

Request for Calendar Change Form

Tracking No:
(Senate Secretary's Office
use only)

Date:

To From	Secretary of Senate Name(Dean):	Faculty
	Andrew P. Dean	SES
	Department the change relates to	
	Department of Mathematical Sciences	
	Contact Person	
	Adam Van Tuyl	

Is the proposed calendar change Undergraduate

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

11. Do the proposed changes include change in course(s) which is/are open elective available to any student in any program?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Signatures:	Date approved by faculty council	
	<input type="text"/>	

Section 1
Description of the Proposed Calendar Change: Redesign of Abstract Algebra courses - Math 2231 and Math 2233
Rationale of the Proposed Calendar Change(s): (Corresponding to Section 2 where required)
<p>1 <input type="text"/></p> <p>Math 2231 (Ring Theory) and Math 2233 (Group Theory) are the two courses in our calendar that provide an introduction to abstract algebra. The current sequence of rings followed by groups is non-standard (most schools do the reverse order). As well, it is more common to have an introduction to both topics in a single course, and then more advanced topics in a second course. The current calendar change is motivated, in part, to reflect current methods of teaching this course. It also allows more flexibility in the choice of advanced topics. We also hope that an introductory course in abstract algebra might be of interest to students from other disciplines.</p>
<p><input type="text"/></p> <p>----- EXPLANATIONS OF QUESTIONS WITH A YES -----</p> <p>2. Students who have taken Math 2231 (Ring Theory), but not Math 2233 (Group Theory), will be required to retake Math 2231 (Introduction to Abstract Algebra) before taking Math 2233 (Topics in Abstract Algebra). They will only have seen half of the material of the new Math 2231, and they will not have enough background to take the new Math 2233. We expect that the set of students who have taken Math 2231, but not Math 2233, to be extremely small, and possibly empty.</p> <p>9. Math 2231 and 2233 are core courses in all the honours programs offered by the Department of Mathematics. These programs are: HBA.Math, HBABED.Math.PJ, HBABED.Math.JI, HBABED.Math.IS, HBSc.Math, HBScBED.Math.PJ, HBScBED.Math.JI, HBScBED.Math.IS. This change would also apply to our four year fall back degrees (BA and BSc four year program).</p>

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

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<http://mycoursecalendar.lakeheadu.ca/pg180.html>

Mathematics 2231 Ring Theory with Applications
Credit Weight: 0.5
Prerequisite(s): Mathematics 1281
Description: The division algorithm for integers, primes and unique factorization, modular arithmetic, rings, isomorphisms and homomorphisms of rings, polynomial rings, congruence of polynomials, ideals and quotient rings. Additional special topics may include: cryptography, lattices and Boolean algebras, and the Chinese remainder theorem.
Offering: 3-0; 0-0

Math 2231 Introduction to Abstract Algebra
Credit Weight: 0.5
Prerequisite(s): Math 1ZZZ***

Description: An introduction to groups, rings, and fields. Topics include properties of integers, subgroups, group homomorphisms, normal subgroups, factor groups, permutation groups, subrings, ring homomorphisms, ideals, and quotient rings.

Offering: 3-0;0-0

[*** We are introducing another calendar change to replace Math 1281 with two half courses. Math 1ZZZ refers to the new course "Logic, Set Theory, and Proofs"]

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<http://mycoursecalendar.lakeheadu.ca/pg180.html>

Mathematics 2233 Group Theory
Credit Weight: 0.5
Prerequisite(s): Mathematics 2231 and 2255
Description: Group theory, fields and field extensions, and Galois theory.
Offering: 0-0; 3-0

Math 2233 Topics in Abstract Algebra
Credit Weight: 0.5
Prerequisite(s): Math 2231

Description: The properties of groups, rings, and fields are developed. Topics include polynomial rings, factorization, unique factorization domains, Euclidean domains, simple groups, Fundamental Theorem of Finite Abelian Groups. Additional special topics may include field extensions, finite fields, geometric constructions, and the classification of groups of small order.

Offering:0-0; 3-0

Section 3

The Faculty(ies) affected by the proposed calendar change

Science and Environmental Studies

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:

Adam Van Tuyl

Faculty:

Dept. of Mathematical Studies

Date:

26/10/2010

Signature of Dean

I agree to this calendar change proposal Yes No

Name:

Andrew P. Dean

Faculty:

Science and Environmental Studies

Date:

Signature of Dean