Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Ref: BIHER/BIST/Civil//Spl/2021 Date: 10/10/2021

CIRCULAR

Many a times, the defined skill sets that are being imparted to students today with Programme Specific Objectives in educational institutions become redundant sooner than later due to rapid technological advancements. It is important for higher education institutions to supplement the curriculum to make students better prepared to meet industry demands as well as develop their own interests and aptitudes.

Hence a Value Added Course is offered by School of Civil and Infrastructure Engineering, Bharath Institute of Higher Education & Research. The course offered is **STRAP SOFTWARE** with the duration of 30 hours (two hour per day) and commences from **17/10/2021** to **7/11/2021**.

Eligibility: Course is open for UG Students of Department of Civil Engineering.

Registration:

The registration form which is available in the university website should be duly filled by the participants and to be submitted to the Coordinator at least 10 days before the commencement of course.

Contact:

Dr.S.J.MOHAN

Professor / School of Civil and Infrastructure Engineering

Course Coordinator

Bharath Institute of Higher Education & Research.

Email id: mohansjm.civil@bharathuniv.ac.in

HOD/CIVIL

Head of the Department
Department of Civil Engineering
Bharath Institute of Higher Education & Research
(Declared as Deemed to be University U/S 3 of UGC Act, 1956)
Selaiyur, Chennai-600 073. INDIA

SCHOOL OF CIVIL & INFRASTRUCTURE ENGINEERING

VALUE ADDED COURSE - STRAP SOFTWARE

STUDENTS NAME LIST

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Value Added Course

Scheduling strap software

Content of Syllabus

S.No.	Syllabus Details	No. of Lecture hrs	Time	Date	Lecture name
1	detailed instructions for defining the geometry and loads.	1	10.45 am to 11.45am	17.10.2021	Dr.S.J.Mohan
2	defining the demo models	1	03.00 pm to 04.00 pm	17.10.2021	Dr.S.J.Mohan
3	defining new models	1	10.45 am to 11.45am	18.10.2021	Dr.S.J.Mohan
4	list of demo models	1	03.00 pm to 04.00 pm	18.10.2021	Dr.S.J.Mohan
5	Define the plane frame using a model wizard.	1	10.45 am to 11.45am	19.10.2021	Dr.S.J.Mohan
6	worked example for plane frame	1	03.00 pm to 04.00 pm	19.10.2021	Dr.S.J.Mohan
7	define the grid of finite elements	1	10.45 am to 11.45am	20.10.2021	Dr.S.J.Mohan
8	define the following gradually refined mesh	1	03.00 pm to 04.00 pm	20.10.2021	Dr.S.J.Mohan
9	define the following space structure	1	10.45 am to 11.45am	21.10.2021	Dr.S.J.Mohan
10	Define the following steel and concrete spaces frame. this model uses the following options, cylindrical coordinate system, rotated local axes	1	03.00 pm to 04.00 pm	21.10.2021	Dr.S.J.Mohan
11	define the geometry of the following 10-storey building that includes four walls extending the full height of the structure	1	10.45 am to 11.45am	24.10.2021	Dr.S.J.Mohan
12	define the dome shell shown in the figure below using either of two options: equations	1	03.00 pm to 04.00 pm	24.10.2021	Dr.S.J.Mohan
13	Define the multi-story building using the sub model option.	1	10.45 am to 11.45am	25.10.2021	Dr.S.J.Mohan

14	this demonstrates how to define a sub model and add it to the main model	1	03.00 pm to 04.00 pm	25.10.2021	Dr.S.J.Mohan
15	in this demo we will create the following load cases for the frame defined in	1	10.45 am to 11.45am	26.10.2021	Dr.S.J.Mohan
16	Plane grid defined in plane grid - mesh, display graphic results for finite elements.	1	03.00 pm to 04.00 pm	26.10.2021	Dr.S.J.Mohan
17	display beam results for the plane frame defined in plane frame - 1 and chess loads	1	10.45 am to 11.45am	27.10.2021	Dr.S.J.Mohan
18	the model geometry as defined in *strap* does not provide sufficient information for the steel module to carry out an accurate design.	1	03.00 pm to 04.00 pm	27.10.2021	Dr.S.J.Mohan
19	this demo demonstrates the definition and design of a structure fabricated from cold-formed (light gauge) steel sections	1	10.45 am to 11.45am	28.10.2021	Dr.S.J.Mohan
20	design the following steel beam with profiled steel deck and concrete slab:	1	03.00 pm to 04.00 pm	28.10.2021	Dr.S.J.Mohan
21	design the beams and columns of the frame shown in figure below and create a column schedule	1	10.45 am to 11.45am	1.11.2021	Dr.S.J.Mohan
22	design the reinforcement in a typical concrete floor slab:	1	03.00 pm to 04.00 pm	1.11.2021	Dr.S.J.Mohan
23	this example demonstrates how to design a column with an arbitrary cross-section defined by the user.	1	10.45 am to 11.45am	2.11.2021	Dr.S.J.Mohan
24	concrete slab - deflection	1	03.00 pm to 04.00 pm	2.11.2021	Dr.S.J.Mohan
25	define dead and live service loads in separate	1	10.45 am to 11.45am	3.11.2021	Dr.S.J.Mohan
26	dynamic analysis - wall elements	1	03.00 pm to 04.00 pm	3.11.2021	Dr.S.J.Mohan
27	dynamic - seismic analysis	1	10.45 am to 11.45am	4.11.2021	Dr.S.J.Mohan
28	dynamic - time-history	1	03.00 pm to 04.00 pm	4.11.2021	Dr.S.J.Mohan

29	steel - connections	1	10.45 am to 11.45am	7.11.2021	Dr.S.J.Mohan
30	bridge design - lanes	1	03.00 pm to 04.00 pm	7.11.2021	Dr.S.J.Mohan

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Topic: Strap Software

Type of Course: value added course / UG

School of Civil and infrastructure Engineering

Pre-Requisites: Staad. Pro

Course Duration: 30 hours (17 Oct.' 2021)

Intended Audience: Civil Engineering Students

Industries Applicable To: All companies that deal with the civil infrastructure development

Coordinators: Dr. S.J.Mohan & S. Thendral

Objective:

a) To learn the analysis and drawing of RCC framed structures by using STRAP software

b) To study the analysis and drawing of plane and space truss by using STRAP software

c) To study the analysis and drawing of Multi-Storey Frame Buildings by using STRAP software

COURSE OUTLINE:

STRAP is a structural analysis and design software which is widely used to analyze and design structures for bridges, towers, buildings, transportation, industrial and utility structures. The software has now its latest version used with new and improved features. The STRAP can now analyze and design any engineering structure.

STRAP is a product of Computers and Structures Inc. It is engineering software that is used in construction. It has highly efficient structure analysis and design programs developed for catering to multi-story building systems. It is loaded with an integrated system consisting of modeling tools and templates, code-based load prescriptions, analysis methods, and solution techniques. It can handle the largest and most complex building models and associated configurations. STRAP software is embedded with CAD-like drawing tools with an object-based interface and grid representation. It is software used in construction. It analyses and assesses seismic performance and checks the load-bearing capacity of building structures, using this software, you can view and manipulate the analytical model with great accuracy. Plans and elevation views are auto-generated at every grid line. STRAP software is used for the analysis of concrete shear walls and concrete moment frames. It is highly acclaimed for static and dynamic analysis of multi-storey frame and shear wall buildings. It is the most popular civil designing tools used in the building industry and increases the productivity of structural engineers. It also prevents the investment of unnecessary time and money in general-purpose programs. The input, output and numerical solution techniques of STRAP are particularly designed to take an upper hand of the unique physical and numerical characteristics associated with building type structures. As a result, this analysis and design tool accelerates data preparation, output interpretation, and overall execution

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Date: 17.10.2021 **Year/Sem: III /V**

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A NAAC
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

Bharath Institute of Higher Education and Research

CERTIFICATE OF participation

This is to Certify that SATHISH KUMAR. S, **Bharath Institute of Higher Education and Research**, has participated in value added course on " **STRAP software"** presented by **Dr. S.J.Mohan, Professor, School of Civil & Infrastructure Engineering, BIHER** Organized by School of Civil & Infrastructure Engineering, Bharath Institute of Science & Technology, BIHER from **17/10/2021** to **7/11/2021**

Coordinator

HOD

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VALUE ADDED COURSE

Feedback Form

Event Name: With STRAP SOFTWARE

Event Venue: Date: 17/10/2021

Name of participant: CHANDRA

1. Rate the success of the event (1: not successful, 5 very successful)

1 2 3 4 5 ✓

2. Describe what topic is good.

good

3. What aspects of the course we improve.

more topic need to cover

4. What else would you like to see added.

Very useful course,

Head of the Department
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