

Teaching Bibliography – Updated 6/04

BOOKS

Hesketh, R.P., Howat, C.S., and Dixon, D.S., editors, 2000. Chemical Engineering Education in the New Millenium: Topical Conference Proceedings, AIChE Annual Meeting, Los Angeles, California.

PUBLICATIONS (REFEREED)

Howat, C.S., 2003. Chapter 16: Efficient Evolution and Expansion of the Chemical Engineering Curriculum: Integration of Inherent Safety into Capstone Design. International Network for Engineering Education Research - Special Volume.

PROCEEDINGS

Howat, C.S., 1998. Thoughts on Teaching Design Part 6: Process Simulation in Chemical Engineering Design: A Potential Impediment to, Instead of a Catalyst for, Meeting Course Objectives. Proceedings of the ASEE Annual Conference & Exposition, Seattle, Washington.

Howat, C.S., 1998. Plant & Environmental Safety: Risk and Uncertainty Analysis. A Course Beyond Steady-State and Desired Performance. Proceedings of the 1998 Process Plant Safety Symposium: Engineering, Technology, and Management for the Design and Operation of Safer Process Plants, AIChE , Houston, Texas.

Howat, C.S., 2002. Unique Design Experiences: Integration of Inherent Safety and Capstone Design. Proceedings of the International Conference on Engineering Education, Manchester, England.

Howat, C.S., 2002. Preparing Students to Practice Green Engineering Using an Integrated Design and Safety Syllabus, Proceedings of the Asian Pacific Confederation of Chemical Engineering 2002, Christchurch, New Zealand.

WORKSHOPS

Howat, C.S., 2001. Tips for Working the National Student Design Contest. Session 214, AIChE Annual Meeting, Los Angeles, California.

Howat, C.S., 2002. Tips for Working the National Design Contest or How to Keep My Sanity and Social Life. Session 158, AIChE Annual Meeting, Indianapolis, Indiana.

Howat, C.S., 2002. Workshop: How to Teach Design. Session 168, AIChE Annual Meeting, Indianapolis, Indiana.

Howat, C.S., 2003. Workshop: Approaching Significant, Open-ended Chemical Engineering Problems, Session 355b, AIChE Annual Meeting, San Francisco, California, scheduled.

PUBLICATIONS (NON-REFEREED)

Howat, C.S., 1999. It's All New to My Students. Reflections, Center for Teaching Excellence, University of Kansas, Lawrence, Kansas. (invited)

TECHNICAL PRESENTATIONS

Howat, C.S., 1988. Meeting Society's Demands: Future Chemical Engineering Education. October Kansas City AIChE Meeting, Kansas City, Missouri.

Howat, C.S., 1991. The Gulf in Student/Professor Communications or Why Don't Students Learn What I Teach? Department of Chemical & Petroleum Engineering Graduate Seminar, University of Kansas, Lawrence, Kansas.

Howat, C.S., 1994. The Rose and Design: Teaching Creativity in Chemical Engineering Design. Paper 175c, AIChE Annual Meeting, San Francisco, California.

Swift, G.W., and Howat, C.S., 1995. An Argument for Integrating Problem Solving Across the Curriculum: Roles of the AIChE Design Contest Problem and Team Work in Academe. Paper 236b, AIChE Annual Meeting, Miami Beach, Florida.

Howat, C.S., 1995. Plant & Environmental Safety: A Course Focused on Reducing Risk and Accepting Uncertainty. Paper 245g, AIChE Annual Meeting, Miami Beach, Florida.

Howat, C.S., 1996. Thoughts on Chemical Engineering Design Instruction: Design Objectives, Student State, Root Causes and a Proposed Solution. Department of Chemical and Petroleum Engineering Graduate Seminar, University of Kansas, Lawrence, Kansas.

Howat, C.S., 1996. Incorporating Problem Solving Skill Development into the Artistic Approach to Chemical Engineering Design. Presentation at the ASEE Midwest Section Conference, Tulsa, Oklahoma.

- Howat, C.S., 1997. Thoughts on Teaching Design: Distribution of Lecture Notes & Course Materials Using the World Wide Web in Chemical Engineering Design. School of Engineering Teaching Effectiveness Seminar, University of Kansas. (invited)
- Howat, C.S., 1997. Thoughts on Teaching Design Part 4: Integration of Process Simulation Software into Capstone Design. Presentation at the ASEE Midwest Section Conference, Columbia, Missouri.
- Howat, C.S., 1997. Thoughts on Chemical Engineering Design Instruction: Objectives, Approach, Performance, Examples. Presentation to Fall 1997 Chemical & Petroleum Engineering Advisory Board Meeting, Lawrence, Kansas.
- Howat, C.S., 1997. Thoughts on Teaching Design Part 5: Combining Process Synthesis and Problem-Solving Methodology in the Capstone Design Course. Paper 136d, AIChE Annual Meeting, Los Angeles, California.
- Howat, C.S., 1998. Thoughts on Teaching Design Part 6: Process Simulation in Chemical Engineering Design: A Potential Impediment to, Instead of a Catalyst for, Meeting Course Objectives. ASEE Annual Conference & Exposition, Seattle, Washington.
- Howat, C.S., 1998. Plant & Environmental Safety: Risk and Uncertainty Analysis. A Course Beyond Steady-State and Desired Performance. 1998 Process Plant Safety Symposium, Session 11, Houston, Texas.
- Howat, C.S., 1998. *Thermodynamics Rules!* or The Process Design and Analysis are only as Sound as the Data Base. Presented at the September Kansas City AIChE Meeting, Kansas City, Missouri.
- Howat, C.S., 1998. The Four Enemies to Becoming an Engineer of Knowledge. Presented at the Tau Beta Pi Initiation Dinner, Lawrence, Kansas.
- Howat, C.S., 1998. Use of Steady-State Process Simulator in Process Safety Instruction. Paper 173f, AIChE Annual Meeting, Miami Beach, Florida.
- Howat, C.S., 1999. Safety, Team Work & Ethics: The Chemical Engineering Curriculum & The 'New' ABET Requirements. Presentation to the 1999 Spring Advisory Board Meeting, Lawrence, Kansas.
- Howat, C.S., 1999, 2000. Guidelines for Approaching the AIChE National Design Contest Problem, or, How to Keep My Social Life and Sanity. AIChE Annual Meeting, Dallas, Texas.

- Howat, C.S., 1999. Capstone Design: It's Role in Undergraduate Education and Professional Training. Paper 153, AIChE Annual Meeting, Dallas, Texas.
- Howat, C.S., 2000. The Role of Safety in Design: Design in Education, AIChE Annual Meeting, Los Angeles, California.
- Howat, C.S., 2001. Undergraduate Research - Opportunity and Results. Paper 219h, AIChE Annual Meeting, Reno, Nevada.
- Howat, C.S., 2001. Integration of Plant & Environmental Safety and Capstone Design. Paper 221e, AIChE Annual Meeting, Reno, Nevada.
- Howat, C.S., 2001. Inherent Safety & Capstone Design: Development of Syllabus & National Teaching Workshop. Presentation to Department of Chemical & Petroleum Engineering Advisory Board, November 17, Lawrence, Kansas.
- Howat, C.S., 2002. Unique Design Experiences: Integration of Inherent Safety and Capstone Design. International Conference on Engineering Education, Paper 282, Manchester, England.
- Howat, C.S., 2002. Preparing Students to Practice Green Engineering Using an Integrated Design and Safety Syllabus, Paper 170, Asian Pacific Confederation of Chemical Engineering 2002, Christchurch, New Zealand.
- Howat, C.S., 2003. Outcomes in Chemical Engineering Course Development and Assessment for EC2000. Paper 350c, Annual AIChE Meeting, San Francisco, CA.
- Howat, J.N., and Howat, C.S., 2003. Proper Integration of Commercial Process Simulators into Lower Division Courses. Paper 340a, Annual AIChE Meeting, San Francisco, CA.
- Tarverdi, D.F., and Howat, C.S., 2003. Suitability of Automated Capital Investment Analysis Pedagogical Use of the ChemCAD Cost Database in Chemical Engineering Design. Paper 341y, Annual AIChE Meeting, San Francisco, CA.

INVITED SEMINARS

- Belcher, M.C., and Howat, C.S., 1992. Bridging the Gulf in Student/Professor Communications or Why Don't Students Learn What I Teach?, School of Engineering, University of Kansas, Lawrence, Kansas.

Belcher, M.C., and Howat, C.S., 1993. Design, Start-up and Operation or Successful Course Development, Approach and Student Evaluation, School of Engineering, University of Kansas, Lawrence, Kansas.

Howat, C.S., 1995. Panel Discussion on Information Technology and Simulation. AIChE Summer National Meeting, Boston, Massachusetts (one of five invited panel members).

Howat, C.S., 2003. Capstone Design and the Design Professor, Department of Chemical Engineering, University of Louisville, Louisville, Kentucky.