

**Program Review**

**AAS in Drafting and Design Technology (CIP: 480101)  
Certificate in 3D Solid Modeling, CADD, Additive Manufacturing, Technical Drawing  
Short-Term Certificate in 3D Solid Modeling, CADD, Additive Manufacturing, Technical Drawing**

**Program Purpose**

<b>What is the published purpose/mission of the program?</b>
The Drafting and Design Technology Program trains and prepares students for employment as entry-level drafters / CAD technicians.
<b>How does the program's purpose/mission fit into the overall mission of the college?</b>
The program supports mission goals three, five, and seven.
<b>Do any changes need to be made to the program's purpose/mission? Explain.</b>
No changes to the program's purpose/mission are needed at this time.
<b>Do any changes need to be made to how the program's purpose/mission fits into the overall college mission? Explain.</b>
No changes to how the program's purpose/mission fits into the overall college mission are needed at this time.

**Program Learning Outcomes**

**What are the program learning outcomes, and in which courses do students demonstrate achievement of the outcomes?**

Outcome	Assessment
The student will demonstrate correct use of precision measurement instruments.	In ADM 101, in a designated assignment, the student will demonstrate correct use of precision measurement instruments with at least 90% accuracy.
The student will read and interpret technical drawings.	In ADM 101, in a designated assignment, the student will read and interpret blueprints and mechanical drawings with at least 90% accuracy.
The student will sketch orthographic views of objects.	In DDT 220, in a designated assignment, the student will create an orthographic multi-view sketch with at least 90% accuracy as determined by a grading rubric.
The student will employ basic operating system functions in order to use CADD software to produce and plot pictorial and multi-view working drawings.	In DDT 220, in a designated assignment, the student will use CADD software to produce and plot a pictorial and multi-view working drawing with at least 90% accuracy as determined by a grading rubric.
The student will apply dimensions, tolerances and notes to acceptable industry standards. (GD&T, threaded fasteners & weldments)	In DDT 220, in a designated assignment, the student will apply dimensions, tolerances and notes with at least 80% accuracy as determined by a grading rubric.
The student will exhibit a positive work ethic and good employability skills.	In ADM 150-154, the student's work ethic will be assessed by scoring at least 30 points on a standardized <i>Workplace Readiness Skills Rubric</i> .
The student will function as a competent entry-level CAD technician.	In ADM 150-154, the student will be evaluated on his/her ability to function as a competent entry-level CAD technician by demonstrating his/her skills in the day-to-day tasks of their CO-OP experience and as measured with a passing grade on the <i>MLOs</i> developed for that particular CO-OP.
The student will perform tasks in a safe manner.	In ADM 150-154, the student will be evaluated on his/her ability to perform tasks in a safe manner by demonstrating his/her skills in the day-to-day tasks of their CO-OP experience and as measured with a passing grade on the <i>MLOs</i> developed for that particular CO-OP.

**What can students do with the knowledge they have after completing the program?**

Students who complete the program can gain employment as an entry-level draftsman or CAD technician in manufacturing and/or engineering related fields.

**What are the plans for reviewing the program learning outcomes and revising them?**

Program learning outcomes are tracked in annual Unit Goal reports and revised as needed according to the evaluation and assessment results.

Assessed Needs and Assumptions

What are the occupational projections for careers for which the program trains?

NATIONAL PROJECTION:

**Employment projections data for drafters, 2018-28**

Occupational Title	SOC Code	Employment , 2018	Projected Employment, 2028	Change, 2018-28		Employment by Industry
				Percent	Numeric	
<b>Drafters</b>	17-3010	199,900	199,200	0	-700	<a href="#">Get data</a>
<b>Architectural and civil drafters</b>	17-3011	101,200	103,000	2	1,800	<a href="#">Get data</a>
<b>Electrical and electronics drafters</b>	17-3012	25,600	26,500	3	800	<a href="#">Get data</a>
<b>Mechanical drafters</b>	17-3013	58,000	54,000	-7	-4,000	<a href="#">Get data</a>
<b>Drafters, all other</b>	17-3019	15,000	15,700	4	700	<a href="#">Get data</a>

SOURCE: U.S. Bureau of Labor Statistics, Employment Projections program

<https://www.bls.gov/ooh/architecture-and-engineering/drafters.htm#tab-6>

**STATEWIDE PROJECTIONS:**

Sort Order		Select Area	Type Occupation keyword			
<input type="radio"/> SOC Code		Statewide	Drafters, Engineering Technicians, and Mapping			
<input checked="" type="radio"/> Occupation Title						
<b>Statewide</b>						
SOC Title	SOC Code	2016 Estimated Employment	2026 Projected Employment	Total Change in Employment	Percent Change in Employment	
Drafters, Engineering Technicians, and Mapping Technicians	17-3000	9,980	11,110	1,130	11.28%	

Sort Order		Select Area	Type Occupation keyword			
<input type="radio"/> SOC Code		Statewide	Drafters, All Other			
<input checked="" type="radio"/> Occupation Title						
<b>Statewide</b>						
SOC Title	SOC Code	2016 Estimated Employment	2026 Projected Employment	Total Change in Employment	Percent Change in Employment	
Drafters, All Other	17-3019	180	190	10	7.18%	

Source: <http://www2.labor.alabama.gov/Projections/Occupational/>

**REGION 1 PROJECTIONS:**

Sort Order		Select Area	Type Occupation keyword			
<input type="radio"/> SOC Code		Region 1	Drafters, Engineering Technicians, and Mapping T			
<input checked="" type="radio"/> Occupation Title						
<b>Region 1</b>						
SOC Title	SOC Code	2016 Estimated Employment	2026 Projected Employment	Total Change in Employment	Percent Change in Employment	
Drafters, Engineering Technicians, and Mapping Technicians	17-3000	3,870	4,440	570	14.83%	

Source: <http://www2.labor.alabama.gov/Projections/Occupational/>

**Based on the occupational projections, what is the employment outlook for graduates of the program?**

Based on the occupational projections, the employment outlook for graduates of the program in our service area is good.

**What is the outlook for the continued need of the program within the mission of the college?**

The continued need for the program is evident based on the state (+11.28%) and regional (14.83%) growth projections through 2026.

**Structure**

<b>What credentials does the program offer?</b>																													
<p>The Drafting and Design Technology Program offers the following credentials:</p> <ul style="list-style-type: none"> <li>• Associate in Applied Science Degree in Drafting and Design Technology</li> <li>• Certificates in 3D Solid Modeling, CADD, Additive Manufacturing, Technical Drawing</li> <li>• Short-Term Certificate in 3D Solid Modeling, CADD, Additive Manufacturing, Technical Drawing</li> </ul>																													
<b>What are the requirements for each credential?</b>																													
<table border="1"> <tr> <td style="text-align: center;"><b>AAS in Drafting and Design Technology</b></td> </tr> <tr> <td><b>Area I: Written Composition (3 hours total)</b></td> </tr> <tr> <td>ENG 100 or 101</td> </tr> <tr> <td><b>Area II: Humanities and Fine Arts (6 hours total)</b></td> </tr> <tr> <td>SPH 107 - Fundamentals of Public Speaking (3 hours)</td> </tr> <tr> <td>Humanities and Fine Arts Elective (3 hours) Choose from ART 100, 203, 204; MUS 101; PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126</td> </tr> <tr> <td><b>Area III: Natural Science and Mathematics (9-11 hours total)</b></td> </tr> <tr> <td>CIS 146 - Microcomputer Applications (3 hours)</td> </tr> <tr> <td>MTH 116 or any 100-level MTH (3-4 hours)</td> </tr> <tr> <td>Math, Science, or CIS elective (3-4 hours)</td> </tr> <tr> <td><b>Area IV: History, Social, and Behavioral Sciences (3 hours total)</b></td> </tr> <tr> <td>Area IV Elective (3 hours) Choose from: ECO 231, 232; GEO 100, 101; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210</td> </tr> <tr> <td><b>Area V: Pre-Professional, Major, and Elective Courses (48 hours total)</b></td> </tr> <tr> <td>ADM 101 – Precision Measurement (3 hours)</td> </tr> <tr> <td>Technical Cooperative Education (3 hours) ADM 150-154</td> </tr> <tr> <td>ADM 160 – Additive Manufacturing Production Techniques (3 hours)</td> </tr> <tr> <td>ADM 114 – Design Innovation (3 hours)</td> </tr> <tr> <td>DDT 104 – Basic Computer Aided Drafting and Design (3 hours)</td> </tr> <tr> <td>DDT 117 – Manufacturing Processes (3 hours)</td> </tr> <tr> <td>DDT 124 – Basic Technical Drawing (3 hours)</td> </tr> <tr> <td>DDT 144 – Basic 3D Modeling (3 hours)</td> </tr> <tr> <td>DDT 220 – Advanced Technical Drawing (3 hours)</td> </tr> <tr> <td>DDT 225 – Structural Steel Drawing (3 hours)</td> </tr> <tr> <td>DDT 236 – Design Project (3 hours)</td> </tr> <tr> <td>MTT 218 – Computer Integrated Manufacturing (CIM) (3 hours)</td> </tr> <tr> <td>WKO 106 – Workplace Skills (3 hours)</td> </tr> <tr> <td>WKO 110, 131, 132, 133, 134 (3 hours)</td> </tr> <tr> <td>3D Elective Sequence MDT 147 and MDT 187 (Inventor) or MDT 202 and MDT 252 (SolidWorks)</td> </tr> <tr> <td style="text-align: center;"><b>Total Hours Required AAS Degree: 69-71 hours</b></td> </tr> </table>	<b>AAS in Drafting and Design Technology</b>	<b>Area I: Written Composition (3 hours total)</b>	ENG 100 or 101	<b>Area II: Humanities and Fine Arts (6 hours total)</b>	SPH 107 - Fundamentals of Public Speaking (3 hours)	Humanities and Fine Arts Elective (3 hours) Choose from ART 100, 203, 204; MUS 101; PHL 206; REL 100, 151, 152; SPA 201, 202; THR 120, 126	<b>Area III: Natural Science and Mathematics (9-11 hours total)</b>	CIS 146 - Microcomputer Applications (3 hours)	MTH 116 or any 100-level MTH (3-4 hours)	Math, Science, or CIS elective (3-4 hours)	<b>Area IV: History, Social, and Behavioral Sciences (3 hours total)</b>	Area IV Elective (3 hours) Choose from: ECO 231, 232; GEO 100, 101; HIS 101, 102, 201, 202; POL 211; PSY 200, 210; SOC 200, 210	<b>Area V: Pre-Professional, Major, and Elective Courses (48 hours total)</b>	ADM 101 – Precision Measurement (3 hours)	Technical Cooperative Education (3 hours) ADM 150-154	ADM 160 – Additive Manufacturing Production Techniques (3 hours)	ADM 114 – Design Innovation (3 hours)	DDT 104 – Basic Computer Aided Drafting and Design (3 hours)	DDT 117 – Manufacturing Processes (3 hours)	DDT 124 – Basic Technical Drawing (3 hours)	DDT 144 – Basic 3D Modeling (3 hours)	DDT 220 – Advanced Technical Drawing (3 hours)	DDT 225 – Structural Steel Drawing (3 hours)	DDT 236 – Design Project (3 hours)	MTT 218 – Computer Integrated Manufacturing (CIM) (3 hours)	WKO 106 – Workplace Skills (3 hours)	WKO 110, 131, 132, 133, 134 (3 hours)	3D Elective Sequence MDT 147 and MDT 187 (Inventor) or MDT 202 and MDT 252 (SolidWorks)	<b>Total Hours Required AAS Degree: 69-71 hours</b>
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**Certificate: Short-Term, CADD**

Courses	Courses Taken	Hours Earned
ADM 101 (3 hours)		
DDT 104 (3 hours)		
DDT 124 (3 hours)		
DDT 144 (3 hours)		

**Total Hours Required for DDT CADD Short-Term Certificate: 12**

**Certificate: Short-Term, 3D Solid Modeling**

Courses	Courses Taken	Hours Earned
ADM 101 (3 hours)		
DDT 144 (3 hours)		
MDT 147 or MDT 202 (3 hours)		
ADM 114 (3 hours)		
ADM 160 (3 hours)		

**Total Hours Required for DDT 3D Modeling Short-Term Certificate: 15**

**Certificate: Short-Term, Technical Drawing**

Courses	Courses Taken	Hours Earned
ADM 101 (3 hours)		
DDT 104 (3 hours)		
DDT 124 (3 hours)		
DDT 144 (3 hours)		
DDT 220 (3 hours)		
DDT 225 (3 hours)		

**Total Hours Required for DDT Technical Drawing Short-Term Certificate: 18**

**Certificate: Short-Term, Additive Manufacturing**

Courses	Courses Taken	Hours Earned
ADM 101 (3 hours)		
DDT 117 (3 hours)		
DDT 144 (3 hours)		
MTT 218 (3 hours)		
ADM 114 (3 hours)		
ADM 160 (3 hours)		
MDT 147 OR MDT 202 (3 hours)		

**Total Hours Required for DDT Additive Manufacturing Short-Term Certificate: 21**



**Certificate: Long-Term, CADD**

Courses	Courses Taken	Hours Earned
ENG 101 (3 hours)		
SPH 107 (3 hours)		
MTH 116 or any 100-level math (3-4 hours)		
CIS 146 (3 hours)		
ADM 101 (3 hours)		
DDT 104 (3 hours)		
DDT 124 (3 hours)		
DDT 144 (3 hours)		
MTT 218 (3 hours)		
WKO 110, 131, 132, 133 or 134 (3 hours)		

**Total Hours Required for DDT CADD Certificate: 30-31**

**Certificate: Long-Term, 3D Solid Modeling**

Courses	Courses Taken	Hours Earned
ENG 101 (3 hours)		
SPH 107 (3 hours)		
MTH 116 or any 100-level math (3-4 hours)		
CIS 146 (3 hours)		
ADM 101 (3 hours)		
ADM 114 (3 hours)		
ADM 160 (3 hours)		
DDT 144 (3 hours)		
MDT 147 OR MDT 202 (3 hours)		
MDT 187 OR MDT 252 (3 hours)		
WKO 110, 131, 132, 133 or 134		

**Total Hours Required for DDT 3D Modeling Certificate: 33-34**

**Certificate: Long-Term, Technical Drawing**

Courses	Courses Taken	Hours Earned
ENG 101 (3 hours)		
SPH 107 (3 hours)		
MTH 116 or any 100 level math (3-4 hours)		
CIS 146 (3 hours)		
ADM 101 (3 hours)		
DDT 104 (3 hours)		
DDT 124 (3 hours)		
DDT 144 (3 hours)		
DDT 220 (3 hours)		
DDT 225 (3 hours)		
WKO 110, 131, 132, 133 or 134 (3 hours)		

**Total Hours Required for DDT Technical Drawing Certificate: 33-34**

**Certificate: Long-Term, Additive Manufacturing**

<b>Courses</b>	<b>Courses Taken</b>	<b>Hours Earned</b>
ENG 101 (3 hours)		
SPH 107 (3 hours)		
MTH 116 or any 100-level math (3-4 hours)		
CIS 146 (3 hours)		
ADM 101 (3 hours)		
ADM 114 (3 hours)		
ADM 160 (3 hours)		
DDT 117 (3 hours)		
DDT 144 (3 hours)		
MTT 218 (3 hours)		
MDT 147 OR MDT 202 (3 hours)		
WKO 110, 131, 132, 133 or 134 (3 hours)		

**Total Hours Required for DDT Additive Manufacturing Certificate: 36-37**

**How often are the requirements for the degree reviewed?**

Degree and certificate requirements are reviewed annually following advisory committee meetings in order to incorporate changes as recommended by local industry partners.

**Are there any plans for revising the degree requirements?**

At this time, consideration is being given to the addition of more Advanced Manufacturing courses focused on project-based learning in both individual and team applications.

**Accreditation**

<b>What is the institutional accreditation for the program?</b>
The Drafting and Design Technology Program is within the institutional accreditation granted by the SACSCOC and reaffirmed in 2015.
<b>Does the program have any program-specific accreditations?</b>
The program curriculum is certified by the American Design Drafting Association (ADDA) and endorsed by the Manufacturing Institute.

**Instructors**

<b>Who are the current instructors in the program, and what are their credentials?</b>	
<b>Name</b>	<b>Degree/Qualifications</b>
Kelly Black	Executive MBA, Faulkner University Bachelor of Architecture, Auburn University 27 hours CTE coursework, Athens State University 60 hours Core & Business transfer courses, NACC Certified Architectural Draftsman, ADDA NOCTI CAD Certification NOCTI Technical Drafting Certification Certified AutoCAD User, Autodesk Certified Inventor User, Autodesk OSHA 10hr, Career Safe Certified Production Technician +Green, MSSC Certified NCCER Core Curriculum instructor Certified NC3 PMI Training, NC3 Certified NC3 Multimeter DMM Trainer, NC3 Certified Career Essentials Teacher, SkillsUSA 7 yrs Post-Secondary drafting instructor, NACC 4 yrs Secondary drafting instructor, Jackson County, AL Field Experience, 10 years
Tim Turner	AAS Drafting & Design Technology, NACC Certified Architectural Draftsman, ADDA Education classes from Alabama A&M and Athens State 17 yrs Secondary drafting instructor, DeKalb County, AL Field Experience, 14 years

**How have the instructors in the program developed professionally over the past two years?**

- | 2017-2018  |
|--|
| <ul style="list-style-type: none"> <li>• "SOLIDWORKS Education Series - What's new in SOLIDWORKS Education Edition" by SolidWorks. Webinar</li> <li>• Design for manufacturing (DFM) - By Solid Professor LMS DFM. Webinar.</li> <li>• Top 3 New Features of SolidWorks 2018 sponsored by Trimech. Webinar.</li> </ul> |

- | 2018-2019  |
|--|
| <ul style="list-style-type: none"> <li>• Design Faster with 2D and 3D CAD Sponsor: Autodesk. Webinar.</li> <li>• Additive Manufacturing in the Medical Device Industry: Dispatches from the Field. Sponsor - Siemens. Webinar.</li> <li>• NC3 Train the Trainer - Precision Measurement Instruments; Certification in Tape/Rule, Caliper, Gauge, Angle, Micrometer &amp; Dial Gauge Measurement instruments. Wallace State - Hanceville, AL. Alabama</li> <li>• Canvas Users Group by Canvas. Southern Union Community College. Opelika, AL.</li> <li>• What is Fusion 360? Webinar.</li> <li>• Fusion 360 Assemblies. Sponsor: Autodesk. Webinar</li> </ul> |

**What are any planned professional development activities for instructors in the program?**

Participation in webinars related to current trends and technological advancements with regard to CAD software, Additive Manufacturing equipment and processes as well as general Advanced Manufacturing methods is ongoing for all program instructors.

**Are any additional instructors anticipated within the next five years? If so, please explain.**

Additional instructors are not anticipated for the next five years.

**Instructional Quality and Enhancements/Curriculum Design**

<b>How is the general education core incorporated into the course of study for this program?</b>
The AAS degree includes 21-22 credit hours of general education in the 69-71 credit-hour total: ENG 100 or 101; SPH 107; three credit hours of humanities or fine arts; MTH 116 or any 100-level math; CIS 146; a 3-4 hour math, science or CIS elective; and three credit hours of history, social, or behavioral sciences.
<b>Are all course syllabi current and posted on the NACC website? Explain.</b>
All active courses have syllabi posted on the NACC website.
<b>How is curriculum of each program option evaluated to ensure it is relevant and current? Examples include advisory committee suggestions, student learning outcome evaluations, student evaluations, etc.</b>
The curriculum, software, equipment and classroom technology is reviewed annually by the DDT Advisory Committee, the DDT instructors and as required by the Student Learning Outcome Committee. Results from student evaluation surveys also provide an overview of the quality of the program's curriculum as perceived by students.
Modifications to the program are made based upon the recommendations of the DDT Advisory Committee.
<b>Describe changes that have been made in the delivery of the courses in each option of the program as a result of review of the program learning outcomes over the last five years.</b>
Six additional NC3 Precision Measurement certifications were added to ADM 101. Most courses are offered in a "flex-lab" format allowing students to complete lab assignments on a flexible schedule resulting in a more individualized training approach.
<b>Are courses in the program scheduled to maintain availability and accessibility in accordance with the college's mission? Explain.</b>
Program-specific courses are offered in a repeating rotation so that students may enter the program in any semester and complete all degree requirements within two years.

**Program Resources**

<b>Describe the physical facilities and resources, including any laboratories, used in the program. Are the physical facilities and resources adequate? Explain.</b>
Facilities include classroom WD 252A, Prototyping Lab WD252B and office WD 258. At this time, the facilities, equipment and resources are adequate.
<b>Are there any plans for major expansion or upgrade of facilities or major replacement/expansion of equipment? Explain the rationale and include projected costs.</b>
The need to expand or upgrade facilities and equipment is reviewed annually to ensure the program provides students with exceptional learning opportunities consistent with current and trending industry standards.
<b>Describe the technological resources used in the program. Are the technological resources adequate? Explain.</b>
Technological resources include desktop workstations, laptops, multiple CAD software programs, dual classroom projectors with ELMO, wide format plotters, printers, various 3D additive manufacturing printers, model cleaning stations, precision measurement and inspection tools and various manual drafting tools and supplies.
<b>Are there any plans for major expansion or upgrade of technological resources? Explain the rationale and include projected costs.</b>
The program is currently looking into the addition of a 3D printer with carbon-fiber capabilities. The addition of this machine would allow students to gain experience with an expanded material selections and a much wider application of rapid-prototyping and the production of end-use parts.
<b>Describe the library resources that are available to the program.</b>
Examples of library resources provided by the NACC Learning Resources Center include the following: books, eBooks (full-text electronic books), and full-text journal, magazine, and newspaper articles. Depending on format, these items may be accessed electronically or in print. Online tutorials, as well as program-specific LibGuides pages, provide instruction in the use of these resources. Library staff are available to assist students and faculty in person, online, and by phone.
<b>Are the library resources adequate for the program? Explain.</b>
Yes.
<b>Are there any plans for expansion or upgrade of library resources for the program? Explain the rationale and include projected costs.</b>
No.

### Advisory Committee

**Is an advisory committee in place for the program? If so, list the committee members and their affiliation in the community. If not, are plans in place to establish an advisory committee?**

The DDT advisory committee currently consists of the following members:

- Dr. David Campbell (ex officio) – President
- Dr. Mike Kenamer (ex officio) – Dean of Workforce Development
- Kelly Black (convener) – Drafting & Design Technology Instructor
- Paden Sharp – DC Equipment
- Greg Smyth – Roof Curb Systems
- Leah Cornett – Vulcraft
- Chelsie Khan – TVA CadNet
- David Fuqua – Steel Plus
- Jeremy Rowell – Steel Plus
- Kurt Kittle – DC Equipment
- Clifton Reaser – Roof Curb Systems
- Brandon McBride – Gametime / PlayCore
- Hunter Furgerson – GH Metal Solutions
- Kelly Sanders – Valley Joist
- Alex Flora – Bailey Bridges
- Josh Caldwell – Crown Machinery
- Janet McConnell – Playcore
- Kevin Nixon – Playcore

**What is the purpose and role of the advisory committee?**

The role of the DDT advisory committee is to review program curriculum, software, equipment, resources and classroom technology and to make recommendations for changes to ensure the program is up-to-date with the latest industry standards.

**Describe any changes that have been made to the program as a result of advisory committee activity or suggestions.**

A list of essential functions was included in the program entry questionnaire and data sheets.

**Enrollment and Completions**

**What are the enrollment trends in the program over the last five years?**

Number of Students Enrolled in Drafting and Design Technology Courses AY 2014-2015 through AY 2018-2019					
	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
<b>Total</b>	<b>93</b>	<b>67</b>	<b>74</b>	<b>54</b>	<b>44</b>

*Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. February, 2020.*

**What are the enrollment trends in the program over the last five years by gender?**

Number of Students Enrolled in Drafting and Design Technology Courses by Gender AY 2014-2015 through AY 2018-2019					
	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
<b>Male</b>	70	51	59	37	
<b>Female</b>	23	16	15	17	
<b>Total</b>	<b>93</b>	<b>67</b>	<b>74</b>	<b>54</b>	<b>44</b>

*Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. February, 2020.*

**What are the enrollment trends in the program over the last five years by race/ethnicity?**

Number of Students Enrolled in Drafting and Design Technology Courses by Race/Ethnicity AY 2014-2015 through AY 2018-2019					
	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
<b>African American</b>	2	-	-	-	-
<b>Asian</b>	-	1	1	1	-
<b>Hispanic</b>	9	4	6	7	5
<b>Native American</b>	2	2	5	4	2
<b>Other</b>	1	1	1	-	-
<b>White</b>	79	59	61	42	37
<b>Total</b>	<b>93</b>	<b>67</b>	<b>74</b>	<b>54</b>	<b>44</b>

*Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. February, 2020.*



**What are the total number of enrollments and credit-hour production over the last five academic years?**

**Total Enrollments and Credit-Hour Production  
Drafting and Design Technology Courses  
AY 2014-2015 through AY 2018-2019**

	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
<b>Total Enrollments</b>	<b>244</b>	<b>188</b>	<b>220</b>	<b>261</b>	<b>202</b>
<b>CHP</b>	<b>732</b>	<b>564</b>	<b>657</b>	<b>547</b>	<b>438</b>

Note: Total Enrollments is a duplicated headcount. If a student enrolled in more than one DDT course, that student is counted multiple times.

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. February, 2020..

**What are the course success and retention rates in the program over the last three academic years?**

**Course Success and Retention Rates  
Drafting and Design Technology Courses  
AY 2016-2017 through AY 2018-2019**

Year	Enrollments	Withdrawal Rate		Failure Rate		Pass Rate (A-D)		Success Rate (A-C)	
		No.	%	No.	%	No.	%	No.	%
<b>2016-2017</b>	158	9	6%	6	4%	143	90%	140	98%
<b>2017-2018</b>	261	26	10%	1	.1%	229	87.7%	224	85.8%
<b>2018-2019</b>	202	15	7.4%	6	.3%	168	83.1%	161	79.7%

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. February, 2020..

**What do the data indicate about enrollment and student retention in the program?**

Recent updates of curriculum content to include more project-based assignments and the implementation of performance-based evaluations has increased the level of rigor within the program. While most students are able to complete the program, some may find the technical applications and the level of detail required to meet industry standards in most assignments to be more difficult than they expected upon entering the program.

**What are the plans for increasing enrollment and retention rates in the program?**

Increase enrollment through direct recruitment efforts in high schools and technical centers in our service area and by using social media and news outlets to promote the career and employment opportunities for program graduates. The program will also publish spotlight articles featuring successful students and graduates.

In efforts to improve retention, grading rubrics geared to measure mastery of specific learning outcomes will be integrated into courses, providing students and instructors the ability to track mastery progress and focus additional training in specific areas of weakness, resulting in higher success rates and encouraging continuation for those who might otherwise leave the program.

**How many students have earned a credential in the program in the last five academic years?**

Completers in Drafting and Design Technology Academic Years 2014-2015 through 2018-2019					
Credential	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
AAS	14	8	9	10	5
CER	16	4	12	11	16
STC	53	3	22	7	27
<b>Total Completers</b>	<b>83</b>	<b>15</b>	<b>43</b>	<b>28</b>	<b>48</b>

Note: A student who earned multiple awards is counted in all applicable rows.

Source: Office of Institutional Planning and Assessment. NACC ACCESS/400 database system. February, 2020.

**What are the plans for increasing the completion rates in the program?**

During initial advisement sessions, incoming students will be provided with requirements for credentials. During the last week of each semester, the program advisors will assist current students in tracking their progress of certificate requirements and with the application process.

**Licensure passage rates**

<b>Does the program lead to the opportunity for licensure? If so, what are the licensure opportunities?</b>
There is currently no licensure available for CAD technicians.
<b>What are the licensure pass rates, if applicable?</b>
Not applicable.
<b>Does the program or any coursework in the program lead to any type of industry certification? If so, what are the certifications?</b>
NC3 Tape & Rule Measurement, NC3 Slide Caliper Measurement, NC3 Gage Measurement, NC3 Angle Measurement, NC3 Micrometer Measurement, MC3 Dial Gage Measurement, AutoCAD Certified User, NOCTI CAD, NOCTI Mechanical Drafting, Inventor Certified User, Certified SolidWorks Associate
<b>What are the industry certification pass rates, if applicable?</b>
During the academic years FA1718 – FA1920, the pass rate of all industry certification exams 85.11%.

### Job Placement Rates and Employer Satisfaction

<b>What are the job placement rates for graduates of the program?</b>
The most recent Fact Book published by the NACC Office of Institutional Planning and Assessment shows a job placement rate of 88% for the DDT program.
<b>Is employer satisfaction of graduates assessed? If so, are employers satisfied with graduates of the program? Please describe.</b>
Yes. Members of the DDT advisory committee and employers who participate in the work experience co-op program review the performance of current students and recent graduates.

### Student Follow-Up Reports

<b>Is student satisfaction with the program assessed? If so, are students in the program satisfied with the program? Please describe.</b>
Yes. Student satisfaction surveys are conducted each fall by the NACC Office of Institutional Planning and Assessment. The most recent instructional evaluation reports covered seven DDT program courses with an average of 88.58% participation. Responses for all survey items in each course received a median score of 1 or 2 (scale of 1 – 4 with 1 being the most positive). All student comments were positive in nature. No complaints were submitted.
<b>Is alumni satisfaction with the program assessed? If so, are alumni of the program satisfied with the program? Please describe.</b>

**Findings of Review THIS IS THE MOST IMPORTANT PART OF THE PROGRAM REVIEW!**

<b>What are the strengths of the program?</b>
The strength of the program is the combination of both foundational knowledge paired with hands-on performance skills training. With this approach, graduates of the program are better prepared for entry-level positions in the workforce, and are able to develop the critical thinking and problem-solving skills required to meet industry standards and employer expectations.
<b>What are recommendations for improvement?</b>
Improvement is a continuous process guided by local industry needs and technological advancements and trends within the discipline. Course curriculum and content will continue to be updated accordingly and the development of grading rubrics geared to measure mastery of specific learning outcomes will be integrated into courses, providing students and instructors the ability to track mastery progress and focus additional training in specific areas of weakness.
<b>Please provide any other findings that are pertinent to the review.</b>
None.

Report	<p><b>SIGNATURES ON FILE IN OFFICE OF INSTITUTIONAL PLANNING AND ASSESSMENT</b></p>	
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