

**Appendix 4**  
**COURSE SPECIFICATION**

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OPEN UNIVERSITY OF HCMC  
Faculty of Civil Engineering

**COURSE SPECIFICATION**

**I. Course identification**

1. Course title: Foundation (CENG5303)

2. Knowledge/ Skill area

- |   |  |
|---|--|
| <input type="checkbox"/> Pedagogy general     | <input checked="" type="checkbox"/> Speciality knowledge |
| <input type="checkbox"/> Basic knowledge      | <input type="checkbox"/> Supplementary knowledge         |
| <input type="checkbox"/> Foundation knowledge | <input type="checkbox"/> Thesis                          |

3. Number of credit

Total	Theory	Practice	Self-study
3 (3,0,6)	3	0	6

4. Course responsibility

- |                    |   |
|--------------------|---|
| a. Faculty:        | Faculty of Civil Engineering                      |
| b. Lecturer:       | Dr. Vo Nguyen Phu Huan                            |
| c. Personal email: | huan.vnp@ou.edu.vn                                |
| d. Address:        | Room 705, 35-37 Ho Hao Hon Street, Cô Giang Ward, |

District 1, HCM city

**II. Course Information**

**1. Course description**

This course belongs to limited speciality group. This is a very important course because students have to learn about these invisible structures under ground. These structures have a duty to bear all loading from above structures.

**2. Condition course**

No.	Condition course	Code
1.	Prerequisite course	
	No request	
2.	Former course	
	Soil mechanics	CENG5302
	Concrete structure 1	CENG6304
3.	parallel course	
	No request	

**3. Learning outcomes**

Learning outcomes	Descriptions	Achievement standard
CO1	<i>Knowledge:</i>	PLO4.3



1.5				X												
2.1										X						
2.2										X						
3.1													X	X		

## 5. Courseware

### a. Curriculum

#### Book, main curriculum

[1] Chau Ngoc An, (2014). Foundation, National University HCM Publishing.

[2] Muni Budhu, (2011). *Soil mechanics and Foundation, 3<sup>rd</sup> edition*, Wiley&Son Publishing.

### b. Reference documents

[3] Le Anh Hoang, (2012). Foundation, Construction Publishing.

[4] Das, B, (2016). Principles of foundation engineering. PWS Engineering Publishing.

### c. Software:

[5] AutoCAD

## 6. Course assessment

Component assessment	Lesson assessment	Time	Learning outcomes	Rate %
(1)	(2)	(3)	(4)	
A1. Midterm assessment 30%	A.1.1 To check these stability, intensity and deformation condition of pad foundation with eccentric loads	After finishing chapter 2	CLO1.1 CLO1.2 CLO1.3 CLO1.4 CLO2.1	50%
A2. End of term examination	A.2.1 All of chapters	End of term	CLO1.1-CLO1.5 CLO2.1-CLO2.2, CLO3.1	50%
Total				100%

## 7. Schedule

(4.5 x 50mins/session)

Week/session	Content	Learning outcomes	Detail	Assessment	Curriculum
(1)	(2)	(3)	(4)	(5)	(6)
Session 1	<b>Chapter 1:</b> Basic knowledge in foundation design (4.5 x 50 mins) 1.1. Concept, classify foundation 1.2. Featured foundations. 1.3. Soil ground conception	CLO1.1 CLO1.2	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]

Week/session n	Content	Learning outcomes	Detail	Assessment	Curriculum
(1)	(2)	(3)	(4)	(5)	(6)
Session 2	<b>Chapter 1:</b> (cont.) Basic knowledge in foundation design (4.5 x 50 mins) 1.4. Loads and limit states 1.5. Soil characteristics in foundation design	CLO1.2 CLO1.3	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]
Session 3	<b>Chapter 2:</b> Shallow foundation design (4.5 x 50 mins) 2.1. Pad foundation with axial loads	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples about pad foundation (axial loads) Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]
Session 4	<b>Chapter 2 (cont.):</b> Shallow foundation design (4.5 x 50 mins) 2.1. Pad foundation with axial loads (cont.) 2.2. Pad foundation with eccentric loads	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples about pad foundation (axial loads) Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]
Session 5	<b>Chapter 2 (cont.):</b> Shallow foundation design (4.5 x 50 mins) 2.2. Pad foundation with eccentric loads (cont.)	CLO1.3, CLO1.4, CLO1.5, CLO2.1, CLO3.1	Lecturer: Teach and give these examples about pad foundation (eccentric loads) Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]
Session 6	<b>Chapter 2 (cont.):</b> Shallow foundation design (4.5 x 50 mins) 2.3. Strip foundation	CLO1.3, CLO1.4, CLO1.5, CLO2.1, CLO3.1	Lecturer: Teach and give these examples about strip foundation Student: + Class: listen and do		[1], [2], [3]

Week/session n	Content	Learning outcomes	Detail	Assessment	Curriculum
(1)	(2)	(3)	(4)	(5)	(6)
			the examples. + Home: review knowledge and read books (9 x 50 mins).		
Session 7	<b>Chapter 2 (cont.):</b> Shallow foundation design (4.5 x 50 mins) 2.3. Strip foundation (cont.) 2.4 . Mat foundation	CLO1.3, CLO1.4, CLO1.5, CLO2.1, CLO3.1	Lecturer: Teach and give these examples about strip foundation Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]
Session 8	<b>Chapter 3: Pile foundation</b> (4.5 x 50 mins) Midterm assessment 3.1. Pressed pile foundation	CLO1.3, CLO1.4, CLO1.5, CLO2.1, CLO3.1	Lecturer: Teach and give these examples about pressed pile foundation Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]
Session 9	<b>Chapter 3: Pile foundation (cont.)</b> (4.5 x 50 mins) 3.1. Pressed pile foundation (cont.)	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples about pressed pile foundation Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]
Session 10	<b>Chapter 3: Pile foundation (cont.)</b> (4.5 x 50 mins) 3.2. Bored pile foundation (cont.)	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples about bored pile foundation Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).		[1], [2], [3]

**(3 x 50 mins/session)**

Week/session	Content	Learning outcomes	Detail	Assessment	Curriculum
(1)	(2)	(3)	(4)	(5)	(6)
Session 1	<b>Chapter 1:</b> Basic knowledge in foundation design (3 x 50 mins) 1.1. Concept, classify foundation 1.2. Featured foundations.	CLO1.1 CLO1.2	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 2	<b>Chapter 1:</b> Basic knowledge in foundation design (cont.) (3 x 50 mins) 1.3. Soil ground conception 1.4 Loads and limit state	CLO1.1 CLO1.2	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 3	<b>Chapter 1:</b> Basic knowledge in foundation design (cont.) (3 x 50 mins) 1.5 Soil of characteristics in foundation design	CLO1.2 CLO1.3	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 4	<b>Chapter 2:</b> Shallow foundation design (3 x 50 mins) 2.1. Pad foundation with axial loads	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 5	<b>Chapter 2:</b> Shallow foundation design (cont.) (3 x 50 mins)	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and		[1], [2], [3]

Week/session n	Content	Learning outcomes	Detail	Assessment	Curriculum
(1)	(2)	(3)	(4)	(5)	(6)
	2.1. Pad foundation with axial loads (cont.)		do the examples. + Home: review knowledge and read books (6 x 50 mins).		
Session 6	<b>Chapter 2:</b> Shallow foundation design (cont.) (3 x 50 mins) 2.2. Pad foundation with eccentric loads	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 7	<b>Chapter 2:</b> Shallow foundation design (cont.) (3 x 50 mins) 2.2. Pad foundation with eccentric loads (cont.)	CLO1.3, CLO1.4, CLO1.5, CLO2.1, CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 8	<b>Chapter 2:</b> Shallow foundation design (cont.) (3 x 50 mins) 2.3. Strip foundation	CLO1.3, CLO1.4, CLO1.5, CLO2.1, CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 9	<b>Chapter 2:</b> Shallow foundation design (cont.) (3 x 50 mins) 2.3. Strip foundation (cont.)	CLO1.3, CLO1.4, CLO1.5, CLO2.1, CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 10	<b>Chapter 2:</b> Shallow	CLO1.3, CLO1.4,	Lecturer: Teach and give		[1], [2], [3]



Week/session	Content	Learning outcomes	Detail	Assessment	Curriculum
(1)	(2)	(3)	(4)	(5)	(6)
	foundation design (cont.) (3 x 50 mins) 2.3. Strip foundation (cont.) 2.4. Mat foundation	CLO1.5, CLO2.1, CLO3.1	these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		
Session 11	<b>Chapter 3: Pile foundation</b> (3 x 50 mins) Midterm assessment 3.1. Pressed pile foundation	CLO1.3, CLO1.4, CLO1.5, CLO2.1, CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 12	<b>Chapter 3: Pile foundation</b> (3 x 50 mins) 3.1. Pressed pile foundation (cont.)	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 13	<b>Chapter 3: Pile foundation</b> (3 x 50 mins) 3.1. Pressed pile foundation (cont.)	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]
Session 14	<b>Chapter 3: Pile foundation</b> (3 x 50 mins) 3.2. Bored pile foundation	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]

Week/session n	Content	Learning outcomes	Detail	Assessment	Curriculum
(1)	(2)	(3)	(4)	(5)	(6)
Session 15	<b>Chapter 3: Pile foundation</b> (3 x 50 mins) 3.2. Bored pile foundation (cont.)	CLO1.3 CLO1.4 CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (6 x 50 mins).		[1], [2], [3]