

# ESL MILESTONE - PATHWAY TO TRANSFER: SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM) CERTIFICATE OF ACHIEVEMENT

MATH-175	College Algebra
MATH-176	Precalculus: Functions and Graphs
OCEA-112	Introduction to Oceanography
PHYC-110	Introductory Physics
<b>Total Units</b>	<b>21-24</b>

Any student who chooses to complete only the requirements listed above qualifies for a Certificate of Achievement. An official request must be filed with the Admissions and Records Office prior to the deadline as stated in the Academic Calendar.



The ESL Milestone - Pathway to Transfer: Science, Technology, Engineering, and Math (STEM) Certificate of Achievement is designed to prepare English Language learners (ELLs) for the academic rigor of degree-applicable coursework in various Academic and Careers Pathways Majors. Students completing these certificates have achieved academic English reading and writing skills at an advanced, post-secondary level; they have also achieved success in prerequisite or introductory coursework in a variety of degree, certificate, or general education patterns. These two elements combine to demonstrate significant achievement of a milestone along their pathways to Science, Technology, Engineering, and Math (STEM) degrees, certificates, or transfer. At least 50% of all major course work must be completed at Grossmont College. This certificate requires a total of 21-24 units.

## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Communicate well-organized information, arguments and opinions through various modalities, including speaking and writing.
2. Analyze and evaluate academic texts to prepare for and complete academic writing.
3. Interact effectively with others in group work to complete academic tasks and work well in cross-cultural situations, taking into account others' diverse backgrounds, perspectives, and abilities.

**Note: All courses must be completed with a letter grade of "C" or higher or "Pass."**

Code	Title	Units
ESL-105	Rhetoric for Academic Success	6
ESL-115	Exploring U.S. Cultures	6
ESL-122	College Rhetoric	6
Select one of the following:		3-6
ASTR-110	Descriptive Astronomy	
BIO-240	Principles of Ecology, Evolution and Organismal Biology	
CHEM-110	Environmental Chemistry	
CSIS-119	Introduction to Computer Programming	
CSIS-293	Introduction to Java Programming	
GEOG-120	Physical Geography: Earth Systems	
GEOL-110	Planet Earth	
MATH-170	Analytic Trigonometry	