THE UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE
FACULTY SENATE

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Statement of Faculty Senate Action:

APC Document 12:   **Add New Software Courses: MATH 242 and STAT 242**

Effective Date: Fall 2014

1. **Add:**   On page 221, entry for new course, MATH 242, Mathematical Software:

    242   Mathematical Software (2)
    Introduction to computational software used in mathematical investigation.
    Activities include but are not limited to visualization, programming, and
    computational investigations. Software may include Mathematica, Matlab, or
    similar packages. May be repeated as topics vary for a total of 4 hours credit.
    Prerequisite: MATH 191. See department chair.

2. **Add**:   On page 224, entry for new course, STAT 242, Statistical Software:

    242   Statistical Software (2)
    Introduction to statistical software used in data analysis. Activities include but are
    not limited to visualization, programming, and simulations. Statistics software may
    include SAS, SPSS, R or similar packages. May be repeated as topics vary for a total
    of 4 hours credit. Prerequisite: STAT 185 or 225. See department chair.

Impact: The department does not foresee a major impact on its resources with the inclusion of these
courses since similar courses have been successfully offered in the past as special topics. MATH 271,
Mathematica, was offered in Fall 2010 and again in Fall 2012 with 16 students in each section. STAT 272,
Intro to SAS, is being offered Fall 2013 with 9 students enrolled. MATH 272, Intro to Matlab, is being
offered Spring 2014. University policy dictates that if a course is offered three or more times it should
get an entry in the catalog. The department has taught at least one of these courses annually for the last
few years using our present faculty and existing facilities.

Rationale: These courses reflect the reality that there are powerful computational tools at one's
disposal that can aid in mathematical problem solving, research and communication. Many parts of
contemporary Mathematical research involve extensive use of computers and visualization tools, and it
is important for students wishing to explore mathematical topics more in-depth to understand how to
use these tools. For that purpose, the University invested in site licenses for Mathematica, Matlab and
SAS. Offering these courses will encourage students to utilize these tools, and develop the skills that are
important for research, industry or education.