

**BS IN INDUSTRIAL ENG'G./MS IN OPERATIONS RESEARCH
CURRICULUM OUTLINE - CLASS OF 2023**

Sample Only – Actual Curriculum Sequence May Deviate from Sample

	FALL	SPRING	SUMMER 1	SUMMER 2
Freshman Year 1	MATH1341 Calculus 1 for Engrs. 4 CHEM1151 General Chem. for Engrs. 4 CHEM1153 Recitation for CHEM1151 0 GE1000 Intro to Eng'g. 1 GE1501 Cornerstone Eng'g. 1 4 ENGW1111 College Writing 4	MATH1342 Calculus 2 for Engrs. 4 PHYS1151 Physics 1 Engrs. 3 PHYS1152 Physics 1 Lab 1 PHYS1153 ILS for PHYS1151 1 GE1502 Cornerstone Eng'g. 2 4 Elective 1-General Elective 4	Vacation	Vacation
Year 2 AA	MATH2321 Calculus 3 for Engrs. 4 IE2310 Intro Ind. Eng'g 4 IE2311 Recitation for IE2310 0 IE3425 Eng'g Database 4 IE3426 Recitation for IE3425 0 ***Elective Science Elective 5	MATH2341 Diff. Eq./ Lin. Alg. 4 *IE3412 Eng'g Prob. Stat. 4 IE4512 Eng'g Economy 4 MEIE2000 Intro to Eng'g, Co-op 1	Vacation	Co-op
Year 2 BA	MATH2321 Calculus 3 for Engrs. 4 IE2310 Intro Ind. Eng'g 4 IE2311 Recitation for IE2310 0 IE3425 Eng'g Database 4 IE3426 Recitation for IE3425 0 ***Elective Science Elective 5 MEIE2000 Intro to Eng'g, Co-op 1	Co-op	Co-op	Vacation
Year 3 AA	Co-op	IE4516 Quality Assurance 4 IE4515 Operations Research 4 IE4510 Simulation Mod. & An. 4 Elective Technical Elective 1 4	**ENGW330 Adv. Writing for Prof. 4 Elective Technical Elective 2 4	Co-op
Year 3 BA	MATH2341 Diff. Eq./ Lin. Alg. 4 *IE3412 Eng'g Prob. Stat. 4 IE4512 Eng'g Economy 4 Elective Technical Elective 1 4	Co-op	Co-op	**ENGW330 Adv. Writing for Prof. 4 Elective 1-General Elective 4
Year 4 AA	Co-op	IE4525 Logistics & Supply Chain 4 IE4520 Stochastic Modeling 4 IE6200 2-Eng'g Prob. & Statistics 4 Elective Graduate Elective 4 MEIE3000 Prof. Issues In Eng'g, 1	MEIE4701 Capstone Design 1 1 Elective 1-General Elective 4	Vacation
Year 4 BA	IE4516 Quality Assurance 4 IE4515 Operations Research 4 IE4510 Simulation Mod. & An. 4 Elective Technical Elective 2 4 MEIE3000 Prof. Issues in Eng'g, 1	IE4525 Logistics & Supply Chain 4 IE6200 2-Eng'g Prob. & Statistics 4 Elective 1-General Elective 4 IE4530 Mfg. Sys. & Techniques 4 IE4531 Lab for IE4530 1	IE4520 Stochastic Modeling 4 Elective Graduate Elective 4 Elective Graduate Elective 4	Vacation
Year 5 AA	Elective 3-Graduate Elective 4 OR 6205 2-Deterministic Oper. Res. 4 Elective Graduate Elective 4 IE4530 Mfg. Sys. & Techniques 4 IE4531 Lab for IE4530 1 MEIE6850 5-Research Seminar in MIE 0	MEIE4702 Capstone Design 2 5 IE4522 Human Machine Systems 4 IE4523 Lab for IE4522 1 OR7230 4-Probabilistic Oper. Res. 4 OR7245 4-Networks & Adv. Optimiz. 4		
Year 5 BA	IE4525 Logistics & Supply Chain 4 IE4520 Stochastic Modeling 4 OR 6205 2-Deterministic Oper. Res. 4 Elective 3-Graduate Elective 4 MEIE6850 5-Research Seminar in MIE 0 MEIE4701 Capstone Design 1 1	MEIE4702 Capstone Design 2 5 IE4522 Human Machine Systems 4 IE4523 Lab for IE4522 1 OR7230 4-Probabilistic Oper. Res. 4 OR7245 4-Networks & Adv. Optimiz. 4		

7/3/2014 10/27/2015
7/14/2014 5/27/2016
2/8/2017 7/13/2017
4/10/2017 2/28/2018

**** ENGW3315 is an acceptable substitution for engineering majors.**

1-NUpath requirements, Interpreting Culture (IC), Societies and Institutions (SI) and Differences and Diversity (DD) are not explicitly satisfied by required engineering courses. Students are responsible for satisfying these requirements, and if these are not fulfilled in engineering courses, should use General Electives to do so. General Electives are academic, non-remedial, non-repetitive courses.

2-Students who received a grade of B+ or higher in IE3412 and IE4515 may waive IE6200 and OR6205, respectively, by taking other graduate courses.

3-Students may replace 8 SH of graduate coursework in the senior year with OR7990 Thesis, or 4 SH with OR7945 Project.

4-Students may take MATH7341 Probability 2 instead of OR7230 and MATH7234 Optimization and Complexity instead of OR7245.

5-Required for Students who elect to do Thesis or Project

Engineering Technical Electives: 2 required - any course from the following disciplines that is not a required course in the IE curriculum: IE, ME, MEIE, EMGT, OR, EECE, CIVE, CHME or CSYE

Electives may be interchanged. Please consult with your advisor : Joy Erb - 220 Snell, 617-373-2154, j.erb@neu.edu

Notes:

Students will be required to meet with an undergraduate advisor to petition to enter the program.

Students are encouraged to meet with their financial aid counselor to review any financial questions.

4 semesters of coursework at Northeastern University must be completed with a minimum GPA of 3.2 to join the BS/MS program.

The registrar's website provides a listing of degree requirements and the DARS system provides a degree audit utility for students.

*****Science Elective**

Complete one of the following:

PHYS 1155 Physics for Engineering 1 and PHYS 1156 Lab for PHYS 1155 and PHYS 1157 Interactive Learning Seminar for PHYS 1155
CHEM 1214 General Chemistry 2 and CHEM 1215 Lab for CHEM 1214 and CHEM 1216 Recitation for CHEM 1214
CHEM 2311 Organic Chemistry 1 and CHEM 2312 Lab for CHEM 2311 and CHEM 2319 Recitation for CHEM 2311
BIOL 1115 General Biology 1 for Engineers and BIOL 1116 Lab for BIOL 1115
BIOL 1117 Integrated Anatomy and Physiology 1 and BIOL 1118 Lab for BIOL 1117