials and Construction - IV | 2 | - | 3 | 5 | 5 |
| 3 | ARC223 | Building Services - I | 2 | - | 1 | 3 | 3 |
| 4 | ARC224 | Structural Analysis | 2 | - | 2 | 4 | 4 |
| 5 | ARC225 | History of Architecture - III | 2 | 1 | -- | 3 | 3 |
| 6 | ARC226 | Computer Applications | 1 | - | 3 | 4 | 4 |
| Total | | | 11 | 2 | 16 | 29 | 29 |

FIFTH SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|--------------|--------------|------------------------------------|----------------------------------|----------|-----------|-----------|-----------|
| | | | L | T | S | TP | |
| 1 | ARC311 | Architectural Design - V | 2 | 1 | 9 | 12 | 12 |
| 2 | ARC312 | Working Drawing - I | 2 | - | 3 | 5 | 5 |
| 3 | ARC313 | Building Services - II | 2 | - | 1 | 3 | 3 |
| 4 | ARC314 | Design of Structures (RCC & Steel) | 2 | 1 | 1 | 4 | 4 |
| 5 | ARC315 | History of Architecture - IV | 2 | 1 | -- | 3 | 3 |
| 6 | ARC316 | Theory of Settlement Planning | 2 | 1 | -- | 3 | 3 |
| Total | | | 12 | 4 | 12 | 30 | 30 |

SIXTH SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|--------------|--------------|--------------------------------------|----------------------------------|----------|-----------|-----------|-----------|
| | | | L | T | S | TP | |
| 1 | ARC321 | Architectural Design - VI | 2 | 1 | 9 | 12 | 12 |
| 2 | ARC322 | Advance Building Construction | 2 | - | 3 | 5 | 5 |
| 3 | ARC323 | Building Services - III | 2 | - | 1 | 3 | 3 |
| 4 | ARC324 | Disaster Resilient Buildings | 2 | 1 | 0 | 3 | 3 |
| 5 | ARC325 | Estimation, Costing & Specifications | 2 | 1 | 1 | 4 | 4 |
| 6 | ARC326 | Energy Efficient Architecture | 2 | 1 | -- | 3 | 3 |
| Total | | | 12 | 4 | 14 | 30 | 30 |

(Handwritten marks)

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SEVENTH SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|--------------|--------------|-----------------------|----------------------------------|----|----|----|-----------|
| | | | L | T | S | TP | |
| 1 | ARC411 | Professional Training | -- | -- | -- | -- | 30 |
| Total | | | -- | -- | -- | -- | 30 |

EIGHTH SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|---------|--------------|--------------------------------------|----------------------------------|---|----|----|---------|
| | | | L | T | S | TP | |
| 1 | ARC421 | Architectural Design - VIII | 2 | 1 | 9 | 12 | 12 |
| 2 | ARC422 | Urban Housing | 3 | 1 | -- | 4 | 4 |
| 3 | ARC423 | Landscape Design | 2 | 1 | 1 | 4 | 4 |
| 4 | ARC424 | Construction Project Management | 2 | 1 | 1 | 4 | 4 |
| 5 | | Elective I | | | | | |
| | ARC 4210 | Digital Art | 2 | 1 | -- | 3 | 3 |
| | ARC 4211 | Vernacular Architecture | 2 | 1 | -- | 3 | 3 |
| | ARC 4212 | Theory of Design | 2 | 1 | -- | 3 | 3 |
| | ARC 4213 | Green Buildings and Rating System | 2 | 1 | -- | 3 | 3 |
| | ARC 4214 | Set Design | 2 | 1 | -- | 3 | 3 |
| | ARC 4215 | Structural Systems in Architecture | 2 | 1 | -- | 3 | 3 |
| | ARC 4216 | Intelligent Buildings | 2 | 1 | -- | 3 | 3 |
| | ARC 4217 | Behavioral Architecture | 2 | 1 | -- | 3 | 3 |
| 6 | | Elective II | | | | | |
| | ARC 4220 | Architectural Critique & Journalism | 2 | 1 | -- | 3 | 3 |
| | ARC 4221 | Building Economics | 2 | 1 | -- | 3 | 3 |
| | ARC 4222 | Art Appreciation | 2 | 1 | -- | 3 | 3 |
| | ARC 4223 | Architectural Anthropology | 2 | 1 | -- | 3 | 3 |
| | ARC 4224 | Computer Aided Design And Simulation | 2 | 1 | -- | 3 | 3 |
| | ARC 4225 | Parametric Design/Computation | 2 | 1 | -- | 3 | 3 |
| | ARC 4226 | Architectural | 2 | 1 | -- | 3 | 3 |

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|--------------|-----------------------|---------------------------|-----------|----------|-----------|-----------|-----------|
| | | Photography | | | | | |
| | ARC 4227 | Advance Building Services | 2 | 1 | -- | 3 | 3 |
| | From ARC4250 Onwards' | Open Elective | 2 | 1 | -- | 3 | 3 |
| Total | | | 13 | 6 | 11 | 30 | 30 |

NINTH SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|--------------|-----------------------|---|----------------------------------|----------|-----------|-----------|-----------|
| | | | L | T | S | TP | |
| 1 | ARC511 | Architectural Design - IX | 2 | 1 | 9 | 12 | 12 |
| 2 | ARC512 | Dissertation | 1 | - | 5 | 6 | 6 |
| 3 | ARC513 | Architectural Conservation | 2 | 1 | -- | 3 | 3 |
| 4 | ARC514 | Urban Design | 2 | 1 | -- | 3 | 3 |
| 5 | | Elective III | | | | | |
| | ARC 5110 | Sustainable Architecture | 2 | 1 | -- | 3 | 3 |
| | ARC 5111 | Graphic and Product Design | 2 | 1 | -- | 3 | 3 |
| | ARC 5112 | Contemporary World History | 2 | 1 | -- | 3 | 3 |
| | ARC 5113 | Contemporary Processes in Architecture | 2 | 1 | -- | 3 | 3 |
| | ARC 5114 | BIM | 2 | 1 | -- | 3 | 3 |
| | ARC 5115 | Architecture and Urbanism in Asia | 2 | 1 | -- | 3 | 3 |
| | ARC 5116 | Building Economics | 2 | 1 | -- | 3 | 3 |
| 6 | | Elective IV | | | | | |
| | ARC 5120 | Interior Architecture and Space Programming | 2 | 1 | -- | 3 | 3 |
| | ARC 5121 | Urban Renewal | 2 | 1 | -- | 3 | 3 |
| | ARC 5122 | Advance Design of Structures | 2 | 1 | -- | 3 | 3 |
| | ARC 5123 | Project formulation and Financial Modeling | 2 | 1 | -- | 3 | 3 |
| | ARC 5124 | Entrepreneurship Skills for Architects | 2 | 1 | -- | 3 | 3 |
| | ARC 5125 | Glass Architecture & Design | 2 | 1 | -- | 3 | 3 |
| | From ARC5150 Onwards' | Open Elective | 2 | 1 | -- | 3 | 3 |
| Total | | | 11 | 5 | 14 | 30 | 30 |

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TENTH SEMESTER

| Sl. No. | Subject Code | Subject Title | Distribution of Periods per week | | | | Credits |
|---------|--------------|-----------------------------|----------------------------------|----------|-----------|-----------|-----------|
| | | | L | T | S | TP | |
| 1 | ARC521 | Architectural Design Thesis | 2 | - | 24 | 26 | 26 |
| 2 | ARC522 | Professional Practice | 3 | 1 | -- | 4 | 4 |
| | | Total | 5 | 1 | 24 | 30 | 30 |



Unit III Project Appraisal 9

Pay Back Period – Assessment of Various Methods – Indian Practice of Investment Appraisal – International Practice of Appraisal – Analysis of Risk – Different Methods – Selection of a Project and Risk Analysis in Practice.

Unit IV Private sector participation 9

Private sector participation in Infrastructure Development Projects - BOT, BOLT, BOOT - Technology Transfer and Foreign Collaboration - Scope of Technology Transfer.

Unit V Financial Modeling 9

Introduction to financial modeling, database functions, Development of Charts, finance functions, creating dynamic models. sensitivity analysis, simulation using different statistical distributions used in simulation, generating random numbers, building models in finance using simulation.

Total: 45 Periods

Outcomes:

Students completing this course will be able to formulate a project, arrive at the cost of construction projects and apply techniques of project appraisal and financial modelling.

References:

1. Prasanna Chandra, Projects – Planning, Analysis, Selection, Implementation
2. Review, Tata McGraw Hill Publishing Company Ltd., New Delhi. 2006.
3. Joy P.K., Total Project Management - The Indian Context, New Delhi, Macmillan
4. India Ltd., 1992
5. United Nations Industrial Development Organisation (UNIDO) Manual for the
6. Preparation of Industrial Feasibility Studies, (IDBI Reproduction) Bombay, 1987
7. Barcus, S.W. and Wilkinson.J.W., Hand Book of Management Consulting Services,
8. McGraw Hill, New York, 1986.
9. Simon Benninga, Financial Modeling (2014) The MIT Press, London, England.

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|---|----------------------------------|-----------|
| ARC5124 - Entrepreneurship Skills for Architects | Subject Category | JC |
| | Number of Credits | 3 |
| | Lecture Periods per Week | 2 |
| | Tutorial Periods per Week | 1 |
| | Total Periods per Week | 3 |

Objective:

- The objective of the course is to introduce students about the complexities and challenges in an entrepreneurial journey and help them make wise decisions in their respective design professions.

Unit I Introduction to Entrepreneurship 6

Entrepreneurship, Importance of Innovative approaches in design for better quality of life in built environment, start-up programs and initiatives in the country.

Unit II Conceptualizing and Developing Innovative ideas 12

Reading issues, recognizing opportunities, screening and evaluating ideas, market research, validating ideas, business presentations, preparing business plans and models

Unit III Building an organization 9

Company registration, types of companies and their functions, business structure and hierarchy, scalability and expansion, management of resources.

Unit IV Finances & Funding 9

Finance Management, funds from government, angel investors, venture capitalists, crowd funding and other funding models, stock market, shares, debentures, mutual funds, equity.