

 FLORIDA ATLANTIC UNIVERSITY	NEW/CHANGE PROGRAM REQUEST Undergraduate Programs	UUPC Approval <u>1/30/23</u> UFS Approval _____ Banner _____ Catalog _____
	Department Civil, Environmental and Geomatics Engineering College Engineering and Computer Science	
Program Name B.S. Geomatics Engineering	<input type="checkbox"/> New Program* <input checked="" type="checkbox"/> Change Program*	Effective Date (TERM & YEAR) Fall 2023
<p>Please explain the requested change(s) and offer rationale below or on an attachment.</p> <p>Change SUR 4331 (2 credits) and SUR 4331 L (1 credit) to a combined 3-credit course SUR 4331C. All lab exercises are software based and it will best serve the students in the combined mode.</p>		
<p><small>*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.</small></p>		
Faculty Contact/Email/Phone Sudhagar Nagarajan, snagarajan@fau.edu/7-3104	Consult and list departments that may be affected by the change(s) and attach documentation	
Approved by Department Chair <u><i>skaisar</i></u> College Curriculum Chair <u><i>Hongbo Su</i></u> College Dean _____ UUPC Chair <u><i>Ethlyn Williams</i></u> Undergraduate Studies Dean <u><i>Dan Meeroff</i></u> UFS President _____ Provost _____	Date _____ 01/06/2023 _____ 01/09/2023 <u>1/9/23</u> _____ <u>1/30/23</u> _____ <u>1/30/23</u> _____ _____	

Email this form and attachments to mjenning@fau.edu seven business days before the UUPC meeting.

(Update SUR 4331 and SUR 4331L; see page 2)

Bachelor of Science in Geomatics Engineering

Intellectual Foundations Program - 39 credits		
Foundations of Written Communication Courses - 6 credits		
College Writing 1 (1), (2)	ENC 1101	3
College Writing 2 (1), (2)	ENC 1102	3
Foundations of Mathematics and Quantitative Reasoning Courses - 6 credits		
Calculus with Analytic Geometry 1 (1), (4)	MAC 2311	4
Introductory Statistics	STA 2023	3
Foundations of Science and the Natural World Courses - 6 credits		
General Physics for Engineers 1 (1), (8)	PHY 2048 and	3
General Physics 1 Lab	PHY 2048L	1
Students must take one additional course from the list below:		
General Chemistry 1	CHM 2045 and	3
General Chemistry 1 Lab	CHM 2045L	1
Physical Geology/Evolution of the Earth	GLY 2010C	4
Foundations of Society and Human Behavior Courses - 6 credits (1), (3)		
Foundations of Global Citizenship Courses - 6 credits (1), (3)		
Foundations of Humanities Courses - 6 credits (1), (3)		
Total		39

[Top](#)

Additional Basic Mathematics and Sciences Electives - 15 credits		
Introduction to Calculus with Applications	MAC 2210 or	4
Calculus with Analytic Geometry 2	MAC 2312	4
Or any mathematics course for which one of the math courses is a direct prerequisite		
Introduction to Physical Geography	GEO 2200C	3
Select 8 credits from the Foundations of Science and the Natural World Group A or B not already taken for credit		8

Business Electives - 3 credits (select one course)		
Principles of Accounting 1	ACG 2021	3
Entrepreneurship	ENT 4024	3
Entrepreneurial Assistance Project	ENT 4934	3
Introduction to Business	GEB 2011	3
Information Systems Fundamentals	ISM 2000	3
Introduction to Management and Organizational Behavior	MAN 3025	3

Principles of Real Estate	REE 3043	3
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Engineering Fundamentals - 15 credits		
Fundamentals of Engineering	EGN 1002	3
Introduction to Mapping and GIS (5)	GIS 3015C or	3
GIS for Civil Engineering Applications	CGN 4321	3
Geomatics	SUR 3103 and	2
Geomatics Lab	SUR 3103L	1
Engineering Graphics Elective		
Computer-Aided Design	CGN 2327 or	3
Engineering Graphics	EGN 1111C	3
Computer Programming Elective		
Programming 1	COP 2220 or	3
Computer Applications in Engineering 1	EGN 2213 or	3
C for Engineers	EEL 2161	3

Construction Engineering Core - 6 credits		
Engineering and Construction Surveying	SUR 3205	2
Engineering and Construction Surveying Lab	SUR 3205L	1
RI: Construction Project Management	CCE 4031 or	3
Introduction to Transportation Engineering (5)	TTE 3004C	3

Surveying Engineering Core - 12 credits		
Automated Surveying and Mapping	SUR 3141 and	2
Automated Surveying and Mapping Lab	SUR 3141L	1
Measurement Theory and Data Analysis	SUR 3520	3
Cadastral Principles and Legal Aspects	SUR 4403	3
Geodesy and Geodetic Positioning	SUR 4530 and	2
Geodesy and Geodetic Positioning Lab	SUR 4530L	1

Reality Capture Core - 6 credits (select any combination to total 6 credits)		
Introduction to Laser Mapping Technology	CCE 4514C	3
Digital Photogrammetry Principles and Applications	SUR 4331C	3 2
Digital Photogrammetry Principles and Applications Lab	SUR 4331L	1
Thermal Infrared Remote Sensing and Applications	SUR 4384	3

Capstone Design - 6 credits		
Subdivision Design	SUR 4463 and	2
Land Subdivision and Platting Lab	SUR 3463L	1
Capstone Elective - Select one		

RI: Civil, Environmental and Geomatics Engineering Design 1	CGN 4803C or	3
RI: Engineering Technology Capstone	ETG 4951	3

Technical Electives - Select 18 credits from the list		
<i>Any approved College of Engineering and Computer Science course 3000-level and above</i>		
Remote Sensing of the Environment (5) (6)	GIS 4035C	3
Principles of Geographic Information Systems (5) (6)	GIS 4043C	3
Digital Image Analysis (5) (6)	GIS 4037C	3
Engineering Professional Internship	EGN 3971	0-4
Directed Independent Research in Engineering and Computer Science (7)	EGN 4911	0-3
Directed Independent Research in Engineering and Computer Science	EGN 4915	1-3
New Venture Launch	ENT 4015	3
Advanced Business Planning	ENT 4114	3
Entrepreneurship Internship	ENT 4940	1-4
Environmental Issues in Atmospheric and Earth Science	ESC 3704	3
Principles of Financial Management	FIN 3403	3
Sea-Level Rise: Impacts and Responses	GEO 3342	3
Quantitative Methods	GEO 4022	3
Spatial Data Analysis	GEO 4167C	3
Water Resources	GEO 4280C	3
Biogeography	GEO 4300	3
Urban Geography	GEO 4602	3
Transportation and Spatial Organization	GEO 4760	3
Introduction to Mapping and GIS	GIS 3015C	3
Digital Image Analysis (5)	GIS 4037C	3
Applications of GIS (5)	GIS 4048C	3
Programming in GIS (5)	GIS 4102C	3
Geovisualization and GIS (5)	GIS 4138C	3
Coastal and Marine Science	GLY 3730	3
Field Methods	GLY 4750C	3
Hydrogeology	GLY 4822	3
Engineering Geology	GLY 4830	3
Introduction to Hydrogeology Modeling and Aquifer Test (5)	GLY 4832C	3
Professional Internship	IDS 3949	0-4
Leadership, Supervisory Skills and Team Development	MAN 4046	3
Marketing Management	MAR 3023	3
Planning Methods	URP 4011	3
City Structure and Change	URP 4055	3
Planning Implementation Strategies	URP 4120	3

Introduction to Visual Planning Technology	URP 4254	3
Plan Making and Design	URP 4343	3
Sustainable Cities	URP 4403	3
Environmental Planning Methods	URP 4420	3
Urban Development Planning Methods	URP 4546	3
Capital Facilities Planning	URP 4730	3
Site Planning	URP 4870	3