

NATIONAL UNIVERSITY OF CIVIL ENGINEERING (NUCE)

List of Subjects for Exchange Students - Undergraduate Level Major: Bridge and Road Engineering

| No. | Name of subjects | Code | NUCE Credit | Teaching Languages | Description |
|-----|--|--------|-------------|--------------------|--|
| 1 | Road-bed & Pavement Design | 160423 | 3 | English | After this course, students can design different kinds of pavements such as rigid and flexible associated with suitable materials. Also, the stability of slope as well as the consolidation of road-bed on soft soil are also introduced. |
| 2 | Mini Project of Road-bed & Pavement Design | 160424 | 1 | English | Students design a road-bed and pavement basing on a given inputs of materials and technical characteristics of soil and sub-grade. |
| 3 | Highway Geometric Design and Surveying | 160421 | 3 | English | To provide students basic knowledge on highway design including horizontal and vertical alignments, intersection, drainage system and setting-out the highway alignment on the different terrains. |
| 4 | Mini-Project of Highway Geometric Design and Surveying | 160422 | 1 | English | Geometric Design of a short segment of highway on mountainous terrain with contours. |
| 5 | Highway Economics and Highway Maintenance | 160468 | 2 | English | Road-user costs; highway-life-cycle analyzing; pavement distress index; pavement rehabilitation. |
| 6 | Traffic Engineering | 160464 | 2 | English | Fundamental of traffic flow theory; traffic studies; highway capacity and operational analyzing; traffic safety and accident prevention. |
| 7 | Traffic Engineering Mini-Project | 160465 | 1 | English | On-site traffic surveying; design and analyzing highway facilities. |

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| 8 | Introduction to Bridge Engineering | 120450 | 2 | English | To provide students general concepts about bridge structures. Upon completing the course, students should know general details of typical components such as: deck, waterproofing systems, lighting systems, parapet, expansion joints, bearings, abutments ...Also, students should know the basic requirements and procedures to do the survey and design of bridges. |
| 9 | Design and Construction of Concrete Bridges S1 | 120415 | 3 | English | This course help students to understand about material properties used in concrete bridges (concrete, reinforced concrete and prestressed concrete). It also helps students to classify concrete bridges and the corresponding methods of construction. |
| 10 | Design and Construction of Steel Bridges S1 | 120445 | 3 | English | This course helps students to understand about material properties used in steel bridges. It also helps students to classify steel bridges and the corresponding methods of construction. |