

Rowaida Zoumot, M.Sc. Chemical Engineering,

Lecturer

Department of Chemical Engineering

Jordan University of Science & Technology

P.O. Box 3030 Irbid 22110 Jordan

Tel:(office) +962 (2) 720-1000 (x22356)

Mobile: + 962 (79) 5813534

Fax: + 962 (2) 720-1074

E-mail: zmot@just.edu.jo



Personal

Place of Birth: Amman, Jordan

Citizenship: Jordanian

Languages: Arabic, English

Education

- **M.Sc. in Chemical Engineering** **1993**
University of Ottawa, Ottawa, Canada
Chemical Engineering/ Chemical Reaction Engineering/ Reactor Design
<http://hdl.handle.net/10393/11094>

 - **B.Sc. in Chemical Engineering** **1988**
Yarmouk University, Irbid, Jordan
Graduation project: “Solar Ponds, Temperature distributions”
-

Professional Experience

- **Full-Time Lecturer** **2000 - Current**
Chemical Engineering Department
Jordan University of Science and Technology

- **Fellowship:** **Summer 2001**
“Process Simulation-Sustainable Industrial Development”
ICS-UNIDO-Trieste-Italy

- **Associate Course:** **Summer 2002**
“Associate Program Course”,
Organization for Prohibition of Chemical Weapons- OPCW
The Hague - Netherland

- **Director for the Linking with Industry Department** **1997 - 2000**
The Consultative Center for Science and Technology
Jordan University of Science and Technology

- **Lab Instructor** **1993 - 1997**
Chemical Engineering Department
Jordan University of Science and Technology

- **Teaching assistant** **1991 -1992**
Department of Chemical Engineering,
University of Ottawa, Ottawa, Canada

- **Research and Teaching assistant** **1989 -1991**
Department of Chemical Engineering,
Jordan University of Science and technology, Irbid, Jordan

Teaching

1. **Plant Design and Technical communication:** Plant design concepts and integrate knowledge learned in previous courses to solve chemical engineering design problems and to introduce students to a number of professional, social and ethical issues facing engineers. The students are also given an opportunity to function as professional engineers, and to communicate, both written and orally. Learn about computer aided design (CAD) and should acquire the experience of using “ASPEN Plus” simulator. Feasibility study, including plant cost estimation and profitability measures.
2. **Chemical Process Technology** (Fundamentals of Chemical Industries): Study of selected industries such as water treatment, air pollution control, food industries, industrial gases, cement industries, fertilizers, sulfuric acid, phosphoric acid, etc.. Case studies on industries related to consumer products are usually presented.
3. **Engineering Economics and Industrial Management:** (Economics concepts): Interest and investment costs, taxes, depreciation, insurance, inflation, cash flow, profitability measures, supply and demand, etc.. Management layers, network analysis, project management, decision analysis, accounting and marketing.
4. **Chemical Process Safety:** Importance of safety in industry. Accident analysis. Hazards of fires, explosions, dust, noise, radiation, electrical current and preventive methods. Hazards of toxic, corrosive, and carcinogenic chemicals and threshold limit values. Risk analysis exceeding the operating conditions. Required safety tools. Case Studies
5. **Chemical Reaction Engineering** Kinetics of homogeneous reactions. Mole balance. Design of isothermal reactors (Batch, CSTR, and Plug Flow). Single and multiple ideal reactors. Non-elementary homogeneous reactions. Multiple reactions. Catalysis and catalytic reactors.

6. **Numerical Methods for Chemical Engineers:** Introduction to MATLAB, Round-Off and Truncation Errors, Roots of Equations: Bracketing, Bisection, Newton-Raphson, Numerical Solution of Simultaneous, Linear Algebraic Equations: Matrix Inversion, Gauss-Seidel, Numerical Solution of Nonlinear Equations, Linear and Nonlinear Regression Analysis, Numerical Integration, Numerical solution of Ordinary Differential Equations.
7. **Communication skills:** are essential to a successful career in Engineering. This Communication Course for Engineering Students is designed to introduce you to written and oral communications in Engineering. Students will work on realistic contextualized tasks with the aim of developing communication strategies necessary to meet the academic and entry-level professional requirements in Engineering.
8. **Chemical process Control laboratory:** Illustration of principles and techniques related to process dynamics, input / output relationship, design of single- loop feedback control system. Application to chemical engineering processes.
9. **Unit Operation Laboratory:** Illustration the principles and techniques of packed and tray distillation, packed - column and wetted-wall absorption, liquid-liquid extraction, evaporation, drying, filtration, etc.
10. **Heat and Mass Transfer Laboratory:** Heat conduction in solids, free and forced convection, thermal conductivity of liquids and gases, coil, plate, and shell-and-tube heat exchangers, saturation pressure and throttling, vapor-liquid equilibria, mass transfer and diffusion coefficients of liquids and gases, wetted-wall gas absorption.
11. **Fluid Mechanics Laboratory:** Measurement of density and viscosity. Capillary rise and pressure calibration. Impact of a water jet. Reynolds apparatus test. Center of pressure on a plane surface. Fluid friction in pipes and fittings. Pumps testing. Cavitation testing.
12. **Chemical Processing Laboratory:** Applications of some concepts presented in unit operation, chemical reaction, reactor design and chemical technology courses. The following experiments are performed: batch reactor, tubular reactor, CSTR, water treatment, oil extraction, phosphoric acid production, Residence Time Distribution and Dynamic of Stirred Tanks.
13. **Computer application lab for Chemical Engineering:** Hands on lab on process simulation using Aspen HYSYS, covering thermodynamics, fluid mechanics, reaction, separation, and economic evaluation.
14. **Engineering Training:** Coordination and follow-up
15. **Graduation Project 1 and 2:** Preliminary design of chemical or industrial processes that are important for sustainable development in Jordan, Water Treatment and Reuse, Environmental pollution control, and Renewable Energy:(Bio-fuels production), etc.

Professional Activities

1. Coordinator, Chemical Engineering Scientific Day, JUST, 2015 – present
2. Member, ABET Committee, Dept. Chem. Eng., JUST, September 2006 – present
3. Member, Laboratories Committee, Dept. Chem. Eng., JUST, 2006 - present
4. Member, Safety Committee, Dept. Chem. Eng., JUST, 2006 - present
5. Coordinator, Senior Projects, Dept. Chem. Eng., JUST, 2017- Present
6. Supervised several B. Sc. graduation projects, Chemical Engineering Department, JUST.
7. Member of examining committees of several B. Sc. graduation projects Chemical Engineering Departments, JUST
8. AIChE Student Chapter Adviser - JUST 2019 - present
9. Member of the Organization and Technical Committees in the seventh Jordan International Chemical Engineering Conference, Amman, Sep. 2014.
10. JUST member of an EU-JO project on “HEBA- High level Renewable and Energy Efficiency Master Courses,” ERASMUS+-EU, 2017 (~EURO 1,000,000).
11. JUST member of an EU-JO project on “MEDACCR- On-Line Quality Assurance and EUR-ACE Accreditation of Engineering Programmes in Mediterranean Area,” ERASMUS+-EU, 2017 (~EURO 650,000)
12. JUST member of an EU-JO project on “Development of environmental engineering courses and injection of climate change concept for undergraduate curriculum: EU experience for Jordan and Syria “EGREEN”,” ERASMUS+-EU, 2016 (~EURO 1,000,000).
13. Member of EU, Palestine, and Jordanian team to modernize teaching methods in Jordan and Palestine: “Modernization of Teaching Methodologies in Higher Education: EU experience for Jordan and Palestinian Territory, (METHODS)”, ERASMUS+-EU, 2015 (~EURO 1,000,000)
14. General Training Course on the Chemical Weapons Convention for the Personnel of National Authorities and the Relevant Stakeholders OPCW Headquarters – The Hague, Netherlands, from 9 April to 13 April 2018.
15. The OPCW Day Conference "Chemical Safety and Security in a Technologically Evolving World" OPCW Headquarters -The Hague ,2-4 May 2016
16. Workshop: “Next Generation Biofuels”, from 13/9/2009-18/9/2009, ICS-UNIDO. Bologna - Italy
17. Training-of-Trainers course: “Environmental Management”, from 18/09-22/09/2006, ICS-UNIDO-Grosseto- Italy
18. Workshop: Process Simulation, “State of Art”, from 29/11-1/12/2006, ICS-UNIDO- San Marino-Italy
19. Workshop: “Education Technology-Communication Skills”, 06/07-10/07/2004, Jordan University of Science and Technology-Jordan.
20. Educational Outcomes Assessment Workshop", College of Engineering, Feb. 3-4, 2002 UAEU,

Affiliations

- Member of Jordan Engineers Association.
- Member of Jordan Committee of Environment
- Member of Royal Society for the Conservation of Nature
- Member of **AIChE**