

DATE: March 5, 2009

TO: Academic Affairs Committee

FROM: Denise Wilson, Chair, Graduate Curriculum Committee  
Kimberly Nance, Director of Graduate Studies

RE: Executive Summary – Master of Chemistry Education

Hundreds of teachers in Illinois teach chemistry with only a small number of chemistry courses in their college education, sometimes only General and Organic Chemistry, and virtually no chemical pedagogy courses. Often, these are biology teachers and physics teachers whose school district calls on them to teach the first high school chemistry course. Increasing the chemical knowledge of such teachers and providing them with the pedagogical tools for effective presentation of chemistry concepts is a direct approach to improving classroom outcomes of high school chemistry students.

The degree requires 33 hours of coursework in the following areas: Chemistry (9 hours from CHE 315, 350, 342, 360, 380.11, 380.41, 380.52, 380.53, 380.54, 388; 380.xx or 400 level -- Inorganic, Organic, Analytical, Physical, or Biochemistry); Chemistry Education (9 hours from CHE 380.48, 432, 433); Foundational Science Education (9 hours from C&I 401, 450, 451, 453), and a capstone of 6 hours of Action Research (C&I 481, 482.) By the time the degree is awarded, the candidate must also have completed three years of full-time teaching. In-service teachers will attend on a part-time basis, primarily in the evenings and on weekends via the internet with an intensive summer class on campus in July each year. Every three years, approximately 24 students will enroll as a cohort, graduating three years later. For the first three years this new degree is supported by a combination of grant, summer instructional funds, and reallocation of funds within the Chemistry department. Beyond that the degree will require one additional course per semester supported by the university. These resources will also support the M.S. in Chemistry Education.