



**BIRLA INSTITUTE OF TECHNOLOGY
MESRA**

RANCHI, INDIA

**CHOICE BASED CURRICULUM
FOR**

**BACHELOR
IN**

ARCHITECTURE

DEPARTMENT OF ARCHITECTURE

Effective from academic year 2018 – 2019 onwards



Department of Architecture

Birla Institute of Technology, Mesra, Ranchi - 835215 (India)

Institute Vision

To become a Globally Recognized Academic Institution in consonance with the social, economic and ecological environment, striving continuously for excellence in education, research and technological service to the National needs.

Institute Mission

- To educate students at Undergraduate, Post Graduate Doctoral and Post-Doctoral levels to perform challenging engineering and managerial jobs in industry.
- To provide excellent research and development facilities to take up Ph.D. programmes and research projects.
- To develop effective teaching and learning skills and state of art research potential of the faculty.
- To build national capabilities in technology, education and research in emerging areas.
- To provide excellent technological services to satisfy the requirements of the industry and overall academic needs of society.

Department Vision

The underlying vision for the Department of Architecture is to make the department an academic knowledge hub that will actively contribute in the contemporary domain, by

- Providing innovative professionals who will contribute wholesomely to nation building.
- Providing individuals who can make significant contribution to the advancement of the society.
- Preparing students for leadership roles in the fields of Architecture

Department Mission

The mission of the Department of Architecture is to foster a student-centered educational program in architecture and urban planning. The programmes through its pedagogy which is heuristic and responsive to technological, cultural, and social environments, seeks to offer a diverse, interdisciplinary and rigorous curriculum that will promote personal development and professional excellence. The Department is committed in:

- Imparting strong fundamental concepts to students and motivate them to find innovative solutions to architectural and planning problems independently
- Developing architects and planners with managerial attributes capable of applying latest technology with responsibility
- Creation of congenial atmosphere and excellent research facilities for undertaking quality research by faculty and students

Programme Educational Objective for BARCH

1. To provide high quality education that prepares students to assume professional roles in architecture by imparting sound knowledge in design theories and applications, building technologies, social cultural, environmental factors and applications of computer aided design.
2. To Prepare students to work in multi- disciplinary teams within the building industry by providing knowledge in built environment related disciplines relevant to professional ethics and obligation.
3. Prepare professionals to tackle and manage resource constraints in professional situations through appropriate project management and real estate interventions.
4. Engage in lifelong learning, additional and continual formal education, professional development, research activities and self-study to provide high quality service to the general public, employees, client and other professionals.

Program Outcomes (PO) for BARCH

A graduate shall

- a) Be competent in applying basic knowledge of architecture, building science, and technology for the purpose of obtaining solution to a multi-disciplinary problem.
- b) Gain skilful knowledge of complex architectural problems and its analysis
- c) Be able to design components of the built environment by applying relevant building bye-laws and regulations.
- d) Be proficient in arriving at innovative solution to a problem with due considerations to society and environment
- e) Be capable of undertaking appropriate research methods to solve an architectural problem to arrive at valid solution based on appropriate interpretations of data.
- f) Continually upgrade his/her understanding and become adept at modern architectural knowledge, tools and techniques in order to apply them relevantly.
- g) To demonstrate consciousness of societal and environmental issues relevant to professional architectural practice and contribute to sustainable development.
- h) Be committed to professional ethics, responsibilities, and economic, environmental, societal, and political norms.
- i) Demonstrate appropriate inter-personal skills to function effectively as an individual, as a member or as a leader of a team and in a multi-disciplinary setting
- j) Be able to comprehend and write effective reports and design documentations; give and receive clear instructions; make effective presentations and communicate effectively and convincingly on architectural issues with architectural community and with the interest of society at large.
- k) Be conscious of financial aspects of all professional activities and shall be able to undertake projects with appropriate management control and control on cost and time.
- l) Recognize the need for continuous learning and upgrade their architectural knowledge for growth in their professional career.

STRUCTURE OF BACHELOR OF ARCHITECTURE (BARCH UG PROGRAMME)

FIRST YEAR [I SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
PROGRAM CORE - THEORY SUBJECTS							
AR 101	Principles of Architecture	3	0	0	3	3	PC
AR 102	Primary Building Materials	3	0	0	3	3	PC
AR 103	History of Indian Architecture	3	0	0	3	3	PC
NON-DEPARTMENTAL THEORY SUBJECTS							
MA104	Mathematics for Architects	3	0	0	3	3	FS
PROGRAM CORE - SESSIONAL SUBJECTS							
AR 111	Architectural Design – I	0	0	6	9	6	PC
AR 112	Descriptive Geometry	0	0	6	3	6	PC
AR 113	Construction Technique and Model Making Workshop	0	0	4	2	4	PC
MANDATORY COURSE							
MC 101/ 102/ 103/ 104	Choice of: NCC/NSS/ PT & Games/ Creative Arts (CA)	0	0	2	1	2	MC
TOTAL CREDIT					27		
Total Contact hours						30	

FIRST YEAR [II SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
PROGRAM CORE - THEORY SUBJECTS							
AR 151	Advanced Building Materials	3	0	0	3	3	PC
AR 152	History of Architecture- Western	3	0	0	3	3	PC
AR 153	Statics & Strength of Materials	3	0	0	3	3	PC
PROGRAM CORE - SESSIONAL SUBJECTS							
AR 161	Architectural Design – II	0	0	6	9	6	PC
AR 162	Building Construction – I	0	0	4	6	4	PC
AR 163	Architectural Rendering Techniques	0	0	4	2	4	PC
MANDATORY COURSE							
MC 105/ 106/ 107/ 108	Choice of: NCC/NSS/ PT & Games/ Creative Arts (CA)	0	0	2	1	2	MC
TOTAL CREDIT					27		
Total Contact hours						25	

SECOND YEAR [III SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
PROGRAM CORE - THEORY SUBJECTS							
AR 201	Climatology	3	0	0	3	3	PC
AR 202	Building Construction and Codes	3	0	0	3	3	PC
AR 203	Contemporary Architecture	3	0	0	3	3	PC
AR 204	Structural Mechanics	3	0	0	3	3	PC
NON-DEPARTMENTAL THEORY SUBJECTS							
CE 101	Environmental Sciences	2	0	0	2	2	FS
PROGRAM CORE - SESSIONAL SUBJECTS							
AR 211	Architectural Design - III	0	0	6	9	6	PC
AR 212	Building Construction – II	0	0	4	6	4	PC
AR 213	Computer Application in Architecture	0	0	4	2	4	PC
MANDATORY COURSE							
MC 201/ 202/ 203/ 204	Choice of: NCC/NSS/ PT & Games/ Creative Arts (CA)	0	0	2	1	2	MC
TOTAL CREDIT					32		
Total Contact hours						30	

SECOND YEAR [IV SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
PROGRAM CORE - THEORY SUBJECTS							
AR 251	Building Services – I (Water Supply and Sanitation)	3	0	0	3	3	PC
AR 252	Building Services – II (Electrical & Lighting)	3	0	0	3	3	PC
AR 253	Site Planning and Landscape Architecture	3	0	0	3	3	PC
OPEN ELECTIVE							
	OPEN ELECTIVE I	3	0	0	3	3	OE
PROGRAM CORE - SESSIONAL SUBJECTS							
AR 261	Architectural Design - IV and Academic Field Trip	0	0	6	9	6	PC
AR 262	Building Construction – III	0	0	4	6	4	PC
NON-DEPARTMENTAL SESSIONAL SUBJECTS							
CE 212	Surveying Field Work	0	0	4	2	4	Other Dept L/S
MANDATORY COURSE							
MC 205/206/207/ 208	Choice of: NCC/NSS/ PT & Games/ Creative Arts (CA)	0	0	2	1	2	MC
TOTAL CREDIT					30		
Total Contact hours						28	
Note 1: Open Elective to be offered by the Department: AR 251 Building Services – I (Water Supply and Sanitation)							

THIRD YEAR [V SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
PROGRAM CORE - THEORY SUBJECTS							
AR 301	Acoustics	3	0	0	3	3	PC
AR 302	Building Services – III (Mech. & Fire Safety)	3	0	0	3	3	PC
NON-DEPARTMENTAL THEORY SUBJECTS							
MT 204	Constitution of India	3	0	0	Nil Credit	3	HSS
CE 301	Structural Design - I	4	0	0	4	4	Civil
OPEN ELECTIVES							
	OPEN ELECTIVE II	3	0	0	3	3	OE
PROGRAM CORE - SESSIONAL SUBJECTS							
AR 311	Architectural Design - V	0	0	9	13.5	9	PC
AR 312	Working Drawing-I	0	0	4	2	4	PC
AR 313	Building Information Modelling	0	0	3	1.5	3	PC
TOTAL CREDIT					30		
Total Contact hours						32	
Note 2: Open Elective to be offered by the Department: AR 302 Building Services – III (Mech. & Fire Safety)							

THIRD YEAR [VI SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
PROGRAM CORE - THEORY SUBJECTS							
AR 351	Specification, Estimation and Costing	3	0	0	3	3	DC
NON-DEPARTMENTAL THEORY SUBJECTS							
CE 308	Structural Design II	4	0	0	4	4	Civil
MT 123	Business Communications	3	0	0	3	3	HSS
PROGRAM ELECTIVES- Theory (02 offered; any one to be opted)							
AR 352	Vernacular Architecture	3	0	0	3	3	PE
AR 353	Architectural Conservation and Heritage Management						
OPEN ELECTIVES							
	OPEN ELECTIVE III	3	0	0	3	3	OE
PROGRAM CORE - SESSIONAL SUBJECTS							
AR 361	Architectural Design - VI and Academic Field Trip	0	0	9	13.5	9	Dept L/S
AR 362	Working Drawing II	0	0	4	2	4	Dept L/S
TOTAL CREDIT					31.5		
Total Contact hours						29	
Note 3: All Architectural Design Sessional Subjects up till V semester must be cleared before registering for VII Semester Architectural Design Sessional.							
Note 4: Departmental/ Program Elective to be offered as Open Elective to students of other departments: AR 351 Specification, Estimation and Costing							

FOURTH YEAR [VII SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
PROGRAM CORE THEORY SUBJECTS							
AR 401	Housing and Settlement System	3	0	0	3	3	DC
AR 402	Structural Design and Systems	3	0	0	3	3	DC
AR 403	Energy Efficient Architecture	3	0	0	3	3	DC
PROGRAM ELECTIVES - Theory (02 offered; any one to be opted)							
AR 404	Disaster Management and Resilient Structures	3	0	0	3	3	PE
AR 703	Sustainable City Planning (PG Subject)						
OPEN ELECTIVES							
	OPEN ELECTIVE IV	3	0	0	3	3	OE
PROGRAM CORE SESSIONAL SUBJECTS							
AR 411	Architectural Design - VII	0	0	9	13.5	9	Dept L/S
AR 412	Interior Design	0	0	4	2	4	Dept L/S
TOTAL CREDIT					30.5		
Contact hours						28	
Note 5: Departmental/ Program Elective to be offered as Open Elective to students of other departments: AR 403 Energy Efficient Architecture							

FOURTH YEAR [VIII SEMESTER] [Architectural Apprenticeship/ Internship]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
SESSIONAL SUBJECTS							
AR 461	Architectural Apprenticeship	0	0	0	6	0	Office Training
AR 462	Field Studies	0	0	0	3	0	Office Training
AR 463	Comprehensive Viva & Time Test	0	0	3	3	3	
TOTAL CREDIT					12		
Total Contact Hours						3	

FIFTH YEAR [IX SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods/ week)	P (Periods/ week)	Credit	Contact Hrs.	Category of Course
PROGRAM CORE - THEORY SUBJECTS							
AR 501	Urban Design	3	0	0	3	3	DC
AR 502	Human Settlements Planning	3	0	0	3	3	DC
PROGRAM ELECTIVES- Theory (02 offered; any one to be opted)							
AR 503	Theory of Design	3	0	0	3	3	PE
AR 605	Urban Ecology and Environmental Planning (PG Subject)						
OPEN ELECTIVE OR MOOC COURSES							
	MOOC COURSES	0	0	0	2	0	MOOC
PROGRAM CORE - SESSIONAL SUBJECTS							
AR 511	Architectural Design - VIII	0	0	12	18	12	Dept L/S
AR 512	Introduction to Thesis Project & Research Methodology (Dissertation)	0	0	4	2	4	Dept L/S
TOTAL CREDIT					31		
Total Contact hours						25	
Note 6: Departmental/ Program Elective to be offered as Open Elective to students of other departments: AR 502 Human Settlements Planning							

FIFTH YEAR [X SEMESTER]							
Subject Code	Subject	L (Periods/ week)	T (Periods / week)	P (Periods/ week)	Credit	Contact Hrs.	Categor y of Course
PROGRAM CORE - THEORY SUBJECTS							
AR 551	Professional Practice and Tendering Process	3	0	0	3	3	DC
AR 552	Construction Project Management	3	0	0	3	3	DC
MOOC COURSES							
	MOOC COURSES	0	0	0	2	0	MOOC
PROGRAM CORE - SESSIONAL SUBJECTS							
AR 561	Architectural Design Thesis/ Project	0	0	12	18	12	Dept L/S
TOTAL CREDIT					26		
Total Contact Hours						18	
Note 7: All sessional subjects and Architectural Apprenticeship/ Internship must be cleared before registering for the AR 561 Architectural Design Thesis/ Project in the X Semester.							