

Program Planning Guide for LEAP - BME

This sheet is intended to guide students in the Late Entry Accelerated Program (LEAP) with an intended master's in **biomedical engineering** through their foundational phase courses. A final decision on exactly which courses a student is required to take will be made during a conversation with their faculty advisor. Other required courses may be designated as a part of the advising process.

*LEAP students are required to earn a B or higher in a Calculus I course prior to **matriculating** into LEAP. Students who have not taken Calculus I prior to matriculating will not be able to start the LEAP foundational phase curriculum, which begins immediately with Calculus II and other courses building on Calculus I concepts.*

As stated in the [academic bulletin](#), effective Fall 2025, LEAP students must abide by the following guidelines to successfully move into their master's program:

- After matriculating into LEAP, a student must take at least two-thirds of courses required for their foundational phase through Boston University. The full list of courses needed for a student's foundational phase will be determined during a conversation with their faculty advisor.
 - For example, if a student needs 12 courses to complete their foundational phase and has taken 3 of those courses prior to matriculating into LEAP, they will have 9 required courses in their foundational phase after matriculating. They will be required to take 6 of the 9 courses at BU.
- A student cannot take courses outside of Boston University during the Fall and Spring semesters.
- If a student is interested in taking courses outside of Boston University during a summer semester, they will need to first obtain approval from their faculty advisor.
- Audited courses will not count towards a student's foundational phase. To view the full audit policy, please visit our page [here](#).

Taken	Need	College	Course	Course Title	Pre-requisites	Co-requisites	Units
Core Courses							
		ENG	EK 125	Intro to Programming for Engineers			4
		CAS	MA 124	Calculus II	Calc I		4
		CAS	MA 225	Multivariate Calculus	Calc II		4
		CAS	MA 226	Differential Equations	Multivariate Calc or CAS MA 230		4
		CAS	PY 211	General Physics I (calculus-based)	Calc I	Calc II	4
		CAS	PY 212	General Physics II (calculus-based)	General Physics I		4
		CAS	CH 131	General Chemistry for Engineering Sciences	Calc I		4
		ENG	EK 103	Computational Linear Algebra			3
		ENG	EK 301	Engineering Mechanics I	General Physics II	Multivariate Calc, EK 125	4
		ENG	EK 307	Electric Circuits		General Physics II	4
		ENG	EK 381	Probability, Statistics, & Data Science for Engineers	Multivariate Calc, EK 103		4
		ENG	BE 209	Principles of Molecular Cell Biology and Biotechnology			4
		ENG	BE 403	Biomedical Signals & Controls	Differential Equations, EK 307		4
		ENG	BE 493	Biomedical Measurements Lab	Pre-req OR Co-req: BE 403		4
Choose one of the following courses							
		ENG	BE 404	Control Systems in Biomedical Engineering	BE403		4
		ENG	BE 419	Principles of Continuum Mechanics & Transport	Differential Equations, EK 103, EK 301		4
		ENG	BE 420	Introduction to Solid Biomechanics	Differential Equations, EK 103, EK 301		4
		ENG	BE 435	Transport Phenomena in Living Systems	General Physics I, Differential Equations		4
		ENG	BE 436	Fundamentals of Fluid Mechanics	Differential Equations, EK 301		4

		ENG	BE 424	Thermodynamics & Statistical Mechanics <i>*recommended for students interested in a PhD or BE605</i>	General Chemistry II, General Physics II, Differential Equations, EK 381		4
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Tentative Program Plan

The LEAP foundational phase is a streamlined set of courses to put students on par with students graduating with a bachelor's in engineering and is therefore a rigorous, fast-paced curriculum. The Graduate Programs Office recommends students in LEAP take **no more than 12 units (3 courses) in their first semester**.

Student Name: _____ Student BUID: _____ # of foundational phase courses needed: _____

Faculty Advisor Name: _____ Faculty Advisor Signature: _____

Semester (e.g. Fall 2025)	Course # (e.g. EK125)	Notes

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