Request for Calendar Change Form Tracking No: (Senate Secretary's Office use only) Date: Secretary of Senate To From Name(Dean): Faculty Dr. Henri Saliba Engineering Department the change relates to Civil Engineering Contact Person Dr. Henri Saliba

Is the proposed calendar change <u>Undergraduate</u>

Instructions:

- 1. In all cases please complete and attach section 1 and 2
- 2. If the calendar change affect other departments/schools/faculties complete and attach section 3
- 3. If the answer to any of the questions below is yes, explain. Attach separate sheets with reference to the question

| 1. Do the proposed changes affect other departments/ schools/faculties in terms of their calendar change? | Yes ✓ | No |
|---|----------|---------|
| 2. Is a transition plan needed for student in progress? | Yes | No ✓ |
| 3. Are the proposed changes likely to affect student enrollment in your department/school/faculty? | Yes | No |
| 4. Are the proposed changes likely to affect student enrollment in other departments/schools/faculties at Lakehead University? | Yes | No 🔽 |
| 5. Will the proposed changes require additional teaching space and/or teaching staff and/or equipment and/or other resources? | Yes | No 🔽 |
| 6 Will the proposed changes affect existing teaching loads within your department/school/faculty? | Yes | No 🔽 |
| 7. Will the proposed changes increase demand for teaching support services such as the library, computing services and technical staff? | Yes | No 🔽 |
| 8. Will the proposed change require direct or in-kind support from outside the academic unit? | Yes | No 🔽 |
| 9. Do the proposed changes include change in course(s) which is/are required core course(s) for a major? | Yes | No 🔽 |
| 10. Do the proposed changes include a change in course which is service/required course(s) in another program? | Yes | No |

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|--|--|-----------|----------------|
| 11. Do the proposed changes include change in course(s) which is/are open elective available to any student in any program? | | | No ▼ |
| 12. Do the proposed changes include change in course(s) which is/are elective in a major i.e. restricted to students in a major? | | Yes | No ▽ |
| Signatures: | Date approved by faculty of 03/02/2009 | council | |
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| Section 1 | | | |
| Description of the Proposed Calendar Change: | | | |
| Course Description | | | |
| Rationale of the Proposed Calendar Change(s): | | | |
| (Corresponding to Section 2 where required) | | | |
| 1 | | | |
| To reflect current course content | | | |
| | | | |
| 2 | | | |
| To reflect current course content | | | |
| 3 | | | |
| To reflect current course content | | | |
| 4 | | | |
| To reflect current course content and this courourse and an elective for Chemical Engineering of 'Engineering Courses', not electives and the Civil program page at http://calendar.lakeheanextyear/programs/Faculty_of_Engineering/engine | ng - Entry should be moved e course number, lab/lec tin du.ca/draft- | l to list | |
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Section 2

Existing Calendar Entries:

(Page reference based on hard copy or URL based on electronic version of calendar)

Proposed Calendar Entries/Addition/ Deletion
-If only addition, specify page number and
placement in university calendar
-If only deletion, write Deleted

1

http://calendar.lakeheadu.ca/draftnextyear/programs/Faculty_of_Engineering/en gielecrse.html

Engineering 0137 Transportation Systems 3-0: or 3-0

This course discusses the elements and operations of various transportation systems including airports, ports, railways, and mass transit systems; and describes analytical techniques for analyzing the performance of these systems including stochastic queueing theory and simulation. Some case studies are discussed to illustrate the use of these techniques.

Engineering 0137 Transportation Systems 3-0; or 3-0

This course discusses elements and operations of various transportation systems including airports, ports, railways, and mass transit systems. It describes analytical techniques for analyzing the performance of these systems.

2

http://calendar.lakeheadu.ca/draftnextyear/programs/Faculty_of_Engineering/en gielecrse.html

Engineering 0553 Traffic Engineering 3-0; or 3-0

Travel demand forecasting; elements of highway engineering; traffic engineering studies; traffic-flow theory and applications; highway capacity and level of service for highways and signalized intersections; intersection control, including design of signal timing for isolated and coordinated intersections. Traffic systems management along with real-world studies. Application of analytical techniques for traffic management including traffic assignment, shortest-routes algorithms, and deterministic queueing theory. The role of traffic engineering in sustainable transportation systems.

Engineering 0553 Traffic Engineering 3-0; or 3-0

The fundamentals and concepts of Traffic Engineering are discussed. The topics considered in the course include: traffic stream characteristics, traffic flow theory, traffic engineering studies, intersection control, capacity and level of service of freeways and signalized intersections, and the role of traffic engineering in sustainable transportation systems. The course also presents basic concepts and applications in different topics of transportation such as highway safety, and travel demand forecasting.

3

http://calendar.lakeheadu.ca/draftnextyear/programs/Faculty_of_Engineering/en gicrse.html

Engineering 2138 (3138)

Engineering 2138 (3138)

Highway Design 3-3; 0-0

Geometric design of highways, including horizontal and vertical alignments, cross-sections, and intersections with safety considerations. Highway capacity and level of service. Subgrade problems. Design of drainage structures. The design of flexible and rigid pavement.

Highway Design 3-1.5: 0-0

This course is intended as an introduction to the fundamentals and concepts of Highway Design. The geometric design of highways includes: horizontal and vertical alignments, cross section elements, and intersections with safety considerations. The capacity and level of service of two lane and multilane rural highways as well as design of rigid and flexible pavements are also discussed in the course. Drainage structures, interchanges and work zones are also considered.

4

http://calendar.lakeheadu.ca/draftnextyear/programs/Faculty_of_Engineering/en gielecrse.html

Engineering 0136 Environmental Control 2-1.5; or 2-1.5

The physical, chemical and biological basis of water and waste treatment and disposal. Solid waste disposal methods, economics and recycle possibilities. Fundamental aspects of odour and noise control. Environmental impact, regulations and management.

Engineering - **NEW COURSE NUMBER REQUIRED Environmental Control 3-1.5: or 3-1.5

Physical, chemical and biological characteristics of water and wastewater. Water quality standards. Surface water quality modeling. Introduction to water and wastewater treatment system design. Characteristics of solid waste and collection. Environmental impact and regulations.

Prerequisite: Engi 3014-Engineering Chemistry or equivalent.

| Section 3 | | | | | | |
|--|-------------------|----------------------------|------|--|--|--|
| The Faculty(ies) affected by the proposed cale | ndar change | | | | | |
| Chemical Engineering - the new course number for | ENGI 0136 will at | ffect their electives list | ing. | | | |
| I have been consulted regarding the attached calendar change and understand the academic and budgetary implication on my Dept./School/Faculty. | | | | | | |
| I agree to this calendar change proposal | Yes 🗹 | No 🗆 | | | | |
| Name: | | | | | | |
| Dr. Henri Saliba Faculty: | | | | | | |
| Engineering | | | | | | |
| Date: | | | | | | |
| 13/02/2009 Si | gnature of Dear | า | | | | |
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