

# GEOMATICS - BACHELOR OF SCIENCE IN ENGINEERING (ONLINE)

## A Suggested Plan of Study for Students

The contents and order of this roadmap may vary depending on the students' transfer credits, some courses may need to be completed in addition to the ones listed below. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

First Year		Credits
Transfer 29 Credits <sup>1, 4, 5</sup>		29
<b>Credits</b>		<b>29</b>
Second Year		Credits
Transfer 30 Credits <sup>1, 4, 5</sup>		30
<b>Credits</b>		<b>30</b>
Third Year		Credits
<b>Fall</b>		
BLAW 2110	Business Law I	3
or BLAW 316	or Legal Environment of Business	
or BLAW 325	or Real Estate Principles and Law I	
MATH 2415	Introduction to Linear Algebra <sup>3</sup>	3
or MATH 2530G	or Calculus III	
or MATH 377	or Introduction to Numerical Methods	
or MATH 391	or Vector Analysis	
or MATH 392	or Introduction to Ordinary Differential Equations	
SUR 292	Legal Principles and Boundary Law I	3
SUR 361	Geodesy/Geodetic Control Surveying	3
Viewing a Wider World <sup>1</sup>		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
E T 355	Site/Land Development and Layout	3
SUR 285	Precise Digital Mapping	3
SUR 312	Public Land Survey System Boundaries	3
SUR 328	Construction Surveying & Automation Technologies	3
SUR 351	Spatial Data Adjustment I	3
<b>Credits</b>		<b>15</b>
Fourth Year		Credits
<b>Fall</b>		
GEOG 481	Fundamentals of Geographic Information Science (GIS)	4
I E 451	Engineering Economy	3
SUR 451	Spatial Data Adjustment II	3
SUR 464	Legal Principles and Boundary Law II	3
SUR 485	Emerging Techniques in Geospatial Technologies	3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
SUR 401	Ethics and Professionalism in Surveying and Mapping	3
SUR 450	Senior Project	3
SUR 452	Spatial Data Integration and Analysis	3

SUR 461	GNSS Positioning	3
Viewing a Wider World <sup>1</sup>		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>120</b>

1

See the General Education (<http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of this catalog for a full list of courses. See the Viewing a Wider World (<http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of this catalog for a full list of courses.

2

For students wishing to pursue a technical master's degree, MATH 1511G Calculus and Analytic Geometry I (or equivalent) and MATH 1521G Calculus and Analytic Geometry II (or equivalent) are recommended and will satisfy both the Area II and General Education Elective requirements. Students who take MATH 1435 Applications of Calculus I (or equivalent) and MATH 1440 Applications of Calculus II (or equivalent), will need to have an exception made for their degree audit.

*\*for either Mathematics course selection students may need to take any prerequisites needed to enter the class(es) first.*

3

Or any MATH 400 and above.

4

Transfer students must complete college-level work that includes General Education Area I, IV, V, and VI (19 credit: see the [General Education \(https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext\)](https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of this catalog for a full list of courses), Calculus I and II (6-8 credit), Physics I (4 -credit), elective science with lab (4 credit), computer drafting (3 credit), statistics (A ST 311 or equivalent: 3 credit), computer programming (3 credit), plane surveying (3 credit), introduction to GIS (3-4 credit), surveying/civil drafting (3 credit), and approved electives to bring total transfer credits to 59.

5

Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However, students may end up needing to complete more or less on a case by case basis and students should discuss elective requirements with their academic advisor.