Submitted by: Ian Finlayson                  Date Prepared: 11/5/15

Department/Discipline(s) and Course Number(s): CPSC 326

Course Title: Theoretical Foundations of Computing

Type of change (check all applicable):

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<th>Number</th>
<th>Title</th>
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*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 2016

Current Catalog Entry

Prerequisites: CPSC 125A and 220. Covers structures and concepts relating to the underlying theory of computation and mathematical models of actual physical processes. Also covers a repertoire of advanced algorithms for data processing, and the asymptotic analysis of those algorithms to describe their running time and space requirements. Topics may include formal languages, automata theory, Turing machine, the halting problem, NP-completeness, searching and traversal algorithms, dynamic programming, compression algorithms, and random number generation.

Proposed Catalog Entry

Prerequisites: CPSC 125A and CPSC 240. Covers structures and concepts relating to the underlying theory of computation and mathematical models of actual physical processes. Also covers a repertoire of advanced algorithms for data processing, and the asymptotic analysis of those algorithms to describe their running time and space requirements. Topics may include formal languages, automata theory, Turing machine, the halting problem, NP-completeness, searching and traversal algorithms, dynamic programming, compression algorithms, and random number generation.

JUSTIFICATION (including impact on majors, minors, concentrations, and general education courses within the University curriculum; attach additional pages if required). Any change that impacts another Department must have a written statement (such as a copy of an email) from the Chair(s) agreeing to the change.

We are raising the prerequisite on this course from 220 to 240 for two reasons. First, students will be more prepared for 326 after having taken 240, which is the second programming course in our introductory sequence. Second, virtually no students are able to take 326 before 240 anyway due to scheduling constraints. Adding the prerequisite will both ensure that no students with only 220 "slip in" and not be as prepared as their class-mates, and also give students a more realistic view of when they can take the course.

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)

There is no transition plan needed. CPSC 240 and CPSC 326 are both required for the major and CPSC 240 is offered every semester. Also, nearly all students take CPSC 240 prior to CPSC 326 anyway.

Approvals

Department Chair ___________________________ Date: 11/10/2015

College Curriculum Chair ___________________________ Date: 11/18/15
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).