THE UNIVERSITY OF NORTH CAROLINA ASHEVILLE

FACULTY SENATE

Senate Document Number   SD3224S

Date of Senate Approval   03/07/2024

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Statement of Faculty Senate Action:

APC Document 26 (CSCI):   **Revise the requirements for the Computer Science major**

Effective Date: Fall 2024

1.   **Delete:** On page 119, items I and II under **Concentration in Computer Systems:**

   I. Required courses in the major--41 hours: one course from CSCI 182, 183, or 185; CSCI 201,
       202, 235, 280, 302, 333, 335, 338, 431, 480, 481; one of the following data science courses:
       CSCI ~~312~~, 329, 343, 346, ~~347, 412~~, 441; 6 additional hours at the 300-400 level.
   II. Required courses outside the major--23-27 hours: MATH 191 (requires completion of MATH
       167 or placement), 251 ~~and at least 8 hours from MATH 192, 291, 365, 441 (if not selected~~
       ~~above), STAT 185 or 225~~; PHYS 221, and either PHYS 222 or 231.

   Add: On page 119 in place of deleted entry:

   I. Required courses in the major--41 hours: one course from CSCI 182, 183, or 185; CSCI 201,
       202, 235, 280, 302, 333, 335, 338, 431, 480, 481; one of the following data science courses:
       CSCI 329, 339, 343, 346, 441; 6 additional hours at the 300-400 level.
   II. Required courses outside the major-23-27 hours: MATH 191 (requires completion of MATH
       167 or placement), 192, 251, 295; PHYS 221, and either PHYS 222 or 231.

Impact: CSCI 347, Game Programming was previously approved to satisfy the "data science"
requirement. With this change, CSCI 347 will no longer count as a data science course, so students
will need to take one of the other data science course options from the list. Students who want to take
CSCI 339 (replaces CSCI 312 and 412) or 346 for this requirement will have to first take MATH 295,
but this should not delay progress for most students since they can take the MATH prerequisite
courses (MATH 191, MATH 295) simultaneously with CSCI 201 and 202. Changing the
MATH/STAT requirements means that students will take MATH 295 instead of STAT 185/225; the
other MATH/STAT changes have minimal impact as very few students (except MATH+CSCI double
majors) took MATH 291, 365, or 441. The new course, MATH 295, will require MATH/STAT
faculty to teach it; this is addressed in the MATH 295 new course proposal. This change should have
no impact on Computer Science faculty or other resources.

Rationale: We are removing CSCI 347, Game Programming from the list of "data science" courses
because our department faculty determined that the course does not contain enough data science
content. We are including our proposed new course CSCI 339, Topics in AI and Machine Learning to
the list of data science courses as it replaces CSCI 312 and 412. We are including the proposed new
course MATH 295, Math for Machine Learning to the requirements and removing STAT 185/225
because the content in STAT 185/225 is largely redundant with our data science courses. We are
explicitly requiring MATH 192 rather than saying it is an option because it was a hidden prerequisite
for PHYS 221. We are removing MATH 291 and MATH 365 from the requirements because our
original intent was 15 hours of MATH/STAT and the updated list of required MATH courses is 15
hours.

2. **Delete:** On page 119, items I and II under **Concentration in Information Systems:**

I. Required courses in the major--38 hours: one course from CSCI 182, 183, or 185; CSCI 201, 202, 235, 280, 302, 333, 338, 343, 344, 480, 481; one of the following data science courses: CSCI ~~312~~, 329, 346, ~~347, 412~~, 441; 6 additional hours at the 300-400 level.

II. Required courses outside the major--11-15 hours: MATH 191 (required completion of MATH 167 or placement), 251~~, and STAT 185 or 225~~.

Add: On page 119 in place of deleted entry:

I. Required courses in the major--38 hours: one course from CSCI 182, 183, or 185; CSCI 201, 202, 235, 280, 302, 333, 338, 343, 344, 480, 481; one of the following data science courses: CSCI 329, 339, 346, 441; 6 additional hours at the 300-400 level.

II. Required courses outside the major--11-15 hours: MATH 191 (required completion of MATH 167 or placement), 251, and 295.

Impact Statement: CSCI 347, Game Programming was previously approved to satisfy the "data science" requirement. With this change, CSCI 347 will no longer count as a data science course, so students will need to take one of the other data science course options from the list. Students who want to take CSCI 339 (replaces CSCI 312 and 412) or 346 for this requirement will have to first take MATH 295, but this should not delay progress for most students since they can take the MATH prerequisite courses (MATH 191, MATH 295) simultaneously with CSCI 201 and 202. Requiring the new course, MATH 295, instead of STAT 185/225 will require regularly offering MATH 295 and likely result in fewer sections of STAT 185; this is addressed in the MATH 295 new course proposal. This change should have no impact on Computer Science faculty or other resources.

Rationale: We are removing CSCI 347 Game Programming from the list of "data science" courses because our department determined that the course does not contain enough data science content. We are including our proposed new course CSCI 339 Topics in AI and Machine Learning to the list of data science courses. CSCI 339 will effectively replace CSCI 312 and CSCI 412 going forward. We are including new course MATH 295 Math for Machine Learning to the requirements and removing STAT 185/225 because the content in STAT 185/225 is largely redundant with our data science courses.