



**GOSHEN COLLEGE**  
**MATHEMATICS DEPARTMENT**  
**MATH 413 SEMINAR: DISCOVERIES – SPRING 2019**

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<b>Description</b>	An examination of an open mathematical question and presentation of results in written and oral form.
<b>Learning Goals</b>	<p>The student will</p> <ol style="list-style-type: none"><li>1. View mathematics as a creative and changing discipline;</li><li>2. Investigate a challenging mathematical question;</li><li>3. Explain and critique mathematical reasoning through speaking and writing in a precise and articulate manner in both informal and formal settings;</li><li>4. Exhibit curiosity, playfulness, creativity, confidence, perseverance, interest in multiple perspectives, and a collaborative spirit.</li></ol>
<b>Prerequisites</b>	Math 205, 212, and two upper level Math courses.
<b>Activities</b>	Students will choose and investigate an open mathematical problem; give presentations on defining the problem, early results, and final results; and listen to other student presentations and provide constructive feedback.
<b>Instructor</b>	David Housman, SC 117, <a href="mailto:dhousman@goshen.edu">dhousman@goshen.edu</a> , 535-7405 (office), 612-7185 (cell) Office hours posted on office door and Moodle.
<b>Class Time</b>	To be arranged. We will meet on January 15 for an introduction, about two weeks later for problem definition presentations, shortly after break for early results presentations, and during the final exam days for final presentations. Students are encouraged to meet with the instructor outside of class as the semester progresses.
<b>Grade</b>	Based on oral and written presentations of the progress made in attempting to solve an open mathematical problem (70%), oral and written responses to other student presentations (10%), and participation in a professional meeting (20%).
<b>Professional Meeting</b>	There will be an opportunity to participate in the spring meeting of the Indiana Section of the Mathematical Association of America to be held April 5-6 at University of Indianapolis. Documented participation in a previous or different professional meeting in the mathematical or computational sciences will also be accepted. A one page summary of the highlights of the meeting must be submitted.
<b>Tutoring</b>	The Academic Success Center provides tutoring and writing support for free to all undergraduate students. Make an appointment at <a href="http://goshen.edu/asc">goshen.edu/asc</a> . Unfortunately, no current student has previously taken this course. Therefore, your best bet to receive assistance is to make use of David's office hours.
<b>Disability Services</b>	Goshen College is committed to providing all students equal access to programs and facilities. Students who need accommodations based on disability should contact the Director of the Academic Success Center (ASC). Students must register with ASC before faculty are required to provide reasonable accommodations. For more information or to register, please contact the Director of the ASC, Judy Weaver, Good Library 112, <a href="mailto:jweaver@goshen.edu">jweaver@goshen.edu</a> or 574-535-7560. To ensure that learning needs are met, contact the director of the ASC the first week of classes.
<b>Collaboration and Academic Integrity</b>	You are encouraged to use all available resources in order to learn the concepts and techniques discussed in this course. However, simply copying someone else's work subverts the learning process. For assignments, you may look at and discuss another student's work; however, you must give written acknowledgement to people and written materials that were used. Failure to observe the above rules will result in a zero on the assignment. Any violation of academic integrity will be reported to the Academic Dean. Observation of the above rules will help you learn the material well and give you the satisfaction of knowing that you have earned your grade.
<b>Due Date Policy</b>	Class participation and assignments can only be excused or made up if (1) there is a serious medical problem, a death in the immediate family, or an irreconcilable conflict with another official Goshen College activity; (2) there is written documentation signed by proper authorities; and (3) the instructor is notified prior to the due date or as soon as possible afterwards.