MATH 416  **Abstract Linear Algebra**  credit: 3 OR 4 hours.
Rigorous proof-oriented course in linear algebra. Topics include determinants, vector spaces over fields, linear transformations, inner product spaces, eigenvectors and eigenvalues, Hermitian matrices, Jordan Normal Form. 3 or 4 undergraduate hours. 3 or 4 graduate hours. Credit is not given for both MATH 416 and either MATH 410 or MATH 415. 4 hours of credit requires approval of the instructor and department with completion of additional work of substance. Prerequisite: MATH 241 or consent of instructor; MATH 347 is recommended.

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<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
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<th>Location</th>
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<td>39528</td>
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Credit Hours: 3 hours
This is an online course featuring video lectures and online lecture notes through Moodle. No additional textbook has to be purchased. Students must be able to print out assignments, write out solutions, then scan their written work and upload it to Moodle to meet set deadlines. This course requires multiple paper-based exams that must be taken with an approved proctor. Exams may be taken on- or off-campus. For summer proctoring options see [https://netmath.illinois.edu/summerproctor](https://netmath.illinois.edu/summerproctor). Off-campus proctors must be able to scan completed exams and email them to NetMath for grading, as well as mailing the paper exam back for archival purposes. Students who will be on campus during Summer Session 2 are encouraged to select the on-campus section of this course. A 16-week self-paced version of this class will also be available as part of the academic year term (not summer term). Registration for the self-paced class is done through [https://netmath.illinois.edu/register/college](https://netmath.illinois.edu/register/college) (not Self-Service). Please contact mathadvising@illinois.edu with any questions.