THE UNIVERSITY OF HONG KONG
FACULTY OF BUSINESS AND ECONOMICS
School of Economics and Finance

ECON0504 / ECON2234 - Transportation Economics
1st Semester, 2016-17

GENERAL INFORMATION

Instructor: Dr. Timothy Hau
Email: timhau@hku.hk
Office: Room 905 K K Leung Building
Phone: 2859 1060
Lecture: Tuesday 3:30 - 4:20 p.m. in LE 2, Friday 3:30 - 5:20 p.m. in LE 3
Consultation times: Tuesday 4:30 - 6:00 p.m., Friday 5:30 - 6:00 p.m. and by appointment
Personal website: http://www.sef.hku.hk/people/faculty/timothy_hau.html

Teaching Assistant: Mr. Tony SO Lok Pui’s office is in KKL 1026, E-mail: tonyslp@hku.hk  Tel: 2241 5381

Pre-requisites: ECON1001 / ECON1210 Introduction to Economics I (Introductory Microeconomics) or equivalent.
Basic calculus is used to enhance the exposition but will not be examined. While calculus is not required, students with some exposure to mathematics would learn more from the course.

Co-requisites: None
Course Website: http://www.sef.hku.hk/~timhau/2016/econ0504_2234

COURSE DESCRIPTION

This course explores the underpinnings of modern transport economics from a neoclassical microeconomics perspective. It applies micro principles to transportation issues and problems of interest. The course relies on the seminal ideas of the late Herbert Mohring and the late Nobel Laureate William Vickrey – the pioneers of modern transportation economics – which bring transport economics into the mainstream realm of microeconomics. Selected issues and contemporary problems in transport are analyzed from a welfare economics approach (or a benefit-cost approach if you like). Topics to be covered include contemporary urban transport issues such as road building and the Central-Wanchai Bypass, Eastern Harbour Tunnel and Western Harbour Crossing toll increases and the Cross Harbour Tunnel traffic congestion, electronic road pricing and sustainable transportation, fare increases and the public transport fare adjustment mechanism, and the economic evaluation of the Mass Transit Railway Corporation’s West Island Line and South Island Line as well as the Hong Kong International Airport’s third runway expansion, time permitting.

COURSE OBJECTIVES

1. To learn the underpinnings of transportation economics using microeconomic principles and tools;
2. To study selected issues and contemporary problems in transport from a welfare economics approach;
3. To hone one’s economic intuition and reasoning by giving an in-class group presentation on a transportation issue.

COURSE LEARNING OUTCOMES

<table>
<thead>
<tr>
<th>Course Learning Outcomes</th>
<th>Aligned with Faculty’s 5 Overall Goals*</th>
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</thead>
<tbody>
<tr>
<td>CLO1</td>
<td>Should have learnt the underpinnings of transportation economics using microeconomic principles and tools;</td>
</tr>
<tr>
<td>CLO2</td>
<td>Should have learnt selected issues and contemporary problems in transport from a welfare economics approach;</td>
</tr>
<tr>
<td>CLO3</td>
<td>Should be able to hone one’s economic intuition and reasoning by having given an in-class group presentation on a transportation issue.</td>
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* The Faculty of Business and Economics’ 5 Overall Goals are: 1) Acquisition and internalization of knowledge of the program discipline; 2) Application and integration of knowledge; 3) Inculcating professionalism and leadership; 4) Developing global outlook; and 5) Mastering communication skills.
# Course Teaching and Learning Activities

<table>
<thead>
<tr>
<th>Course Teaching and Learning Activities</th>
<th>Expected contact hour</th>
<th>Study Load (% of study)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T&amp;L1. Lectures</td>
<td>33 hours</td>
<td>27.5%</td>
</tr>
<tr>
<td>T&amp;L2. In-class group presentations and discussions</td>
<td>10 hours</td>
<td>8.3%</td>
</tr>
<tr>
<td>T&amp;L2. Tutorials</td>
<td>5 hours</td>
<td>4.2%</td>
</tr>
<tr>
<td>T&amp;L3. Self study</td>
<td>72 hours</td>
<td>60%</td>
</tr>
<tr>
<td>Total</td>
<td>120 hours</td>
<td>100%</td>
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<table>
<thead>
<tr>
<th>Assessment Methods</th>
<th>Brief Description</th>
<th>Weight</th>
<th>Aligned Course Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. Final examination</td>
<td>2-hour comprehensive, closed-book exam 1-hour term test shall be held on Friday, October 28th, 2016 during the first hour. There shall be no make-up test. Feedback shall be given in class.</td>
<td>42%</td>
<td>CLO1, CLO2</td>
</tr>
<tr>
<td>A2. Term test</td>
<td></td>
<td>23%</td>
<td>CLO1, CLO2</td>
</tr>
<tr>
<td>A3. Synopsis of presentation</td>
<td>Synopsis is due on Tuesday, November 4th, 2016 at the beginning of class</td>
<td>7%</td>
<td>CLO1, CLO2, CLO3</td>
</tr>
<tr>
<td>A4. In-class group presentation and discussion.</td>
<td>Presentations are scheduled in the last couple of weeks of the semester.</td>
<td>18%</td>
<td>CLO1, CLO2, CLO3</td>
</tr>
<tr>
<td>A5. A couple of problem set exercises</td>
<td>Problem set exercises help one grasp the analytics and learn how to apply microeconomic principles to transportation</td>
<td>10%</td>
<td>CLO1, CLO2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>100%</td>
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**Standards for Assessment**

**Course Grade Descriptors**

- **A+, A, A-** Strong evidence of superb ability to fulfill the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesize.
- **B+, B, B-** Strong evidence of the ability to fulfill the intended learning outcomes of the course.
- **C+, C, C-** Evidence of adequate ability to fulfill the intended learning outcomes of the course.
- **D+, D** Evidence of basic familiarity with the subject.
- **F** Little evidence of basic familiarity with the subject.

**Assessment Rubrics for Each Assessment**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Assessment Rubrics for all Assessment Methods</th>
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</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>Excellent ability to analyze and answer the question posed. Answer is exceptionally well organized and the principles, working, results, applications and/or examples put forth are all correct and relevant. Answer reflects an excellent grasp of transportation economics and economic intuition.</td>
</tr>
<tr>
<td>A+, A, A-</td>
<td></td>
</tr>
<tr>
<td>Very Good</td>
<td>Very good ability to analyze and answer the question posed. Answer is very well organized and the principles, working, results, applications and/or examples put forth are largely correct and relevant. Answer reflects a very good grasp of transportation economics and economic intuition.</td>
</tr>
<tr>
<td>B+, B, B-</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>Good ability to analyze and answer the question posed. Answer is reasonably well organized and the principles, working, results, applications and/or examples put forth are partly correct and relevant. Answer reflects a good grasp of transportation economics and economic intuition.</td>
</tr>
<tr>
<td>C+, C, C-</td>
<td></td>
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</tbody>
</table>
Adequate D+, D

Adequate ability to analyze and answer the question posed. Answer is disorganized and the principles, working, results, applications and/or examples put forth are mostly incorrect and irrelevant. Answer reflects an adequate grasp of transportation economics and economic intuition.

Poor F

Poor ability to analyze and answer the question posed. Answer is very disorganized and the principles, working, results, applications and/or examples put forth are largely incorrect and irrelevant. Answer reflects a poor grasp of transportation economics and economic intuition.

REQUIRED/RECOMMENDED READINGS & ONLINE MATERIALS

Complusory (*):

Recommended (+):
+Mohring, Herbert D. (1976), Transportation Economics, Ballinger Press, Cambridge, Massachusetts. (An intermediate-level text that casts transportation within the standard microeconomic framework. This short 175-page book is out of print but permission to copy was obtained from the late Professor Mohring.)

COURSE CONTENT AND TENTATIVE TEACHING SCHEDULE

N.B. Compulsory (*), Recommended (+)

I. INTRODUCTION AND BASIC CONCEPTS
+Mohring's text, Ch. 1. Introduction: Is Transportation Different? Yes & No.
+Mohring’s text, Ch. 2. Competitive Equilibrium


II. TRANSPORT COSTS (INTERNAL AND EXTERNAL)
+Mohring's text, Ch. 3. Congestion and the Optimization of Transportation Activities
+Mohring's text, Ch. 3 Appendix. The Relationships Among Congestion Tolls, Capacity Costs, and the Value of the Marginal Product of Capacity
+Mohring’s text, Ch. 6. The Peak Load and Related Cost Allocation Problems


A. Efficient Pricing, Investment and Compensation - Theory and Practice


B. Fundamental Law of Traffic Congestion, Pigou-Knight Paradox & Downs-Thomson Paradox


III. WHAT LIES BEHIND THE TRANSPORT DEMAND SCHEDULE & THE VALUE OF TIME

+Mohring's text, Ch. 4. Difference in Travel Time Values and the Optimization of Transportation Facilities

+Mohring's text, Ch. 4 Appendix. The Role of Value of Time in the Optimization & Pricing of Transport Services

+Mohring's text, Ch. 5 The Value of Travel Time


IV. THE BENEFITS OF TRANSPORTATION PROJECTS

+Mohring's text, Ch. 8. Measuring the Benefits of Transport System Investment Projects

+Mohring's text, Ch. 9. Consumer’s Surplus versus National Income Change Benefit Measures

+Mohring's text, Ch. 12. Economies and Diseconomies of Scale in Transportation Activities

+Mohring's text, Ch. 10. Transportation Improvements and Land Values


