March 1, 2016

TO: Margaret Cassidy  
Associate Dean, CAS

FROM: Alex Smith  
Chair, UWEC Dept. of Mathematics


In an effort to achieve the CAS’s call to reduce the number of programs in the college’s program array, we are submitting a proposal to create an “Applied/Statistics Emphasis” which would take the place of the current “Applied Emphasis” and “Statistics Emphasis.”

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<td><strong>Applied Emphasis</strong> (Code 180-204): This emphasis requires the core courses listed previously and Math 312 and at least six credits from among the following courses: Math 307, 313, 318, 345, 347, 351, 352, 354, or 440 (or Phys 440). This emphasis is appropriate for students interested in either scientific or engineering applications of mathematics, careers in business or industry, or in graduate work in applied areas such as engineering, operations research, or optimization.</td>
<td><strong>Applied/Statistics Emphasis</strong> (Code 180-20X): This emphasis requires the core courses: Math 114, Math 215, Math 216, Math 316, Math 324, Math 425, plus additional mathematics courses numbered above 305; at least 3 credits selected from Phil 250, CS 145, CS 163, CS 170 or another computer science course approved by the Mathematics Department; and at least ten credits from among the following courses: Math 307, Math 312, Math 313, Math 318, Math 345, Math 346, Math 347, Math 351, Math 352, Math 354, Math/Phys 440, Math 441, Math 443, Math 445, or Math 447; four of these credits must be from Math 312 or Math 347. A minimum of 36 credits are required.</td>
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<td><strong>Statistics Emphasis</strong> (Code 180-205): This emphasis requires the core courses listed previously, Math 346, 347, and at least two of the following courses: Math 441, 443, 445, 447, and with the approval of the department chair, Math 491. This emphasis is intended to prepare students for careers in statistics or graduate study</td>
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industry or statistics, or graduate work in areas such as engineering, operations research, optimization, or statistics. For those students focusing on applied mathematics, Math 312 is strongly recommended. For those students focusing on statistics, Math 347 is strongly recommended. Because of the variety of courses available, students are encouraged to consult a mathematics adviser early and frequently while pursuing this emphasis.

**Summary of changes:** The current Applied and Statistics Emphases will be suspended.

In the new Applied/Statistics Emphasis, the list of elective courses that can be chosen from now contains both statistics courses as well as applied mathematics courses. Students will be required to choose either Math 312 or Math 347 as one of their electives from this list. Math 312 and Math 347 contain fundamental content for those students interested in the applied discipline and the statistics discipline, respectively.

**Rationale:** The Applied/Statistics Emphasis combines the key requirements of each discipline together in one emphasis, while still giving the students freedom to choose from a list of electives that are appropriate for each individual discipline. By combining the emphases in this way, no disruption to students working to complete the current Applied Emphasis and Statistics Emphasis will occur since all required/elective courses are present in the combined list. Students who pursue the Applied/Statistics Emphasis in the future will be required to take a foundational course in the specific discipline (Math 312 for applied or Math 347 for statistics), but they will then have freedom to choose electives that are appropriate for either discipline. In addition, this freedom to choose electives will give students more flexibility to take appropriate courses in semesters when a particular course is not offered. We anticipate that this will improve time to graduation.