

**The University of Texas at El Paso**  
**College of Science - Department of Mathematical Sciences**

**MATH4370/5370 – Fostering Geometric Thinking: Concept Study using Tangram**

**Official Course Description:**

Course focuses on what teachers can learn from mathematics education research and how to bridge research and everyday mathematics classroom. Students develop a conceptual discourse on research related to teaching and learning, curriculum, and assessment in school mathematics.

**Course Objectives:**

- Strengthen the process for planning concept study (e.g., identifying a concept study problem, conducting literature review, designing concept study, collecting and analyzing data)
- Conduct/ replicate concept study in an area related to teaching and learning school mathematics
- Write a report for the conducted concept study
- Present and defend your concept study outcomes

**Course Meeting and Drop Dates:**

When: W 5:00 pm - 8:00 pm

Where: EDU601 + on-line

Course Drop: March 30, 2017

**Instructor:**

Dr. Mourat Tchoshanov	Professor of Mathematics Education
Office:	EDU612
Office Hours:	75 min before and after the class
Phone:	747-7668
E-mail:	<a href="mailto:mouratt@utep.edu">mouratt@utep.edu</a>
Homepage:	<a href="http://mourat.utep.edu/">http://mourat.utep.edu/</a>

**Schedule of Classes:**

The class will be structured as hybrid semi-independent study course with the following structure:

- Two first and two last classes of the semester will be face-to-face meetings
- Last two classes will be devoted to concept study proposal presentation and defense
- There might be other face-to-face sessions/ conferences with individual or groups of students if needed
- The rest of the class sessions will be an individual study component when you conduct/ replicate concept study in your classroom and work on your proposal.

**Grades** determined by the usual cutoffs (90-80-70-60), based on two parts:

- A. Concept Study Report (70%) – due May 3, 2017; each student will conduct/ replicate a concept study in mathematics classroom and submit a paper (15-18 pages). Student work and data form with collected evidence will be attached to the report. Your report must be written in APA style (American Psychological Association, 5<sup>th</sup> edition) with appropriate and complete citations, search [www.apa.org](http://www.apa.org).
- B. Concept Study Proposal Presentation (30%) - Each student/ group of students will give a 15-20 min Power Point presentation on the conducted concept study (date for the presentation – May 3, 2017).

**Useful Links:**

- Search engine for articles in education: <http://www.eric.ed.gov/>
- Search engine for papers in certain areas of mathematics education: <http://betterfilecabinet.com/cgi-bin/arume.pl>
- Search engine for papers in probability/statistics education: <http://www.causeweb.org/research/literature/>
- Search engine for scholarly work: <http://scholar.google.com/>
- Journals that publish mathematics education research <http://math.la.asu.edu/~hauk/arume/journals.html> and [http://www.math.utep.edu/Faculty/lesser/Math\\_Ed\\_Journals.xls](http://www.math.utep.edu/Faculty/lesser/Math_Ed_Journals.xls)
- Many articles are available in via the UTEP library <http://lib.utep.edu/screens/mainmenu.html> or through sites such as [www.jstor.org](http://www.jstor.org)
- Guidelines for requesting approval for conducting research in school districts: <http://www.math.utep.edu/Student/iagut/> or <http://www.math.utep.edu/Faculty/lesser/ResearchApproval.html>
- UTEP's Institutional Review Board (IRB): [www.irbnet.org](http://www.irbnet.org).

**Academic Integrity:**

The instructor trusts that you understand and especially appreciate that cheating, plagiarism and collusion in dishonest activities are serious acts, which erode the university's purpose and integrity. It is expected that work you submit will represent your own effort (or your own group's effort, if it is a group project), will not involve copying from or accessing unauthorized resources or people (e.g., from a previous year's class), and will appropriately acknowledge (with complete citations) allowable references that you do consult. Also, don't resubmit work completed for other classes without specific acknowledgment and permission from the instructor. Violations are unacceptable and are required to be referred to the Dean of Students Office for possible disciplinary action.