

BCN 4906/5906 Robotics in Construction

Instructor Information



Leonel E. Lagos, PhD, PMP®

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- **Office:** EC 2182
- **Office Hours:** by appointment

Class meeting times: Tuesday from 6:25 PM to 9:05 PM

Classroom: EC 1107

Course Description and Purpose

The course is designed for a small group of students in a particular topic, or a limited number of topics not otherwise offered in the curriculum. The course will cover advanced emerging technologies in robotics/remote systems and sensory with worldwide applications in the construction industry. Information flow and creativity are highlighted as crucial elements which stimulate new developments and engages students in technical discussions. This course prepares the students to understand and deal with concepts of change and use of state of the art technologies for construction.

Policies

Before starting this course, please review the following pages:

- [Policies](#)
- [Netiquette](#)
- [Technical Requirements and Skills](#)
- [Accessibility and Accommodation](#)
- [Panthers Care & Counseling and Psychological Services \(CAPS\)](#)
- [Academic Misconduct Statement](#)

- [Inclusivity Statement](#)

Course Attendance

Absences: Excused absences, defined as follows, will be granted upon submission of appropriate documentation.

1. Illness Requiring Medical Attention – Note from Health Care Provider required
2. Government-mandated Appearance (i.e. Court Hearing or Jury Duty) – Note from Judge or Record of Appearance required
3. Pre-Approved, School Sponsored Event – Information from sponsoring Faculty or Staff member required in advance
4. Religious Holydays as required by University policy

Absences which do not meet the above criteria will be considered unexcused absences.

Course Prerequisites

This course has no prerequisites.

Proctored Exam Policy

Please note that the information contained in this section applies only if your course requires a proctored exam.

Through a careful examination of this syllabus, it is the student's responsibility to determine whether this online course requires proctored exams. Please review the [remote proctoring guidelines Links to an external site.](#) for important information and contact your professor if you are unable to determine if this course has proctored exams.

Textbook and Course Materials

No textbook required. The instructor will provide the necessary course and reference material.

Course Communication

Communication in this course will take place via the Canvas Inbox. Check out the [Canvas Conversations Tutorial](#) or [Canvas Guide](#) to learn how to communicate with your instructor and peers using Announcements, Discussions, and the Inbox.

Grading

Type	Course Requirements	Weight
Individual	Class participation	20%
Group	Class Projects - Final Presentation	25%
Group	Class Project - Final Report	25%
Individual	Supplementary tools and resources	10%
Individual	Case Study Presentation	20%
Total		100%

Grade Distribution Table

Letter Grade Distribution Table

Letter	Range %	Letter	Range %	Letter	Range %
A	95.0 or above	B	83.0 - 86.9	C	70.0 - 76.9
A-	90.0 - 94.9	B-	80.0 - 82.9	D	60.0 - 69.0
B+	87 - 89.9	C+	77.0 - 79.9	F	59.9 or less

Class Schedule (draft)

Lecture	Date (Fridays)	Topics
1	January 10	Course Introduction
2	January 17	Robotics and Automation in Construction [from drones to Spot]
3	January 24	Single-Task Construction Robots (Part I)
4	January 31	Single-Task Construction Robots (Part II)
5	February 7	Introduction to Robotics Lab (Platforms/Hardware/Software)
6	February 14	Exoskeletons in Construction Workspace
7	February 21	Sensor Technologies for Construction Projects
8	February 28	[Spring Break Week – No Classes]
9	March 7	Case Study Presentations [individual]
10	March 14	Project 1 [exoskeleton applications]
11	March 21	Integrated On-Site Manufacturing for Construction

12	March 28	Project 2 [automation/robotic arms applications]
13	April 4	Project 3 [sensor for construction – conducting measurements]
14	April 11	In Class Session: Data Analysis and Evaluation of Results
15	April 18	Boston Dynamics – SPOT presentation (tentative)
16	April 25	Final Project Report/Presentations & Video

Other Course Information

- If in-person class is cancelled by any reason, I will provide material via canvas and/or Zoom recording for the specific class/topic.
- Missing excessive days may lead to failing a class or a grade of incomplete.
- For me to assist you in achieving your goals, it is important for you to contact me as soon as you experience any events that might disrupt your course participation.
- Please be advised that classes may be audio and visually recorded and/or subject to course capture for future access by students in this course. Your attendance/ participation in this course constitutes consent to such recordings, which will only be used for educational purposes by students in the course and securely stored in University systems. If there is a concern regarding the recording and use of such recording, please contact FERPA@fiu.edu.