



**GOSHEN COLLEGE**  
**MATHEMATICS DEPARTMENT**  
**MATH 413 SEMINAR: DISCOVERIES – SPRING 2022-23**

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<b>Catalog Description</b>	An examination of an open mathematical question and presentation of results in written and oral forms. 1 credit hour.
<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, dhousman@goshen.edu, 535-7405 Office hours posted on office door and Moodle.
<b>Class Time</b>	Tuesdays 11:00 AM – 12:15 PM in SC 117. We will meet early in the semester (January 17) for an introduction, about two weeks later (January 31) for problem definition presentations, shortly after break (March 7) for early results presentations, and at the Academic Symposium (April 12) 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 March 31 - April 1 at Indiana University Kokomo. 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>Learning Assistance</b>	The Academic Success Center offers individual tutoring by appointment at <a href="http://tutorcal.goshen.edu">tutorcal.goshen.edu</a> . Unfortunately, no other student currently on campus has completed this course. So, I recommend that you rely on your classmates and my 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 Judy Weaver, coordinator of access services. You can contact Judy by visiting the Academic Success Center (ASC) in the library, emailing <a href="mailto:jweaver@goshen.edu">jweaver@goshen.edu</a> or calling 574-535-7560. Students must register with ASC before faculty are required to provide reasonable accommodations. To ensure that learning needs are met, contact the coordinator of access services by 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.