



# *Florida Institute of Technology*

## *Science/Mathematics Education Department*

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### MEMORANDUM

To: Clayton Baum, Chair, Undergraduate Curriculum Committee  
From: Debra S. Blenis, Director of Teacher Education  
Date: September 16, 2005  
Re: Changes to graduation requirements in education programs

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After a thorough review of our education programs, comparing Florida State Content Standards with content courses within each department, and discussion with content department faculty, we would like to make the following changes.

#### 7121 – Biology Education

Delete: Free elective (3)

Add: BIO 3210, Mammalian Physiology (4)

Changes total credit hours from 128 to 129

Rational: Teachers certified in Biology often teach Anatomy & Physiology

#### 7122 – Chemistry Education

Delete: CHM 3001 & 3011, Physical Chemistry 1 & Lab (5) and MTH 2001, Calculus 3 (4)

Add: CHM 3301 & 3311, Analytical Chemistry 1 & Lab (5)

Changes total credit hours from 129 to 125

Rational: Better prepares students to teach high school chemistry

#### 7124 – General Science Education

Delete: CHM 2001, Organic Chemistry (3) and Technical elective (3)

Add: PHY 2002, Physics 2 (4) and OCN 1010 Oceanography (3)

Changes total credit hours from 128 to 129

Rational: FDOE competencies require knowledge in electricity & magnetism as well as oceanography

#### 7125 – Physics Education

Delete: PHY 3035, Quantum Mechanics (4) and CHM 1102, Chemistry 2 (4)

Add: PHY 4020m, Optics (3) and PHY 4021, Experiments in Optics (1)

Changes total credit hours from 130 to 126

Rational: FDOE competencies now include knowledge of optics and optical instruments

#### 7129 – Earth and Space Science Education

Delete: ENS 4001, The Earth System (3) and Free elective (3)

Add: PHY 2002, Physics 2 (4) and OCN 1010, Oceanography (3)

Changes total credit hours from 128 to 129

Rational: ENS 4001 is no longer offered and FDOE competencies require knowledge in electricity & magnetism as well as oceanography

#### 7150 – Mathematics Education

Delete: MTH 4101, Intro to Analysis (3); MTH 2201, Differential Equations/Linear Algebra (4);

MTH 2401, Probability & Statistics (3); Free elective (3)

Add: MTH 1000, Precalculus (3); MTH 3102, Linear Algebra (3); BUS 2703, Statistics for Business (3); Technical elective (3)

Changes total credit hours from 125 to 124

Rational: Our program needed more trigonometry and Algebra, content in BUS 2703 & MTH 3102 aligns with FDOE competencies and better prepares high school mathematics teachers.