

## UMBC UGC Change in Existing Course: PHYS415 Astroparticle Physics

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Proposed Effective Date: Fall 2018

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**COURSE INFORMATION:** (please provide all information in the “current” column, and only the information changing in the “proposed” column)

change		current	proposed
<input type="checkbox"/>	Course Number(s)	PHYS415	
<input type="checkbox"/>	Formal Title	Astroparticle Physics	
<input type="checkbox"/>	Transcript Title (≤30c)		
<input type="checkbox"/>	Recommended Course Preparation		
<input checked="" type="checkbox"/>	Prerequisite <b>NOTE:</b> Unless otherwise indicated, a prerequisite is assumed to be passed with a “D” or better.	PHYS304	PHYS324 with a C or better
<input type="checkbox"/>	# of Credits Must adhere to the <a href="#">UMBC Credit Hour Policy</a>	3 credits	
<input type="checkbox"/>	Repeatable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Max. Total Credits	3 credits	<b>Max. Total Credits:</b> This should be equal to the number of credits for courses that cannot be repeated for credit. For courses that may be repeated for credit, enter the maximum total number of credits a student can receive from this course. E.g., enter 6 credits for a 3 credit course that may be taken a second time for credit, but not for a third time. Please note that this does NOT refer to how many times a class may be retaken for a higher grade.
<input type="checkbox"/>	Grading Method(s)	<input checked="" type="checkbox"/> Reg (A-F) <input checked="" type="checkbox"/> Audit <input type="checkbox"/> Pass-Fail	<input type="checkbox"/> Reg (A-F) <input type="checkbox"/> Audit <input type="checkbox"/> Pass-Fail

### CURRENT CATALOG DESCRIPTION:

This course focuses on the examination of the production and detection of high energy radiation and particles from astrophysical sources including x-rays, gamma-rays, and cosmic-rays. The current technological limitations on the spatial, spectral, and timing analysis of these data will be explored. Students will gain hands on experience with real astronomical data obtained from the archival databases of satellite systems and with state-of-the-art astronomical analysis software.

**PROPOSED CATALOG DESCRIPTION** (Approximately 75 words in length. Please use full sentences): leave blank if no changes are being proposed to the catalog description. NOTE: information about prerequisites should NOT appear in the catalog description.)

### RATIONALE FOR CHANGE:

This course (along with all Astrophysics electives) will require successful completion of PHYS 324 “Modern Physics” with a grade of C or better. This change allows for a more thorough exploration of basic concepts in astrophysics, which heavily rely on the material in Modern Physics, and reflects that PHYS 415 is a 400-level course appropriate for juniors and seniors.