

CrCrTh 650, Mathematical Thinking, Fall 2017
Students' Synthetic Statements, from the Final Course Evaluation

The synthetic statement is the fourth question on formal course evaluations for the Critical and Creative Thinking Graduate Program. See questions 1-3 listed on <http://bit.ly/CCTEval>

Question 4: "Building on your comments from Questions 1-3 in the formal evaluation, compose a synthetic statement (1 or 2 paragraphs) evaluating this course. (Imagine readers who might not be willing to wade through all the answers to Qs 1-3, but are willing to read more than simply the numerical averages of standard course evaluations.) Please make comments that help the instructor develop the course in the future and that enable some third party appreciate the course's strengths and weaknesses. Among other things you might comment on the overall content and progression of classes, the session activities, and the use of mentors to support the learning in the course."

Below are the Synthetic Statements from the respondents who gave permission for these comments to be shared on the web.

- The course is a great way to extend your thinking practices into a realm that can be anxiety provoking for many people. It's simultaneously challenging and reassuring. Ultimately, the conclusion you'll reach is simply that the principles of good thinking can carry you into all kinds of unexpected areas.
- There was never a class meeting or project compilation that I did not find interesting. This is coming from a person who has historically never been interested in math, say for its ability to assist scientific exploration. The clear objectives and comfortability I felt in expressing my thoughts generated a course I would recommend to all students in the CCT program. Mathematical thinking envelops innumerable arenas of life- it is just your job to figure out what interests you most! The support from mentors (required office hours, immediate email response, overall flexibility and understanding) was greatly appreciated. Course lessons, while often brief, were able to highlight main principles of mathematical thinking, and were usually open-ended enough that personal interpretations to life situations were easily possible for all students.
- The most surprising thing about the mathematical thinking course for me was that you don't really need to do much math to be successful in it. In fact, the course may seem at first to be a bit theoretical or even philosophical in nature. I appreciated that by the completion of the course, I came to see mathematical thinking as a lens through which to view problems, rather than being intimidated by the idea of a course that might need me to get excited about algebra or computations. A strength of the course is that it is project-based and many weeks are given to develop ideas, get peer feedback, and engage in material. Layered over these major projects were weekly, in-class activities as well as blogging opportunities to share ideas and learnings in smaller pieces. There is great diversity of topics and I found myself seeing the content in many different facets of my day-to-day life. Because the course does spend time exploring ideas (and sometimes getting philosophical), the weekly seminar discussions can sometimes be meandering or seem unclear. I found it helpful to connect with other students and realize I wasn't always the only one "lost"! Carving out office hours also was helpful to put my mind at ease about this meandering path of learning. I would recommend Mathematical Thinking to other students for sure, and have enjoyed my experience - I'll continue to think about the ideas presented in the months (and maybe years) to come.

- This course allowed students to hypothesize and research their own ideas of what mathematical thinking is. Because of this, many topics were explored, leading to long discussions that could have continued for hours. This course was extremely stimulating in that respect. You would come in with a certain topic that you researched and leave wanting to learn about something completely different. I really appreciated all the conversations we had regarding diversity in math and science classrooms. I am not sure if this was the intention, but sometimes that class activities felt as though they took away from the discussion instead of adding to it. It was a bit challenging to focus on the activities after having such an engaging conversation with the class. An improvement would be to have maybe a 10 - 20 minute lecture explaining the concepts of the activity before diving right in. The later activities had this aspect, and I found it much easier to understand and complete the task.
- Mathematical thinking presents the concept in a way that challenges you to define it in your context but also to place your context up against the view of your classmates. The structure of the class provides you the opportunity to complete 3 cycles of research and reporting that all build on each other. The outcome of the class is a new perspective on mathematical thinking in your life and work with a view towards how you will apply that perspective in the future.
- This course belies any notion of what a prospective student thinks "mathematical thinking" is. Perhaps it is the contrast between the usual cognitive baggage of math and the subjective and exploratory shape the course takes that makes the experience so salient. This course allows the student to explore mathematical thinking on their own terms, from equality in STEM fields to video game learning to the psychology of analytic thinking...a lot of discovery is possible in this course. Not only can students learn through their own exploration, but the peer sharing and feedback allow students to learn from each others' discoveries as well. The instructor feedback is also very constructive, helping students better explore their inquiry and be more competent academics in general. The blog associated with the course allows for a fun way to learn about what classmates are doing, though it can become so vast that engaging with it begins to feel tedious by the end of the course. Overall, this was one of the best course experiences I've had in the CCT program.