HINDUSTAN
INSTITUTE OF TECHNOLOGY & SCIENCE
(DEEMED TO BE UNIVERSITY)
CHENNAI

B. Arch. Architecture

(Duration: 5 Years)

CURRICULUM and SYLLABUS

(Applicable for Students admitted from Academic Year 2021-22)

SCHOOL OF PLANNING ARCHITECTURE AND DESIGN EXCELLENCE

HINDUSTAN INSTITUTE OF TECHNOLOGY AND SCIENCE

HINDUSTAN INSTITUTE OF TECHNOLOGY AND SCIENCE

Motto:

To Make Every Man *a* Success *and* No Man *a* Failure

Vision:

To be an International Institute of Excellence, providing a conducive environment for education with a strong emphasis on innovation, quality, research and strategic partnership blended with values and commitment to society.

Mission:

- *To create an ecosystem that promotes learning and world class research.*
- *To nurture creativity and innovation.*
- *To instill highest ethical standards and values.*
- *To pursue activities for the development of the Society.*
- *To develop national and international collaborations with institutes and industries of eminence.*
- *To enable graduates to become future leaders and innovators.*

Value Statement:

Integrity, Innovation, Internationalization.

SCHOOL OF PLANNING ARCHITECTURE AND DESIGN EXCELLENCE

Vision:

To facilitate the creation of a built environment by adopting holistic approaches to promote sustainable development in Architecture & Planning.

Mission:

- *To qualify students to address concerns of the 21st century and making them globally competent.*
- *To empower students by imparting Architecture and Planning knowledge in diverse areas with social commitment.*
- *To enable them to handle the complexities of modern requirements and encouraging exploration, innovation and creative experimentation in shaping the living environment.*

PROGRAMME'S EDUCATIONAL OBJECTIVES (PEO'S):

PEO I	*Provide a broad and inspiring architectural education by developing skills and knowledge of architectural design, practice and technology; while stimulating critical analysis and speculative exploration of a range of methodologies and critical positions, through the atelier system*
PEO II	*To train and make future architects competent to face challenges posed by modern world due to all round development in technology and materials*
PEO III	*Apply academic knowledge toward solving architectural problems and presenting ideas in a broad range of architectural and construction related settings*
PEO IV	*Communicate and demonstrate design creativity, graphic skills, verbal presentation and organizational skills*
PEO V	*Perform all professional responsibilities independently, as a team member, or part of a multi-disciplinary team*
PEO VI	*Demonstrate a knowledge of architectural history, theory, and practice in the solution of architectural design problems in a global society*

PEO VII *Retain and preserve rich vernacular architectural values by encouraging use of locally available material technology*

PROGRAMME'S OUTCOMES (PO'S):

PO1 *To develop and implement academic measures to adopt modern techniques at the same time keeping balance with time tested traditional values.*

PO2 *An ability to conceptualize and coordinate designs, addressing social, cultural, environmental and technological aspects of architecture*

PO3 *An ability to work collaboratively with teams of architects and various interdisciplinary design teams involved in the building industry*

PO4 *Awareness of the global influences of architecture and an understanding of how design influences the complex modern world system*

PO5 *Be able to utilize freehand drawing, architectural graphics, and model building skills in the solution of design problems*

PO6 Develop communication skills through drawn, visual, verbal and written representations of architectural propositions and their cultural, professional, and technical implications.

PO7 *To involve them in group activities so that the team building becomes the nature of their work for the comfortable outcomes in the specializations they might choose*

PO8 *To make them understand the current social and economic networks for the feasible outcomes*

PO9 *To make them aware of traditional values and historic significances to develop the understanding of the past and respect them*

PO10 *Engage the process of design and building in the discourse of social, ethical and professional responsibility.*

PO11 *An ability to apply and integrate computer technology in design processes and products*

PO12 *To establish and nurture linkages with frontline national/international educational/research institutions for continuously evolving global perspective.*

PROGRAMME'S SPECIFIC OUTCOMES (PSO'S):

PSO 1: Design ***(Basic Design, Architectural Design, Theory of architecture, Contemporary Architecture)***

Create an ability to conceptualize and coordinate design that follows a systematic process of analysing alternatives, ideas, theories by evaluating, and synthesizing ideas that include parameters on social, cultural, environmental and technological aspects of architecture.

PSO 2: Materials, Construction & Services (*Materials & Construction, Applied Mechanics, Design of structures, Building Services, Estimation & Specification)*

Demonstrate the ability to synthesize a wide range of variables into an integrated design solution. It is done by applying appropriate building systems, building materials and construction practices on sound research and design decisions across varying scales of systems and levels of complexity.

PSO 3: Technology (*Appropriate building technology, BIM, CADD)*

Utilize modern software tools & other appropriate and alternative innovative techniques in a wide range of documentation, presentation, analysis and applications for design development of buildings.

PSO 4: Sustainability ***(Sustainable design, Landscape & Ecology, Climate & Built Environment)***

Create a sustainable and responsive built environment by responding to the climate of the region , adapt appropriate technologies , conserve the ecology ,environment and landscape to achieve a sustainable development for the future .

PSO 5: Science & Humanities ***(Human settle and planning, Professional Practice, History of Architecture, Visual art appreciation, Environmental science, Communication skills)***

Understand how history, art and culture have shaped the modern world, through many varied types of creative works, human experiences and to raise questions on value and meaning.

Bachelor of Architecture

SEMESTER- I

SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
THEORY									
1	PC	ARB4101	History of Architecture - I	3	0	0	3	1	3
2	PC	ARB4102	Theory of Architecture -I	3	0	0	3	1	3
3	BS	ARA4103	Applied Mechanics	2	2	0	3	1	4
THEORY CUM STUDIO									
4	PC	ARB4111	Visual Arts and Appreciation	1	0	2	2	0	3
5	PC	ARB4112	Architectural Graphics-I	1	0	4	3	0	5
STUDIO									
6	PC	ARB4131	Basic Design	0	0	12	8	0	12
PERSONALITY DEVELOPMENT									
7	H	ELA4102	Communication Skills	2	0	0	2	0	2
			Total	12	2	18	24	3	32
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- II									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**
THEORY									
1	PC	ARB4116	History of Architecture – II	3	0	0	3	1	3
2	PC	ARB4117	Theory of Architecture –II	3	0	0	3	1	3
3	BS	ARA4118	Mechanics of Structures	2	2	0	3	0	4
THEORY CUM STUDIO									
4	BS	ARA4126	Materials and Construction-I	1	0	4	3	0	5
5	PC	ARB4127	Architectural Graphics - II	1	0	4	3	0	5
STUDIO									
6	PC	ARB4141	Architectural Design-I	0	0	9	6	0	9
7	PC	ARB4142	Workshop (Model Making)	0	0	4	2	0	4
VALUE ADDED PROGRAMME									
8	PAECC		Study Tour (Regional)	Minimum of 5 Days					

9	PAECC		Summer Internship	Minimum of 2 weeks					
			Total	10	2	21	23	2	33
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- III									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**
THEORY									
1	PC	ARB4201	History of Architecture - III	3	0	0	3	1	3
2	BS	ARA4202	Design of R.C.C. Structures	2	2	0	3	0	4
3	BS	ARA4203	Building Services –I (Water Supply and Sanitation)	3	0	0	3	0	3
4	BS	ARA4204	Environmental Science for Architecture	3	0	0	3	0	3
5	SEC	ARB4205	Design Communication	3	0	0	3	1	3
THEORY CUM STUDIO									
6	BS	ARA4211	Materials and Construction -II	1	0	4	3	0	5
STUDIO									
7	PC	ARB4231	Architectural Design- II	0	0	12	8	0	12
VALUE ADDED PROGRAMME									
8	PAECC	ARB4235	Evaluation of Study Tour (Regional)				1		
9	PAECC	ARB4236	Evaluation of Summer Internship				1		
			Total	15	2	16	28	2	33
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- IV									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**

THEORY									
1	PC	ARB4216	History of Architecture -IV	3	0	0	3	0	3
2	BS	ARA4217	Building Services –II (Lighting and Illumination)	3	0	0	3	0	3
3	BS	ARA4218	Surveying , Levelling and Site Planning	3	0	0	3	0	3
4	BS	ARA4219	Climate and Built Environment	3	0	0	3	0	3
5	BS	ARA4220	Design of Steel and Composite Structures	3	0	0	3	0	3
THEORY CUM STUDIO									
6	BS	ARA4226	Materials and Construction - III	1	0	4	3	0	5
STUDIO									
8	PC	ARB4241	Architectural Design- III	0	0	15	10	0	15
VALUE ADDED PROGRAMME									
	PAECC		Study Tour (South India)	Minimum of 10 Days					
	PAECC		Summer Internship	Minimum of 2 weeks					
			Total	16	0	19	28	0	35
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- V									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**
THEORY									
1	PC	ARB4301	Contemporary Architecture	3	0	0	3	1	3
2	BS	ARA4302	Building Services –III (HVAC)	3	0	0	3	1	3
3	PE	E1	Elective I	3	0	0	3	1	3
4	PE	E2	Elective II	3	0	0	3	1	3
5	NE	OE1	Open Elective I	2	0	0	2		2
THEORY CUM STUDIO									

6	BS	ARB4304	Materials and Construction - IV	1	0	4	3		5
STUDIO									
7	PC	ARB4331	Architectural Design- IV	0	0	12	10		12
VALUE ADDED PROGRAMME									
8	PAECC	ARB4335	Evaluation of Study Tour (South India)				1		
9	PAECC	ARB4336	Evaluation of Summer Internship				1		
			Total	15	0	16	29	4	31
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- VI									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**
THEORY									
1	BS	ARA4316	Architectural Acoustics	3	0	0	3		3
2	PE	E3	Elective III / Online Course / Self Study	3	0	0	3		3
3	PE	E4	Elective IV / Online Course / Self Study	3	0	0	3		3
	NE	OE2	Open Elective II	2	0	0	2		2
THEORY CUM STUDIO									
4	SEC	ARA4303	Computer Simulation and Modelling	1	0	4	3		5
5	BS	ARA4326	Materials and Construction - V	1	0	4	3		5
STUDIO									
7	PC	ARB4341	Architectural Design V	0	0	12	8		12
8	PAECC	ARB4342	Guided Study				2	2	
VALUE ADDED PROGRAMME									
9	PAECC		Study Tour (North India)	Minimum of 15 days					
10	PAECC		Summer Internship	Minimum of 2 weeks					

			Total	13	0	20	27	2	33
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- VII									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**
THEORY									
1	PC	ARB4401	Landscape and Ecology	3	0	0	3		3
2	PC	ARB4402	Human Settlement and Planning	3	0	0	3		3
3	BS	ARA4403	Estimation and Specification	3	0	0	3		3
4	PAECC	ARB4404	Professional Practice	3	0	0	3		3
5	PE	E5	Elective V / Online Course / Self Study	3	0	0	3		3
6	PE	E6	Elective VI / Online Course / Self Study	3	0	0	3		3
THEORY CUM STUDIO									
	BS	ARA4327	Building Information Modelling	1	0	4	3		5
STUDIO									
8	PC	ARB4431	Architectural Design VI	0	0	15	10		12
VALUE ADDED PROGRAMME									
9	PAECC	ARB4435	Evaluation of Study Tour (North India)				1		
10	PAECC	ARB4436	Evaluation of Summer Internship				1		
			Total	19	0	19	33	0	35
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- VIII									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**
THEORY									
1	PAECC	ARB4441	Practical Training	0	0	32	21		32
			Total	0	0	32	21		32
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- IX									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**
THEORY									
1	PC	ARB4501	Urban Design and Renewal	3	0	0	3	2	3
2	PC	ARB4502	Urban and Rural Housing	3	0	0	3	1	3
3	PAECC	ARB4503	Project Management	3	0	0	3	1	3
4	PE	E7	Elective VII / Online Course / Self Study	3	0	0	3		3
5	PE	E8	Elective VIII / Online Course / Self Study	3	0	0	3		3
STUDIO									
6	PC	ARB4531	Architectural Design - VII	0	0	12	8		12
7	PAECC	ARB4532	Dissertation / Guided Study/ Documentation	0	0	4	2	2	4
			Total	15	0	16	25	6	29
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

SEMESTER- X									
SL. NO	**COURSE CATEGORY**	**COURSE CODE**	**NAME OF THE COURSE**	**L**	**T**	**P**	**C**	**S**	**TCH**
THEORY									
1	PE		Elective IX	3	0	0	3		3
2	PE		Elective X	3	0	0	3		3
STUDIO									
3	PC	ARB4541	Thesis	0	0	24	16		24
THEORY									
			Total	0	0	24	22		30
L – Lecture ; T – Tutorial ; P – Practical ; C – Credit; S- Self Study; TCH- Total Contact Hours									

TOTAL CREDITS: 260

LIST OF DEPARTMENTAL ELECTIVES WITH GROUPING - SEMESTER WISE

SEM	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
Elective I									
5	PE	ARC4351	Theory of Design	3	0	0	3		3
5	PE	ARC4352	Vernacular Architecture	3	0	0	3		3
5	PE	ARC4353	Visual Communication and Architecture	3	0	0	3		3
Elective II									
5	PE	ARC4354	Site Planning and Landscape	3	0	0	3		3
5	PE	ARC4355	Interior Design and Furniture	3	0	0	3		3
5	PE	ARC4356	Building Performance and Rating System	3	0	0	3		3
Elective III									
6	PE	ARC4366	Behavioural Architecture	3	0	0	3		3
6	PE	ARC4367	Architectural Journalism and Photography	3	0	0	3		3
6	PE	ARC4368	Architectural Design with Glass (Special Elective)	3	0	0	3		3
Elective IV									
6	PE	ARC4369	Landscape Construction	3	0	0	3		3
6	PE	ARC4370	Industrial Architecture	3	0	0	3		3
6	PE	ARC4371	Appropriate Building Technology	3	0	0	3		3
Elective V									
7	PE	ARC4451	Architectural Design with Steel (Special Elective)	3	0	0	3		3
7	PE	ARC4452	Architecture of the Future	3	0	0	3		3
7	PE	ARC4453	Kinetic Architecture	3	0	0	3		3
Elective VI									
7	PE	ARC4454	Interior Lighting and Landscape	3	0	0	3		3
7	PE	ARC4455	Set Design	3	0	0	3		3
7	PE	ARC4456	Earthquake Resistant Structures	3	0	0	3		3

Elective VII									
9	PE	ARC4551	Urban Economics and Sociology	3	0	0	3		3
9	PE	ARC4552	Real Estate Development	3	0	0	3		3
9	PE	ARC4553	Conservation and Preservation	3	0	0	3		3
Elective VIII									
9	PE	ARC4554	Environmental Impact Assessment	3	0	0	3		3
9	PE	ARC4555	Graphics and Animation	3	0	0	3		3
9	PE	ARC4556	High-rise Buildings	3	0	0	3		3
Elective XI									
10	PE	ARC4566	Smart and Sustainable Cities	3	0	0	3		3
10	PE	ARC4567	Architectural Criticism	3	0	0	3		3
10	PE	ARC4568	Interior Accessories and Furniture Design	3	0	0	3		3
Elective X									
10	PE	ARC4569	Entrepreneurship Skills for Architects	3	0	0	3		3
10	PE	ARC4570	Infrastructure Planning and Management	3	0	0	3		3
10	PE	ARC4571	Advanced Construction Techniques	3	0	0	3		3

Programme Structure

PSO1		PSO2			PSO3		PSO4	PSO5		
Create an ability to conceptualize and coordinate design that follows a systematic process of analysing alternatives, ideas, theories by evaluating, and synthesizing ideas that include parameters on social, cultural, environmental and technological aspects of architecture.		Demonstrate the ability to synthesize a wide range of variables into an integrated design solution. It is done by applying appropriate building systems, building materials and construction practices on sound research and design decisions across varying scales of systems and levels of complexity.			Utilize modern software tools & other appropriate and alterative innovative techniques in a wide range of documentation, presentation, analysis and applications for design development of buildings.		Create an sustainable and responsive built environment by responding to the climate of the region, adapt appropriate technologies, conserve the ecology, environment and landscape to achieve a sustainable development for the future.	Understand how history, art and culture have shaped the modern world, through many varied types of creative works, human experiences and to raise questions on value and meaning.		
1	2	3	4	5	6	7	8	9	10	11
Design Theory	Architectural Design	Materials & Construction			Software skills	Design Technology	Sustainable Architecture	History, Art & Culture	Planning and settlements	Value added courses
Theory Of Architecture - I	Basic Design	Applied Mechanics	Materials and Construction-I	Building Services –I (Water Supply and Sanitation)	Computer Simulation and Modelling	Building Performance and Rating System	Environmental Science for Architecture	History of Architecture - I	Human Settlement and Planning	Communication Skills

Theory Of Architecture - II	**Architectural Design-I**	**Mechanics of Structures**	**Materials and Construction -II**	**Building Services –II (Lighting and Illumination)**	**Building Information Modelling**	**Appropriate Building Technology**	**Climate and Built Environment**	**History of Architecture - II**	**Urban and Rural Housing**	**Study Tour (Regional)**
Design Communication	**Architectural Design- II**	**Design of R.C.C. Structures**	**Materials and Construction - III**	**Building Services –III (HVAC)**	**Graphics and Animation**	**Architecture of the Future**	**Surveying, Levelling and Site Planning**	**History of Architecture - III**	**Project Management**	**Summer Internship**
Contemporary Architecture	**Architectural Design- III**	**Design of Steel and Composite Structures**	**Materials and Construction -IV**	**Architectural Acoustics**	**Visual Communication and Architecture**	**Kinetic Architecture**	**Landscape and Ecology**	**History of Architecture - IV**	**Architectural Journalism and Photography**	**Study Tour (South India)**
Architectural Graphics-I	**Architectural Design- IV**		**Estimation and Specification**	**Architectural Design with Glass**		**Behavioural Architecture**	**Site Planning and Landscape**	**Visual Arts and Appreciation**		**Study Tour (North India)**
Architectural Graphics-II	**Architectural Design V**		**Advanced Construction Techniques**	**Architectural Design with Steel**		**Industrial Architecture**	**Landscape Construction**	**Conservation and Preservation**	**Urban Economics and Sociology**	**Entrepreneurship Skills for Architects**
Workshop (Model Making)	**Architectural Design VI**			**Earthquake Resistant Structures**		**Set Design**	**Vernacular Architecture**		**Real Estate Development**	

Theory of Design	**Practical Training**			**High-rise Buildings**		**Architectural Criticism**	**Interior Lighting and Landscape**		**Infrastructure Planning and Management**	
Interior Design and Furniture	**Architectural Design - VII**						**Environmental Impact Assessment**			
Urban Design and Renewal	**Thesis**						**Smart and Sustainable Cities**			
Professional Practice	**Guided Study**									
Interior Accessories and Furniture Design										