ENGF 293-501 T: Introduction to Robotics
Tuesday & Thursday 10:30-11:45AM in A126

Instructor: Annette Hatch **Email:** ahatch2@unm.edu
Office: A123 **Phone**: **925-8642**
Office Hours: STEM Center: T-Th 9:00-10:00 AM & MW 1:00-2:00 PM
A123: T 12:00-1:00 PM & MW 2:00-3:00 PM
OR by app't.

COURSE DESCRIPTION: Introduction to Robotics will introduce students to the broad topical areas relating to robotic design, history, mechanics, electronics, and computer programming through lecture, research, and hands-on experiences.

COURSE MATERIALS: Notebook, pencil, calculator, flash drive.

Grading Scale (Note: + and – are possible but only will be given if of benefit to the student.)

A	90 – 100%	CR	Credit 72 – 100%
B	80 – 89%	NC	No Credit < 72%
C	70–79%		
D	60–69%		
F	< 59%		

Attendance and Class Participation	**50%**
Weekly Quizzes and Skill Competencies	**30%**
Final Exam	**20%**

IMPORTANT DATES with respect to this class:

Last date to drop without a grade: Friday, January 29, 2016
Spring Break: March 13-20, 2016
Final Exam: 10:30-12:30 PM Thursday, May 12, 2016 in A126

ATTENDANCE POLICY: If a student misses 2 classes in the first two weeks or 3 consecutive class periods or 5 total, the student may be dropped from the class. The student bears full responsibility for the material and procedural information covered in class.

SUPPORT SERVICES: The Valencia Campus Library provides a quiet atmosphere for study and is an excellent resource for supplementary materials. Audiotapes and videotapes are available for student use through the library. The STEM Center offers tutoring at no cost to the student. For best results, schedule appointments for tutoring at (505) 925-8515. The Learning Center (925-8907) also offers tutoring at no cost to the student. The online tutor, Ryan Baltunis, can be reached at 925-8553 or found in LRC 118. Students who miss tutoring appointments may be denied future appointments.

EXPECTATIONS: Students are expected to conduct themselves in a polite, courteous, professional and collegial manner. Cell phones must be set on silent. Please step into the hall if you need to take a call during class. Cell phones must be turned off during exams.

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered responsible employees. This designation requires that any report made to a faculty member, TA, or GA regarding sexual misconduct or gender discrimination must be reported to the Office of Equal Opportunity and the Title IX Coordinator. For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

UNM EMAIL/BLACK BOARD LEARN ACCESS: As off Fall 2015 semester, all UNM-Valencia students need a UNM Net ID which can be created by going to: http://it.unm.edu/accounts/. UNM Net ID will give you access to the computer labs on campus, blackboard learn and UNM Email.

COMPUTER LAB RESPONSIBILITY: Please be advised that use of computer labs on UNM properties is governed by "Policy 2500: Acceptable Computer Use" which can be found at http://policy.unm.edu/university-policies/2000/2500.html. Food and drink are also prohibited in any computer lab on campus. Anyone violating these policies is subject to possible suspension and loss of computer lab privileges.

DISABILITY STATEMENT: If you have a documented disability, please provide me with a copy of your letter from Equal Access Services as soon as possible to ensure that accommodations are provided in a timely manner. The Equal Access Office can be reached at 925-8510.

UNM's Policy on Academic Honesty: Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Any student who has been judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course. Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests or assignments, claiming credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University.

STANDARDS OF LEARNING:

Upon the successful completion of Introduction to Robotics students will

1. Have an understanding of robotic history, application and design
2. Have an understanding of electrical and mechanical components comprising the class robots
3. Be able to do mathematical calculations and write short computer programs to allow the class robots to complete a required task

COURSE TOPICS (Order subject to change):

Week	Dates	Topic
1	1/19 & 21	Robots in Popular Culture/Industry & Basic Computer Programming
2	1/26 & 28	Basic Bread Boarding
3	2/2 & 4	Servos & Straightest Path
4	2/9 & 11	Whiskers & Navigate the Box
5	2/16 & 18	IR sensors
6	2/23 & 25	Phototransistors
7	3/1 & 3	Figure 8 Competition
8	3/8 & 10	Walking
9	3/14 & 19	Spring Break
10	3/22 & 24	Arduino Basics
11	3/29 & 31	Arduino with Robotics
12	4/5 & 7	3D Points and Spatial Coordinates
13	4/12 & 14	Gears and Degrees of Freedom
14	4/19 & 21	Robotic Arm Build
15	4/26 & 28	Robotic Arm Competition
16	5/3 & 5	Robotic Hand
17	5/12	**Final Exam: 10:30-12:30 PM Thursday, May 12, 2016 in A126**