



# LUMBINI BUDDHIST UNIVERSITY

SYLLABUS

ON

## MASTERS OF SCIENCE

IN

### STRUCTURAL ENGINEERING [MSc. SE]

**Prepared By:**

**Lumbini Buddhist University**

School of Development Studies and Applied Sciences

Devdaha, Rupandehi

Phone 071-577427; Email [sdsas@lbu.edu.np](mailto:sdsas@lbu.edu.np);

Website: [www.lbu.edu.np](http://www.lbu.edu.np)

**Supported By:**

**Lumbini International Academy of Science and Technology**

**(LIAST)**

Manbhawan, Lalitpur, Nepal

Phone 01-5431883; Email [liastlalitpur@gmail.com](mailto:liastlalitpur@gmail.com)

Website: [www.liast.edu.np](http://www.liast.edu.np)

**2023**



**C. PROJECT WORK**

**4 Credits**

MBSE 559: Project work in Structural Engineering

Project work shall be arranged related to the structures as far as rosily.

**D. RESEARCH WORK (THESIS)**

**16 Credits**

MBSE 650: Research in Structural Engineering

Research shall be arranged related to the related topics of structures as far as possible.

**Grand Total Credits 60**

**SYLLABUS AND CURRICULUM**

The Master of Science in Structural Engineering degree program includes 7 regular courses (each of 100 marks) and a thesis of 400 marks. Thirteen courses will be electives (Two electives in the second semester and two electives in the third semester will be offered. Students will select 1 subject from each elective from the second semester and third semester).

Course Structure of MSc in Structural En2inecrin2					
Course Code	Title of Course	Total Credits		Total Credits	Full Marks
		Theoretical	Tutorial		
<b>Year. 1/1</b>	<b>Semester I</b>				
<b>SE 500</b>	Advanced structural analysis and mechanics of materials	4	0	4	100
<b>SE 501</b>	Solid mechanics	4	0	4	100
<b>SE502</b>	Structural Dynamics	4	0	4	100
<b>SE 503</b>	Advanced Design of Concrete Structures	3	1	4	100
	<b>Total</b>	<b>15</b>	<b>1</b>	<b>16</b>	<b>400</b>
<b>Year I/II</b>	<b>Semester II</b>				
<b>SE 550</b>	Seismic Resistant Design of structures	3	1	4	100
<b>SE552</b>	Design of foundation	4	0	4	100
<b>Elective I Choose one</b>					
<b>SE 504</b>	Disaster risk manaement	4	0	4	100
<b>SE 505</b>	Design of Trail bridg	4	0	4	100

course Structure of MSc in Structure Engineering					
course Code	Title of Course	Total Credit's		Total Credits	Full Marks
		Theoretical	Tutorial		
SE 506	Structural health monitoring	4	0	4	100
SE 602	Structural Engineering Laboratory	4	0	4	100
<b>Elective II Choose one <sup>1</sup></b>					
SE 600	Theory of Plate and shell structures	4	0	4	100
SE 555	Design of Industrial Structures	4	0	4	100
SE 556	Nonlinear structure analysis	4	0	4	100
SE 551	Design of Motor Bridges	4	0	4	100
SE 553	Application of Finite Element Method (FEM)	4	0	4	100
	<b>Total</b>	<b>15</b>	<b>1</b>	<b>16</b>	<b>400</b>
<b>Year II/I</b>	<b>Semester III</b>				
SE 559	Project Work	1	3	4	100
<b>Elective I ( Choose one )</b>					
SE603	Design of Hydraulic Retaining Structures	4	0	4	100
SE604	Pre-stressed concrete	4	0	4	100
<b>Elective II ( Choose one )</b>					
SE 605	Rock Mechanics and Tunneling	4	0	4	100
SE 606	Buddhist Infrastructure Engineering	4	0	4	100
	<b>Total</b>	<b>9</b>	<b>3</b>	<b>12</b>	<b>300</b>
<b>Year II/II</b>	<b>Semester IV</b>				
SE650	Thesis on a relevant topic as prescribed by the department (in	16		16	400

**Course Structure of MSc in Structural Engineer**

Course Code	Title of Course	Total Credits		Total Credits	Full Marks
		Theoretical	Tutorial		
	close coordination with the student) Research shall be arranged related to the Buddhist sites and Buddhist structures as far as possible				
	<b>Total</b>	<b>16</b>		<b>16</b>	<b>400</b>