David J. Courtemanche
djcourte@buffalo.edu

Education:

Doctorate – Chemical Engineering, 1993
University of Illinois, Champaign, IL, Advisor Frank van Swol, PhD
Dissertation Title: Wetting Phenomena near the Melting Curve

Master of Science – Chemical Engineering, 1989
University of Illinois, Champaign, IL, Advisor: Thomas Hanratty, PhD
Thesis Title: Turbulence over a Wavy Wall

Bachelor of Science – Chemical Engineering, 1986
University of Minnesota, Minneapolis MN

Experience:

2017 – present — University at Buffalo, Department of Chemical and Biological Engineering, Amherst, NY
Assistant Professor of Teaching
Specializing in the teaching of core undergraduate courses in chemical engineering.

1993 – 2017 — E.I. DuPont, Tonawanda, NY
Manufacturing Technology Associate
Process engineering involving day to day assistance to operations with an emphasis on process safety management and process hazards analysis. Lead for plant PHA committee. Past positions included plant design and process and product development on benchtop, production, and semi-works scales for Corian® countertops and sinks.

2011 – 2017 — University at Buffalo, Department of Chemical and Biological Engineering, Amherst, NY
Adjunct Lecturer
Assist with senior design course, CE408. Work with faculty to develop scope and subject of senior design project. Meet with students to critique progress and offer coaching on their projects. Deliver several lectures on process safety management.

2016 – 2017 — Canisius College, Buffalo, NY
Adjunct Professor
Responsible for developing and presenting lectures, homework and exams for EGR211A, Engineering Thermodynamics.

1989-1993	University of Illinois	Champaign, IL
	Research Assistant/Teaching Assistant	
	Conducted Molecular Dynamics and Monte Carlo simulations in the field of statistical thermodynamics and assisted in the instruction and grading of numerous undergraduate chemical engineering courses.	
1988-1989	Kraft, Incorporated	Glenview, IL
	Chemical Engineer	
	Process development work for Miracle Whip on pilot plant scale. 986-1989	
	University of Illinois	Champaign, IL
	Research Assistant/Teaching Assistant	
	Conducted experimental research in the field of turbulent fluid mechanics.	
1985-1986	University of Minnesota	Minneapolis, MN
	Undergraduate Research Assistant	
	Conducted rheological characterization of poly-(methyl methacrylate)/methyl methacrylate system.	

Courses taught at UB:

Semester	**Course**	**Title**	**Enrollment**
Fall 2017	CE 407	Separations	69
Spring 2018	CE 408	Plant Design	69
Summer 2018	CE 407	Separations	14
Fall 2018	CE 407	Separations	83
	CE 404	Product Design	86
Spring 2019	CE 498	Undergraduate Research	16
	CE 405/505	Special Topics – Six Sigma	30
Summer 2019	CE 407	Separations	23
Fall 2019	CE 407	Separations	69
	CE 404	Product Design	79
Spring 2020	CE 405/505	Special Topics – Six Sigma	33
Summer 2020	CE 407	Separations	24
Fall 2020	CE 407	Separations	55
	CE 400/500	Special Topics - PSM	30
Spring 2021	CE 408	Plant Design	65
	CE 405/505	Special Topics – Six Sigma	37
Summer 2021	CE 407	Separations	27
Fall 2021	CE 407	Separations	49
	CE 400/500	Special Topics - PSM	08
	EAS 198	UB Seminar	24
Spring 2022	CE 408	Process Design	59
	CE 441/541	Six Sigma	30
Summer 2022	CE 407	Separations	18
Fall 2022	CE 407	Separations	40
	CE 441/541	Six Sigma	14
Spring 2023	CE 408	Plant Design	42

Courses developed at UB:

CE 400/500 Special Topics – Process Safety Management

My experience in industry is that working on Process Safety Management (PSM) is one of the key job duties for a chemical engineer who works in manufacturing. This course provides a PSM foundation for students to bring with them when they enter the workforce.

CE 441/541 Six Sigma for Chemical Engineers

This course introduces chemical engineering students to key concepts used in statistical quality control. The course focuses on how these methods apply to continuous chemical processing and culminates in a project where the methodology is applied to a continuous chemical manufacturing process. The process is simulated using Honeywell Unisim process modeling software. The students work in teams to optimize a manufacturing plant.

Departmental Service:

Undergraduate Committee Member
AIChE Student Chapter Advisor
ABET Coordinator

lead effort to convert from ABET A-K criteria to 1-7 criteria
monitor and organize data collection schedule and compliance

Open House Volunteer
Chem E Summer Camp Instructor

Recognition:

School of Engineering and Applied Sciences “Best Teaching Faculty” 2020
Voted “Professor of the Year” in 2018 and 2019 by AIChE UB student chapter
DuPont Corporate “Engineering Excellence Award” 2012
DuPont “Outstanding Leadership Award” for contributions to process safety management 2016

Selected Publication:

Wetting State of Crystal-Fluid System of Hard Spheres
David J. Courtemanche and Frank van Swol
Phys. Rev. Lett. **69** 2078 (1992)