

**Five-year Dual-Degree in Building Science & Engineering  
(leading to B.Tech in Civil Engg. and MS by Research in Building Science & Engg.)**

**Nov 7, 2014**

IIIT Hyderabad introduces an innovative Building Science & Engineering (BSE) teaching and research programme.

The program aims at educating engineers and conduct research to build an environmentally sustainable habitat by integrating environment, materials, services, science and engineering while making use of latest technology in computer science and electronics. Given the multi-disciplinary nature of the proposed program, the program will address two broad areas; R&D gaps and Knowledge gaps and would collaborate with other institutions to address the skill gaps.

**Curriculum**

Year	Semester	CD	AD	Course Code	Course Name	Credits	Faculty
I	I	In	MA	IMA101	Mathematics I	3-1-0-4	
I	II	Pr	CE		Building Materials and Const	3-0-3-4	RPK
I	I	Pr	CE		Mechanics of Solids	3-1-0-4	VM
I	I	In	CS	ICS101	Computer Programming	3-1-3-5	
I	I	In	EC	IEC102	Electrical Science I (H2)	3-1-0-2	
I	I	In	CS	ICS102	IT Workshop I	2-0-3-3	
I	I	In	HS	IHS101/102	English/HSS Group A	2-0-0-2	
I	I	In	HS	IHS103	Human Values I	0-2-0-2	
Total 16-6-9-26							
Total In-Class Hours per week - 31							
I	II	In	MA	IMA102	Mathematics II	3-1-0-4	
I	II	Pr	CE		Structural Analysis	3-1-0-4	VM
I	II	Pr	CE		Strength of Materials Lab	3-1-0-2	RPK
I	II	Pr	CE		BMC Lab	3-1-0-2	RPK
I	II	In	CS	ICS103	Data Structures	3-1-3-5	
I	II	In	CS	ICS105	IT Workshop II	2-0-3-3	
I	II	In	HS	IHS105/106	English/HSS Group A	2-0-0-2	
I	II	Pr	CE		Engineering Drawing	3-1-0-4	SM
Total 16-6-9-26							
Total In-Class Hours per week - 31							
II	I	Pr	MA	IMA201	Engineering Mathematics	3-1-0-4	CNK
II	I	In	CS		Algorithms	3-1-0-4	
II	I	Pr	CE		Water Resource Engg.	3-1-0-4	NS
II	I	Pr	CE		Surveying	3-0-0-3	RPK
II	I	In	CS	ICS261	SSAD & Project	3-0-3-3	
II	I	In	CS		Introduction to Databases	3-1-0-2	
II	I	Pr	SC		Science I	3-1-0-4	
II	I	Pr	CE		Surveying Lab	0-3-0-2	RPK
Total 20-6-6-26							
Total In-Class Hours per week - 32							
Year	Semester	CD	AD	Course Code	Course Name	Credits	

II	II	Pr	CE		Design of Concrete Structures	3-1-0-4	RPK
II	II	Pr	CE		Building Services	3-1-0-4	VG
II	II	Pr	CE		Soil Mechanics	3-1-0-4	NS
II	II	In	CE		Graphics	3-1-0-3	
II	II	Pr	CE		Environmental Science	3-1-0-4	RCP
II	II	In	SC/BS		CS Elective	3-1-0-4	
II	II	In	HS	IHS107	Human Values II	0-2-0-2	
II	II	Pr			Soil Mechanics Lab	0-3-0-2	NS
Total 17-6-6-27							
Total In-Class Hours per week - 29							
SLAB - Meet above Institute Core by the end of Second Year.							
III	I	Pr	BS		Stream Elective	3-1-0-4	
III	I	In	CE		Design of Steel Structures	3-1-0-4	RPK
III	I	In	CS		CE Elective	3-1-0-4	
III	I	In			Open Elective	3-1-0-2	
III	I	Pr	CE		Hons. Project-1	3-1-0-4	
III	I	Pr			Hydraulics Lab	0-3-0-2	
Total 18-6-6-22							
Total In-Class Hours per week - 30							
III	II	Pr	BS		Stream Elective	3-1-0-4	
III	II	In			CS Elective	3-1-0-4	
III	II	In	CE		CE Elective	3-1-0-4	
III	II	In	CS		Transportation Engineering	0-0-6-4	
III	II	In	BS		Hons. Project-2	3-1-0-4	
III	II	In	HS		Humanities Elective	3-1-0-4	
Total 17-6-12-24							
Total In-Class Hours per week - 31							
IV	I	In	CE		Estimating and Costing	3-1-0-4	
IV	I	In			Open Elective	3-1-0-4	
IV	I	Pr	BS		Stream Elective	3-1-0-4	
IV	I	In	MA		Mathematics Elective	3-1-0-4	
IV	I	In	BS		Hons. Project-3	3-1-0-4	
III	II	In	HS		Humanities Elective	3-1-0-4	
Total 15-5-6-24							
Total In-Class Hours per week - 26							
<b>Year</b>	<b>Semester</b>	<b>CD</b>	<b>AD</b>	<b>Course Code</b>	<b>Course Name</b>	<b>Credits</b>	
IV	II	In	CE		CE Elective	3-1-0-4	
IV	II	Pr	BS		Stream Elective	3-1-0-4	
IV	II	In	CE		Hons. Project-4	3-1-0-4	
III	II	In	HS		Humanities Elective	3-1-0-4	
Total 12-4-0-16							
Total In-Class Hours per week - 16							

**Civil Engineering Electives:**

- Fluid mechanics
- Heat and Mass Transfer
- Indian Habitat
- Finite Element Methods
- Structural Engineering Workshop
- HVAC
- Etc...

**Stream Electives:**

Students may choose any one of the four streams from the following streams:

- Structural Engineering
- Geotechnical Engineering
- Building Automation & Green Buildings
- Spatial Informatics
- Etc.....

**Graduation Requirements**

Institutional Core	50	50
Program Core	65	115
Humanities Elective	$3 \times 4 = 12$	127
Maths Elective (1)	4	131
BS Electives (4)	$4 \times 4 = 16$	147
Stream Electives (4)	$4 \times 4 = 16$	163
CS Electives (4)	$1 \times 4 = 04$	167
Honours Projects 1 to 4	$4 \times 4 = 16$	183
Free Electives (2)	$2 \times 4 = 08$	191
Thesis Credits – <b>Typically in 5<sup>th</sup> year</b>	$12 \times 2 = 24$	215
<b>TOTAL</b>		<b>215 Credits</b>

In order to graduate with B.Tech Honors in Civil Engineering and MS by Research in Building Science & Engineering, a student must successfully complete 191 course credits and 24 Thesis credits, with minimum CGPA of 7.00 and meet the following requirements.

- 1) Meet the requirements as given in the above table, and
- 2) Students are required to complete 2 PT Credits which will be counted towards extra-curricular credits (not part of credit requirements mentioned above).
- 3) Must successfully complete the FOUR 4 credit Honors Projects in semesters V to VIII and obtain a GPA greater than 8.5 in these 4 projects.