



## Online Course and Assessment Outline

| <b>Dates</b>   | <b>Modules and Focus</b>  | <b>Online Discussions:<br/>See Discussion Board for Assignments</b>                | <b>Assignment For:<br/>Assessment Of Learning</b>   |
|--|---|--|---|
| <b>On-Line</b><br>Feb 1 - 28<br><br><b>Face to Face</b><br>Jan. 17 & 18      | <b>Module 1</b><br><br><b>Learning Theory and Evolving Practices in Mathematics</b> | <b>Unit 1</b><br>Developing a Professional Community of Learners                   | <b>Due: March 2</b><br>Developing a Vision of Effective Mathematics Learning and Teaching (Initial Draft) |
|  |   | <b>Unit 2</b><br>Beliefs   |   |
|  |   | <b>Unit 3</b><br>Understanding Key Messages  |   |
|  |   | <b>Unit 4</b><br>Mathematics as Problem Solving                                    |   |
|  | <b>Module 2</b><br><b>Mathematical Process and Content</b>                          | <b>Unit 1</b><br>Mathematics Content Knowledge for Teaching                        |   |
| <b>On-Line</b><br>March 1- 30<br><br><b>Face to Face</b><br>Feb 28 & March 1 | <b>Module 2 con't</b><br><br>(26-28 hours)  | <b>Unit 2</b><br>Understanding the Curriculum:Process Expectations                 | <b>Due: March 30</b><br>Community of Learners Online - Self and Instructor Assessment                     |
|  |   | <b>Unit 3</b><br>Deconstructing Overall and Specific Expectations                  |   |
|  |   | <b>Unit 4</b><br>Mathematics Strands   |   |
| <b>On-Line</b><br>March 30 - April 13  | <b>Module 3</b><br><b>Developing a Mathematics Learning Environment</b>             | <b>Unit 1</b><br>Understanding the role of Community<br><b>Unit 2</b><br>Math Talk | <b>Due: April 16</b><br>Mathematical Representations  |



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|--|--|--|---|
| <i>On-Line</i><br>April 13 - 27<br><br><i>Face to Face</i><br>April 12 & 13  | <b>Module 4<br/>Assessment<br/>and Planning</b>                        | <b>Unit 1</b><br>Evolving Assessment Practices                   |   |
|  |  | <b>Unit 2</b><br>Uncovering Student Thinking                     |   |
|  |  | <b>Unit 3</b><br>Responding to Student thinking through Planning |   |
| <i>On-Line</i><br>April 27- May 11<br><br><i>Face to Face</i><br>May 15 & 16 | <b>Module 5<br/>Involving<br/>Stakeholders<br/>and<br/>Reflections</b> | <b>Unit 1</b><br>Engaging with the Community                     | <b>Due: May 15</b><br>Inquiry Presentation<br><b>Due: May 18</b><br>Community of Learners - <i>Both Face-to-Face and OnLine</i> - Self Assessment<br><b>Due: May 18</b><br>Developing a Vision of Effective Mathematics Learning and Teaching (Final Product) |
|  |  | <b>Unit 2</b><br>Sharing and Reflecting on our Learning          |   |

**The evaluation process will consist of the following components:**

| Evaluation Component   | Percentage |
|--|------------|
| 1. Developing a Vision of Effective Mathematics Learning and Teaching    | 10         |
| 2. Mathematical Representations  | 20         |
| 3. Professional Inquiry  | 30         |
| 4. Onsite Community of Learners  | 10         |
| 5. Online Community of Learners (15% - Mid Course & 15% - End of Course) | 30         |
| <b>Total</b>   | <b>100</b> |

### **1. Developing a Vision of Effective Mathematics Learning and Teaching 10%**

This assignment will allow participants to monitor and reflect deeply upon their vision of effective mathematics learning and teaching. They will compare their own beliefs and practices with those outlined in international research and in Ontario Ministry of Education publications. Participants will create a visual/digital representation of their understanding and beliefs at the beginning of the course, including wonderings and question. Participants will revise and refine this representation at the midpoint and end of the course. A summative reflection will be submitted synthesizing their evolving understanding of effective mathematics learning and teaching.

### **2. Mathematical Representations 20%**

This assignment will support participants in developing a deeper understanding of the role of incorporating and connecting a range of representations (e.g. concrete, symbolic, visualization), to support student understanding. Participants will engage in professional reading to understand representations; implement a set of lessons intentionally incorporating and connecting representations; and monitor and reflect upon the impact on student understanding.

### **3. Professional Inquiry 30%**

Participants will select an inquiry question designed to meet their personal learning goals and create innovation and change in mathematics learning and teaching. The inquiry will follow the *plan, act, observe/assess, and reflect* inquiry cycle process. Throughout the inquiry, participants will complete ongoing reflections and the instructor will provide ongoing feedback and support for each course participant. This inquiry is designed to support participants in developing a deeper understanding of the inquiry process, the content of their inquiry question, and a reflective stance. A written report will be submitted and each participant will share their learning from the inquiry through an interactive presentation with the group,

### **4. Onsite Engagement in Community of Learners 10%**

The in-class component of the course will emulate a 'Collaborative Community of Learners', which acknowledges that all participants learn with and from each other. A learner stance will be demonstrated through reflective practice, which includes listening and questioning to understand, and offering thoughts, insights, and wonderings to be considered by the group. A balance of small group and large group learning opportunities will be incorporated to facilitate learning. The expectation is that this Collaborative Learning Community will build knowledge through inquiry and represent a collective effort to enhance student learning, and therefore, allow for personal, professional growth.



### **5. Online Engagement in Community of Learners 30%**

The online engagement in community of learners is an extension of the onsite face to face engagement. It will build on thinking and learning developed in the class and provide opportunities for additional collaborative research and learning, as well as sharing of insights, reflecting up others' thinking, and providing feedback. Essential to the development of this community is attention to the quantity, quality, and timeliness of engagement. *Participants will self-assess twice during the course; the instructor will also assess twice during the course and provide feedback (15% mid course, 15% end of course).*

### **Course Calendar and Modules of Instruction**

This course includes fifty six hours of in-class sessions, forty four hours of online sessions and twenty five hours of course reading, assignments and research.