

CHEN 4815R - Unit Operations 2 Applications

Fall 2026 Syllabus, Section 01, CRN 41578,

Credit hours: 1

Instructor

Byung-Wook Park

Email: bwpark@ysu.edu

Public Instructor Information

Instructor Title:

Associate Professor

Instructor Professional Qualifications:

Ph.D., Chemical Engineering, The University of Toledo, 2012

Instructor Office Location:

Moser Hall 2067

Instructor Office Phone:

330.941.3088

Course Description

4815R. Unit Operations 2 Applications. Utilizing computer programs for gas absorption and desorption, interphase mass transfer processes, liquid extraction and leaching. Includes applications of the design equations to equipment design. Prereq.: CHEN 3787 and CHEN 2650. Coreq.: CHEN 4815. 1 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Separation Process Principles	J.D. Seader, E.J. Henley	0-471-46480-5
Optional	Transport Processes and Separation Process Principles	C.J. Geankoplis	0-13-101367-X
Optional	Equilibrium Staged Separations	P.C. Wankat	0-13-500968-5
Optional	Unit Operation of Chemical Engineering	W.L. McCabe	0-07-039366-4

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Proposed Topic	Due/To Prepare for Class
8/24	Heat Exchangers	
8/31	Flash Tanks	
9/7	Feed Ratios	
9/14	Distillation Columns – Design	
9/21		Quiz 1
9/28	Distillation Columns – Design	
10/5	Distillation Columns – Simulation	
10/12	Distillation Columns – Simulation	
10/19	Absorption Towers	

10/26	Absorption Towers	
11/2		Quiz 2
11/9	Packed Columns	
11/16	Liquid-Liquid Extraction Columns	
11/23	Thanksgiving	
11/30		Quiz 3

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.