

2021-2022 University of Wyoming College of Engineering Block Transfer for
Laramie County Community College students with an
earned Associate of Science degree in Engineering Science
UW Program: Bachelor of Science in Energy Systems Engineering

This block transfer guide awards credit toward completion of the University of Wyoming's (UW) University Studies Program (USP) and specified pre-requisite courses for the College of Engineering majors. With this policy, transfer students with a qualifying associate degree (AA, AS, AB, or ADN) with a major in Engineering Science from Laramie County Community College (LCCC) will be able to apply to transfer into the specified bachelor's degree program, ready to complete the remainder of their program at UW, allowing them to potentially graduate from the university in two years (four semesters).

Students should complete a minimum of 60 credits through their associate degree coursework. Students should work closely with their academic adviser to plan their course of study to ensure that they complete the AS degree as quickly as possible. Students should be prepared to take classes during the summers.

Block 1: USP Requirements

Courses taken to satisfy General Education requirements at LCCC may not be specifically listed in this document, but they are considered essential to prepare the student for entry into the Bachelor of Science degree program at UW. Because of the quality of that foundation, students entering UW who have completed a qualifying AA, AS, AB, or ADN from LCCC receive credit toward completion of the majority of USP requirements.

Wyoming Community College (WYCC) students entering UW as of Fall 2001 who have completed an AA, AS, AB, or ADN degree from a WYCC are awarded the lower division general education requirements included in the USP, with the understanding that they have already successfully completed the statutory requirement for US/WY Government & Constitution requirement as part of the WYCC degree. All students must complete upper division writing (USP category C3) at UW.

All students must successfully complete:

USP: FYS – Students transferring with a qualifying earned associate degree earned after completing high school will have USP: FYS waived.

USP: V – All students must take a course that satisfies the statutory requirement for US/WY Government & Constitutions. Students should select a course at LCCC that will satisfy this requirement at both institutions.

USP: C3 – Communications 3, which is the upper division writing requirement. For ESE majors, this requirement is satisfied by completing ENR 4900 with a grade of C or higher.

For more information about USP, please refer to <https://www.uwyo.edu/usp/>.

Block 2: Pre-Transfer Prerequisite Courses (11 courses required)

All ES and MATH courses must be completed with a grade of C- or better.

UW Course	LCCC Equivalent	Credits
MATH 2200 Calculus I	MATH 2200 Calculus I	4
MATH 2205 Calculus II	MATH 2205 Calculus II	4
MATH 2210 Calculus III	MATH 2210 Calculus III	4
MATH 2310 Applied Differential Equations	MATH 2310 Applied Differential Equations	3
CHEM 1020 General Chemistry I	CHEM 1020 General Chemistry I	4
PHYS 1220 Engineering Physics II	PHYS 1320 College Physics II	4
ES 1060 Intro to Engineering	ES 1060 Intro to Engineering	3
ES 2110 Statics	ES 2110 Statics	3
ES 2120 Dynamics	ES 2120 Dynamics	3
ES 2210 Electric Circuit Analysis (3cr)	ES 2210 Electric Circuit Analysis (4cr)	
ES 2410 Mechanics of Materials	ES 2410 Mechanics of Materials	3

Block 3: Required Non-Engineering Courses

These courses may be completed at LCCC or at UW. The scheduling of any of these courses should be decided with the assistance of the student's academic adviser.

UW Course	LCCC Equivalent	Credits
LIFE 1010 General Biology	BIOL 1010 General Biology	4
Math/Science Elective (choose from approved list)	<i>Cannot be a course used to satisfy any other requirement</i>	3-4
Business Elective (choose from approved list)	(Various; consult with academic adviser)	3

Block Transfer for:
LCCC students with an earned A.S. degree in Engineering Science
UW Program: Bachelor of Science in Energy Systems Engineering

Block 4: Energy Systems Engineering Major

Energy Systems Engineering is an ABET-accredited undergraduate degree offering by the Department of Mechanical Engineering. The ESE program was designed to train engineers to address one of this country's foremost challenges: to achieve energy independence and yet meet the growing demand for energy, while at the same time addressing critical environmental concerns.

UW College of Engineering Requirements:

- A minimum of 131 credit hours is required.
- A minimum overall GPA of 2.000 is required. Degree candidates must have an average GPA of 2.0 in Mechanical and/or Energy Systems engineering courses completed at UW. A grade of C- or better must be earned in all engineering science (ES) and required mathematics courses.
- While the University requires 42 credits of upper division coursework, the Energy Systems Engineering major requires a minimum of 48 hours of upper division coursework are required, so elective courses should be chosen appropriately.
- Before enrolling in any upper division ESE courses, students must complete the ME/ESE Success Curriculum (3.000 GPA in MATH 2200, MATH 2205, MATH 2210, ES 1060, ES 2110, ES 2120, ES 2210, ES 2310, ES 2330, and ES 2410).
- Graduates must meet all college requirements and earn a minimum GPA of 2.000 in ME courses taken at UW.
- In general, transfer of coursework towards an Energy Systems Engineering degree will follow University of Wyoming policy. Courses must be shown to be equivalent to its University of Wyoming course (latitude may be given for ESE electives without a direct University of Wyoming equivalent).
- Three courses are considered to be the core of the Energy Systems Engineering program, and therefore credit cannot be transferred from another institution. These courses are ESE 3020, ESE 3040, and ESE 3360. Exceptions may be made for courses from approved study abroad programs or in extreme circumstances. Please note that failing a prerequisite course resulting in a delay of graduation does not constitute an extreme circumstance.
- Any transfer of courses for the major requires explicit written approval from the Department.

University of Wyoming Requirements (see http://www.uwyo.edu/registrar/university_catalog/grad.html):

- Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from UW.
- Students may not take a course for S/U credit to satisfy any requirement, unless the course is offered for S/U credit only.
- A grade of C or above is required for University Studies Program (USP) FY, C1, C2, and C3.
- University Studies Program (USP), Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject but may be cross-listed with the major.
- No more than 4 semester hours of credit in physical activity courses can count toward the bachelor's degree.
- The UW Office of the Registrar provides final confirmation/approval of degree completion requirements prior to the awarding of any degree.

UW Course	Notes	Credits
ES 2310 Thermodynamics I	<i>Students should take this course at UW the summer AFTER completing their AS degree.</i>	3
ES 2330 Fluid Dynamics	<i>Students should take this course at UW the summer AFTER completing their AS degree.</i>	3
ATSC 2100 Global Warming: The Science		3
ESE 3005 Engineering Experimentation		3
ESE 3020 System Dynamics	<i>Must be taken at UW</i>	3
ESE 3040 Thermodynamics II	<i>Must be taken at UW</i>	3
ESE 3060 Numerical Methods for Engineers		3
ESE 3160 Thermal/Fluid Science Lab		3
ESE 3360 Transport Phenomena	<i>Must be taken at UW</i>	3
ENR 4750 ENR Law & Policy		3
ESE 4070 Energy Systems Design II		3
ENR 3000 ENR Approach to Problem Solving		3
ESE 4060 Energy Systems Design II		3
ENR 4900 ENV Assessment	<i>Satisfies USP: C3; minimum grade: C</i>	3
Two (2) ESE Electives	Select from approved list	6
Five (5) Technical Elective courses	Select from approved list:	15

Block 5: Credits to meet 131 credits minimum (credit type and number of credits needed will vary by student)

This block will include courses required to complete the AS degree at LCCC. The University of Wyoming requires a total of 131 credits for the Bachelor of Science with a major in Mechanical Engineering. This must consist of a minimum of 42 upper division credits, 30 of which must be earned "in residence" at UW. College-level courses that were completed successfully at LCCC that are not specifically listed in this guide will also be transferred and counted toward the total credit required for the BS degree in accordance with UW transfer policy.

Block Transfer for:
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ADDENDUM: Sample 4-Year Sequence by Term

This addendum is a sample plan of study; it is not intended to be used in place of academic advising.

First Fall Semester at LCCC (Assuming student must take MATH 1400 as a prerequisite course)

Course	Title	Satisfies	Credits	Notes
STRT 1000	Strategies for Success	Student Success	3	
MATH 1400*	College Algebra	Quantitative Literacy	3	
CHEM 1020	General Chemistry I	Natural Sciences	4	
ES 1060	Intro to Engineering	Major	3	

First Spring Semester at LCCC

Course	Title	Satisfies	Credits	Notes
General Education	Select Course	Human Society & the Individual	3	<i>Course must satisfy USP: V at UW</i>
General Education	Select Course	Written Communication	3	<i>Most students take ENGL 1010</i>
MATH 1405*	Trigonometry	Quantitative Literacy	3	
BIOL 1010	General Biology	Natural Science	4	
General Education	Select Course	Creative Expression	3	

First Summer at LCCC (only necessary for students who have not yet taken Calculus)

Course	Title	Satisfies	Credits	Notes
MATH 2200*	Calculus I	Quantitative Literacy	4	<i>Calculus I must be completed successfully before the student's second Fall term at LCCC.</i>

Second Fall Semester at LCCC

Course	Title	Satisfies	Credits	Notes
ES 2110	Statics	Major	3	
ES 2210	Electric Circuit Analysis	Major	3	
MATH 2205	Calculus II	Major	4	
General Education	Select Course	Oral Communication	3	<i>Most students take COMM 2010</i>
General Education	Select Course	Human Cultures	3	

Second Spring at LCCC (students should graduate at the end of this term)

Course	Title	Satisfies	Credits	Notes
ES 2120	Dynamics	Major	3	
ES 2410	Mechanics of Materials	Major	3	
MATH 2210	Calculus III	Major	4	
MATH 2310	Applied Differential Equations	Major	3	
PHYS 1320	College Physics II	Major	4	

RECOMMENDED Second Summer (Take at UW; if student does not take these courses in the summer between finishing at LCCC and starting at UW, will have to take the courses at UW at a later time.)

Course	Title	Satisfies	Credits	Notes
ES 2310	Thermodynamics	UW Program	3	Required for the major at UW
ES 2330	Fluid Dynamics	UW Program	3	Required for the major at UW

* The Engineering program at LCCC may take longer than two years/four semesters for students whose initial mathematics course is not MATH 2200 (Calculus I) due to the prerequisites of the mathematics courses. Students should enroll in the highest-level math course for which they qualify. Starting in a course above MATH 1400 will reduce the credit hours needed to complete this degree, and not require a summer semester. Students should work closely with their Advising Team.

See page 4 for the example course sequence at UW.

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First Fall Semester at UW

Course	Title	Satisfies	Credits	Notes
ESE 3005	Engineering Experimentation		3	
ESE 3020	System Dynamics		3	
ESE 3040	Thermodynamics II		3	
ESE 3060	Numerical Methods for Engineers		3	
ENR 4750	ENR Law & Policy		3	

First Spring Semester at UW

Course	Title	Satisfies	Credits	Notes
ESE 3160	Thermal/Fluid Science Lab		3	
ESE 3360	Fundamentals/Transport Phenomena		3	
Technical Elective				
Technical Elective				
M/S Elective				
ESE Elective				

Second Fall Semester at UW

By the end of this term, students must contact the Office of the Registrar regarding degree completion/graduation.

Course	Title	Satisfies	Credits	Notes
ESE 4060	Energy Systems Design I		3	
ENR 3000	Approaches to ENR Problem Solving		3	
Technical Elective				
Technical Elective				
ATSC 2100	Global Warming: The Science		3	

Second Spring at UW (students should graduate at the end of this term)

Course	Title	Satisfies	Credits	Notes
ESE 4070	Energy Systems Design II		3	
ENR 4900	ENR Policy in Practice			<i>Also titled, "ENR Assessment"</i>
ESE Elective				
Business Elective				
Technical Elective				