

**Teaching Activities
of
Dr. Esmail M. A. Mokheimer**

Teaching Experience:

Courses taught at KFUPM:

Graduate Courses:

1. ME 536 (Convective Heat Transfer)
2. ME 532 (Advanced Fluid Mechanics I)
3. ME 534 (Conduction Heat Transfer)
4. ME 536 (Convective Heat Transfer)

Undergraduate Courses:

5. ME 436 (Fluid Power Systems)
6. ME 435 (Thermal Power Plants)
7. ME 430 (Air Conditioning)
8. ME 423 (Energy Conversion)
9. ME 412 (Senior Design Project II), Coordinator
10. ME 411 (Senior Design Project I), Instructor and Coordinator
11. ME 311 (Fluid Mechanics)
12. ARE 322 (Mechanical Systems in Buildings)
13. ME 203 (Thermodynamics I)
14. ME 205/ME 215 (Material Science Lab)
15. Fluid Mechanics Lab
16. Heat Transfer Lab
17. Air conditioning Lab

Courses taught at ASU, Cairo, Egypt:

Graduate Courses:

18. (Advanced Fluid Mechanics I)
19. (Conduction Heat Transfer I)
20. (Convective Heat Transfer)

Undergraduate Courses:

21. Thermodynamics for Electrical Engineering (Combination of ME 203 & ME 204)
22. Heat Transfer for Electric Engineering (equivalent to ME 315)
23. Numerical Methods (equivalent to SE 301)
24. Power Plants (equivalent to ME 435)
25. Combustion (undergraduate level of ME 558)

In addition to teaching, I supervised 35 Co-op students and 50 Senior Design project students in the area of thermo-fluids at KFUPM. I also shared two faculty members to supervise a team of 12 students during senior design project to design and build up a desalination plant for small-scale applications at ASU.

Additional Professional Experience

Developed Fortran Programs

Experience in developing Fortran codes for solving many problems in the area of thermo-fluids.

Developed Spreadsheet Simulations

Experience in developing spreadsheet simulations for flow and heat transfer problems with applications to teaching fluid mechanics and heat transfer graduate and undergraduate courses.

Other Activities

Revising the coordination and assessment procedure of ME 411/ME 412 (Senior Design Project I/II) courses

1. Being assigned the coordination of ME 411/412 courses, I revised the coordination and assessment procedures previously followed and I proposed the separation of the ME 411 grade from that of ME 412.
2. Proposed and developed a senior design project logbook that helps the student to keep a weekly record of his work and helps the advisor to have a weekly assessment of his senior design project advisee.
3. Contacted (through the chairman of the ME department) about 50 of the local industrial companies calling for senior design project proposals and support. This resulted in 10 projects proposed by al-Zamil A/C company with full support. Three of these projects are running now through 5 students under supervision of 5 faculty members. The other will be offered next semesters. This was intended to enhance the link between industry and the ME Dept at KFUPM.

Short Courses Attended:

1. Faculty Development Program, Academic Developing Center, Ain Shams University, Cairo, Egypt, 3 weeks summer program (1/8/1989 – 23/8/1989).
2. Introduction to DBASE IV. Data Processing Center, KFUPM (2/5/1992 – 13/5/1992).
3. Motivating Students to learn. Academic Developing Center, KFUPM (9/10/1993 – 13/10/1993).

4. Heat Exchanger – Engineering Design, maintenance and Reliability, ME Dept., KFUPM (6/11/1993 – 10/11/1993).
5. Effective Teaching, Mechanical Engineering Department, KFUPM, Dec. (1997).
6. Workshop on Learning, Teaching, Curriculum, and Assessment: Academic Development Center, KFUPM (28/8/2000 – 30/8/2000).
7. First Saudi Symposium on Cooperative Education, KFUPM (23-24 /4/ 2000)
8. Instructional technology workshop to create online course using WebCT software: Academic Development Center, KFUPM (4/11/200 – 6/11/2000) along with tutorial sessions (February 20, 2001).
9. Workshop on Striving for Excellence in University Teaching & Learning: Academic Development Center, KFUPM (28/4/2001 – 1/5/2001).
10. Workshop on Effective Presentation Skills, Deanship of Academic Development, KFUPM (27-29 July, 2003).
11. Workshop on Critical Thinking, KFUPM (7 – 11 September, 2003)
12. Workshop on Assessments **Introduction to Outcome-Based Program and Course Assessment**, KFUPM (7 October, 2003)
13. Workshop on Developing the Communication Skills of Students, 4-5 September 2004
14. Workshop on Using Groups and Student Teams to Promote Learning, 7 September 2004
15. Workshop on **Designing e-Learning Materials**, October 03 & 05, 2004
16. An ITC Short course on Web Design for Beginners, December 27-29, 2004
17. Discussion Forum on Critical Thinking, November 28, 2004
18. Workshop on Faculty Research Development, February 7, 2005
19. Workshop on Instructional Design for Online Courses, March 6-13, 2005
20. Workshop on “Teaching & Tutoring Online”, 4 weeks workshop Online with Illinois University, September 5th – October 11, 2005.
21. Using Course Design to Create more Significant Learning Experiences for Students
Sep 03-04, 2006 (**Duration:** 1½ Days)

22. Good Learning and Good Teaching: How do we Promote more of it? Sep 04, 2006 (**Duration:** ½ Day)
23. Seminar on “Identifying Student Misconceptions in Engineering and Science”, DAD, Programs assessment center., by **Prof. Ronald L. Miller**, Director of the Center for Engineering Education, Colorado School of Mines, USA, February 21, 2007
24. A workshop on ABET Criteria, especially on ABET Criteria 2 and 3: Program Educational Objectives and Program Outcomes: by Dr. Edwin Wiggins from Webb Institute, USA, March 06, 2007.
25. A workshop on “Teaching for Learning”, September 1- 2, 2007.

Course Coordination Assignment

1. Senior Design Project ME 411/ME412 Coordinator for the semesters: 001, 002, 011 and the present semester 012.
2. Coordinator of Material Science Lab (ME 205) for the semester: 993

Course Development

1. I revised and proposed changes in the coordination and assessment of the two courses ME 411 and ME 412.
2. I developed a Senior Design Project logbook to facilitate a weekly record for the student and a weekly assessment tool for the project advisor.
3. I started a link between industry and the Senior Design Projects by calling for Senior Design Projects that are proposed and financially/technically supported by local industrial companies and three projects are running now and another seven to be started next semester through this link.

Professional Activities

a. Conference Organization

1. A member of the organization committee for the Workshop on the Energy Conservation in Industrial Applications, *WEC 2000*. Held at KFUPM 12-14 Feb. 2000.
2. A member of the organization committee for the First Symposium on the Energy Conservation & Management in Buildings "impact on the national economy", SECMB-1. Held at KFUPM 5-6 February 2002.

3. A member of the organization committee for the Sixth Saudi Engineering Conference . Held at KFUPM 14-17 December 2002.
4. A member of the organization committee for the e-Learning workshop, held at KFUPM 14-17 February 2006.
5. A member of the organization committee for the first Engineering Design Workshop. Held at KFUPM 11-12 April 2006.