

IOWA STATE UNIVERSITY

Agricultural and Biosystems Engineering

James C. Shahan

Adjunct Assistant Professor Registered Professional Engineer

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Education

M.S. Agricultural Engineering, 1985
Iowa State University

B.S. Agricultural Engineering, 1979
Iowa State University

Certification

Autodesk Inventor 2010-2013, 2016, Certified Professional

AutoCAD 2011-2013, Certified Professional
Autodesk Certified Instructor 2013

Honors and Awards

Superior Engineering Teacher Award, College of Engineering (2016)

25 Year Club, ISU (2010)

Engineering Council Outstanding Professor (1997, 1988)

Order of the Engineer (1986)

Alpha Epsilon (1980)

Teaching

Professor Shahan's position revolves around the introduction of computer related topics to ABE students. He teaches the following courses: ABE 271 Introduction to Parametric Solid Modeling, ABE 272 Parametric Part Assemblies and Drawings, TSM 216 Advanced Technical Graphics, Interpretation, and CAD.

He has previously taught the following classes: TSM 116 Introduction to Design in Technology, ABE 170/BSE 170 Introduction to Engineering Graphics and Design, AE 478 Cold Formed Steel Design, CE 332

Structural Analysis I, CE 334 Reinforced Concrete Design, ENGR 261 Unix Operating System, ENGR 262 Introduction to C Programming, and ENGR 263 Intermediate C Programming, ENGR 160 Engineering Problems with Computer Applications Laboratory, and the Project Lead the Way - Introduction to Engineering Design Summer Training Institute on campus

Professor Shahan's primary focus is on the use of current computer technology pertaining to engineering design. In his current activities, he uses the following computer-aided-design (CAD) software: AutoCAD, Autodesk Inventor, Pro/ENGINEER, SolidWorks, and Rhino3D. He also uses such analytical software as Mathcad, Visual Basic, and Excel. To model parts and assemblies, he includes basic and parametric solids, surfaces, and sheet metal applications. The application of the CAD models requires such areas as visualization (animation and rendering), engineering analysis (geometric and FEA), and design drawings. Professor Shahan has also used analytical software to calculate geometric properties using vector methods. An ongoing activity is getting the newest versions of the software into the classroom.

Other Professional Interests

Traditional topics relative to Engineering design graphics: descriptive geometry, design drawing standards, perspective drawing, pencil / ink drawing methods. And literature relative to: engineering history, design, future technologies and business management.

