

LCC-TAMUK Course Map

*Pre-Engineering Course of Study (LCC)
and
Bachelor of Science Degrees in Engineering (TAMUK)*

Architectural Engineering
Chemical Engineering
Civil Engineering
Electrical Engineering
Environmental Engineering
Mechanical Engineering
Natural Gas Engineering

A. Core Curriculum - 42 credit hours

- This portion of the course map is based on the TAMUK and LCC Core Curricula adopted for students beginning their studies in the 2014-15 academic year.
- LCC students completing the entire LCC Core Curriculum automatically satisfy the TAMUK Core Curriculum without the need for a course-by-course evaluation. However, please note that simply completing a Core Curriculum requirement (at either institution) does not automatically satisfy a specific program requirement. For example, LCC students can take MATH 1314 College Algebra to satisfy the Math Component of the LCC Core Curriculum but it will not count toward any engineering degree (although a student might be required to complete this course before moving on to the more advanced math courses required for an engineering degree).
- The LCC courses listed below are meant to optimize the program of study at LCC for an LCC student planning to transfer to TAMUK for an engineering degree. It allows students maximum flexibility in deciding when they will transfer to TAMUK (i.e., before or after completing the LCC Core Curriculum) and minimizes “course waste.” Thus, unless indicated otherwise, the LCC courses listed below 1) satisfy LCC Core Curriculum requirements, 2) substitute for the corresponding courses in the TAMUK Core Curriculum, and 3) satisfy program requirements for an engineering degree at TAMUK.
- Current students basing their LCC studies on earlier versions of the Core Curriculum should consult academic advisors at LCC and TAMUK, although in nearly all cases the courses mapped below will satisfy the Core Curricula in place for several years prior.

LCC Equivalent Courses			TAMUK BS Engineering Courses		
Course Number	Title	Hours	Course Number	Title	Hours
Communication - 6 credit hours					
ENGL 1301	Composition I	3	ENGL 1301	Rhetoric & Composition I	3
ENGL 1302	Composition II	3	ENGL 1302	Rhetoric & Composition II	3
Mathematics - 3 credit hours					
<i>(The extra credit hour can be counted against the Component Area Option (Other) at the end of this section. Other mathematics courses required for an engineering degree are listed in sections B and C.)</i>					
MATH 2413	Calculus I	4 (3)	MATH 2413	Calculus I	4 (3)
Life and Physical Sciences - 6 credit hours					
<i>(Other science courses required for an engineering degree are listed in sections B and C.)</i>					
CHEM 1311	General Chemistry I	3	CHEM 1311	General Inorganic Chemistry I	3
PHYS 2325	University Physics I	3	PHYS 2325	University Physics I	3
Language, Philosophy and Culture - 3 credit hours					
Any LCC course in this Core Component Area.		3	Any course satisfying this LCC Core Component area satisfies this same TAMUK component area.		3
American History - 6 credit hours					
HIST 1301	United States History I	3	HIST 1301	American History to 1877	3
HIST 1302	United States History II	3	HIST 1302	American History since 1877	3
Government/Political Science - 6 credit hours					
GOVT 2305	Federal Government	3	POLS 2301	Government & Politics of the United States	3
GOVT 2306	Texas Government	3	POLS 2302	Government & Politics of Texas	3
Creative Arts - 3 credit hours					
LCC Core Component area course.		3	Any course satisfying this LCC Core Component area satisfies this same TAMUK component area.		3

LCC Equivalent Courses			TAMUK BS Engineering Courses		
Course Number	Title	Hours	Course Number	Title	Hours
Social and Behavioral Sciences - 3 credit hours					
LCC Core Component area course.		3	Any course satisfying this LCC Core Component area satisfies this same TAMUK component area.		3
Component Area Option - 6 credit hours					
The Component Area Option is unique to each institution. LCC requires 6 credit hours in 1) communications and/or 2) basic computer skills. TAMUK requires 3 credit hours in oral communications and has a wide variety of options for the remaining 3 credit hours, including several 1-credit labs associated with science courses that are part of an engineering degree program. The TAMUK Core Curriculum also allows the extra credit hour associated with some 4-credit course used to fulfill 3- or 6-credit hour Core Components to meet the Component Area option (for example, the extra credit associated with MATH 2413 Calculus I – see below). Read the sections below carefully.					
Communications					
The communications courses that satisfy the LCC Core are SPCH 1311 Introduction to Speech Communication and/or SPCH 1315 Public Speaking.			Either LCC course (SPCH 1311 or SPCH 1315) will satisfy this same TAMUK Core requirement for oral communications.		
Computer Skills					
Computer skills courses that satisfy the LCC Core are BCIS 1305, COSC 1301, and COSC 1436. Of these, COSC 1436 Programming Fundamentals I is recommended since it can also satisfy the basic computer programming course required of several TAMUK engineering programs (see Section C of this document). <i>However, none of these courses satisfies the TAMUK Core.</i>					
The LCC courses listed below are either co-requisites with courses listed in the Science Component (i.e., CHEM 1311/1111 and PHYS 2325/2125) or an extra credit associated with the course taken to meet the Mathematics Component (i.e., MATH 2413). Therefore, LCC students taking the math and science courses listed under the Mathematics and Science Components will have these as part of their LCC programs of study. However, while these satisfy the TAMUK Core Curriculum, they do not satisfy the LCC Core Curriculum.					
CHEM 1111	General Chemistry I Lab	1	CHEM 1111	General Inorganic Chemistry I Lab	1
PHYS 2125	University Physics I Lab	1	PHYS 2125	University Physics I Lab	1
MATH 2413	Calculus I	4 (1)	MATH 2413	Calculus I	4 (1)

Total Credit Hours – LCC Core	42-43*	Total Credit Hours – TAMUK Core	42
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*Please note that students at LCC may complete 43 credit hours of CORE due to the reason if a student takes COSC 1436, the course is 4 credit hours.

B. Other LCC courses that contribute to most (see notes below table) engineering degrees at TAMUK

LCC Equivalent Courses			TAMUK BS Engineering Courses		
Course Number	Title	Hours	Course Number	Title	Hours
PHYS 2326	University Physics II	3	PHYS 2326	University Physics II	3
PHYS 2126	University Physics II Lab	1	PHYS 2126	University Physics II Lab	1
MATH 2320	Differential Equations	3	MATH 3320	Differential Equations	3
MATH 2414	Calculus II	4	MATH 2414	Calculus II	4
MATH 2415	Calculus III	4	MATH 3415	Calculus III (MATH 3415 Calculus III is a mathematics elective in Architectural Engineering and Civil Engineering and is not required for Environmental Engineering and Natural Gas Engineering.)	4

C. LCC courses meeting requirements for specific engineering degrees at TAMUK

The LCC courses listed below fulfill the corresponding TAMUK courses. There are a few instances – because of course content or a co-requisite requirement – in which a combination of LCC courses (or a single LCC course) with more credit hours is used to satisfy a single TAMUK course, thus causing the LCC student to take more credits than their peers at TAMUK. The student must decide (ideally with the advice of his/her LCC academic advisor and the TAMUK College of Engineering Academic Advisor) if this is in his/her best interest. LCC students always have the option of completing these courses at TAMUK rather than LCC to avoid accumulating the extra credit hours.

LCC Equivalent Courses			TAMUK BS Engineering Courses		
Course Number	Title	Hours	Course Number	Title	Hours
Architectural Engineering					
BIOL 1306 or GEOL 1303	Biology for Science Majors I Physical Geology	3	BIOL 1306 or GEOL 1303	General Biology I Physical Geology	3
ENGR 1304	Engineering Graphics I	3	AEEN 1310	Computer Based Graphics and Design I	3
ENGR 2301	Engineering Mechanics I - Statics	3	CEEN 2301	Mechanics I	3
Chemical Engineering					
BIOL 1306	Biology for Science Majors I	3	BIOL 1306	General Biology I	3
CHEM 1312	General Chemistry II	3	CHEM 1312	General Inorganic Chemistry II	3
CHEM 1112	General Chemistry II Lab	1	CHEM 1112	General Inorganic Chemistry II Lab	1
CHEM 2323	Organic Chemistry I	3	CHEM 3323	Organic Chemistry I	3
CHEM 2123	Organic Chemistry I Lab	1	CHEM 3123	Organic Chemistry I Lab	1
CHEM 2325	Organic Chemistry II	3	CHEM 3325	Organic Chemistry II	3
CHEM 2125	Organic Chemistry II Lab	1	CHEM 3125	Organic Chemistry II Lab	1
ENGR 2303	Engineering Mechanics - Statics & Dynamics	3	MEEN 2355	Statics and Dynamics of Rigid Bodies	3
COSC 1436	Programming Fundamentals I	4	CSEN 2303	Introduction to Computer Basic and Excel	3

LCC Equivalent Courses			TAMUK BS Engineering Courses		
Course Number	Title	Hours	Course Number	Title	Hours
Civil Engineering					
BIOL 1306 or GEOL 1303	Biology for Science Majors I Physical Geology	3	BIOL 1306 or GEOL 1303	General Biology I Physical Geology	3
ENGR 1304	Engineering Graphics I	3	AEEN 1310	Computer Based Graphics and Design I	3
ENGR 2301	Engineering Mechanics I - Statics	3	CEEN 2301	Mechanics I	3
ENGR 2302	Engineering Mechanics II - Dynamics	3	MEEN 2302	Mechanics II	3
COSC 1436	Programming Fundamentals I	4	CSEN 2303	Introduction to Computer Basic and Excel	3
Electrical Engineering					
COSC 1436	Programming Fundamentals I	4	CSEN 2304	Introduction to Computer Science	3
ENGR 2303	Engineering Mechanics - Statics & Dynamics	3	MEEN 2355	Statics and Dynamics of Rigid Bodies (This course is an approved technical elective in the Electrical Engineering program.)	3
Environmental Engineering					
BIOL 1306	Biology for Science Majors I	3	BIOL 1306	General Biology I	3
CHEM 1312	General Chemistry II	3	CHEM 1312	General Inorganic Chemistry II	3
CHEM 1112	General Chemistry II Lab	1	CHEM 1112	General Inorganic Chemistry II Lab	1
CHEM 2323	Organic Chemistry I	3	CHEM 3323	Organic Chemistry I	3
CHEM 2123	Organic Chemistry I Lab	1	CHEM 3123	Organic Chemistry I Lab	1
COSC 1436	Programming Fundamentals I	4	CSEN 2304	Introduction to Computer Science (This course can be substituted for EVEN 2304 Computer Methods for Environmental Engineering, which is a required course in the Environmental Engineering program.)	3
ENGR 2303	Engineering Mechanics - Statics & Dynamics	3	MEEN 2355	Statics and Dynamics of Rigid Bodies	3
ENGR 1304	Engineering Graphics I	3	MEEN 1310	Engineering Graphics I	3
Mechanical Engineering					
ENGR 1304	Engineering Graphics I	3	MEEN 1310	Engineering Graphics I	3
ENGR 2301	Engineering Mechanics I - Statics	3	CEEN 2301	Mechanics I	3
ENGR 2302	Engineering Mechanics II - Dynamics	3	MEEN 2302	Mechanics II	3

LCC Equivalent Courses			TAMUK BS Engineering Courses		
Course Number	Title	Hours	Course Number	Title	Hours
Natural Gas Engineering					
CHEM 1312	General Chemistry II	3	CHEM 1312	General Inorganic Chemistry II	3
CHEM 1112	General Chemistry II Lab	1	CHEM 1112	General Inorganic Chemistry II Lab	1
CHEM 2323	Organic Chemistry I	3	CHEM 3323	Organic Chemistry I	3
CHEM 2123	Organic Chemistry I Lab	1	CHEM 3123	Organic Chemistry I Lab	1
GEOL 1303	Physical Geology	3	GEOL 1303	Physical Geology	3
GEOL 1103	Physical Geology Lab	1	GEOL 1103	Physical Geology Lab	1
ENGR 2303	Engineering Mechanics - Statics & Dynamics	3	MEEN 2355	Statics and Dynamics of Rigid Bodies	3
COSC 1436	Programming Fundamentals I	4	CSEN 2303	Introduction to Computer Basic and Excel	3