

Degree Checklist (Updated June 2026)
Master of Science in Engineering Degree Program in
Chemical and Biomolecular Engineering

More information on the degree requirements listed here can be found in the program handbook or e-catalogue. Students are also encouraged to use Stellic (stellic.jhu.edu) to track their degree progress. Also, **be mindful of our grade policy: only two C-letter grades (C-, C or C+) may count towards the degree. All other grades must be a B- or higher.**

Students who attend JHU as undergraduates may double-count up to **two** courses as long as they earn a B- or higher in the courses. **Check the DC box if a course is being double counted.**

Student Name: _____ **ID:** _____

Core Courses (9 Credits)

Select ONE course from each of the following categories and indicate the semester the course was taken and the letter grade received. (Additional Kinetics courses may count as electives.)

Core 1 – Thermodynamics (3 credits)

EN.540.671 Advanced Thermodynamics in Practice

EN.540.630 Thermodynamics and Statistical Mechanics *(Instructor Permission Required)*

Semester: _____ **Grade:** _____ **DC:** _____

Core 2 – Transport (3 credits)

EN.540.604 Transport Phenomena in Practice

EN.540.652 Advanced Transport Phenomena *(Instructor Permission Required)*

Semester: _____ **Grade:** _____ **DC:** _____

Core 3 – Kinetics (3 credits)

EN.540.602 Metabolic Systems Biotechnology

EN.540.633 Pharmacokinetics and Pharmacodynamics

EN.540.638 Advanced Topics in Pharmacokinetics and Pharmacodynamics I

EN.540.673 Advanced Chemical Reaction Engineering in Practice

EN.540.681 Molecular Kinetics and Catalysis

Semester: _____ **Grade:** _____ **DC:** _____

Option-Specific Requirements

Research (PI): 12 Credits (minimum) of EN.540.801 Graduate Research

Co-op: 12 Credits of EN.540.804 Graduate Research Internship

Design: EN.540.691 Product Design 1, EN.540.692 Product Design 2, and EN.540.693 Product Design 3 (if 3 credits of EN.540.693 are taken, an additional elective is required)

Coursework: 12 additional elective credits (see information below)

Electives Courses (9 Credits for Essay-Based Options, 21 Credits for Coursework Option)

Essay-based Options: Three 3-credit courses*, one must be offered by ChemBE (EN.540.6XX).

Coursework Options: Seven 3-credit courses*, three must be offered by ChemBE (EN.540.6XX).

Courses not offered by WSE, Chemistry, or Biology (EN.XXX.6XX, AS.030.6XX, AS.020.6XX) must be approved by the Director of Masters Studies. All electives must be taken for a letter grade. See the handbook/e-catalogue for information on our degree tracks.

Semester	Course Number and Name	Credits	Grade	DC
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	

Total Credits: _____

**Students may substitute one of their 3-credit courses with a combination of 1–2-credit courses; they may count their Technical Writing course towards their elective count (list it again above).*

Technical Writing Requirement**

Select ONE of the following courses and indicate the semester the course was taken and letter grade received.

EN.663.613 Technical Communication for Scientists and Engineers (1.5 credits)

EN.663.640 Writing Grant and Contract Proposals (1.5 credits)

EN.663.644 Writing for Clarity (1.5 credits)

EN.663.645 Improving Presentation Skills for Graduate Students (1.5 credits)

Semester: _____ Grade: _____

Additional Requirements

All four must be completed (exception noted below). Students will be automatically enrolled in EN.540.603 and complete AS.360.624 by following the instructions on this page: engineering.jhu.edu/research/resources-policies-forms/online-training-course-responsible-conduct-of-research.

Semester	Course Number and Name	Credits	Grade
_____	EN.500.601 Research Laboratory Safety**	1	_____
_____	EN.500.603 Graduate Academic Ethics	0	_____
_____	EN.540.600/601 ChemBE Seminar I/II	1	_____
_____	AS.360.624 Responsible Conduct of Research (Online)	0	_____

*** The Technical Writing Requirement is waived for JHU undergrads who took EN.661.315. (Write NA.)
Research Laboratory Safety is waived for JHU undergrads who took EN.540.490 AND Coursework students. (Write NA.)*

Signature of Approval

Students required to submit a signed checklist will be told to do so at the start of their final semester. (For many, this is simply a helpful reference.) When this is the case, an academic administrator for the department will sign on the line below once all the information above has been verified.

I certify that the courses listed above have been completed and the grades indicated are accurate and final. The student has fulfilled all academic requirements necessary to earn a Master of Science in Engineering Degree from the Department of Chemical and Biomolecular Engineering.

Departmental Signature: _____ Date: _____