

# CERTIFICATE OF ACHIEVEMENT



# SURVEYING, MAPPING & DRAWING

This certificate is designed for surveying careers and leads to employment in civil design applications, public works, utilities and CADD/Drafting-related industries.

To acquire the **Certificate of Achievement in Surveying, Mapping & Drawing**, it is necessary to complete the following courses:

Required Courses		Units	N	IP	C
CIV 140	Civil Engineering Fundamentals	4			
CIV 142	Introduction to Surveying and GPS	4			
ENGT 101	Introduction to Technical Drawing & Graphics	3			
ENGT 122	Engineering Design Graphics	4			
GIS 120	Introduction to Geographic Information Systems and Spatial Analysis	4			
GIS 221	*Cartography Design and Geographic Information Systems	4			
<b>Select one course from the following:</b>					
ENGT 150	AutoCAD for Basic CADD Applications	4			
or					
ENGT 170	MicroStation for Basic CADD Applications	4			
<b>Total units needed for Certificate of Achievement</b>		<b>27</b>			
Units Completed					
*Prerequisite/Corequisite					
<i>Courses are not necessarily listed in order of enrollment; see prerequisites. Additional Recommended courses: GEOG 101 and MATH 175.</i>					