

Steven K. Mickelson

Associate Professor

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Education

Ph.D. Agricultural Engineering, 1991
Iowa State University

M.S. Agricultural Engineering, 1984
Iowa State University

B.S. Agricultural Engineering, 1982
Iowa State University

Honors and Awards

ISU Champion Award for Exemplary Contributions
to ISU Learning Communities, 2005

ISU Foundation Award for Excellence in Academic
Advising, 2005

Best Paper Award for "Measuring the Success of
Learning Communities" by S.K. Mickelson and
T.J. Brumm. BAE Division of ASEE, 2005

Jack Everly Journal Award, North American
Colleges and Teachers of Agriculture, Best Published
Paper Award for "Formative and Summative
Assessment Techniques for Continuous Agricultural
Technology Classroom Improvement" by B.L.
Steward, S.K. Mickelson, and T.J. Brumm, 2005

ISU Outstanding Innovation Award in Learning
Communities, 2004

E-Week Faculty of the Year Award, 2004

ASAE Superior Paper Award, 2004

Superior Engineering Advisor Award, College of
Engineering, 2004

Recent Publications

Brumm, T.J., S.K. Mickelson and P.N. White.
Integrating behavioral-based interviewing into the
curricula. National Association of College Teachers
in Agriculture (NACTA) Journal (accepted for
publication August 19, 2005)

Brumm, T.J., L.F. Hanneman and S.K. Mickelson.
Assessing and developing program outcomes
through workplace competencies. Int. J. Engng Ed.
(accepted for publication July 6, 2005).

Brumm, T.J., S.K. Mickelson, B.L. Steward and
A.L. Kaleita-Forbes. Competency-based outcomes
assessment for agricultural engineering programs.
Int. J. Engng Ed. (accepted for publication
April 26, 2005).

Harms, P.C., S.K. Mickelson and T.J. Brumm.
Longitudinal study of learning communities in
agricultural and biosystems engineering. Int. J.
Engng Ed. (accepted for publication April 26, 2005).

Steward, Brian L., S.K. Mickelson and T.J. Brumm,
2005. Continuous Engineering Course Improvement
through Synergistic use of Multiple Assessment.
Int. J. Engng Ed. 21(2): 277-287.

Steward, Brian L., S.K. Mickelson and T.J. Brumm,
2004. Formative and Summative Assessment
Techniques for Continuous Agricultural Technology
Classroom Improvement, NACTA Journal 48(2):
33-41.



Teaching

Dr. Mickelson teaches classes in engineering design, engineering computer graphics, engineering problem solving, and soil and water conservation engineering; he also coordinates the teaching, advising, and experiential education for the department. Dr. Mickelson coordinates the freshman and sophomore Agricultural and Biosystems Engineering (ABE) Living and Learning Communities. These communities have been responsible for dramatically increasing student engagement and retention within the agricultural engineering and agricultural systems technology degree programs.

Research

Dr. Mickelson has developed a research program to evaluate agricultural best management practices that reduce chemical losses via surface and subsurface water movement. He is also developing a research program that quantifies soil properties through nondestructive evaluation.

Dr. Mickelson is currently working on three large research projects. In the first project, he is evaluating the impacts of managed grazing on stream ecology and water quality. In the second project, he is developing and implementing a composting/vegetative filter strip demonstration site at the ISU Dairy Farm. In the final project, he is actively involved in maintaining and developing the ABE Learning/Living Communities, thus meeting the College of Engineering and ABE Department educational objectives. New initiatives are also taking place in other Learning Community directions.

Other Professional Interests

Member of the American Society of Agricultural Engineers
Member of the American Society of Engineering Educators
Member of the Alpha Epsilon Honors Society
Member of Gamma Sigma Delta