

## UMBC UGC Change in Existing Course: PHYS304 Fundamentals of Astronomy and Astrophysics

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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)	PHYS304	
<input checked="" type="checkbox"/>	Formal Title	Fundamentals of Astronomy and Astrophysics	Fundamentals of Astrophysics
<input checked="" type="checkbox"/>	Transcript Title (≤30c)	Fundamentals of Astronomy and Astrophysics	Fundamentals of Astrophysics
<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.	PHYS122	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 presents a calculus-based introduction to key concepts in the science of astronomy and astrophysics. The course is designed for physics majors and other science majors with strong interest in astronomy, physics and mathematics. The course details some of the primary physical concepts relevant to astronomy and astrophysics and also lays the foundation for more advanced coursework in astrophysics.

**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.)

This course presents a calculus-based introduction to key concepts in astrophysics. The course is designed for science majors with a strong interest in physics and astrophysics. The course details some of the primary physics concepts relevant to astrophysics and serves as an advanced survey of topics in modern astrophysics, including: stellar structure and evolution, exoplanets, galaxies and interstellar medium, and basic cosmology.

## **RATIONALE FOR CHANGE:**

We propose to change the name from “Fundamentals of Astronomy and Astrophysics” to “Fundamentals of Astrophysics”. This reflects a global rebranding of the current Minor in Astronomy to a Minor in Astrophysics and reflects the requirement of a strong physics background. (The term *Astronomy*, as opposed to *Astrophysics*, is more appropriate to a phenomenological, less physics-based approach.)

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 304 is a 300-level course appropriate for juniors and seniors.