## Class Schedule - Spring 2018

### Physics

**PHYS 498  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. 1 to 4 undergraduate hours. 1 to 4 graduate hours. 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>
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<tbody>
<tr>
<td>64138</td>
<td>Laboratory</td>
<td>ART</td>
<td>ARRANGED -</td>
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<td>Vishveshwara, S</td>
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<td>Lecture</td>
<td>ART</td>
<td>03:00 PM - 04:50 PM</td>
<td>M</td>
<td>147 - Loomis Laboratory</td>
<td>Vishveshwara, S</td>
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**CRN 67783**  Lecture  CMP  10:00 AM - 11:20 AM  MW  276 - Loomis Laboratory  Clark, B

**Credit Hours: 3 hours**  
**Instructor Approval Required**

WHERE ART MEETS PHYSICS: From ancient monuments, such as Roman arches and Indian and Mayan astronomical observatories, to modern day productions, such as The 2001 Space Odyssey and Copenhagen, the confluence of the arts and physics has resulted in the most incredible of human creations. The creations have led to a deeper understanding of nature, to giving the arts a new dimension, to friendly and enchanting ways of perceiving science in action, to tremendous technological progress, and to pure fun! In this course students will gain exposure to the exciting ways in which science has joined hands with a broad spectrum of the arts, inclusive of the visual arts, theater, music, literature, and more, and to the marvelous creations that have emerged from this synergy. Going beyond analyzing this synergy, students will become creators themselves by using the knowledge gained in the course, forming teams, learning from one another, and working on projects that result in mini-productions using their choice of media. Course will meet in the IDEA Lab, Grainger Library Contact: Prof. Vishveshwara smivish@illinois.edu Please briefly describe in what way you would find bringing together the arts and physics interesting, as well as your experience with either, be it through courses or otherwise.

**Credit Hours: 3 hours**  
**COMPUTATION in PHYSICS:** This is an immersive advanced computational physics course. The course is centered on six computational projects which students will program from scratch and simulate. The course will develop both computing skills as well as physics subject-knowledge in the project areas. Working on these projects will span much of class-time and all of the homework; occasional lecturing will be used to supplement the knowledge necessary to accomplish the projects. The projects include: building a quantum computing simulator, simulating the Ising model through Monte Carlo and RG approaches, machine learning and the brain, evolution, chemistry from physics, and condensed matter (topological insulators and superconductivity).