

II. Program Learning Outcomes: A description of what you intend for students to know (cognitive), think/feel (affective), or do (psychomotor), when they have completed your degree program. A suggested manageable number of outcomes should be in the range of five to ten. Describe Program Learning Outcomes review activities*.

There have been no changes in the program learning outcomes since the last interview.

* Note: Every department is required to review Master Syllabi and Program Learning Outcomes a minimum of every two years.

An entry-level graduate with an Associate of Applied Science Degree in Industrial Design & Graphic Technology from Sinclair Community College will be able to:

Learning Outcomes	Related Courses
1. Communicate effectively, orally, in writing and graphically, on an interdisciplinary team, as a design technician using appropriate CADD tools.	DRT 196, 217, 198, 199, 200, 255, 265, 278; COM 206; ENG 121, 122
2. Organize and Manage: As an interdisciplinary team member empowered to develop products/ processes, solve problems, and make sound decisions.	COM 206; IET 125; MET 198; DRT 200, 255, 260, 278
3. Design in detail individual parts from functional sketches provided by an engineer, and model them using a three-dimensional geometric modeler. (i.e, 3D CAD)	INT 109, 113; MAT 131, 132; PHY 131; MET 203, 207, 230; DRT 110, 200,217, 234, 255, 260, 265,278
4. Analyze parts for important product properties: Use mathematical and scientific skills to analyze product properties including form, function, fit, strength, thermal, fluid, etc.	INT 109, 113; MAT 131, 132; PHY 131; MET 203, 230; DRT 110, 200, 217, 234, 255, 260, 265, 278
5. Desk-Top Manufacture parts, models, or patterns using solid model data as input to drive rapid prototyping or N/C machining equipment.	MET 198; DRT 196, DRT 198, 199, 200, 255, 260, 265, 278
6. Document the product/process model using appropriate means. (multi-view drawings, pictorials, catalog/manual illustrations, charts/graphs, shaded image, animation, etc.)	DRT 196, 198, 199, 200, 217, 223, 234, 245, 260, 265, 278

III. **Assessment Method(s):** A measurable indicator of success in attaining the stated learning outcome(s). The methodology should be both reliable and valid. Please describe in detail.

- a. Formative Assessment Method(s) and Description: a measurable indicator of student in-progress success in attaining the stated learning outcome(s).

Formative assessment is conducted on a course-by-course basis. A variety of activities are used: examinations, projects, etc. The faculty have the freedom to select course assessment activities which are appropriate to the content. Most courses are project oriented. There are some examples of end-of-sequence courses. For example, DRT 229 is an assessment tool for the autocad courses, and it carries an outside credential; however, DRT 229 is not a degree requirement. DRT 198, 199 and 200 are sequenced courses, and students do well in 200 only if they've performed well in the earlier classes.

- b. Summative Assessment Method(s) and Description: A measurable indicator of end-of-program success in attaining the stated program learning outcome(s).

Summative assessment is completed through, DRT 278, Drafting and Design Technologies Capstone. It is a lab-based, team-oriented design project with both written and oral presentations.

Additional data is required for NAIT accreditation. Institutional Planning and Research assists with the data gathering needs of accreditation.

IV. **Results:** A description of the actual results of overall student performance gathered from the summative assessment(s). (see III.b.)

There have been approximately ten students each year. The Advisory Committee reviews all capstone projects. Students demonstrate their projects for the Committee or sometimes a table top display is created for Committee review. Feedback from the student projects was good.

Students who graduate are ready for design jobs. They are hard to keep until they graduate. When students reach certain skill levels they are often employable and drop out due to success in the program, not because they are failures. There are between 100-200 DRT majors, but very few graduates. There are some indications that the time needed to complete the program prompts students who are employable to drop out of the program before graduation.

V. **Analysis/Actions:** From analysis of your summative assessment results, do you plan to or have you made any adjustments to your program learning outcomes, methodologies, curriculum, etc.? If yes, describe. If no, explain.

Changes are not planned at this point based on assessment results.

Some content continues to be added to the curriculum (i.e., the Unigraphics series) because local employers indicated that they need employees who are trained in specific areas. The department collaborated with DTMA on selection of the Unigraphics package and the Unigraphics Users Group continues to provide feedback which helps guide the curriculum.

There is a de-emphasis on board drawing based on recommendations from the Advisory Committee and an in-depth application of CAD courses has been added via DRT 255 (Software Integration for Design Analysis) and DRT 260 (Rapid Prototyping & Manufacturing). Solidworks software has been added to DRT 255 to give students experience with three-dimensional view software that converts to two-dimensional plans for manufacturing.

VI. General Education: A description of where and how within the major the three primary general education outcomes* (communication, thinking, values/citizenship/community) are assessed.

- a. Where within the major do you assess written communication? Describe the assessment method(s) used. Describe assessment results if available.

Written communication is part of the program learning outcomes; written reports are required in many of the courses. The capstone course includes a written report. The department currently does not use the writing checklist.

- b. Where within the major do you assess oral communication? Describe the assessment method(s) used. Describe assessment results if available.

Oral communication is part of the program learning outcomes; oral reports are required in many of the courses. The capstone course includes an oral presentation. The department currently does not use the oral communication checklist.

- c. Where within the major do you assess thinking? Thinking might include inventing new problems, seeing relationships and/or implications, respecting other approaches, demonstrating clarity and/or integrity, or recognizing assumptions. Describe the assessment method(s) used. Describe assessment results if available.

Creative and analytical thinking is embedded in all courses. It is assessed formatively in all courses and summatively in the capstone course.

- d. Where within the major do you assess values/citizenship/community? These activities might include behaviors, perspective, awareness, responsibility, teamwork, ethical/professional standards, service learning or community participation. Describe the assessment method(s) used. Describe assessment results if available.

Faculty within the department practice role modeling in order to convey Professional behaviors to students. Faculty members are currently working to integrate the Core Competencies of the Engineering & Industrial Technology Division, including citizenship and professionalism, into the curriculum

* Note: The oral communication checklist and the written communication checklist developed by the General Education Committee were adopted for college-wide use during the 1997-98 academic year by Academic Council. Thinking Guidelines developed by the General Education Committee are being piloted by faculty during the 1998-99 academic year.