Submitted by: Stephen Davies            Date Prepared: Fall 2014

Department/Discipline(s) and Course Number(s): CPSC 125A
Course Title: Introduction to Discrete Mathematics

Type of change (check all applicable):

Number* _____ Title_____ Credits__X__ Description_X__ Prerequisites ____ Deletion_____ Cross list**____

*This course number must be approved by the Office of the Registrar before the proposal is submitted.

**To cross list courses between departments/colleges, there should be two cover sheets submitted with the proposal – one by the chair of each department with signatures from the relevant College Curriculum Committee Chair.

Effective Date: FALL Semester, Year 2015

Current Catalog Entry | Proposed Catalog Entry
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Introduction to Discrete Mathematics (3) -- Designed to prepare beginning Computer Science majors for advanced study by emphasizing the components of Discrete Mathematics especially related to Computer Science. An introduction to topics which may include number systems, logic, methods of proof, counting techniques, mathematical induction, sets, relations, functions, matrices, graphs and trees. | Introduction to Discrete Mathematics (4) -- Designed to prepare beginning Computer Science majors for advanced study by emphasizing the components of Discrete Mathematics especially related to Computer Science. Topics include number systems, logic, methods of proof, counting techniques, mathematical induction, sets, relations, functions, vectors, matrices, graphs and trees.

JUSTIFICATION (including impact on majors, minors, concentrations, and general education courses within the University curriculum; attach additional pages if required)

Additional material on basic applied linear algebra. At present, linear algebra is not a requirement for our majors (it is only one of three choices, the other two being differential equations and numerical analysis). We desire all of our students to gain exposure to this topic at an introductory level. Also, at present, students can choose to complete this math requirement at any point in their academic career, which means that even for those who do choose linear algebra (MATH 300) to fulfill it, we cannot depend on that material in any of our upper-level courses. With this revision, we guarantee that students will have been exposed to the basic linear algebra before they take CPSC 414, 415, 419, 420, 444, or other electives that may benefit from having students proficient in it. An additional credit hour is just what we need to introduce the concept of vectors and matrices, dot products and matrix multiplication, solving linear systems of equations numerically, singular (non-invertible) matrices, and linear transformations.
TRANSITION PLAN *(describe how will students who are in Catalogs where the course is required for a major be accommodated; attach additional pages if required)*

Students who have already completed the current (three-credit) CPSC 125A will be permitted to let that course stand in place of the new (four-credit) CPSC 125A. We will simply discontinue offering the 3-credit version, and so the number of students in that category will diminish over time.

**Approvals**

Jennifer Polack  
Department Chair  
Digitally signed by Jennifer Polack  
DN: cn=Jennifer Polack, o=University of Mary Washington, ou=Department of Computer Science, email=jenniferpolack@gmail.com, c=US  
Date: 2014.11.19 19:46:11 -05'00'

Dawn S. Bowen  
College Curriculum Chair  
Digitally signed by Dawn S. Bowen  
DN: cn=Dawn S. Bowen, o=uu, email=dbowen@uw.edu, c=US  
Date: 2014.11.20 10:47:30 -08'00'

Expedited course changes are posted for a 10-class day comment period. If no comments are raised during that time, the proposal becomes final. All expedited proposals approved in this way will be noted on the UCC web site.

If comments are raised, the proposal may be reviewed by the UCC and then approved or it may be returned to the CCC for additional deliberation (as required).