### Physics

**PHYS 598  Special Topics in Physics**  credit: 1 TO 4 hours.

Subject offerings of new and developing areas of knowledge in physics intended to augment the existing curriculum. See Class Schedule or departmental course information for topics and prerequisites. May be repeated in the same or separate terms if topics vary.

<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>67779</td>
<td>Lecture</td>
<td>COS</td>
<td>09:30 AM - 10:50 AM</td>
<td>TR</td>
<td>134 - Astronomy Building</td>
<td>Adshead, P</td>
</tr>
</tbody>
</table>

Credit Hours: 4 hours

Restricted to students with Graduate class standing.

COSMOLOGY We will survey the essentials of modern cosmology, providing an overview of the state of the field, of open questions, and of observational and theoretical tools. Planned topics include: classical cosmology--the Friedmann universe; the early universe--inflation, nucleosynthesis, dark matter; the cosmic microwave background--basic physics, anisotropies, polarization; large scale structure formation--theoretical and numerical models observational tests; dark energy--observational evidence, theoretical ideas.

The emphasis will be on applying physical principles to understand observations, and on using observations to constrain the nature of matter and spacetime on cosmic scales--viewing the universe as a laboratory for fundamental physics.

| 58646| Lecture | PEN     | 11:00 AM - 12:50 PM | F    | 158 - Loomis Laboratory | Cooper, S |

Credit Hours: 4 hours

Communicating Physics Research

Restricted to students with Graduate class standing.

Scientific communication skills development through extensive writing and oral-presentation activities. Topics and associated activities will include creating effective scientific abstracts, research papers, referee reports, scientific proposals, figures and figure captions, journal club presentations, research presentations, and scientific posters.

| 67781| Lecture | PER     | 10:30 AM - 11:50 AM | MW   | 322 - Loomis Laboratory | Mestre, J |

Credit Hours: 4 hours

Restricted to students with Graduate class standing.

| 67782| Lecture | SDA     | 10:00 AM - 11:20 AM | TR   | 276 - Loomis Laboratory | Song, J   |

Credit Hours: 4 hours

Restricted to students with Graduate class standing.