

Land Surveying –AS (Associate GE Track) AND Transfer Requirements for New Mexico State University B.S. Geomatics

+If you have completed coursework at another college and/or are starting in a semester other than a Fall term, please follow up with the Counseling Department to determine if this sequence is appropriate for your academic and career goals.

AS Program Description

The focus of the Land Surveying program is to provide the student with a thorough background in land surveying and mapping in addition to an introduction to the collecting, manipulating, formatting and mapping of geospatial data. A student who successfully completes the program will have the technical expertise necessary for an entry level position in the field of Land Surveying or related fields of geographic information systems specialists, architectural services, and engineering services. Land Surveyors typically measure and record property boundaries and the topography of the land covered by construction and engineering projects. Surveys are used to establish legal boundaries to prepare maps and exhibits, and write descriptions of land tracts that satisfy legal requirements. The program also assists students in preparing for the Fundamentals of Surveying Exam (formerly the Land Surveyor In-Training or LSIT exam) and the Professional Land Surveyor Exam issued by the State of California.

Program SLO

Demonstrate proficiency in the core skills and knowledge required for employment in land surveying.

NMSU BS. Geomatics Transfer Agreement

The sequence listed below, satisfies your AS requirements and the New Mexico State University Articulated courses to satisfy the transfer requirements for the Bachelor of Science degree in Geomatics.

Students wishing to begin their studies at College of the Canyons (COC) before transferring to New Mexico State University (NMSU) typically spend four to five semesters and get an AS degree. This is typically followed by four or five semesters at NMSU to get a BS degree. An advisor in ETSE (Engineering Technology and Survey Engineering at NMSU) should be consulted for all transfers. According to NMSU policy for Transfer Undergraduate Students, credits from COC will be evaluated by the College of Engineering, NMSU, after the student has shown acceptable performance at NMSU for two semesters of full-time enrollment. A complete description of the requirements for the degree may be found below and at the link:

<https://catalogs.nmsu.edu/nmsu/engineering/engineering-technology-surveying/geomatics-bachelor-science-geomatics/>

Connect with a COC counselor to develop an individual student education plan through the Counseling Department @ <https://www.canyons.edu/counseling> or (661) 362-3288/(661) 362-3811.

*Major courses are sequenced and **BOLDED** based on recommendations by the [Land Surveying Department](#).*

First Semester (2-14 units minimum)

FA = Fall; WI = Winter; SP = Spring; SU = Summer

Course	Title	Units	Major and GE Area
SURV 101A	Introduction to Land Surveying (FA, SP)	3	Major & NMSU Major Preparation
SURV 101L	Introduction to Land Surveying Lab (FA, SP)	1	Major & NMSU Major Preparation
* Math 102 or Math 102X	Trigonometry (FA, WI, SP, SU) Trigonometry & Support for Trigonometry (FA,SP)	4 5	Major & Area Dii

ENGL 101/101H	English Composition (FA,WI,SP,SU)	4	Area Di & NMSU GE
Physical Education and Wellness	HLHSCI 100 - Health Education (FA, WI, SP, SU) HLHSCI 150 - Nutrition (FA, SP, SU) HLHSCI 243* Women and Health (FA, SP) PE KPEA or KPEI or Dance Activity (FA, WI, SP,SU)	2-3	Area F
Term Total:		14-16	

*Note: The program recommends you speak with a counselor regarding your math placement. NMSU requires Calculus, therefore if you place higher than MATH 102/102X, you are encouraged to start at the higher level.

Interession I (15-17 units minimum)

Course	Title	Units	GE Area
POLISCI 150	American Government (FA, WI,SP, SU)	3	Area E & NMSU Social Science GE
Term Total:		3	

Second Semester (18-35 units minimum)

Course	Title	Units	Major and GE Area
SURV 102A	Advanced Land Surveying (SP, SU)	3	Major & NMSU Major Preparation
SURV 102L	Advanced Land Surveying Lab (SP, SU)	1	Major & NMSU Major Preparation
SURV 110	CAD for Surveyors (FA, SP, SU)	3	Major & NMSU Major Preparation
GIS 101	Introduction to Geographic Information Systems (SP)	3	Major & NMSU Major Preparation
Math 104	Pre-calculus (FA, SP, SU)	5	Pre-requisite for NMSU Major Preparation
ENGL 103 OR ENGL 112	Critical reading, Writing and Thinking (FA, WI, SP, SU) Intermediate Composition, Literature and Critical Thinking (FA, SP)	3	NMSU GE
Term Total:		18	

Interession II (36-41 units minimum)

Course	Title	Units	Major and GE Area
** Social Science Course	Choose one course from COC GE Area B (FA, WI, SP, SU)	3	Area B & Diversity
HIST 111/11H OR HIST 112/112H	United States History I (FA, WI, SP, SU) OR United States History II (FA, WI, SP, SU)	3	Area E & NMSU Humanities GE
Term Total:		6	

**Take a Social Science general education course GE Area B with an (*) indication on the Associate Degree Requirements Checklist. Courses with an (*) will also meet the GE Diversity Requirement. Refer to the [Associate Degree Checklist](#) for details.

Third Semester (42-55 units minimum)

Course	Title	Units	Major and GE Area
SURV 103	Advanced Applications in Land Surveying I (FA - 1 st 8 weeks)	3	Major & NMSU Major Preparation
SURV 104	Advanced Applications in Land Surveying II (FA -2 nd 8 weeks)	3	Major & NMSU Major Preparation
SURV 260	Boundary Control and Legal Principles I (FA)	3	Major & NMSU Major Preparation
Math 211	Calculus I (FA, SP, WU)	5	NMSU Major Preparation
Term Total:		14	

Interession III (56-58 units minimum)

Course	Title	Units	Major and GE Area
COMS 105	Fundamentals of Public Speaking (FA, WI, SP, SU)	3	Area C & NMSU GE
Term Total:		3	

Fourth Semester (59-74 units minimum)

Course	Title	Units	Major and GE Area
SURV 265	Boundary Control and Legal Principles II (SP)	3	Major & NMSU Major Preparation
SURV 107A	Construction Surveying (SP)	3	Major & NMSU Major Preparation
SURV 107L	Construction Surveying Lab (SP)	1	Major & NMSU Major Preparation
Math 212	Calculus II (FA, SP, SU)	5	NMSU Major Preparation
PHYSICS 220	Physics for Scientists and Engineers: Mechanics of Solids and Fluids (FA, SP, SU) - <i>Math 211 is the pre-requisite</i>	4	Area A and NMSU Major Preparation
Term Total:		16	

Interession IV (75-78 units minimum)

Course	Title	Units	Major and GE Area
MATH 140	<i>Statistics (FA, WI, SP, SU)</i>	4	NMSU Major Preparation
Term Total:		4	

Fifth Semester (79-92 units minimum)

Course	Title	Units	Major and GE Area
Math 213 OR MATH 214	Calculus III (FA, SP, SU) OR Linear Algebra (FA, SP, SU)	5 4	NMSU Major Preparation
Elective Science with Corresponding Lab	Select additional lab science (4 units). Refer to IGETC Area 5 Physical and Biological Science GE Checklist or CSU Area B1 Physical Science or, B2 Life Science & B3 Corresponding Lab GE checklist for options- <i>see table below for options.</i>	4	NMSU Elective Science
CPMSCI 111 & 111L OR CMPSCI 132 OR CMPSCI 235	Introduction to Algorithms and Programming & Lab (FA, SP, SU) Introduction to Programming (SU, WI) C Programming (FA, WI, SP, SU)	3 + 1 OR 3	NMSU Computer Programming
NMSU Creative & Fine Arts GE	Complete one course to satisfy NMSU Creative and Fine Arts GE (FA, WI, SP, SU) - <i>see table below for options</i>	3	NMSU Creative & Fine Arts GE
Term Total:		14 -16	

The IGETC and CSU GE Checklists may be found here:

<https://www.canyons.edu/studentservices/counseling/degrees/generaled.php>

Total Units: 92+

Creative and Fine Arts GE – Select one course from below

ART 110	Art History: Paleolithic to Renaissance (FA, WI, SP, SU)	3
ART 111	Art History: Renaissance to Modern (FA, WI, SP, SU)	3
ART 116	Asian Art History (FA, WI, SP, SU)	3
DANCE 100	Dance Appreciation (FA, WI, SP, SU)	3
MUSIC 105	Music Appreciation (FA, SP, SU)	3
MUSIC 106	Development of Jazz (FA, SP)	3
THEATR 100	Theatre Appreciation (FA)	3
THEATR 140	Acting Fundamentals (FA, SP)	3

NMSU Elective Science– Select additional Physical or Biological Lab Science course (4-unit minimum)

Physical Sciences		
ASTRON 101 & ASTRON 101L	Stellar & Galactic Evolution (FA, WI, SP, SU) Observational Astronomy Lab (FA, SP, SU)	3 1
CHEM 151	Preparatory General Chemistry (FA, WI, SP, SU)	4
CHEM 201/201H	General Chemistry I (FA, WI, SP, SU)	5
CHEM 202	General Chemistry II (FA, SP, SU)	5
CHEM 255	Organic Chemistry I (FA, SP, SU)	5
CHEM 256	Organic Chemistry II (FA, SP, SU)	5
ENVRMT 103	Introduction to Environmental Science (FA, SP)	4
GEOGRPH 101	Physical Geography with Lab (FA, WI, SP, SU)	4
GEOLOGY 101	Physical Geology with Lab (FA, WI, SP, SU)	4
GEOLOGY 102	Earth History & the Fossil Record (FA, SP)	4
GEOLOGY 110	Earth Science with Lab(FA, WI, SP, SU)	4
OCEAN 101	Introduction to Oceanography (FA, SP, SU)	4
PHYSICI 101	Conceptual Physical Science (FA, SP)	4
PHYSIC 110	General Physics I (FA, WI, SP, SU)	4
PHYSIC 111	General Physics II (FA, SP, SU)	4
PHYSIC 221	Physics for Scientists and Engineers: Electricity and Magnetism (FA, SP, SU))	4
PHYSIC 222	Physics for Scientists and Engineers: Wave Motion, Heat, Optics and Modern Physics (FA, WI, SP, SU)	4
Biological Sciences		
ANTHRO 101/101H & ANTHRO 101L	Physical Anthropology (FA, WI, SP, SU) Physical Anthropology Laboratory (FA, SP, SU)	3 1
BIOSCI 100/100H	General Biology (FA, WI, SP, SU)	4
BIOSCI 106/106H	Organismal & Environmental Biology (FA, WI, SP, SU)	4
BIOSCI 107/107H	Molecular and Cellular Biology	4
BIOSCI 115	General Zoology (FA)	4
BIOSCI 116	General Botany (SP)	4
BIOSCI 119	Marine Biology (SP)	4
BIOSCI 201	Introduction to Human Anatomy (FA, SP, SU)	4
BIOSCI 202	Introduction to Human Physiology (FA, SP, SU)	4
BIOSCI 204	Human Anatomy and Physiology I (FA, SP, SU)	4
BIOSCI 205	Human Anatomy and Physiology II (FA, SP, SU)	4
BIOSCI 221	Introduction to Microbiology (FA, SP, SU)	5
BIOSCI 240	Molecular Genetics (FA, SP)	4

Counseling Resources:

 Land Surveying Department Website: www.canyons.edu/surv

 Counseling Department: www.canyons.edu/counseling

 Associate Degree Checklist: <https://www.canyons.edu/student-services/counseling/degrees/generaled.php>

 NMSU Program Information– <https://catalogs.nmsu.edu/nmsu/engineering/engineering-technology-surveying/geomatics-bachelor-science-geomatics-online/#requirementstext>

 NMSU Articulation link here: <https://www.canyons.edu/resources/documents/academics/surveying/COC-Articulation-Agrmt-NMSU.pdf>

 COC Alliances: <https://www.canyons.edu/administration/ie2/equity/alliances/index.php>

 Petition for Associate Degree: Check the [student calendar](#) for term-specific submission deadlines for the petition for associate degree. *Summer graduation associate degree petitions are due by April 1st for your name to appear in the spring commencement pamphlet. The petition form must be reviewed with a counselor and may be found here: <https://www.canyons.edu/student-services/admissions/records/forms.php>

Career Resources

California Board for Professional Engineers, Land Surveyors, and Geologists - <https://www.bpelsg.ca.gov/>

Land Surveying at College of the Canyons LinkedIn Group-<https://www.linkedin.com/groups/13551034/>

California Career Zone – Surveyors: <https://www.cacareerzone.org/profile/17-1022.00>

O*Net Online -Surveyors: <https://www.onetonline.org/link/summary/17-1022.00>

Bureau of Labor and Statistics - Surveyors: [https://www.bls.gov/ooh/architecture-and-](https://www.bls.gov/ooh/architecture-and-engineering/surveyors.htm)

[engineering/surveyors.htm](https://www.bls.gov/ooh/architecture-and-engineering/surveyors.htm)

Professional Associations: <https://www.canyons.edu/academics/surveying/information/links.php>