SAB 3842
TRAFFIC ENGINEERING

Foreword

CHE ROS BIN ISMAIL

OTHMAN BIN CHE PUAN

PRE-CLASS QUIZ

Get a piece of paper and answer this question (5 minutes):

1. NAME:
2. Write the first thing that comes to your mind when you hear/see the word

Traffic Engineering

SYNOPSIS

This is one of the compulsory subjects which will exposed students to the fundamental theory of traffic engineering. The content of traffic engineering subject provides students with the fundamental theory of traffic flow and management.

Major topics include traffic studies, drivers' behavior and interactions, statistics, the fundamental theory of speed–flow–density relationships and applications in road performance analysis, the design of traffic signalized system, and highway geometric design.

LEARNING OUTCOMES

By the end of the course, student should be able to:

1. **demonstrate and describe** knowledge in the fundamental theories of traffic flow.
2. **design, analyze, synthesize and explain** the collections of data for traffic design and analysis purposes
3. **design, evaluate, analyze, synthesize and explain** traffic control systems at intersections and highway geometry layouts for safe and efficient management of traffic movements

COVERAGE

Four main topics:

- Fundamental Theory of Traffic Flow
- Data Collection & Analysis / Statistics
- Traffic Signal Design
- Geometric Design of Roads

ASSESSMENT

- 60% COURSE WORK
- 40% FINAL EXAMINATION

COURSE WORK:

- TEST 1 – 20%
- TEST 2 – 20%
- ASSIGNMENTS – 20%

- ATTENDANCE/PUNCTUALITY AFFECTS THE ASSESSMENT FOR THE ASSIGNMENT

REFERENCES

- Teaching Module SAB3842
- Arahan Teknik (Jalan) by the JKR (REAM)
- Any text books on traffic engineering
- Relevant websites
- UTM e - Learning

- SAB3842 course outline

SPECIFIC REFERENCES

1. Othman Che Puan. Modul Kuliah Kejuruteraan Lalu Lintas. Published for Internal Circulation. (2004).
2. Dorina Astana, Othman Che Puan, Che Ros Ismail, TRAFFIC ENGINEERING NOTES, Published for Internal Circulation. (2011)
3. Garber, N.J., Hoel, L.A., TRAFFIC AND HIGHWAY ENGINEERING,4th Edition, SI Version., Cengage Learning, 2010.
4. Roess, R.P, Prassas, E.S. and McShane, W.R., TRAFFIC ENGINEERING, Pearson/Prentice Hall, 2004.
5. Jabatan Kerja Raya Malaysia, A GUIDE TO THE DESIGN OF TRAFFIC SIGNALS, Arahan Teknik (Jalan) 11/87, 1987.
6. Road Engineering Association of Malaysia, A GUIDE ON GEOMETRIC DESIGN OF ROADS, REAM-GL 2/2002, 2002.
7. Transportation Research Board, HIGHWAY CAPACITY MANUAL, Washington D.C., 2000.
8. Oglesby, C.H., Hicks, R.G., HIGHWAY ENGINEERING, John Wiley & Sons, 1982.
9. Salter, R.J., HIGHWAY TRAFFIC ANALYSIS AND DESIGN, MacMillan, 1983.
10. Kadiyali, L.R., TRAFFIC ENGINEERING AND TRANSPORT PLANNING, Khanna Publishers, 1987.