

King Mongkut's University of Technology Thonburi



Final Examination Semester 1 Academic Year 2014

CVE 474 Sustainable Transportation
Date: December 3, 2014

4th Year International Program in Civil Engineering
Time: 13:00 – 16:00

Instructions :

1. There are 8 questions, 9 pages (80 points). 10 points for each question.
2. Attempt all questions.
3. Textbooks, dictionaries and any written materials are allowed in the examination room.
4. A calculator is allowed under the university regulation. All other electronic devices are not allowed.
5. This examination is complete. If it is believed to have any further specific parameters, write down that information in your answer as well as the relevant reasons.

Examiner : Assoc. Prof. Dr. Viroat Srisurapanon
Tel. 9142

This examination paper has been approved by the Department of Civil Engineering.

A handwritten signature in black ink, consisting of a series of loops and strokes, positioned above a dashed horizontal line.

Assoc. Prof. Dr. Sutat Leelataviwat
Head of the Civil Engineering Department

Name _____ ID _____ Seat No. _____

1. Sketch and explain the intermodal transportation facilities that we should provide at Hua Lamphong Railway Station, the central railway station in Bangkok. Rank the priority of each transportation mode.

2. Compare between the energy intensity (EI) of passenger car and the EI of Tuk-tuk, motorized three-wheelers. Show the calculation.

3. How to use the speed-flow curve for design of walkways? Sketch the curve with the explanation. Give an example of the usage in details.

4. How to apply the ITS for improving the efficiency of taxi system in Bangkok?

5. Which data are required for planning and designing the walkways around KMUTT Bangmod campus? Give an example and show the calculation of using the data.

6. How to improve bicycling around KMUTT Bangmod campus. Specify your ideas clearly and draw some pictures if it is necessary.

7. What are the benefits of school bus? Who are the stakeholders? Create the Benefit Incident Matrix (BIM) and specify the alphabets (a, b, c,...) showing whom the positive or negative impacts affect.

8. What is the parking cash-out program? What are the impacts of this program? Who should support the program? Why?