

## Program Planning Guide for LEAP – EE

*Fall '26 – Spring '27*

This sheet is intended to guide students in the Late Entry Accelerated Program (LEAP) with an intended master's in **electrical and computer engineering, with a focus on electrical 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. Calculus I courses must have been completed within 5 years of a student's matriculation into LEAP.*

As stated in the [academic bulletin](#), 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 their remaining foundational phase courses at BU. A student's faculty advisor will determine how many courses the student will take during their foundational phase after discussing the student's academic and professional background.
  - **This calculation will not include courses taken prior to starting LEAP.** 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 starting LEAP. Of those 9 required courses, they will be required to take 6 at BU.
- A student cannot take courses outside of Boston University during BU's [academic year](#) (i.e., any time between the Fall semester's first day of classes and Spring semester's final exam day).
- If a student is interested in taking foundational phase 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](#).

*\*This program planning sheet is designed for LEAP students starting in Fall 2026 & Spring 2027. Courses listed are subject to change for future semesters.*

**Optional courses:** are required for some graduate (MS) courses

Notes	College	Course #	Course Title	Pre-requisites	Co-requisites	Units
<b>Math, Physics, and Programming Fundamentals</b>						
	ENG	EK 125	Intro to Programming for Engineers		Calculus I (MA 123)	4
<b>Choose one</b>	ENG	EK 103	Computational Linear Algebra	Intro Programming (EK 125)		3
	CAS	MA 242	Linear Algebra	Calculus I (MA 123)		4
	CAS	MA 124	Calculus II	Calculus I (MA 123)		4
	CAS	PY 211	Physics I (calculus-based)	Calculus I (MA 123)	Calculus II (MA 124)	4
	CAS	PY 212	Physics II (calculus-based)	Physics I (PY 211) and Calculus II (MA124)		4
	CAS	MA 225	Multivariate Calculus	Calculus II (MA 124)		4
<b>Choose one of the tracks below</b>						
<b>Track 1: Circuits, Electronics, and Semiconductors (discuss differences with CE Computer Hardware with LEAP advisor)</b>						
	ENG	EK 307	Electric Circuits		Physics II (PY 212)	4
	ENG	EC 311	Introduction to Logic Design			4
	ENG	EC 410	Introduction to Electronics	Electric Circuits (EK 307)		4
<b>Optional</b>	ENG	EC 412	Analog Electronics	Introduction to Electronics (EC 410)		4
<b>Optional</b>	CAS	PY 313	Elementary Modern Physics	Physics II (PY 212)		4
<b>Optional</b>	ENG	EC 471	Physics of Semiconductor Devices	Modern Physics (PY 313)		4

<b>Track 2: Energy and Sustainability</b>						
	CAS	MA 226	Differential Equations	Multivariate Calculus (CAS MA 225)		4
	ENG	EK 307	Electric Circuits		Physics II (PY 212)	4
	ENG	EC 417	Electric Energy Systems, Adapting to Renewable Resources	Differential Equations (MA 226) and Electric Circuits (EK 307)		4
Optional	ENG	EC 410	Introduction to Electronics	Electric Circuits (EK 307)		4
Optional	CAS	PY 313	Elementary Modern Physics	Physics II (PY 212)		4
Optional	ENG	EK 481	Introduction to Nanotechnology and Nanomaterials	Differential Equations (MA 226) and Modern Physics (PY 313)		4
Optional	ENG	EC 471	Physics of Semiconductor Devices	Modern Physics (PY 313)		4
<b>Track 3: Optical Imaging, Sensing, Photonics, and Quantum Engineering</b>						
	CAS	MA 226	Differential Equations	Multivariate Calculus (MA 225)		4
	ENG	EK 307	Electric Circuits		Physics II (PY 212)	4
	CAS	PY 313	Elementary Modern Physics	Physics II (PY 212)		4
Optional	ENG	EC 401	Signals and Systems	Multivariate Calculus (MA 225)		4
Optional	ENG	EC 455	Electromagnetic Systems I	Physics II (PY 212) and Differential Equations (MA 226)		4
Optional	ENG	EC 471	Physics of Semiconductor Devices	Modern Physics (PY 313)		4
<b>Track 4: Robotics and Autonomous Dynamical Systems (discuss differences with CE version with LEAP advisor)</b>						
	ENG	EK 381	Probability, Statistics, & Data Science for Engineers	Multivariate Calculus (MA 225) and Computational Linear Algebra (EK 103)		4
	CAS	MA 226	Differential Equations	Multivariate Calculus (MA 225)		4
	ENG	EC 401	Signals and Systems	Multivariate Calculus (MA 225)		4
	ENG	EC 402	Control Systems	Differential Equations (MA 226) and Signals and Systems (EC 401)		4
Optional	ENG	EC 418	Intro to Reinforcement Learning	Probability, Statistics, & Data Science for Engineers (EK 381)		
<b>Track 5: Signals, Imaging, Vision, and Communication Systems</b>						
	CAS	MA 226	Differential Equations	Multivariate Calculus (CAS MA 225)		4
	ENG	EK 381	Probability, Statistics, & Data Science for Engineers	Multivariate Calculus (MA 225) and Computational Linear Algebra (EK 103)		4
	ENG	EC 401	Signals and Systems	Multivariate Calculus (MA 225)		4
Optional	ENG	EC 327	Introduction to Software Engineering	Introduction to Programming (EK 125)		4
Optional	ENG	EC 330	Applied Algorithms for Engineers	Intro to Software Engineering (EC 327)		4
Optional	ENG	EC 415	Software Radios	Signals and Systems (EC 401)		4
Optional	ENG	EC 441	Introduction to Computer Networking	Probability, Statistics, & Data Science for Engineers (EK 381) and Signals and Systems (EC 401)		4
<b>Track 6: Machine Learning and AI (discuss differences with CE version with LEAP advisor)</b>						
	ENG	EK 381	Probability, Statistics, & Data Science for Engineers	Multivariate Calculus (MA 225) and Computational Linear Algebra (EK 103)		4
	ENG	EC 414	Introduction to Machine Learning	Probability, Statistics, & Data Science for Engineers (EK 381)		4

	ENG	EC 418	Intro to Reinforcement Learning	Probability, Statistics, & Data Science for Engineers (EK 381)		4
Optional	ENG	EC 327	Introduction to Software Engineering	Introduction to Programming (EK 125)		4
Optional	ENG	EC 330	Applied Algorithms for Engineers	Intro to Software Engineering (EC 327)		4
<b>Track 7: Build Your Own: <i>discuss with LEAP advisor</i></b>						