Instructor: Vera Sarina  
Email: veramsarina@gmail.com  
Office: room 2045, 519-661-2111, ext. 88679  
Office Hours: By appointment.

Calendar Copy: A focus on making mathematics engaging and meaningful for learners. Participants explore ways to develop connected knowledge, consistent beliefs, and positive attitudes towards mathematics, and are introduced to research on the nature, role, and development of teachers' knowledge of mathematics. (.5 credit)

Course Description:
The goal of the course is to develop pedagogical content knowledge for teaching intermediate/senior mathematics by putting emphasis on the conceptual content of the mathematics curriculum. The intermediate/senior mathematics concepts will be explored and presented in the historical context of their development, in the context of connections across the topics and different strands in mathematics. The so called math “rules” such as “Minus times minus results in a plus, The reason for this, we needn't discuss.” or “we cannot divide by zero” will be demystified and derived from previously explored math concepts. Teaching strategies will be developed based on conceptual understanding of the mathematics curriculum topics and the needs of intermediate/senior students.

Learning Outcomes:
The underlying purpose of the course is to extend the skills and knowledge for teaching mathematics in the intermediate/senior divisions. The course will provide pre-service teacher candidates with the intermediate/senior math specific curriculum content, and instructional strategies. As a result of participating in this course, teacher candidates will develop the confidence, resources, and background
knowledge necessary to design and implement mathematics programs and practices in the intermediate/senior divisions.

**Course Content:**
“Effective teaching of mathematics requires that the teacher understand the mathematical concepts, procedures, and processes that students need to learn, and use a variety of instructional strategies to support meaningful learning.” (The Ontario Curriculum, Mathematics. 2007)

This course provides an overview of the key mathematical concepts necessary for successful teaching intermediate/senior mathematics in Ontario. The overview has a strong focus on the procedures and processes that best enable students to understand mathematical concepts and learn related skills. The curriculum expectations and their interconnections are explored in depth.

**Course Materials:**
There are no required materials for this course. You will be provided with electronic/paper documents and links to various websites instead. You may wish to obtain some grade 7, 8, 9, 10, 11 & 12 textbooks (e.g. Mathematics 7,8,9, 10, Functions 11, Advanced Functions, Data Management and Probability, Vectors and Calculus) to help you with the math curriculum content - but this is not required. If you cannot obtain them from a secondary school, many public libraries have copies of the textbooks. You usually cannot sign newer editions out, but you can use them in the building. Older textbooks, despite being based on the old curriculum, are also very helpful.

**Assignments and Other Course Requirements:**

- **Class Work/Participation (On-going)** .......................................................... 25%
- **6 Problem Sets/Math Tasks (6x10%)** ............................................................... 60%
- **Online Tasks/Discussions (On-going)** ................................................................. 15%

All assignments of this course will be explained and discussed in class but may also be found in Assignment Outlines and Rubrics in the Syllabus section in OWL.

**Teacher Candidate Expectations**

Participants in the course are expected to work cooperatively by sharing experiences, knowledge, ideas and resources and by providing support to each other during in-class and online conferences. In addition, each participant is expected to:

- participate in all class lessons & tasks throughout the course
- complete all course assignments, meeting the criteria outlined, before or on the deadline
- complete all assignments independently unless otherwise indicated
- be excited about mathematics 😊
Policy Statements:

Accessibility: The University of Western Ontario is committed to recognizing the dignity and independence of all students and seeks to ensure that persons with disabilities have genuine, open and unhindered access to academic services. Please contact the course instructor if you require course materials in an alternative format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for information about requesting academic accommodation, or go to the following website: http://www.edu.uwo.ca/teacher-education/docs/policies/Accessibility_Western.pdf

Attendance: The B.Ed. program is an intense and demanding programs of professional preparation. You are expected to demonstrate high levels of both academic and professional integrity. Such integrity is demonstrated in part by your commitment to and attendance at all classes, workshops, tutorials, and practicum activities. Read more about the Faculty’s attendance policy online at http://www.edu.uwo.ca/teacher-education/docs/Attendance%20Policy%202016.pdf.

Excused Absences: If you are ill, require compassionate leave, or must miss classes for religious observance, your absence is excused; you will not be penalized but you are responsible for work missed.

Unexcused Absences: Any absence that is not a result of illness, bereavement, or religious observance is an unexcused absence. Three unexcused absences will result in you being referred to the Associate Dean and placed on academic probation. Any further unexcused absence will result in failure of the course and withdrawal from the program.

Language Proficiency: In accordance with regulations established by the Senate of the University, you must demonstrate the ability to write clearly and correctly. Work which lacks proficiency in the language of instruction is unacceptable for academic credit, and will either be failed or, at the discretion of the instructor, returned to you for revision to an acceptable level.

Late Penalties: Normally, the only acceptable reasons for late or missed assignments are illness (which you must report to the Teacher Education Office) or extreme compassionate circumstances. Unexcused late assignments will be penalized at a rate of 3% per day, and will not be accepted more than 7 days after the due date unless prior arrangements have been made with the instructor.

Academic Offences: Scholastic offences are taken very seriously in this professional Faculty. You are, after all, going to be a teacher. Read about what constitutes a Scholastic Offence at the following Web site: http://www.edu.uwo.ca/teacher-education/docs/policies/WEB_ScholasticDiscipline.pdf

EDUC 5236 Mathematics for Teachers
Plagiarism: Plagiarism means presenting someone else’s **words** or **ideas** as your own. The concept applies to all assignments, including lesson and unit plans, laboratory reports, diagrams, and computer projects. For further information, consult your instructors, the Associate Dean’s Office, and current style manuals. *Advice about plagiarism and how to avoid it can also be found here:*

Plagiarism-Checking:

a. All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com.

b. Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Use of Laptops & Notebooks in Class: As a courtesy to members of the class, please put your cell phone on ‘vibrate’ or turn it off during class. Laptops and other electronic devices may be used in a professional manner to facilitate your activities in the course, but out of courtesy to colleagues and the instructor, please do not engage in personal networking and non-course communication during class time – save it for before or after class, or for the break.

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**SUPPORT SERVICES**

A variety of support services are available at Western.

If you need advice or assistance, do not hesitate to get in touch with any of these services.

**FINANCIAL ASSISTANCE:** Registrarial Services (http://www.registrar.uwo.ca)

**WRITING SUPPORT:** Student Development Centre (http://www.sdc.uwo.ca/)

**LEARNING SKILLS SUPPORT:** Student Development Centre (http://www.sdc.uwo.ca/)

**INTERNATIONAL STUDENTS:** Student Development Centre (http://www.sdc.uwo.ca/)

**ABORIGINAL STUDENTS:** Student Development Centre (http://www.sdc.uwo.ca/)

**STUDENTS with DISABILITIES:** Student Development Centre (http://www.sdc.uwo.ca/)

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SOCIAL & CULTURAL ISSUES: University Students’ Council (http://westernusc.ca/services/).

EMOTIONAL or MENTAL DISTRESS: Students who are in emotional or mental distress should refer to Mental Health @ Western http://www.uwo.ca/uwocom/mentalhealth/ for a complete list of options about how to obtain help.

B.Ed./Dip.Ed. PROGRAM ISSUES: zuber@uwo.ca, Teacher Education Office, room 1131

NEED HELP but not sure what to do: zuber@uwo.ca, Teacher Education Office, room 1131