

**GRADUATE MAJOR CHANGE BULLETIN NO. 7**

**Spring 2022**

**Faculty Senate approved March 3, 2022**

The courses listed below reflect the graduate major curricular changes approved by the Graduate Studies Committee since approval of the last Graduate Major Change Bulletin. The course information under the heading titled *Current* will show strikethroughs for deletions, and the heading titled *Proposed* will show underlines for additions. The column to the far right indicates the date each change becomes effective.

<b>Subject</b>	<b>Course Number</b>	<b>New Revise Drop</b>	<b>Current</b>	<b>Proposed</b>	<b>Effective Date</b>
<b>ASTRONOM</b>	<b>511</b>	<b>New</b>	<del>--N/A--</del>	<b>Astronomical Methods 3</b> Detectors and telescopes; radio astronomy; interferometry and Fourier methods; data handling; statistics; data mining. Typically offered Fall.	<b>8-22</b>
<b>ASTRONOM</b>	<b>530</b>	<b>New</b>	<del>--N/A--</del>	<b>Gravitation and Cosmology 3</b> Special relativity; 4-vectors; introduction to tensors; examples of space-time metrics; black holes; gravitational waves; gravitational lensing; the Robertson-Walker metric; Inflationary cosmology; Big bang nucleosynthesis; Cosmic microwave background radiation; Structure formation. Typically offered Fall.	<b>8-22</b>
<b>PHYSICS</b>	<b>555</b>	<b>New</b>	<del>--N/A--</del>	<b>Quantum Technologies and Computation 3</b> Fundamentals of quantum mechanics required for quantum computing and quantum information science; technologies and platforms that enable quantum applications to computing, simulation, and advance sensing. Credit not granted for both PHYSICS 455 and PHYSICS 555. Offered at the 400 and 500 level. Typically offered Fall.	<b>8-22</b>