

Program Map for different Engineering Tracks

Fundamental Required Core Courses for Engineering Majors				
WLAC Course No.	Course Title	Units	GE Area	
ENG GEN 101	Introduction to Science Engineering and Technology	2	CSU	UC
MATH 261	Calculus I	5	B-4	2
MATH 262	Calculus II	5		
MATH 263	Calculus III	5		
MATH 275	Ordinary Differential Equations	3	B-1	5A/C
PHYS 037	Physics for Engineers and scientists I	5		
PHYS 038	Physics for Engineers and Scientists II	5		
Total Core Units		30		

Electrical Engineering

Civil Engineering

Mechanical Engineering

Computer, Software Engineering

NOTE: Students who successfully finish the required core courses and GE courses will qualify to receive BOTH the AS-T and the AA in Mathematics.

NOTE: For Electrical & Software Engineering, contact professor Ghaforyard via GhaforP@wlac.edu. For Civil & Mechanical Engineering, contact Dr. Bahta via BahtaA@wlac.edu

Program Map for Engineering: Electrical Track

Term	Course Title	Course	Units	Reason
SEMESTER 1	Intro. to Engineering	ENG GEN 101	2.0	CORE
	Trigonometry with Vectors*	MATH 241	4.0	pre-req to Math 260
	General Chemistry I	Chemistry 101	5.0	Required
		TOTAL =	11	
SEMESTER 2	Pre-Calculus*	MATH 260	5.0	Pre-Requisite to CORE
	College Reading and Composition I	English 101	3.0	IGETC—AB 705 requires English completion in Yr 1
	General Education Coursework	(Arts)	3.0	IGETC for STEM
	General Education Coursework	(Social Science)	3.0	IGETC for STEM
		TOTAL =	14	
SEMESTER 3	Calculus I*	Math 261	5.0	CORE
	Introduction to Programming Concepts and Methodologies for Engineers	ENG GEN 120	4.0	Required (Math 260 is pre-req)
	Composition and Critical Thinking	English 103	3.0	IGETC for STEM
		TOTAL =	12	
SEMESTER 4	Calculus II	MATH 262	5.0	CORE
	Physics for Engineers and Scientists	Physics 037	5.0	CORE (Math 261 is pre-req)
	General Education Coursework	(Humanities)	3.0	IGETC for STEM
		TOTAL =	13	
SEMESTER 5	Calculus III	MATH 263	5.0	CORE
	Linear Algebra	MATH 270	3.0	UC Transfer Req. (offered Fall only)
	Physics for Engineers and Scientists II	Physics 038	5.0	CORE
		TOTAL =	13	
SEMESTER 6	Ordinary Differential Equations	MATH 275	3.0	CORE
	Electrical Circuits	ENG GEN 220	4.0	Required, Math 263, Math 275 are pre-Req
	General Education Coursework	(Social Science)	3.0	IGETC for STEM
	The Human Environment: Biological Processes	ENV SCI 002	3.0	IGETC for STEM
		TOTAL =	13	

Note: Students who took Calculus in High School should consult Math Division chair for appropriate placement.

Program Map for Engineering: Computer, Software Track

Term	Course Title	Course	Units	Reason
SEMESTER 1	Intro. to Engineering	ENG GEN 101	2.0	CORE
	Trigonometry with Vectors*	Math 241	4.0	pre-req to Math 260
	Intro. to Computer Science	CS 101	3.0	Pre-Requisite to CS116
	College Reading and Composition I	English 101	3.0	IGETC—AB 705 requires English completion in Yr 1
		TOTAL =	12	
SEMESTER 2	Pre-Calculus*	Math 260	5.0	Pre-Requisite to CORE
	Programming in C++	CS 116	3.0	Pre-Requisite to CS 131 and CS 213
	General Education Coursework	(Arts)	3.0	IGETC for STEM
	General Education Coursework	(Social Science)	3.0	IGETC for STEM
		TOTAL =	14	
SEMESTER 3	Calculus I*	Math 261	5.0	CORE
	Introduction to Programming Concepts and Methodologies for Engineers	ENG GEN 120	4.0	Required (Math 260 is pre-req)
	Advanced Programming in Java	CS 213	3.0	Pre-Requisite to 936
	General Education Coursework	(Humanities)	3.0	IGETC for STEM
		TOTAL =	15	
SEMESTER 4	Calculus II	Math 262	5.0	CORE
	Physics for Engineers and Scientists	Physics 037	5.0	CORE (Math 261 is pre-req)
	Intermediate Programming and Data Structures	CS 136	3.0	Required
		TOTAL =	13	
SEMESTER 5	Calculus III	Math 263	5.0	CORE
	Physics for Engineers and Scientists II	Physics 038	5.0	CORE
	CS 131 Discrete Structure	CS 131	3.0	Required- CS116 is pre-requisite
	The Human Environment: Biological Processes	ENV SCI 002	3.0	IGETC for STEM
		TOTAL =	16	
SEMESTER 6	Ordinary Differential Equations	Math 275	3.0	CORE
	Electrical Circuits	ENG GEN 220	4.0	Required, Math 263, Math 275 are pre-Req
	General Education Coursework	(Social Science)	3.0	IGETC for STEM
	Composition and Critical Thinking	English 103	3.0	IGETC for STEM
		TOTAL =	13	

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Program Map for Engineering: Mechanical Track

Term	Course Title	Course	Units	Reason
SEMESTER 1	Intro. to Engineering	ENG GEN 101	2.0	CORE
	Trigonometry with Vectors*	Math 241	4.0	pre-req to Math 260
	General Chemistry I	Chemistry 101	5.0	Required
		TOTAL =	11	
SEMESTER 2	Pre-Calculus*	Math 260	5.0	Pre-Requisite to CORE
	College Reading and Composition I	English 101	3.0	IGETC—AB 705 requires English completion in Yr 1
	General Education Coursework	(Arts)	3.0	IGETC for STEM
	General Education Coursework	(Social Science)	3.0	IGETC for STEM
		TOTAL =	14	
SEMESTER 3	Calculus I*	Math 261	5.0	CORE
	Engineering Graphics	EGD TEK 101	3	Required
	Composition and Critical Thinking	English 103	3.0	IGETC for STEM
		TOTAL =	11	
SEMESTER 4	Calculus II	Math 262	5.0	CORE
	Programming and Problem Solving in MATLAB	ENG GEN 122	3.0	Required -MATH 261 is pre-req
	Physics for Engineers and Scientists	Physics 037	5.0	CORE (Math 261 is pre-req)
	General Education Coursework	(Humanities)	3.0	IGETC for STEM
		TOTAL =	16	
SEMESTER 5	Calculus III	Math 263	5.0	CORE
	Physics for Engineers and Scientists II	Physics 038	5.0	CORE
	Statics	ENG GEN 131	3.0	Required. MATH 262 and Physics 037 is pre-req
	Materials Science and Engineering	ENG GEN 150	4.0	CHEM 101 & PHYS 037
		TOTAL =	17	
SEMESTER 6	Ordinary Differential Equations	Math 275	3.0	CORE
	Electrical Circuits	ENG GEN 220	4.0	Required, Math 263, Math 275 are pre-Req
	General Education Coursework	(Social Science)	3.0	IGETC for STEM
	The Human Environment: Biological Processes	ENV SCI 002	3.0	IGETC for STEM
		TOTAL =	13	

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Program Map for Engineering: Civil Track

Term	Course Title	Course	Units	Reason
SEMESTER 1	Intro. to Engineering	ENG GEN 101	2.0	CORE
	Trigonometry with Vectors*	Math 241	4.0	pre-req to Math 260
	General Chemistry I	Chemistry 101	5.0	Required
		TOTAL =	11	
SEMESTER 2	Pre-Calculus*	Math 260	5.0	Pre-Requisite to CORE
	College Reading and Composition I	English 101	3.0	IGETC—AB 705 requires English completion in Yr 1
	General Education Coursework	(Arts)	3.0	IGETC for STEM
	General Education Coursework	(Social Science)	3.0	IGETC for STEM
		TOTAL =	14	
SEMESTER 3	Calculus I*	Math 261	5.0	CORE
	Engineering Graphics	EGD TEK 101	3	Required
	Composition and Critical Thinking	English 103	3.0	IGETC for STEM
		TOTAL =	11	
SEMESTER 4	Calculus II	Math 262	5.0	CORE
	Programming and Problem Solving in MATLAB	ENG GEN 122	3.0	Required -MATH 261 is pre-req
	Physics for Engineers and Scientists	Physics 037	5.0	CORE (Math 261 is pre-req)
	General Education Coursework	(Humanities)	3.0	IGETC for STEM
		TOTAL =	16	
SEMESTER 5	Calculus III	Math 263	5.0	CORE
	Physics for Engineers and Scientists II	Physics 038	5.0	CORE
	Statics	ENG GEN 131	3.0	Required. MATH 262 and Physics 037 is pre-req
	Materials Science and Engineering	ENG GEN 150	4.0	CHEM 101 & PHYS 037
		TOTAL =	17	
SEMESTER 6	Ordinary Differential Equations	Math 275	3.0	CORE
	Electrical Circuits	ENG GEN 220	4.0	Required, Math 263, Math 275 are pre-Req
	General Education Coursework	(Social Science)	3.0	IGETC for STEM
	The Human Environment: Biological Processes	ENV SCI 002	3.0	IGETC for STEM
		TOTAL =	13	

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