



Program Assessment Plan

<http://www.caspercollege.edu/assessment/index.html>

Instructions: To submit an assessment plan for a specified program, please respond to each of the questions below. *Use as much space as you need to describe the program assessment plan.* Once this form is completed, please email it as an attachment to kthatcher@caspercollege.edu. For guidelines and/or assistance in developing a plan for assessing student learning, please contact Kathleen Thatcher or consult resources on the Assessment website at <http://www.caspercollege.edu/assessment/index.html>.

CC MISSION:

With a mission of student success, Casper College provides educational opportunities to improve quality of life and sustainable community building and citizenship.

The college is a premier public comprehensive two-year institution that provides academic transfer, vocational, continuing education and basic skills education for the citizens of Casper, Natrona County, the State of Wyoming and the World.

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| 1. Program: | Robotics Technology |
| | Certificate: Robotics Technology |
| 2. Department: | Robotics Technology |
| 3. School: | Business and Industry |
| 4. Person(s) Responsible for Developing Plan: | David Arndt |
| 5. Email: | darndt@caspercollege.edu |
| 6. Phone: | (307) 268-2521 |
| 6. Date Submitted: | February 9, 2011 |

1. Does this program offer distance learning ? Yes No

(*Note: Please complete a separate Assessment Plan form for each program.)

A. Conceptual Assessment Plan Components

Assessment enables an understanding of what students are learning as a result of the program. Assessment findings can be used for a variety of purposes including making decisions regarding curriculum and instruction as well as providing feedback to students.

1. *State the department or program mission in terms of educational purpose or goals*

Robotics Program Mission

The Casper College Robotics Technology Department will provide the necessary training for its graduates to compete successfully in the rapidly expanding and changing field of robotics technology. This will be accomplished by: 1) providing the technical training required for successful employment in robotics technology. 2) The continual evaluation and adjustment of the robotics courses and the program to meet the needs of industry. 3) The recruitment, retention, advising, and development of qualified and reliable graduates.

Program Goals

- A. To provide comprehensive training in the field of robotics technology, so that the associate degree and certificate graduates are technically qualified to obtain employment in the robotics industry or an allied field.
 - 80% of students who graduate from the robotics program are able to find employment in the robotics field, a related field, or are pursuing an advanced degree.
 - 80% of employers responding to a survey are satisfied with the knowledge and skills of the graduates of the robotics program.
 - B. To provide the necessary training for graduates to continue on to advanced training in robotics technology in an advanced Robotics Technology program.
 - 70% of the graduates of the electronics program will obtain a satisfactory rating on the robotics matrix.
2. *List the student learning outcomes for the program addressed by this plan. (Note: Please complete a separate Assessment Plan form for each program.)*
- A. Demonstrate the knowledge and skill that are required for basic robot design and construction.
 - B. Demonstrate the knowledge and skills to build, test, and troubleshoot basic electronic circuits.
 - C. Demonstrate the knowledge and skills to interface a robot system with a programmable logic control system.
 - D. Demonstrate the knowledge and skills that are required to write LabView programs for robots.
 - E. Demonstrate the knowledge and skills that are required to write computer programs to control and manipulate robots.
 - F. Demonstrate the knowledge and skills that are required to build, troubleshoot, and repair robot systems.
3. *Explain the student learning outcomes relation to the unit mission and goals (i.e. Do the student learning outcomes reflect the unit goals and objectives, further the mission, are rooted in the academic discipline, etc.?)*

The student learning outcomes are a direct reflection of the skills that the graduates from the Robotics program will need to become successfully employed in the electronics industry or to continue onto a four-year degree at another institution. The student

outcomes reflect the skills that are required to achieve the goals for the Robotics program and the mission of the Robotics program.

4. *Describe how and by whom assessment findings will be used.*

The assessment plan will be used by the faculty of the Robotics program to review the courses and the course content in order meet the needs of the student for their future employment and advanced training. The data collected on a yearly basis will be used to make required changes in the Robotics program to insure that graduates from the Robotics program have the technical skills required for successful employment in the Robotics industry or for advanced training at a four-year institution.

B. Implementation Assessment Plan Components

It is important to create a detailed implementation plan that aligns each student learning outcome with each of the following items:

- (A) how/where program outcomes are learned,
- (B) what evidence/indicator(s) will be collected, including both direct and indirect evidence,
- (C) how the evidence/indicator(s) will be collected and by whom,
- (D) how the evidence/indicator(s) will be analyzed and by whom, and
- (E) how assessment findings will be communicated back to the academic unit's faculty and students and used to improve the program.

Please note, it is important that the implementation plan collects useful information and that the collection and analysis methods are manageable given the resources available in your academic unit.

1. *Instructions:* For each program-level outcome (not course objectives), please provide information for each category listed below. Both direct and indirect evidence/indicators should be utilized in your assessment plan. You are encouraged to utilize existing evidence/indicators when feasible to keep the process manageable. You should also collect evidence/indicators throughout the program and not just at the end.

Program Learning Outcome	A How/Where is outcome learned?	B Evidence/ Indicator(s) of Learning	C Collection method(s) for each source of evidence	D Analysis method(s) for each source of evidence	E Feedback Procedures (Faculty, staff & students)
A	ROBO 1610	Final Grade	Instructor	Comparison of grades	Analysis of data is made available to faculty and students
B	ELTR 1515	Final Grade	Instructor	Comparison of grades	Analysis of data is made available to faculty and students

C	ROBO 2580	Test3	Instructor	Comparison of grades	Analysis of data is made available to faculty and students
D	ROBO 2590	Final Project	Instructor	Comparison of grades	Analysis of data is made available to faculty and students
E	ROBO 2595	Final Project	Instructor	Comparison of grades	Analysis of data is made available to faculty and students
F	ROBO 2595	Final Project			

2. Describe the responsibilities, timeline, and the process for implementing this assessment plan.

The department chair for the Robotics program will collect the data for the Robotics Matrix from the indicated course instructors during the fall semester each year. This data will be analyzed by the department chair and a report will be submitted at the required time.

C. Global Design & Use

It is critical that program assessment plans be developed and approved by all faculty in the department. In addition, *include student input and external sources* (e.g., national standards, advisory boards, employers, alumni, etc.) in the development of the assessment plan(s).

1. *Describe the process through which your academic unit created this assessment plan.*

Include:

- a. *Timeline regarding when or how often this plan will be reviewed and revised. (This could be aligned with your unit's departmental review schedule.)*

The assessment plan will be reviewed on an annual basis and revised as needed, to correspond with the departmental review schedule.

- b. *How students were included in the process and/or how student input was gathered and incorporated into the assessment plan.*

Student exams, final grades, and practical tests are the basis of the assessment plan. These exams and tests along with final grades provide evidence of learning or student development.

- c. *What external sources were consulted in the development of this assessment plan?*

The Electronics/Robotics Advisory Board and employers for robotics graduates were consulted and surveyed on the quality of the robotic graduates and the content of the robotic courses, through the use of the advisory board and employer surveys.

d. Assessment of the manageability of the plan in relation to departmental resources and personnel

The current assessment plan is manageable with the current resources and personnel of the Robotics Department.