THE UNIVERSITY OF NORTH CAROLINA ASHEVILLE

FACULTY SENATE

Senate Document Number SD3524S

Date of Senate Approval 04/04/2024

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Statement of Faculty Senate Action:

APC Document 28 (PHYS): Changing the Physics Major Competency Requirement

Effective Date: Fall 2024

1. Delete: On pages 266 and 267, item III under each of the four major concentration descriptions:

III. Other departmental requirements—Major competency is demonstrated through a departmental competency examination.

Add: On pages 266 and 267, in place of each of the deleted entries:

III. Other departmental requirements—Major competency is demonstrated through successful completion of PHYS 332.

Impact: The current departmental competency exam requires students to attend and prepare for an additional activity outside the major coursework. This exam increases student workload and could present a barrier to graduation; further, it has not proved to be a reliable tool for assessing the learning objectives that are most relevant to our students' success. Our proposed change will benefit students by allowing major competency to be demonstrated during the regular completion of the major courses. This change will also benefit faculty by removing the additional work of designing, proctoring, and grading a comprehensive exam. The course being proposed to fulfill the competency is already required for students in all concentrations in the physics major, so using it does not increase faculty or student workload. The skills and learning objectives delivered in this course are aligned with those that are indicative of student success and competency in our field.

Rationale: PHYS 332: Experimental Physics II is an upper-level course required of all physics majors. Students in the course engage in applying fundamental background concepts to solve problems, plan and conduct experiments, quantitatively analyze results, produce scientific writing, and present to peers and faculty. Department members consider successful completion of the activities in this course to be a better assessment of student competency in physics than a single test. In addition, fulfillment of the major competency through a semester-long course is consistent with the practice in many other departments in the Natural Sciences at UNC Asheville.