

BS ENGINEERING Targeted Tasks Rubric

by Engineering Department

Yellow / Highlighted = Graded student works collected in Binders for internal & external-ABET review

H = High Emphasis in Course
M = Medium Emphasis in Course
L = Low or no Emphasis in Course

	Solve Problems	Design	Communication	Ethics & Impacts	Teamwork	Labs	How to learn
2018/19 New ABET Learning Outcomes:	1	2	3	4	5	6	7
Pre-2018/19 ABET Learning Outcomes:	aek	ck	g	fhj	d	bk	i

EGR 191 Introduction to Engineering I	M	M	H	M	M	H	H
EGR 192 Introduction to Engineering II	H	H	M	H	H	L	M
EGR 210 Circuit Analysis	H	H	M	L	L	H	L
EGR 255 Sustainable Resource Engineering & Design	H	H	M	H	M	L	M
EGR 260 Statics	H	M	L	L	L	L	M
EGR 291 Sophomore Project	H	H	M	H	H	L	L
EGR 310 Signals and Systems	H	M	M	L	L	H	L
EGR 360 Dynamics	H	H	L	L	M	L	M
EGR 391 Engineering Design and Junior Project	H	H	H	M	H	L	M
EGR 395 Fall Seminar	M	M	L	M	M	L	M
EGR 396 Spring Seminar	M	L	L	H	L	L	M
EGR 491 Senior Project in Engineering I	H	H	H	H	H	H	M
EGR 492 Senior Project in Engineering II	H	H	H	H	H	H	M

Biomedical Concentration

EGR 264 Strength of Materials	H	H	H	M	M	H	L
EGR 323 Biomechanics of Human Movement	H	H	L	M	L	H	L
EGR 324 Structural Aspects of Biomaterials	H	M	L	H	L	M	L
EGR 328 Introduction to Biomedical Engineering Design	M	M	M	M	M	L	M
EGR 368 Fluid Mechanics and Hydrology	H	M	L	L	L	M	L
EGR 410 Control Systems	H	M	M	M	M	H	L

Civil Concentration

EGR 251 Introduction to Environmental Engineering	H	L	L	H	L	L	M
EGR 256 Environmental Site Engineering & Design	H	H	M	H	H	H	M
EGR 264 Strength of Materials	H	H	H	M	M	H	L
EGR 353 Green Architectural Engineering	H	H	M	M	L	M	M
EGR 364 Structural Engineering	H	H	M	M	M	M	L
EGR 366 Civil Engineering Materials	H	M	M	L	M	H	L

Electrical Concentration

EGR 311 Electronics (Lab)	H	M	L	L	M	H	M
EGR 312 Electromagnetism	H	L	L	L	L	L	L
EGR 315 Communication Theory	H	M	M	M	L	L	H
EGR 317 Physics of Semiconductor Devices	H	M	L	L	L	M	L
EGR 318 Fiber Optics Communication Systems	H	M	L	L	L	M	L
EGR 410 Control Systems	H	M	M	M	M	H	L

Environmental Concentration

EGR 251 Introduction to Environmental Engineering	H	L	L	H	L	L	M
EGR 256 Environmental Site Engineering & Design	H	H	M	H	H	H	M
EGR 351 Water and Wastewater Engineering	H	L	L	M	M	L	L
EGR 353 Green Architectural Engineering	H	H	M	M	L	M	M
EGR 368 Fluid Mechanics and Hydrology	H	M	L	L	L	M	L
EGR 467 Thermodynamics	H	L	L	M	L	L	M

Industrial and Systems Concentration

EGR 248 Quantitative Methods/Operations Management	M	L	L	L	L	M	L
EGR 341 Industrial and Systems Engineering Methods	H	H	M	L	M	L	M
EGR 345 Fundamentals of Process Improvement	H	M	L	M	L	H	L
EGR 347 Analytics for Supply Chain Operations	M	M	L	H	L	M	L
EGR 348 Introduction to Manufacturing Processes	M	M	M	M	M	M	L
EGR 410 Control Systems	H	M	M	M	M	H	L

Mechanical Concentration

EGR 264 Strength of Materials	H	H	H	M	M	H	L
EGR 348 Introduction to Manufacturing Processes	M	M	M	M	M	M	L
EGR 368 Fluid Mechanics and Hydrology	H	M	L	L	L	M	L
EGR 410 Control Systems	H	M	M	M	M	H	L
EGR 463 Analytical Mechanics & Vibrations	H	M	L	L	L	L	L
EGR 467 Thermodynamics	H	L	L	M	L	L	M

2018/19 New ABET Learning Outcomes An ability to:

- (ABET-1) Identify, formulate, and **solve** complex engineering problems by applying principles of engineering, science, and mathematics.
- (ABET-2) Apply engineering **design** to produce solutions that meet specified needs with consideration of public health, safety, and welfare, cultural, social, environmental, and economic factors.
- (ABET-3) **Communicate** effectively with a range of audiences.
- (ABET-4) Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider **impact** of engineering solutions in global, economic, environmental, and societal
- (ABET-5) Function effectively on a **team** whose members together provide leadership, create a collaborative and inclusive environment, plan tasks, and meet objectives.
- (ABET-6) Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions (**LAB's**).
- (ABET-7) Acquire and apply new knowledge as needed, using appropriate **learning** strategies.

Pre-2018/19 ABET Learning Outcomes

- (ABET-a): An ability to apply knowledge of mathematics, science, and engineering.
- (ABET-b): An ability to design and construct experiments, as well as to analyze and interpret data.
- (ABET-c): An ability to design a system, component, or process to meet desired needs.
- (ABET-d): An ability to function on multi-disciplinary teams *if possible, or to draw on the talents of others*
- (ABET-e): Identify, formulate, and solve engineering problems
- (ABET-f): An understanding of professional and ethical responsibility
- (ABET-g): Communicate effectively orally and in writing
- (ABET-h): A broad education necessary to understand the impact of engineering solutions in a global and societal context
- (ABET-i): Recognition of the need for, and an ability to engage in life-long learning
- (ABET-j): Knowledge of contemporary issues
- (ABET-k): An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.