CASPER COLLEGE COURSE SYLLABUS
ELTR 1616, Advanced Robotics

Semester/Year: Fall 2006

Lecture Hours: 0  Lab Hours: 4  Credit Hours: 2

Lab Time: 6:00 - 9:50 p.m.  Day: M  Room: EI-114

Instructor’s Name: Chad Sharpe and Megan Graham

Instructor's Contact Information:
Office Phone: Megan Graham  268-2539
                   Doug Urban

Email: mgraham@caspercollege.edu
       Chad_Sharpe@ncsd.k12.wy.us

Office Number: Megan Graham  EI 119

Office Hours: Posted

Course Description: Advanced class in robotics. Students will be working on complex projects in designing, building, and programming a robot. Students will gain advanced experience in fabrication, electronics, computer programming, physics, and teamwork.

Statement of Prerequisites: ELTR 1610 or permission of the instructor.

Outcomes:
1. Design of a robot given some specifications.
2. Build the robot
3. Program tasks for a robot to perform
4. Demonstrate leadership and team building skills.

Methodology: Students will be given written and verbal instructions to do assigned tasks during the laboratory time.

Evaluation Criteria: Grade is based on participation and projects.
Activities  40%
Q & A  25%
Big Robot Project  25%
Leadership  10%

Final grade for course is on the following scale:
90%-100%  A
80%-89%  B
70%-79%  C
60%-69%  D
00%-59%  F

Required Text, Readings, and Materials:
Safety Glasses
Notebook
Pencil

**Last Date to Change to Audit Status or to Withdraw with a W Grade:**

**Class Policies:**
Makeup work will require prior notice or a written excuse for not being present. You will be working as part of a team. Your value to the team will be measured in how much you contribute to your team.

**Student Rights and Responsibilities:** Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

**Chain of Command:** If you have any problems with this class, you should first contact the instructor in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take your problem through the appropriate chain of command starting with the department head, then the division chair, and lastly the vice president for academic affairs.

**Academic Dishonesty - Cheating & Plagiarism:** Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct.

**ADA Accommodations Policy:** It is the policy of Casper College to provide appropriate accommodations to any student with a documented disability. If you have a need for accommodation in this course, please make an appointment to see me at your earliest convenience.

**Safety:** Personal and equipment safety standards will be strictly enforced. It is the individual’s responsibility to develop a safe work attitude.
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<tr>
<th>Wk</th>
<th>Activity</th>
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<tr>
<td>1</td>
<td>Introduction to Robotics&lt;br&gt;Video of USFirst 2006&lt;br&gt;Project Design Slide Show</td>
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<tr>
<td>2</td>
<td>Labor Day Holiday</td>
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<td>3</td>
<td>Large Robot Project Presentation&lt;br&gt;Modify Parade robot&lt;br&gt;Draft new robot</td>
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<td>4</td>
<td>Help the beginner groups with drafting&lt;br&gt;Draft platform for large robot for welder</td>
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<td>5</td>
<td>Provide Platform Plans to Welder and Hub/Shaft Designs to Machinist&lt;br&gt;Develop Parts List</td>
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<tr>
<td>6</td>
<td>Build Drive System on Platform</td>
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<td>7</td>
<td>Finish Building Drive System&lt;br&gt;Design Controller Interface System</td>
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<tr>
<td>8</td>
<td>Test and Redesign of Drive System&lt;br&gt;Draft Arm Designs and Parts List for Arm&lt;br&gt;Build Controller Interface</td>
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<tr>
<td>9</td>
<td>Fall Break Holiday</td>
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<tr>
<td>10</td>
<td>Provide Arm designs to Welder and Possibly Arm Plans to Machinist</td>
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<tr>
<td>11</td>
<td>Build Arm</td>
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<tr>
<td>12</td>
<td>Test and Redesign of Arm&lt;br&gt;Help the Beginner Groups with Arm Design</td>
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<tr>
<td>13</td>
<td>Test and Redesign of Arm&lt;br&gt;Help the Beginner Groups</td>
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<td>14</td>
<td>Help the Beginner Groups</td>
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<tr>
<td>15</td>
<td>Competition</td>
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<td>16</td>
<td>Clean-Up</td>
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