Lakehead University
Faculty of Engineering

REQUEST REPORT

Request Tracking Number: 2013-ENG-2940
Request Title: Mechanical 2013 Pr. Changes

[DeAcTerm[EffectiveDate]] [DeAc[RequestEffectiveDate]]
Request Status: In Workflow
Request can't be split

Request Contents

Type		Title
1.	New Version of a Degree	Bachelor of Engineering (Mechanical Engineering)

Request History

Workflow Step	Workflow Action	User	Change Made	Comments	Date
Initiator	Approved	Laura Parker	Yes	Submitted to workflow	12/02/2013
Dean and Faculty Council Review Stage	Approved	David Barnett	No	approved	12/02/2013
Senate - Referral Stage	Approved	Senate	No	Approved for referral at the January 13th Senate meeting.	01/14/2014
Senate Undergraduate Studies Committee	Relegated	Margaret Anderson	Yes	Approved at 28Jan2014 SUSC meeting, with addition of request #2013-ENG-2939 course changes, and adjustments to total offering hours. Relegated back to initiator requesting to add new curriculum changes.	01/30/2014
Initiator	Approved	David Barnett	Yes	Approved	01/30/2014
Dean and Faculty Council Review Stage	Approved	David Barnett	No	Approved	01/30/2014
Senate - Referral Stage	Relegated	Senate	No	Relegated back to initiator requesting	01/31/2014

Printed: 02/04/2014

				to add new curriculum changes.	
Initiator	Approved	David Barnett	Yes	approved	01/31/2014
Dean and Faculty Council Review Stage	Approved	David Barnett	No	approved	01/31/2014
Senate - Referral Stage	Relegated	Senate	No	Relegated back to initiator requesting to add new curriculum changes.	02/03/2014

Supporting Documents

File Name	Uploaded By	Upload Date	Size

Supporting Documents Audit Trail

File Name	User	Date	Action

Notes

Date	User	Note

1.	New Version of a Degree	BENGDIP.MECH - Bachelor of Engineering (Mechanical Engineering)

Degree Details

CURRENT VERSION	PROPOSED VERSION
BENGDIP.MECH - Bachelor of Engineering (Mechanical Engineering) **Start Term:** Fall 2004 **End Term:** No Specified End Date	BENGDIP.MECH - Bachelor of Engineering (Mechanical Engineering) **Start Term:** Fall ~~2004~~*2014* **End Term:** No Specified End Date

Required Information

CURRENT VERSION	PROPOSED VERSION
Institution Unit Faculty of Engineering	**Institution Unit** Faculty of Engineering
Degree Type BENG	**Degree Type** BENG
Major MECH	**Major** MECH
Minor	**Minor**
Specialization	**Specialization**
Rationale Add ENGI 0670 to list of Mechanical Engineering Elective Courses, as per Dean's request 29Apr2013. (Should have been included when course was first approved to be calendared.)	**Rationale** ~~Add ENGI 0670 to list of Mechanical Engineering Elective Courses, as per Dean's request 29Apr2013. (Should have been included when course was first approved to be calendared.)~~*Move ENGI 4130, 4438 and 3555 to different terms within the program; distribute student load more evenlyInclude course revisions from request #2013-ENG-2936 (replace ENGI 1110 with new ENGI 1112 in First Year Fall Term and replace ENGI 3558 with new ENGI 3559 in Third Year Winter Term).*
Requirements Four Year program **Students who are judged to have adequate previous drawing background will be given the opportunity to obtain credit for this course by taking a special examination following registration.* ***With the approval of the Department of Mechanical Engineering, Computer Science 1411 may be replaced by another high-level computer*	**Requirements** Four Year program First Year: Fall Term Lec

programming course.	Lab
With the approval of the Mechanical Engineering Department, this course may be replaced by Engineering 2939 - Technology Project (0-0; 3-0).	Engineering </td></tr></tbody></table> ~~1110*~~ *1112 - Introduction to* Engineering </td></tr></tbody></table> ~~Drawing~~
**This course is also offered in the Summer Transition Program and is not required for the Engineering Technology Diploma.	~~1~~
Note: **At this point, all students are required to apply to graduate with an Engineering Technology Diploma in Mechanical Engineering.**	*Design*
	3
	0
MECHANICAL ENGINEERING ELECTIVE COURSES	Engineering 1230 - Statics
Mechanical Engineering students will normally select their engineering elective courses from the following list. Not all elective courses in this list will be offered every year.	3
Engineering 0330 - Fluid System Design Engineering 0450 - Finite Element Method in Mechanical Engineering Engineering 0536 - Heat Exchanger Design and Thermal Radiation	1
Engineering 0537 - Manufacturing Processes and Production Systems	Engineering 1233 - Mechanics of Materials I
Engineering 0538 - Topics in Mechanical Engineering Engineering 0557 - Introduction to Robotics Engineering 0574 - Industrial Noise and Vibration Control	3
Engineering 0575 - Engineering Design Synthesis and Analysis Engineering 0576 - Condition-Monitoring and Fault Diagnostics	1
Engineering 0579 - Computational Methods in Mechanical Engineering Engineering 0656 - Analysis and Application of Composite Materials	Engineering 1553 - Materials and Processes
Engineering 0657 - Energy Conversion Engineering Engineering 0658 - Aerodynamics Engineering 0659 - Signal Processing for Mechanical Systems Engineering 0670 - Combustion and Emissions	3
*For information regarding complementary studies elective courses contact the Department Chair.	3

English 1238 - Technical Writing II 3 0Mathematics 1071+ - Vectors and Matrices

3

2

Mathematics 1210 - Calculus I

3

1

-

19

11

21

8

+Students who have completed Gr. 12U Calculus and Vectors with a minimum grade of 60% are not required to take Mathematics 1071.

Winter Term

Lec

Lab

	Engineering 1111 - Dynamics I
	3
	1
	Engineering 1533 - Mechanics of Materials II
	3
	1.5
	Engineering 1635 - Fluid Mechanics
	3
	1.5
	Engineering 1731 - Mechanical Engineering Drawing
	0
	3
	Computer Science 1411** - Computer Programming I
	3
	1
	Mathematics 1230 - Calculus II

3

1

-
15

9

*~~Students who are judged to have adequate previous drawing background will be given the opportunity to obtain credit for this course by taking a special examination following registration.~~**With the approval of the Department of Mechanical Engineering, Computer Science 1411 may be replaced by another high-level computer programming course.

Second Year: Fall Term

Lec

Lab

Engineering 2032 - Applied Thermodynamics

3

1.5

Engineering 2033 - Heat Transfer

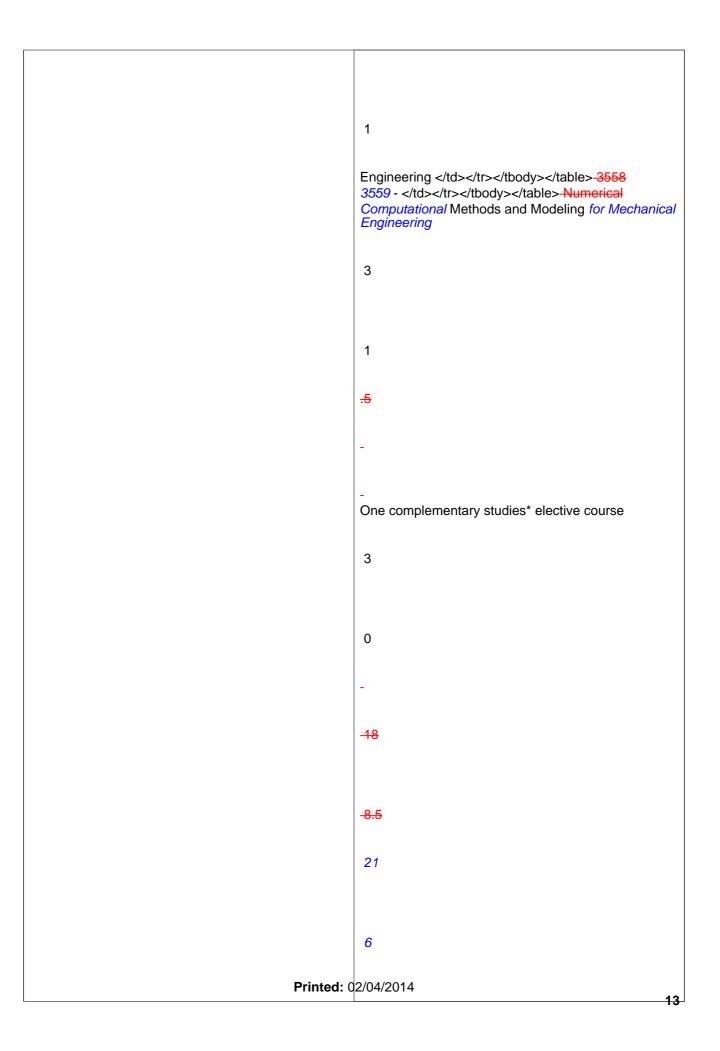|	
	3
	1.5
	Engineering 2111 - Dynamics II
	3
	1
	Engineering 2151* - Electrical and Electronics Technology
	3
	1.5
	Engineering 2336** - Industrial Engineering
	3
	1
	Mathematics 2050 - Applied Analysis I
	3
	1
	18

	7.5
	Second Year: Winter Term
	Lec
	Lab
	Engineering 2332 - Engineering Management and Economics
	3
	0
	Engineering 2333 - Machine Design
	3
	1
	Engineering 2434 - Measurement, Instrumentation and Control
	3
	3
	Engineering 2651* - Heating, Ventilating & Air Conditioning

	3
	0
	Engineering 3014** - Engineering Chemistry
	4
	0Mathematics 2070 - Applied Analysis II
	3
	1
	19
	5

*With the approval of the Mechanical Engineering Department, this course may be replaced by Engineering 2939 - Technology Project (0-0; 3-0).

**This course is also offered in the Summer Transition Program and is not required for the Engineering Technology Diploma.

Note:
At this point, all students are required to apply to graduate with an Engineering Technology Diploma in Mechanical Engineering.

Third Year: Fall Term

	Lec
	Lab
	Engineering 3055 - Intermediate Mechanics of Materials3
	1
	Engineering 3337 - Fluid Dynamics
	3
	1Engineering 4032 - Materials Science 3 1.5Mathematics 3012 - Vector Analysis and Power Series
	3
	1
	One science elective course
	3
	0
	One complementary studies* elective course
	3
	0

18

4.5

Third Year: Winter TermLec

Lab

Engineering 3436 - Engineering Thermodynamics

3

1

Engineering 3451 - Dynamics of Machines

3

1

Engineering 3454 - Applied Heat
Transfer 3 1Engineering </td></tr></tbody></table>~~3555~~
4130 - Mechanical Engineering
</td></tr></tbody></table>~~Laboratory~~

~~0~~

Design I 3

1

Mathematics 3032 - Complex Functions and PDEs

3

1

Engineering </td></tr></tbody></table> ~~3558~~ *3559* - </td></tr></tbody></table> ~~Numerical~~ *Computational* Methods and Modeling *for Mechanical Engineering*

3

1

~~.5~~

~~-~~

~~-~~
One complementary studies* elective course

3

0

~~-~~

~~18~~

~~8.5~~

21

6

<table>
<tr><td></td><td>Fourth Year: Fall Term</td></tr>
</table>

Lec

Lab

Engineering </td></tr></tbody></table>~~4130~~ *4436* - Mechanical </td></tr></tbody></table>-~~Engineering Design I~~

~~3~~

~~1~~

~~Engineering 4436 - Mechanical Vibrations~~ *Vibrations*

3

*1*Engineering 4438 - Mechanical Engineering Design II

3

1

Engineering 4969 - Degree Project

3

	0
	Mathematics 4030 - Probability and Statistics
	3
	0
	Two Engineering elective courses
	6
	2
	One complementary studies* elective course
	3
	0
	21
	4
	Fourth Year: Winter Term
	Lec
	Lab

	Engineering 3336 - Economic Analysis for Engineers
	3
	0
	Engineering </td></tr></tbody></table> ~~4438~~ *3555* - Mechanical Engineering </td></tr></tbody></table> ~~Design II~~ *Laboratory*
	0
	3
	~~1~~
	Engineering 4539 - Professional Practice and Law
	3
	0
	Engineering 4969 - Degree Project
	3
	0
	One Engineering elective course
	3

1

One Science elective course

3

0

One complementary studies* elective course

3

0

-

21

2

18

4

MECHANICAL ENGINEERING ELECTIVE COURSES

Mechanical Engineering students will normally select their engineering elective courses from the following list. Not all elective courses in this list will be offered every year.

	Engineering 0330 - Fluid System Design Engineering 0450 - Finite Element Method in Mechanical Engineering Engineering 0536 - Heat Exchanger Design and Thermal Radiation Engineering 0537 - Manufacturing Processes and Production Systems Engineering 0538 - Topics in Mechanical Engineering Engineering 0557 - Introduction to Robotics Engineering 0574 - Industrial Noise and Vibration Control Engineering 0575 - Engineering Design Synthesis and Analysis Engineering 0576 - Condition-Monitoring and Fault Diagnostics Engineering 0579 - Computational Methods in Mechanical Engineering Engineering 0656 - Analysis and Application of Composite Materials Engineering 0657 - Energy Conversion Engineering Engineering 0658 - Aerodynamics Engineering 0659 - Signal Processing for Mechanical Systems Engineering 0670 - Combustion and Emissions *For information regarding complementary studies elective courses contact the Department Chair.

Budgetary Considerations	
CURRENT VERSION	**PROPOSED VERSION**
Student Enrolment	**Student Enrolment** *No*
Student Enrolment Other Units	**Student Enrolment Other Units** *No*
Additional Resources	**Additional Resources** *No*
Teaching Loads	**Teaching Loads** *No*
TeachingSupport Services	**TeachingSupport Services** *No*
Outside Support	**Outside Support** *No*