**Astronomy**

**ASTR 596  Seminar in Special Topics  credit: 0 TO 16 hours.**
Approved for both letter and S/U grading. May be repeated. Prerequisite: Consent of instructor.

- **CRN**: 54365  
  **Type**: Lecture  
  **Section**: APA  
  **Time**: 04:00 PM - 04:50 PM  
  **Days**: R  
  **Location**: -  
  **Instructor**: Fields, B

Credit Hours: 1 hours  
The Art and Practice of Astronomy  
This course is open to graduate students and senior undergraduates with interests in astronomy, astrophysics, and/or cosmology. This course will introduce students to some of the tools, opportunities, expectations, and challenges of a career in astronomy and astrophysics research. For about half of the class meetings, students will collaborate interactively to address open-ended research questions qualitatively and quantitatively, using order-of-magnitude and dimensional analyses. The rest of the course meetings will focus on professional preparation and skills, including: scientific writing, oral presentation skills, building a curriculum vitae, postdoctoral fellowships, faculty and research positions, grantsmanship, and ethics. Advanced undergraduates are welcome but should seek permission of an instructor.

- **CRN**: 65724  
  **Type**: Discussion/Recitation  
  **Section**: RB  
  **Time**: 09:00 AM - 09:50 AM  
  **Days**: R  
  **Location**: -  
  **Instructor**: Brunner, R

Credit Hours: 1 hours  
Practical Machine Learning  
This course will introduce students to a variety of common statistical and machine learning algorithms, with an emphasis on practicality. Example topics include regression, random forests, clustering, and dimensional reduction. Students will be expected to participate in discussion about algorithms, their benefits and weaknesses, and their practical application. Section meets for one hour each week. S/U grading only.