THE UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE
FACULTY SENATE

Senate Document Number 5917S
Date of Senate Approval 05/04/17

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Statement of Faculty Senate Action:

APC Document 52 (MATH): Change prerequisites for MATH 365 and MATH/CSCI 441

Effective Date: Fall 2017

1. Delete: On page 234, the prerequisite for **MATH 365, Linear Algebra I:**

Prerequisite: MATH 192.

Add: On page 234, in place of deleted entry:

Prerequisite: MATH 192 or 251.

Impact Statement: Students who have passed MATH 251, Discrete Mathematics, but not MATH 192, Calculus II, will now be able to take Linear Algebra I, reducing the need for some students to have the additional course (Calculus II) prior to taking MATH 365. No additional resources are needed to implement this change.

Rationale: The modification is driven by changes in the Computer Science Major. Students in the Computer Systems concentration of Computer Science are required to take MATH 251, and MATH 365 will be an option for fulfilling the Math requirement in the new curriculum. These students are not required to take MATH 192, thus it would be a hidden requirement for them. Students who have taken Discrete Mathematics should be in an excellent position from a pedagogical standpoint to be successful in Linear Algebra, having had exposure to difference equations.

2a. Delete: On page 117, the prerequisite in **CSCI 441, Numerical Analysis:**

Prerequisites: MATH 365 or permission of instructor. Even years Spring.

Add: On page 117, in place of deleted entry:

Prerequisites: MATH 192 and 365; or permission of instructor.

2b. Delete: On page 235, the prerequisite in **MATH 441, Numerical Analysis:**

Prerequisites: MATH 365 or permission of instructor. Even years Spring.

Add: On page 235, in place of deleted entry:

Prerequisites: MATH 192 and 365; or permission of instructor.

Impact Statement: None. This change maintains present policy of requiring MATH 192 prior to enrolling in CSCI/MATH 441.

Rationale: This change is necessitated by the previously suggested modification to MATH 365. Since students can now take MATH 365, Linear Algebra I, without having had Calculus II, they could theoretically sign up to take MATH 441 without the benefit of having been exposed to topics in MATH 192, such as infinite series and the Mean Value Theorem. The topics in Numerical Analysis rely heavily on theory that is taught in Calculus II. Previous iterations of Numerical Analysis have always included Calculus.