University of Lethbridge

Faculty of Education

Principles of Curriculum and Instruction for Majors: Mathematics

Education 3601 – Spring 2016
Tuesdays & Thursdays, 1 – 3:50pm
Room: TH 373

Instructor:	Richelle Marynowski	**Secretary:**	Margaret Beintema
Office:	TH 314	**Office:**	TH 321
Email:	Richelle.marynowski@uleth.ca	**Phone:**	(403) 329-2732
Twitter:	@rmarynow		
Phone:	(403) 329-2269 (office) (403) 929-0048 (cell)	***Please phone, text, email or Tweet me to make an appointment!***	

https://moodle.uleth.ca	The course outline, all references and supplementary resources, as well as other related course resources and materials can be accessed on the course Moodle.

Calendar Description:

The relationship of content and teaching strategies in specific subject majors.

Course Description:

The Education 3601 course is intended to introduce students to the methods and strategies that are a part of mathematics instruction. In order for the student to become a professional mathematics teacher, he or she must develop specific skills pertaining to the organization and preparation of curriculum materials and the processes of effective classroom delivery so that student learning and understanding is maximized. The Education 3601 course is taught within the larger framework of Professional Semester II. The specific skills and knowledge that are developed in Education 3601 address concerns relevant to the student teaching practica and later professional careers.

Relevant KSAs:

The strands in this course address the following KSAs for beginning teachers which have been defined by the Government of the Province of Alberta. Students successfully completing Education 3601, Mathematics Curriculum & Instruction will:

KSA#4 — understand the subject discipline they teach.
KSA#5 — know how to respond to student differences by creating multiple paths to learning for individuals and groups of students.

KSA#6 — *understand the purposes of short-, medium-, and long-range planning. They know how to translate curriculum and desired outcomes into reasoned, meaningful, and incrementally progressive learning opportunities for students.*

KSA #7 — *meet student needs for physical, social, cultural and psychological security by creating effective classroom routines and applying management strategies that minimize disruptions to learning.*

KSA#8 — *respect students' human dignity and establish relationships with students characterized by mutual respect, trust, and harmony.*

KSA#9 — *understand that there are many approaches to teaching and learning. They know a broad range of instructional strategies appropriate to their areas of specialization and the subject discipline they teach.*

Resources and Supplementary Resources:

The following required resource is available at the University Bookstore:

Karp, K. & Wasserman, N. (2015). *Mathematics in middle and secondary school: A problem solving approach*. Charlotte, NC: Information Age Publishing.

Additionally the ***current*** Alberta Mathematics K – 12 programs of study are required for this class. This can be found on-line from Alberta Education at:

http://education.alberta.ca/media/8775377/k_to_9_math_pos.pdf
http://education.alberta.ca/media/655889/math10to12.pdf
http://education.alberta.ca/media/645646/math31.pdf

RECOMMENDED RESOURCES
In addition to the course textbook, students may wish to draw from online resources as well as the following journals in completing classroom assignments:

- delta-K (journal of the Mathematics Council of the Alberta Teachers' Association)
- School Science and Mathematics
- Teaching Children Mathematics
- Mathematics Teaching in Middle Schools
- Mathematics Teacher
- Arithmetic Teacher
- Journal for Research in Mathematics Education
- OAME Gazette (journal of the Ontario Association for Mathematics Education)
- http://www.aac.ab.ca/ (Alberta Assessment Consortium)

Additional resources may be posted on the course Moodle or provided in class.

Course Overview:

This course has been structured to model a Project Based Learning (PBL) way of planning and teaching. As such, the culminating assignment in this course will be for students to create a comprehensive unit plan for a unit of study in mathematics. All of the learning experiences in this course will build foundational understanding in order to allow students to successfully complete this project.

Project Alignment Guide			
Tangible Outcomes	**Learning Outcomes**	**Instruction**	**Formative Assessments**
Teach a lesson to classmates using optimal teaching practices (*25%*) **Due: Feb 2/4**	become familiar with a variety of instructional and assessment strategies recommended for mathematics instruction grades K-12	• teaching strategies within a mathematics classroom	• feedback from peers on lesson as taught • feedback on lesson plan • exit slips • class conversations
	gain working knowledge of mathematics education curriculum and resources as prescribed/ recommended for schools in the Province of Alberta	• familiarity with mathematics Program of Studies • curriculum mapping	• curriculum map • class conversations
Manipulatives Presentation (*15%*) **Due: January 26**	increase understanding of the foundations of and approaches to mathematics education	• models of lesson planning	• peer conversation in Moodle
	gain working knowledge of mathematics education curriculum and resources as prescribed/ recommended for schools in the Province of Alberta	• connecting instructional tools with curricular outcomes • Curr Lab presentation	• instructor feedback
Weekly Blog (*20%*) **Due: Every Friday**	gain familiarity with some of the current issues that surround mathematics education	• building connections between theoretical and practical applications	• weekly individual feedback • whole class feedback
A unit of instruction using either a UbD or PBL model (*40%*) **Due: March 4**	become familiar with a variety of instructional and assessment strategies recommended for mathematics instruction grades K-12;	• linking curricular outcomes with effective instructional strategies	• exit slips
	demonstrate knowledge of mathematics learning, curriculum planning, recommended resources, and instructional and assessment strategies through preparation of a unit of instruction to be delivered in practicum.	• modelling unit planning and deconstructing the elements of a unit plan	• peer feedback on unit plan • instructor feedback on developmental phases of unit plan

The final grade for Education 3601 is determined according to the following table, used for all modules in the Faculty of Education.

Students are reminded that they are required to present a cumulative GPA of 2.50 in their teaching major and a cumulative GPA of 2.50 or higher in all courses taken after admission to the Faculty of Education. *University of Lethbridge Calendar: Part 8: Policies and Regulations 6b:1.*

Percentage	Letter Grade	Grade Point
96-100	A+	4.0
90-95	A	4.0
86-89	A-	3.7
81-85	B+	3.3
76-80	B	3.0
71-75	B-	2.7
67-70	C+	2.3
63-66	C	2.0
60-62	C-	1.7
57-59	D+	1.3
53-56	D	1.0
<52	F	0.0

Attendance, Participation and Non-Academic Criteria

You are required to attend all scheduled class meetings and workshops and to participate fully in each planned class activity/discussion. When preparation outside of class is assigned, you are expected to come fully prepared and submit work that reflects a standard of excellence in appearance, form and content. Educators are expected to demonstrate specific non-academic behavior when working with children, parents, classroom assistants, administrators, and other professional personnel and student teachers are asked to demonstrate these same behaviors/characteristics. You are expected to follow the standards for professional conduct as outlined in the Orientation to Teaching Handbook.