

MA 613 – RESEARCH ON THE LEARNING OF MATHEMATICS

***READ THIS SYLLABUS CAREFULLY.
YOU ARE RESPONSIBLE FOR KNOWING THIS INFORMATION!***

Prerequisite: Admission to the Sixth-Year Program in Mathematics Education Leadership and STAT 453 or permission of department chair.

Course Description: Research on the Learning of Mathematics Fall. Exploration of theorists' perspectives on learning. Analysis of researchers' conceptual frameworks and methodology. Issues include learning of algorithms, building conceptual understanding, the use of concrete materials, and the role of group work, reflection, writing, discovery, dialogue, and listening.

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Office Hours: Monday: 2:00pm – 4:30pm
Wednesday: 9:00am – 11:00am
Thursday: 2:00pm – 3:00pm (9/2, 9/16, 9/30, 10/12, 10/28, 11/11, 11/18, 12/2)
and by appointment

Class Meeting Times: M 7:00 pm – 9:40 pm Maria Sanford 105
Attendance will be taken

Course Requirements: Attend class and participate in class discussions regularly, watch the movie October Sky, visit the Escher exhibit at the New Britain Museum of American Art, complete readings, build an annotated bibliography with at least 9 components for at least 12 readings, and complete three projects.

- a. Readings will be on electronic reserve, on reserve in the CCSU library, on hard copy distributed in class or accessible from electronic databases.
- b. The October Sky DVD will be made available for students to view, or students might purchase it.
- c. The visit to the New Britain Museum of American Art should happen before November 14th, the last day of the Escher exhibit. Admission is free for CCSU students.
- d. Components of the annotated bibliography (see handout) are to be submitted on a regular basis. The first three must be submitted by October 4th, the next three must be submitted by November 1st, and the last three by December 6th. Some components of the annotated bibliography may refer to only one reading and some may refer to several readings. At least three components must refer to more than one reading. Each annotated bibliography should be about one page long.

- e. Writing must be of graduate school quality. Students who do not submit work of that level will have the opportunity to rewrite the assignment(s).
- f. Works cited should normally be original works and come from a variety of sources such as books, articles in professional publications, or documents. They should be recent publications whenever possible. If internet sources are used, they should reflect the same scholarly quality. Use the library!
- g. The three projects (see handouts) are on:
 - a. Learning – due Monday, September 20th
 - b. Interviewing – due Monday, November 1st
 - c. Final (TBA) - due Monday, December 13th

Evaluation:

| | |
|------------------------------------|-----|
| a. Class attendance and discussion | 20% |
| b. Annotated bibliography | 20% |
| c. Personal learning project | 20% |
| d. Student interview project | 20% |
| e. Final project | 20% |

University Policies:

- a. In stead of a final examination, the final project will be due and presented on the day the final examination is scheduled, Monday, December 13th.
- b. If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible. My telephone number and office hours are given above.
- c. In the event of a weather or other emergency curtailment or cancellation of classes, listen to WTIC (1080 AM), call 860-832-3333 for any messages, or visit the CCSU website.
- d. In the event that I am not in the classroom when class is scheduled to begin, you should wait a full 10 minutes before leaving the classroom.
- e. The last day to withdraw from a course and receive the grade of “W” is Monday, October 25th. Approvals for withdrawal prior to this date are not required; however, it is strongly recommended that you consult with your academic advisor prior to deciding to withdraw. Cessation of attendance, notice to the instructor, or telephone calls to the Enrollment Center are not considered official notice of your intention to drop the course. After October 25th withdrawals are allowed only under extenuating circumstances and require approval of the course instructor, department chair and dean of the School of Arts and Sciences.
- f. You are responsible for understanding and abiding by the University’s policy on academic integrity. Information on the policy may be found at http://www.ccsu.edu/Academic_Integrity/. This policy is rigorously enforced by the Depart of Mathematical Sciences.

Topics for Math 613

- a. Introduction to course with videos
- b. Brain based learning
- c. Reports on learning project
- d. Gender issues
- e. Language and culture issues - October Sky
- f. Disabilities and giftedness
- g. Rational numbers and rational expressions
- h. Geometry – Escher/NBMAA
- i. Reports on interviews
- j. Writing to learn math
- k. Reflection in learning math
- l. Assessment
- m. Misconceptions
- n. Final project presentations