

<b>Course ID:</b>	<b>Course Title:</b>	<b>Spring Module 2018</b>
<b>CDPD 400</b>	<b>Strategizing for Numeracy in the Elementary Classroom</b>	<b>Prerequisite: n/a</b>
		<b>Credits: 3</b>

Class Information		Instructor Information		Important Dates	
<b>Days:</b>	Mon-Fri	<b>Instructor:</b>	<b>Dr. Nicki Rehn</b>	<b>First day of classes:</b>	Mon., April 30
<b>Time:</b>	8:00 – 11:45 am	<b>Email:</b>	nrehn@ambrose.edu	<b>Last day to add/drop, or change to audit:</b>	Tue., May 1
<b>Room:</b>	RE 132	<b>Phone:</b>	(403) 410-2000 ext. 6927	<b>Last day to request revised exam:</b>	n/a
<b>Lab/Tutorial:</b>		<b>Office:</b>		<b>Last day to withdraw from course:</b>	
		<b>Office Hours:</b>	As needed by request	<b>Last day to apply for coursework extension:</b>	
<b>Final Exam:</b>	Fri., May 11			<b>Last day of classes:</b>	Fri., May 11

### Course Description

An examination of numeracy pedagogy that connects research to present day instructional practices. Students will build an understanding of how children in K-6 classrooms engage with quantitative and spatial information to develop conceptual understanding, mathematical reasoning, procedural fluency and problem solving. Topics include visible numeracy, practices that promote number conservation, problem-solving skills, mathematical relationships, geometrical thinking, differentiation and assessment.

### Expected Learning Outcomes

At the end of this course, students will be able to:

- Confidently design and teach elementary math lessons.
- Explain the scope and sequence of the Alberta Math Program of Study.
- Design math tasks and assessments that develop various mathematical actions at different grade levels from K-6 – conceptual understanding, procedural fluency, reasoning, visualization, problem solving.
- Analyze and choose resources to support math instruction.
- Utilize games to practice math skills.
- Create and nurture a classroom culture that embraces math with a growth mindset.

### Textbooks

**Bowler, Jo. (2016). Mathematical Mindsets: Understanding Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching. San Francisco: Josef-Bass.**

**Course Schedule:**

<b>Day</b>	<b>Book Study</b>	<b>Key Content</b>	<b>Key Activities</b>
Monday 30 April		Course outline, expectations, making groups Introduction to math Finding patterns	Journal writing Goal setting
Tuesday 1 May	Chapter 1 & 2	Teaching K-2 Math. Early numeracy Designing math centers Math and literature	Case study videos
Wednesday 2 May	Chapter 3 & 4	Teaching K-2 Math. Early numeracy Designing math centers Math and literature	
Thursday 3 May	Chapter 5	Teaching the middle years (Grade 3-4) Number talks	Explain a concept (first attempt)
Friday 4 May	Chapter 6	Teaching the middle years (Grade 3-4) Number talks	Playing games
Monday 7 May			Classroom visit - Windsong
Tuesday 8 May	Chapter 7	Teaching upper elementary (Grade 5-7) Math projects	Explain a concept (second attempt)
Wednesday 9 May	Chapter 8 & 9	Teaching upper elementary (Grade 5-7) Math projects	
Thursday 10 May		Assessment across the grades	Time to work on visual diagram
Friday 11 May		Summary and reflection Remaining questions	Submit visual diagram Math test Course evaluation

**Requirements:**

**1. Reflective Journal (40%)**

Students will be expected to keep daily, reflective journal documenting their thinking and understanding of topics in class, class discussions, readings from the text, lived experiences, questions and wonderings as they arise. The journey is to help individuals reflectively think and be involved within the process of actively repositioning mental constructs, by interacting with the topics, ideas, conversations and work they are doing within their teaching practices.

You will submit the first half of your journal by midnight Friday 4<sup>th</sup> May. The final journal should be submitted by midnight Sunday 13<sup>th</sup> May. You should email me your journal as a word document. If you make visual or written notes, take a picture and insert them into your document. The first submission will be worth 10% and the final submission will be worth 30%.

What to include in a reflective journal?

- Describe any a-ha moments or insights you had today? What was made more clear.
- Document anything that you absolutely don't want to forget (resources, quotes, ideas, content...etc).
- Visually diagram what connections you made?
- What was bothersome or confusing today?
- How did your previous experiences and beliefs grow, become challenged or strengthened, completely changed today?
- What new questions were raised?
- What was the most interesting thing discussed in your book study group?
- Any connections you can make from what you learned to what you have seen in practice in Alberta schools.
- To what degree did you move toward achieving your goals for this course today?
- Reflect on how your learning today relates to your future mathematical teaching practices?

<b>Concerns (below 16)</b> <i>Areas that need work</i>	<b>Criteria</b> <i>Standards for this Performance</i>	<b>Meeting/Exemplary (16-20)</b> <i>Evidence of Exceeding Standards</i>
	<b>Criteria #1 – Competence</b> Entries are discussed with insights personally, related to class, other group discussions, texts or articles	
	<b>Criteria #2 – Commitment</b> Entries ask and explore questions beyond class discussions; future implications	
	<b>Criteria #3 – Care</b> Entries are done with appropriate citation of text discussed; clearly written	

## 2. Visual Diagram of entire grade level of math (30%)

You will summarize the entire curriculum of a grade level of your choice onto a single piece of paper as a visual diagram. Your diagram should capture everything you need to teach the students over a year, the approximate amount of time you will spend on each topic area, the key instructional strategies and assessments you will use, and the key resources from which you will draw. This will be submitted on the final day.

If you are unsure of how to do a visual diagram, do some internet research using the key words: *visual notetaking, bullet journaling, sketch notes, stick-figure drawing...etc.*

<b>Concerns (below 24)</b> <i>Areas that need work</i>	<b>Criteria</b> <i>Standards for this Performance</i>	<b>Meeting/Exemplary (24-30)</b> <i>Evidence of Exceeding Standards</i>
	<b>Criteria #1 – Competence (weighted double)</b> Content presented shows a strong and comprehensive understanding of the grade level requirements. It is detailed, researched, and shows connections.	
	<b>Criteria #2 – Care</b> Visually appealing, well-designed, attention given to small details.	

## 3. Explain a concept (20%)

This assignment will include four parts:

- I. Teach a math concept that is challenging for you to two peers. Timing should be 5-10 minutes. You will record you teaching on your own device.
- II. Receive feedback from your peers and watch your lesson.
- III. Re-teach the concept and incorporate feedback to make it better.
- IV. Submit a one-page written report that includes:
  - An overview of what concept you taught.
  - A summary of what went well and what didn't in the first attempt (based on your own reflections, watching the play-back, and the feedback given).
  - What you learned from watching your peers' teaching.
  - What you tried to change in order to improve the teaching in the second attempt.
  - A summary of what went well in the second attempt and what you learned about yourself in this task.

Please make sure your report is formatted and written professionally (i.e. name, title, 1.5-spacing, font size 11, written clearly and correctly).

	Exemplary/Meeting	Almost	Needs improvement
Overview of concept	4	3	2
Summary of first attempt	5	4	3
Lessons from peers' teaching	3	2	1
Final reflections	5	4	3
Submitted professionally	3	2	1

#### 4. Math test (10%)

You will be given a math test on the final day. It will include questions and problems at a grade 6/7 level. It will be a combination of multiple choice, short answer, and problem solving. You will have an hour to complete the test.

#### Attendance:

- Students are expected to inform the instructor in advance if they will be late or miss class.
- Missing class or portions of class, will be the responsibility of the learner to learn all of the information that was presented while they were gone. You will be responsible for checking in with the instructor to determine appropriate make-up work.

#### Grade Summary:

The available letters for course grades are as follows:

Percentage	Letter Grade	Grade Point Weight	Description
96-100	A+	4.0	
91-95	A	4.0	Excellent
86-90	A-	3.7	
82-85	B+	3.3	
75-81	B	3.0	Good
72-74	B-	2.7	
68-71	C+	2.3	
63-67	C	2.0	Satisfactory
60-62	C-	1.7	
56-59	D+	1.3	
50-55	D	1.0	Minimal Pass
0-49	F		Failure

## Ambrose University Academic Policies:

### Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions. If students do not wish to use their Ambrose accounts, they will need to forward all messages from the Ambrose account to another personal account.

### Registration

During the **Registration Revision Period** students may enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty or record. Courses should be added or dropped on the student portal by the deadline date; please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a "Request to Withdraw from a Course" form or by sending an email to the Registrar's Office by the **Withdrawal Deadline**; please consult the List of Important Dates on the my.ambrose.edu website. Students will not receive a tuition refund for courses from which they withdraw after the Registration Revision period. A grade of "W" will appear on their transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

### Exam Scheduling

Students, who find a conflict in their exam schedule must submit a Revised Examination Request form to the Registrar's Office by the deadline date; please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) the student has three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

### Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to use electronics for purposes unrelated to the course during a class session. Turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. Some professors will not allow the use of any electronic devices in class. The professor has the right to disallow the student to use a

laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

### Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at [privacy@ambrose.edu](mailto:privacy@ambrose.edu).

### Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a course Extension from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the deadline date; please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

### Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Registrar's Office in writing and providing the basis for appeal within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal. If the appeal is sustained, the fee will be refunded.

### Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

**Note:** Students are strongly advised to retain this syllabus for their records.