Mathematics

MATH 550  Dynamical Systems I  credit: 4 hours.
An introduction to the study of dynamical systems. Considers continuous and discrete dynamical systems at a sophisticated level:
differential equations, flows and maps on Euclidean space and other manifolds. Emphasis will be placed on the fundamental theoretical
concepts and the interaction between the geometry and topology of manifolds and global flows. Discrete dynamics includes Bernoulli
shifts, elementary Anosov diffeomorphisms and surfaces of sections of flows. Bifurcation phenomena in both continuous and discrete
dynamics will be studied. Prerequisite: MATH 489 or consent of instructor.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>30826</td>
<td>Lecture-Discussion</td>
<td>F1</td>
<td>02:00 PM - 02:50 PM</td>
<td>MWF</td>
<td>147 - Altgeld Hall</td>
<td>Zharnitsky, V</td>
</tr>
</tbody>
</table>

Undergraduate students may register with approval. For more information go to room 313 AH. Students from the following programs
must contact the Director of Graduate Studies in Mathematics <Laugesen@illinois.edu> to request permission to register for the