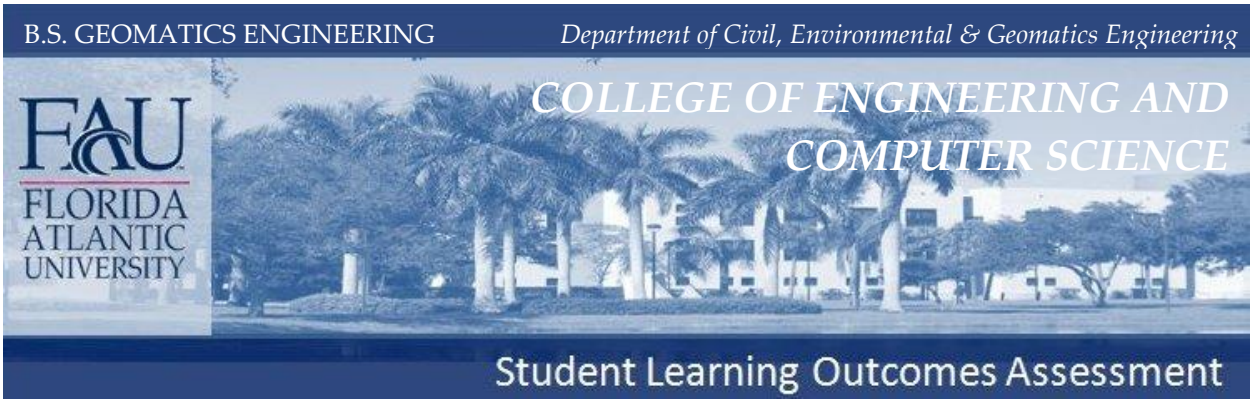

For graduation, students must obtain a grade of "C" or better in all required courses including General Education Requirements, Mathematics & Sciences courses, Engineering Fundamentals courses and Professional Core courses. Students must obtain a 2.0 GPA in all Geomatics Engineering courses attempted.

The program maintains a flowchart listing all required coursework. This flowchart and a program plan are reviewed with each student on a regular basis by the Undergraduate advisor. The students are required to meet with their advisor each semester before registration for classes. Failure to maintain satisfactory progress in the program will initiate a review process by the program faculty.

Geomatics engineering faculty and professional members of the Program Advisory Council (PAC) evaluate students on content knowledge, communication skills, and critical thinking skills. Possible outcomes for a student who receives an unsatisfactory evaluation include repeating course, tutoring or additional coursework.

CONTENT KNOWLEDGE (Declarative Knowledge and Technical Skills):
Students will recognize and apply concepts, principles and theories in core Geomatics Engineering courses (surveying, geographic information systems, remote sensing, photogrammetry, and legal and business practices.)

SUR 2034 Introduction to Geomatics Engineering	SUR 2101 Plane Surveying w/Lab
	GIS 3015 Introduction to Maps and GIS w/Lab
SUR 3643 Surveying Data Analysis	SUR 3530 Introduction to Geodesy
SUR 3331 Photogrammetry w/Lab	SUR 3205 Engineering. and Construction Surveying w/Lab
SUR 3141 Automated Surveying w/Lab	SUR 3463 Land Subdivision and Platting w/Lab

The faculty evaluates the content knowledge by giving scores (1 through 5, with 5 as the highest) for each class in the Continuous Improvement Worksheet (CIW) at the end of the semester. A score less than 4.0 will result in an improvement strategy to be implemented in the following semester.

COMMUNICATION (Written Communication, Oral Communication, Team/ Collaborative Communication)

Students will

- **Describe the interrelatedness of contemporary issues in a global and society context with Geomatics Engineering solutions.**
- **Communicate effectively in writing.**
- **Convey technical material through oral presentations.**
- **Function effectively in multidisciplinary teams**

for the following courses:

EGN 1002: Fundamentals of Engineering, SUR 4670 : Geomatics Engineering Design 1, SUR 4672: Geomatics Engineering Design 2

Students are required to write technical reports to be evaluated by the faculty members teaching EGN 1002. Students in the design sequence, SUR 4670 and SUR 4672, will present oral and written reports to the faculty and the industry members of the PAC. Students receiving unsatisfactory evaluations by the faculty and PAC members will be required to restart the sequence in the following semester.

CRITICAL THINKING (Analytical Skills, Creative Skills, Practical Skills):
Students will

- **Use modern engineering techniques, skills, and tools, including computer-based**
- **tools for analysis and design;**
- **Identify, formulate and solve novel civil engineering problems;**
- **Design and conduct scientific and engineering experiments including analysis**
- **and interpretation of data;**
- **Deliver engineering results that meet performance standards for cost, safety, and**
- **quality;**
- **Describe the ethical and professional responsibilities of the civil engineer;**
- **Make and defend ethical judgments in keeping with professional standards**

All geomatics engineering courses contain a critical thinking component. The following courses have more in depth critical thinking components:

GIS 4035 Remote Sensing of the Environment	GIS 4043 Principles of Geographic Information Systems
SUR 4536 Position with GPS w/Lab	SUR 4430 Surveying Business Practices
SUR 4403 Legal Aspects of Surveying	EGN 4413 Engineering Economics
SUR 4670 Geomatics Engineering Design 1	SUR 4672 Geomatics Engineering Design 2

The critical thinking skills that students obtain from the above group of courses will be evaluated by the faculty member who teaches the design sequence, SUR 4670 and SUR 4672. Again, students receiving unsatisfactory evaluations will be required to restart the sequence in the following semester.

Approved 5-1-2012