AY25-2 Chemical Engineering Course and Program Brief

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8 November 2024

ABET Engineering Technology Accreditation Commission

Agenda

- Course briefings
  - CH300 - *Intro. to Biomedical Engineering*
  - CH362 - *Mass & Energy Balances*
  - CH364 - *Chemical Reaction Engineering*
  - CH367 - *Intro. to Automatic Process Control*
  - CH400 - *Chemical Engineering Professional Practice*
  - CH402 - *Chemical Engineering Process Design*
  - CH450 - *Bioengineering Modeling & Analysis*
- Bioengineering update
- Inbound chemical engineering faculty update
- Teaching slate (5 year projected); 10% reduction COA
- Program updates
  - Lab updates, ABET Advisory Board, & instructor observation

CH402: Chem. Eng. Process Design
Course Director: Dr. Biaglow
Course Supervisor: Dr. Nagelli

Credit Hours: 3.5 (BS=0, ET=3.5, MA=0)
Prerequisites: CH459, CH485, CH365
Co-requisite: None
Lessons: 40 @ 55 min, 7 @ 120 min
Special Requirements: None

N/C

This course provides a capstone experience that brings together material from previous courses to examine contemporary problems in chemical engineering process design. The course provides instruction in the conceptual design of processes to achieve design goals, as well as the economic optimization of the process. The course emphasizes the use of computer simulations, theory of unit operations, process control, safety, environmental and economic factors. The effect of changes in design on the process economics will be investigated. Written and oral design reports for the capstone design project are required.

Topics – by Chapter

Plant Design and Economics for Chemical Engineers, Peters, Timmerhaus, West, 5th Edition (2002)

- Introduction to Process Design (Ch. 1)
- Heat Exchanger Design (Ch. 14)
- Fluid Handling (Ch. 12)
- Flowsheet Synthesis (Ch. 4)
- Cost Estimation (Ch. 6)
- Process Economics (Ch. 7,8)
- Design Project and Reports (Ch. 11)

N/C

Course Assessment – Items from Section III

Sustain:

- Emphasis on written “professional quality” reports (communication efforts per program assessment).
- Capstone project – methanation of CO_2 – excellent problem. Recommend use of data modelling in this project.
- Use of AIChE contest problem – this year - blue hydrogen autothermal reforming process.

Improve:

- Research on context in capstone project. Cadets need to reach deeper into independent study to produce novel methods.
- Energy integration – teach networked exchangers with pinch analysis..
- Review of flowsheets, how to draw them and how to read them.
- Understanding environmental impact – CHEMCAD tools.

Assessment – Graded Events

N/C

10 Problem Sets @ 25 pts each:	250	13.51%
4 Small Design Probs. @ 50 pts each:	200	10.81%
2 WPRs @ 200 pts each:	400	21.62%
1 Design Report @ 400 pts:	400	21.62%
2 IPRs @ 100 pts each:	200	10.81%
4 Quizzes @ 25 pts each:	100	5.41%
1 Term End Exam @ 300 pts:	300	16.22%
Total:	1850	
Individual Submission:	1250	67.57%

*Lab staff requirements: SSI / CHEMCAD / CPI re-licensing purchases.

CH300: Introduction to Biomedical Engineering
Course Director: Dr. Yuk
Course Supervisor: Dr. Nagelli

Credit Hours: 3.0 (BS=2.0, ET=1.0, MA=0)
Prerequisites: CH102, MA205
Co-requisite: None
Lessons: 30 @ 75 min
Special Requirements: None

This course provides a basis for understanding the application of engineering principles to problems in medicine and biology. It provides preparation for future graduate work in medical school, biomedical engineering, and chemical engineering. Specifically, the objectives of the course are: (1) to introduce the field and how it relates to other fields of engineering and science, (2) the develop the ability to apply mathematics, science, and engineering to solve problems, (3) to develop an understanding of the impact of engineering solutions on the medical field and society, and (4) to understand current topics within the field.

Topics – by Chapter

TEXT: Introduction to Biomedical Engineering, 3rd Edition, by John Enderle and Joseph Bronzino; Academic Press, 2012 & Physical Biology of the Cell, 2nd Ed by Rob Phillips

- Part I: Molecular and Cellular Properties (Ch.1, Ch.2, & Ch.3 of Enderle Text and Ch.2, Ch.3, & Ch.4 of Phillips Text)
- Part II: Cellular Considerations (Ch.4, Ch.5, Ch.8, and Ch.13 of Enderle Text)
- Part III: Downstream Considerations (Ch.10, Ch.11, Ch.12, Ch.14, Ch.15 of Enderle Text)

Course Assessment – Items from Section III

Sustain:
- Continue with current textbooks.
- New WPRs with revised questions on biomedical engineering context.
- Problem sets to connect the bridge between biological and chemical engineering concepts.

Improve:
- Additional emphasis on Mathematica, showing how some of biological problems can be framed in coding.
- More realistic problems from current biomedical/bioengineering fields (outside of textbook).

Assessment – Graded Events

6 PSs @ 50 pts each	300	21.4%
2 WPRs @ 200 pts each:	400	28.6%
1 Capstone Project	200	14.3%
1 TEE	500	35.7%
Total:	**1400**	
*Individual Points :	1400	100%

*Lab staff requirements: No direct support from lab staff needed

CH362: Mass and Energy Balances
Course Director: MAJ Tobergte
Course Supervisor: LTC Cowart

Credit Hours: 3.5 (BS=0, ET=3.5, MA=0)
Prerequisites: CH102 or CH152
Co-requisite: None
Lessons: 40 @ 55 min, Labs: 7 @ 120 min
Special Requirements: None

Introduction to mass and energy balances in single phase and multiphase, nonreactive and reactive systems. Course topics include an introduction to engineering calculations and process variables, use of computers in solving chemical engineering problems, fundamentals of material balances in single-phase and multi-phase systems, energy balances on nonreactive and reactive processes, applications of combined material and energy balances, introduction to chemical engineering unit operations, and a general introduction to the field of chemical engineering.

Topics – by Chapter

Elementary Principles of Chemical Processes, Felder, Rousseau, Bullard, 4th Edition (2016)

- Introduction to Chemical Engineering (Ch. 1)
- Introduction to Engineering Calculations and Process Variables (Ch. 2 & 3)
- Single and Multi-unit Material Balances (Ch. 4.1-4.5)
- Reactive System Material Balances (Ch. 4.6-4.10)
- Multiphase Systems (Ch. 6)
- Energy Balances on Non-reactive Sys (Ch. 5, 7, 8)
- Energy Balances on Reactive Sys (Ch. 9)

Course Assessment – Items from Section III

Sustain:

Add in lesson to reinforce fundamental engineering calculations (unit systems, dimensional analysis, etc.) – **sustain from last year**

Modeling projects in labs and problem sets using software for analytical techniques

Continue to use applied problems to reinforce concepts

Improve:

Lesson 2 Quiz to emphasize CH101, CH102 and math concepts

Two fewer problem sets with more low-point concept questions before cumulative questions

A & C hour classes in BH341B to facilitate AI before/after class

Assessment – Graded Events

Requirement	#	Pts	Total	%	Change from Last Year
*TEE	1	200	200	20%	Down 2%
*WPRs	3	80,100,100	280	28%	Up 5%
*Lesson 2 Quiz	1	20	20	2%	Up 2%
*In-class Problem Sets	4	40	160	16%	Same
*Problem Sets	8	20	160	16%	Same
*Labs	7	10-15	80	8%	Down 1%
*Research Paper	1	50	50	5%	Down 1%
Capstone Presentation	1	50	50	5%	Down 1%
Total:				1000	
*Individual Submission:				950	**95%**

*Lab staff requirements: Organic solution preparation for ebulliometer lab

CH364: Chemical Reaction Engineering
Course Director: LTC Cowart
Course Supervisor: Dr. Yuk

Credit Hours: 3.5 (BS=0, ET=3.5, MA=0)
Prerequisites: CH362
Co-requisite: None
Lessons: 40 @ 55 min, 7 @ 120 min
Special Requirements: None

This course studies the effects of chemical reaction kinetics on systems of engineering significance. It introduces selection and operation of commercial chemical reactors, emphasizing chemical kinetics and transport phenomena. It studies currently practiced engineering techniques associated with each of these reactors. Topics covered in this course include ideal reactors; batch, CSTR and PFR, isothermal and non-isothermal. Other topics may include catalytic reactors, bioreactors, transient and steady state reactor design, pressure drop in reactors, recycle, stability, and numerical methods.

Topics – by Chapter

Textbook: *Elements of Chemical Reaction Engineering*, Fogler, Prentice Hall, 6th Edition (2020) – *7th edition TBP 2025*

- Mole Balances (Ch. 1)
- Conversion and Reactor Sizing (Ch. 2)
- Rate Laws (Ch. 3)
- Stoichiometry (Ch. 4)
- Isothermal Reactor Design (Ch. 5, 6)
- Collection and Analysis of Rate Data (Ch. 7)
- Multiple Reactions and Bioreactors (Ch. 8, 9)
- Catalysis & Catalytic Reactors (Ch. 10)
- Non-isothermal Reactor Design (Ch. 11, 12)

Course Assessment – Items from Section III

Sustain:
- Number and type of in-class example problems to reinforce concepts.
- Development of reactor design from fundamental MEB.
- Fundamental reactor design problem for capstone project

Improve:
- Numerical solver skill in solving differential equations.
- Shorten problem sets but increase frequency.
- Integrate capstone with CH367 for robust design project.

Assessment – Graded Events

3 WPRs @ 200 pts each:	600	29%
10 Problem Sets @ 50 pts each:	500	24%
7 Labs @ 40 pts each:	280	13%
1 Capstone Project @ 200 pts:	200	10%
1 Term End Exam @ 500 pts	500	24%
Total:	2080	
Individual Submission:	1800	87%

*Lab staff requirements: No direct support from lab staff needed

CH367: Intro. to Auto. Process Control
Course Director: COL James
Course Supervisor: Dr. Biaglow

Credit Hours: 3.0 (BS=0, ET=3.0, MA=0)
Prerequisites: CH459, CH485, CH365
Co-requisite: None
Lessons: 30 @ 75 min
Special Requirements: None

This course covers the principles necessary to understand the automatic control of chemical processes. Students learn the current mathematical models and mechanical details of various control elements, including sensors, transmitters, actuators, and controllers. Application of mathematical models will be covered with dynamic modeling techniques as well as real-time training using process simulators. The course will also cover tuning of controllers as well as safe response to process upsets. A capstone project will involve dynamic modelling of an integrated process control system.

Topics – by Chapter

Process Dynamics and Control, Seborg, Edgar, Mellichamp, Doyle 4th Edition (2017)

- Introduction to Process Control (Ch. 1)
- Developing Chemical Process Models (Ch. 2,3,4,7)
- Dynamic Response of Chemical Processes (Ch. 5,6)
- Designing Feedback Controllers (Ch. 8,12)
- Control System Instrumentation and Final Control Elements (Ch. 9)
- Dynamic Behavior and Stability (Ch. 11)
- Feedforward, Ratio Control, and Advanced Topics (Ch. 15, 16, 18)

Course Assessment – Items from Section III

- Create and execute a joint capstone with CH364, for efficiency and integration of the overlapping concepts
- Reword the following course objectives to include stability:
  1) Design control systems that account for process dynamics, disturbances, and stability.
  2) Understand how to tune controllers for optimum process performance and stability.
- Explore using python to model processes and controllers as it provides more flexibility.

Assessment – Graded Events

Term End Exam (TEE)	1	500	500	25%
Written Partial Reviews (WPRs)	3	250	750	37.5%
Problem Sets	7	50	350	17.5%
Daily Questions/Quizzes	30	5	150	7.5%
Capstone	1	250	250	12.5%
		Total	2000	100%
		Individual	1400	70%

*Lab staff requirements: No direct support from lab staff needed

CH400: Chemical Engineering Professional Practice
Course Director: Dr. Nagelli
Course Supervisor: LTC Cowart

Credit Hours: 1.5 (BS=0, ET=1.5, MA=0)
Prerequisites: CH459, CH485, CH365
Co-requisite: None
Lessons: 20 @ 55 min
Special Requirements: None

The course will meet on 1-Days (E1 & F1) and will cover topics such as ethics, continuing education, and global and social issues within chemical engineering. Special emphasis will be placed on preparation for the Fundamentals of Engineering Exam using practice problems and graded practice exams. The course also covers professional plant engineering using plant simulators and mock exercises to teach proper troubleshooting and response techniques.

Topics – by Chapter

FEE Supplied-Reference Handbook Ed. 10.2
FE Chem. E sample questions + solutions

- Mass & Energy Balances
- Chemical reaction engineering
- Thermodynamics
- Heat Transfer
- Mathematics/prob. & stat.
- Engineering Sciences
- Safety, Health and Environmental
- Fluid mechanics/Dynamics
- Ethics & Prof. Practice
- Mass Trans & Separations
- Chemistry & Biology
- Solids Handling
- Economics
- Process Design
- Process Controls
- Materials Science

Course Assessment – Items from Section III

Sustain:

Feedback on Quizzes and WPR

Continue to go over all graded events before FEE

FEE on 10 & 12MAR (Before Spring Break), 25-27MAR

Improve:

Continue to update topic specific FE problems

More SSI Process Sim Sessions in addition to DIST

P&ID Problems with Controls

Continue to update Quizzes/WPRs

Assessment – Graded Events

10 Problem Sets @ 25 pts each:	200	21.05%
10 Quizzes @25 pts each:	250	26.31%
2 Practice Exams @ 50 pts each:	100	10.52%
1 WPR @ 200 pts each:	200	21.05%
2 SSI Exercises @100 pts each:	200	21.05%
Total:	950	
Individual Submission:	**950**	**100%**

*Lab staff requirements: Process simulator software purchase for FEE preparation & professional development

CH450: Bioengineering Modeling and Analysis
Course Director: COL Burpo
Course Supervisor: Dr. Yuk

Credit Hours: 3.0 (BS=0.0, ET=3.0, MA=0)
Prerequisites: CH102, MA205
Co-requisite: None
Lessons: 30 @ 75 min
Special Requirements: None

This course provides a broad understanding of bioengineering disciplines to include biomechanics, biomaterials, tissue engineering, biocatalysts, biochemical engineering, and biosensors. Fundamental concepts of molecular kinetics, thermodynamics, and mass transport are applied in problem sets in each bioengineering sub-discipline and capstone design project providing students the opportunity for modeling, analysis, and design from the biomolecular to physiological length scale and across multiple time scales. Modeling software such as MATLAB and Mathematica is extensively used.

Topics – by Chapter

TEXT: Introduction to Biomedical Engineering, 3rd Edition, by John Enderle and Joseph Bronzino; Academic Press, 2012.

- Part I: Biomechanics (Ch. 1 and 4)
- Part II: Biomaterials (Ch. 5)
- Part III: Tissue Engineering (Ch. 6)
- Part IV: Biomedical Enzyme Kinetics (Ch. 7 and 8)
- Part V: Biochemical Engineering (Handouts)
- Part VI: Biosensors (Ch. 10)

Course Assessment – Items from Section III

Sustain:
- Continue with current textbooks.
- Continue with open-ended problem sets.
- Quizzes to assess the cadets' understanding of fundamental concepts throughout the semester.

Improve:
- Additional emphasis on Mathematica examples to show how to translate the equations into coding.

Assessment – Graded Events

5 *Problem Set @ 25 pts each	500	47.2%
6 *Quiz @ 200 pts each:	180	17.0%
1 *Capstone Paper	150	4.1%
1 *Capstone Presentation	50	4.7%
6 *Instructor Points	180	17.0%
Total:	**1060**	
*Individual Points :	1060	100%

*Lab requirements: No direct support from lab staff needed

Bioengineering Update
(Minor/Track/Sequence)

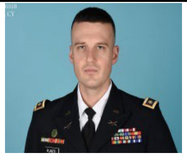
Bioengineering - Timeline

- Select Bioengineering AP…ongoing Fall 2020 ✓
- Select Bioengineering T10 ✓
- QA/QC 3.0 ET credit for CH450 ✓
- Pilot/Teach new courses…CH350 & CH300 ✓
- Curriculum Proposals for CH300 and CH350 ✓
- 3.0 ET credit review process for CH300 and CH350 ✓
  - Met with ABET reviewers
  - Recommending 1.0 ET for CH300, 2.0 ET for CH350
- Get to curriculum committee ✓
- Get courses in Redbook ✓
- **Minor Approved by Curriculum Committee on 11OCT24** ✓
- **General Committee Vote on 07NOV24**

Inbound Faculty

Chem. E. future faculty updates

- *CPT Stewart (AY26)…sponsor: CPT Rogers*
- *CPT Denis Glinski (AY26)…sponsor: MAJ Tobergte*
- *MAJ(P) Plante (AY27)…sponsor: LTC Cowart/Dr. Nagelli*
- *CPT Austin Breed (AY27)…sponsor: CPT Stewart*
- *LTC Corrigan (AY28)…sponsor: Dr. Nagelli*
- *CPT Madison Turner (AY28)..sponsor: CPT Breed*

	Future Faculty Member	ACS Start	USMA Arrival	School	Cost Category	Research Focus
	**CPT Christopher Stewart** (Sponsor CPT Rogers)	AUG 2023	JUN 2025	CalTech	High	Complex fluid mechanics, colloids
	CPT Denis Glinski (Sponsor MAJ Tobergte)	Direct Hire	JUN 2025	Johns Hopkins	High	Modeling & Bioengineering
	**MAJ(P) Luke Plante** (Sponsor LTC Cowart)	AUG 2023	JUN 2026	Cornell	High	Biomining of heavy metals
	**CPT Austin Breed** (Sponsor CPT Stewart)	AUG 2024	JUN 2026	Northeastern	High	Electrochemistry & Batteries
	**LTC Trevor Corrigan** (Sponsor Dr. Nagelli)	AUG 2024	JUN 2027	UWash	High Low	Bioengineering
	CPT Madison Turner (Sponsor CPT Breed)	AUG 2025	JUN 2027	Georgia Tech Duke Johns Hopkins	Low High High	N/A

Teaching Slate (5 Year Projected)

Considerations

- Growth of ChemE enrollment
- *ChemE Majors:*
  32 (Class ‘25)
  27 (Class of ’26)
  38 (Class ‘27)
- **ABET Record Year in AY26**
  ABET visit in Fall AY27-1
- **Next PhDs:**
  MAJ Plante **(**AY27)
  LTC Corrigan (AY28)

AY25		AY26		AY27	
AY25-1 (Fall)	AY25-2 (Spring)	AY26-1 (Fall)	AY26-2 (Spring)	AY27-1 (Fall)	AY27-2 (Spring)
CH363 (James)	CH362(Tobergte)	CH363 (James)	CH362 (Tobergte)	CH363 (James)	CH362 (Rogers)
CH459 (Nagelli)	CH364 (Cowart)	CH459 (Yuk, Biaglow)	CH364 (Nagelli)	CH459 (Nagelli)	CH364 (Plante)
CH485 (Cowart)	CH402 (Biaglow)	CH485 (Cowart)	CH402 (Biaglow)	CH485 (Plante)	CH402 (Biaglow)
CH365 (Biaglow)	CH400 (Nagelli)	CH365 (Biaglow)	CH400 (Cowart)	CH365 (Biaglow)	CH400 (Nagelli)
CH350 (Yuk)	CH367 (James)	CH350 (Yuk)	CH367 (James)	CH350 (JF Rotator)	CH367 (James)
	CH300 (Yuk)		CH300 (Yuk)		CH300 (Yuk)
	CH450 (Burpo)	**Nagelli Sabbatical*	CH450 (Yuk)		CH450 (Yuk)
		Tobergte (GC)		**Yuk Sabbatical*	Nagelli (GC)
		Lowell (GC + OPSO)	Lowell (GC + OPSO)	Golonski (GC)	
Tobergte (GC)	Yuk (GC)	Golonski (GC)	Rogers (GC)	Rogers (GC)	Golonski (GC)
Lowell (GC+OPSO)	Lowell (GC+OPSO)	Rogers (GC)	Golonski (GC)	Frey (GC)	Frey (GC)
Golonski(GC)	Golonski (GC)	Frey (GC)	Frey (GC)	Stewart (GC)	Stewart (GC)
Rogers (GC)	Rogers (GC)	Stewart (GC)	Stewart (GC)	Glinski (GC)	Glinski (GC)
Frey (GC)	Frey (GC)	Glinski (GC)	Glinski (GC)	Breed (GC)	Breed (GC)

AY28		AY29		AY30	
AY28-1 (Fall)	AY28-2 (Spring)	AY29-1 (Fall)	AY29-2 (Spring)	AY30-1 (Fall)	AY30-2 (Spring)
CH363 (Nagelli)	CH362 (Nagelli)	CH363 (Nagelli)	CH362 (Nagelli)	CH363 (James)	CH362 (Nagelli)
CH459 (Yuk)	CH364 (Plante)	CH459 (Yuk)	CH364 (Plante)	CH459 (Yuk)	CH364 (Plante)
CH485 (Plante)	CH402 (Biaglow)	CH485 (Plante)	CH402 (Biaglow)	CH485 (Plante)	CH402 (Nagelli)
CH365 (Biaglow)	CH400 (Yuk)	CH365 (Biaglow)	CH400 (Yuk)	CH365 (Nagelli)	CH400 (Yuk)
CH350 (Corrigan)	CH367 (James)	CH350 (Corrigan)	CH367 (James)	CH350 (Corrigan)	CH367 (James)
	CH300 (Corrigan)		CH300 (Corrigan)		CH300 (Corrigan)
	CH450 (Corrigan)		CH450 (Corrigan)		CH450 (Corrigan)
James (GC)					
Corrigan (GC)		James (GC)			
Stewart (GC)	Glinski (GC)	Corrigan (GC)	Nagelli (GC)	Corrigan (GC)	
Glinski (GC)	Stewart (GC)	Breed (GC)	Breed (GC)	Turner(GC)	Yuk (GC)
Breed (GC)	Breed (GC)	Turner (GC)	Turner (GC)		Turner(GC)
Turner(GC)	Turner (GC)				

Teaching Slate

(COA for 10% Reduction in CLS Slate – 1 Faculty/Program)

Considerations

- **COA for 10% Reduction in Department Slate – AY26 & Beyond**
- **Losing one ChemE Senior Faculty for upper level major course**
- **Total Remaining:**
  - 2 APs (1 PUSMA)
  - 3 Title 10 Faculty
  - AY27-1 No Back Fill for upper elective; may have to cancel CH350
  - AY29-1 and AY30-1 CH485 Co-taught with LTC Corrigan CD
  - AY30-2 (CH400 is 20 LSNs and will be team taught with Dr. Yuk CD for CH364)

AY25		AY26		AY27	
AY25-1 (Fall)	AY25-2 (Spring)	AY26-1 (Fall)	AY26-2 (Spring)	AY27-1 (Fall)	AY27-2 (Spring)
CH363 (James)	CH362(Tobergte)	CH363 (James)	CH362 (Tobergte)	CH363 (James)	CH362 (Rogers)
CH459 (Nagelli)	CH364 (Cowart)	CH459 (Yuk, Biaglow)	CH364 (Nagelli)	CH459 (Nagelli)	CH364 (Plante) Nagelli
CH485 (Cowart)	CH402 (Biaglow)	CH485 (Cowart)	CH402 (Biaglow)	CH485 (Plante)	CH402 (Biaglow)
CH365 (Biaglow)	CH400 (Nagelli)	CH365 (Biaglow)	CH400 (Cowart)	CH365 (Biaglow)	CH400 (Nagelli)
CH350 (Yuk)	CH367 (James)	CH350 (Yuk)	CH367 (James)	CH350 (JF Rotator)	CH367 (James)
	CH300 (Yuk)		CH300 (Yuk)		CH300 (Yuk)
	CH450 (Burpo)	*Nagelli Sabbatical*	CH450 (Yuk)		CH450 (Yuk)
		Tobergte (GC)		*Yuk Sabbatical*	
		Lowell (GC + OPSO)	Lowell (GC + OPSO)	Golonski (GC)	Golonski(GC)
Tobergte (GC)	Yuk (GC)	Golonski (GC)	Rogers (GC)	Rogers (GC)	
Lowell (GC+OPSO)	Lowell (GC+OPSO)	Rogers (GC)	Golonski (GC)	Frey (GC)	Frey (GC)
Golonski(GC)	Golonski (GC)	Frey (GC)	Frey (GC)	Stewart (GC)	Stewart (GC)
Rogers (GC)	Rogers (GC)	Stewart (GC)	Stewart (GC)	Glinski(GC)	Glinski (GC)
Frey (GC)	Frey (GC)	Glinski (GC)	Glinski (GC)	Breed (GC)	Breed (GC)

AY28		AY29		AY30	
AY28-1 (Fall)	AY28-2 (Spring)	AY29-1 (Fall)	AY29-2 (Spring)	AY30-1 (Fall)	AY30-2 (Spring)
CH363 (James)	CH362 (JF Rotator)	CH363 (Nagelli)	CH362 (JF Rotator)	CH363 (James)	CH362 (JF Rotator)
CH459 (Yuk)	CH364 (Plante) Nagelli	CH459 (Yuk)	CH364 (Plante) Nagelli	CH459 (Yuk)	CH364 (Plante) Yuk
CH485 (Plante) Nagelli	CH402 (Biaglow)	CH485 (Plante) Corrigan	CH402 (Biaglow)	CH485 (Plante) Corrigan	CH402 (Nagelli)
CH365 (Biaglow)	CH400 (Yuk)	CH365 (Biaglow)	CH400 (Yuk)	CH365 (Nagelli)	CH400 (Yuk) Team
CH350 (Corrigan)	CH367 (James)	CH350 (Corrigan)	CH367 (James)	CH350 (Corrigan)	CH367 (James)
	CH300 (Corrigan)		CH300 (Corrigan)		CH300 (Corrigan)
	CH450 (Corrigan)		CH450 (Corrigan)		CH450 (Corrigan)
Corrigan (GC)					
Stewart (GC)	Glinski (GC)				
Glinski (GC)	Stewart (GC)	Breed (GC)	Breed (GC)		
Breed (GC)	Breed (GC)	Turner (GC)	Turner (GC)		
Turner(GC)	Turner (GC)				

Program Updates

- **Chemical Engineering Laboratories**
  - Evaporator repairs; steam generator (POCs: Dr. Lundell & Mr. Mathew)
  - BH136 reset complete as of August 2023; fully functioning materials lab

- **ABET Record Year in AY26**
  - Kept CDs with experience in respective course in AY26-1/26-2
  - PEV Visit Fall 2026 (AY27-1)
  - Focus Areas: Bioengineering development, FEE Performance, and Program/Course Assessment

- **ABET Advisory Board Meeting AY25-2 (Friday in April 2025, 11 APR)**
  - Will coordinate dates with Mrs. Costain before contact with Board

- **Chemical Engineering Program Instructor Observation (AY25-1)**

Instructor	Course	Teaching Hours		Observer	Week of
Dr. Biaglow	CH365 Chemical Engineering Thermo	A1, C1		LTC Cowart	30 Sep - 5 Oct
LTC Cowart	CH485 Heat and Mass Transfer	H2, I2		Dr. Nagelli	30 Sep - 5 Oct
COL James	CH363 Separation Processes	H2, I2		Dr. Biaglow	30 Sep - 5 Oct
Dr. Ivanisevic	CH350 Bioprocess Engineering	G2		Dr. Yuk	30 Sep - 5 Oct
Dr. Nagelli	CH459 Chemical Engineering Lab	A1B1, C1D1, E1F1		COL James	30 Sep - 5 Oct
Instructor	**Course**	**Teaching Hours**		**Observer**	**Week of**
MAJ Tobergte	CH101 General Chemistry I	A2B2, C2D2, E2F2		Dr. Nagelli	30 Sep - 5 Oct
MAJ Frey	CH101 General Chemistry I	A1B1, C1D1, E1F1		Dr. Biaglow	30 Sep - 5 Oct
CPT Rogers	CH101 General Chemistry I	A2B2, C2D2, E2F2		Dr. Yuk	30 Sep - 5 Oct
CPT Lowell	CH101 General Chemistry I	A1B1, E1F1		LTC Cowart	30 Sep - 5 Oct
CPT Golonski	CH101 General Chemistry I	A1B1, C1D1, E1F1		LTC Cowart	30 Sep - 5 Oct

Questions?