



The Proof is in the Pudding: Post-Secondary Case Studies on CTE Student Articulation

2016 Connections to Education Conference
Ohio Association for Career Technical Education (OACTE)
Wednesday, July 27, 2016; 9:15a.m. – 10:15a.m.
Hilton-Easton, Columbus, Ohio
Regents Ballroom 2



Department of
Higher Education

 **OhioHigherEd.org**





Presenter Information

- Carl Brun, Ph.D, Assistant Vice President, Wright State University
- Mark Cubberley, Wright State University Lake Campus
- Chris Dorsten, Registrar, Tri-C
- Joanna Duvall, Director of MIS, Marion Technical College, duvallj@mtc.edu
- Mark Hicks, Student Records Functional Analyst, Lorain Community College
- Chad Atkinson, Ph.D, Manager of Research, Sinclair Community College
- Jim Lavery, Registrar, Marion Technical College, laveryj@mtc.edu
- Sun Jamerson, Associate Registrar, Lorain County Community College
- Roslyn Perry, Associate Registrar, The Ohio State University
- Jamilah Tucker, Director of Career Technical Transfer Initiatives, Department of Higher Education, jjones@highered.ohio.gov



Purpose of Today's Presentation

What you can expect

- Brief review of the State of Ohio's statewide CTE articulation efforts
- Results and key findings of localized studies
 - Six Ohio campuses
- Synthesis of lessons learned and best practices
- Information on next steps
- Question and answer



Ohio Articulation and Transfer Policy: Core Belief, Promotion, and Outcomes

Core Belief:

Student Focused, Faculty Driven

Promotes:

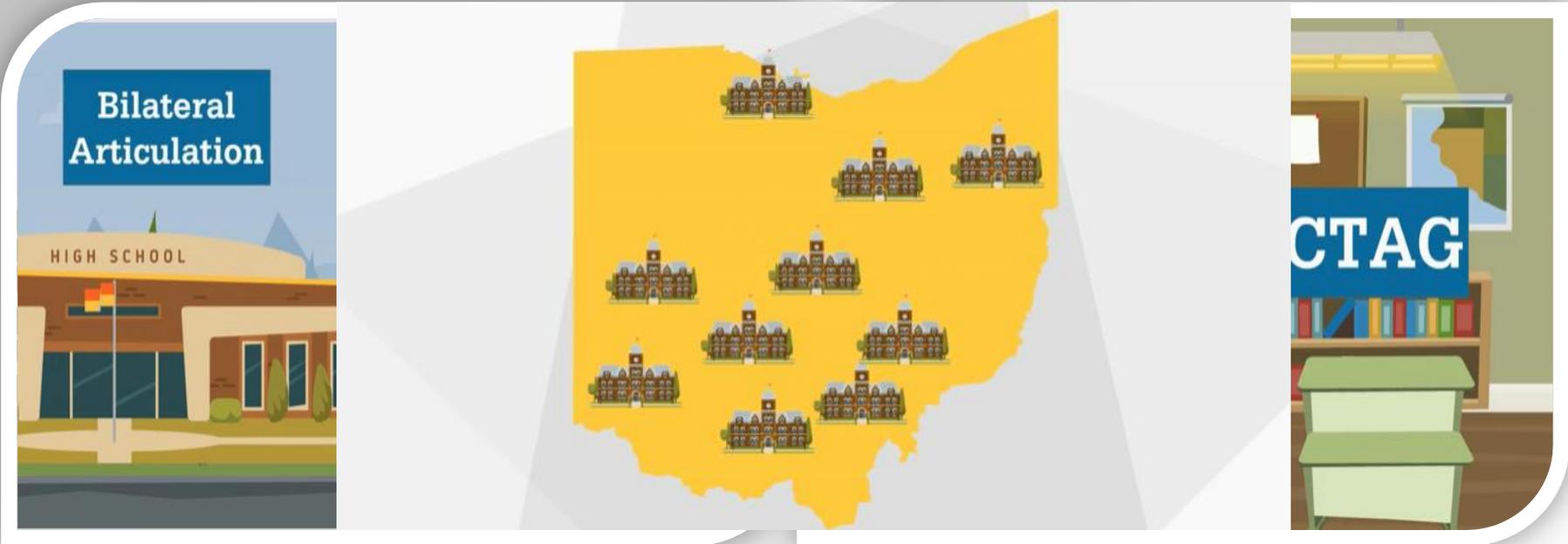
- Equitable treatment for transfer and native students
- Ohio's Course Equivalency System improves transfer credit articulation and reduce undesired variability in the transfer credit evaluation process

Outcomes:

- Annual savings, conservatively estimated at: 78 Million Dollars

OATN Policy Manual (Revised Document, Approved by OATN Oversight Board December 2015) :
<https://www.ohiohighered.org/transfer/policy/overview>

Articulation In the State of Ohio



Why these studies?

- Opportunity for post-secondary education (PSE) institutions to review baseline data on CTE Articulation Students
- Opportunity for PSE Leadership, Registrars, and Institutional Researches to dialog with ODHE from an informed, data-driven standpoint on the progress and needs of the CTE and CTAG population.



SINCLAIR
COMMUNITY COLLEGE

Institution: Sinclair Community College

- Sinclair Community College, Southwestern Ohio
 - Last year's HEI student enrollment (HC): 33,408
 - Large/Urban/Multi-Campus
 - Serving: Montgomery, Warren, and surrounding counties
 - IPEDS degree completion rate (150% time to complete): 17%

Research Question: How are CTAG students performing relative to a group of similar students at Sinclair?

- Performance was assessed with GPA, course completion, credit and credential attainment, and subsequent enrollment
- The similar group of students were selected using *propensity score matching*, which is a process where we identify a set of characteristics in our CTAG population and then assemble a comparison group that is similar across those factors
 - Matching variables: gender, age, total credits, Pell eligibility, minority/non-minority

Results: Sinclair Community College

- **About our CTAG students:**
 - 322 students earned CTAG credits in 1,027 courses
 - IT and Automotive courses were the most popular
 - After earning CTAG credit and taking Sinclair Courses in the following year, 77.6% of the college courses they took resulted in a passing grade.

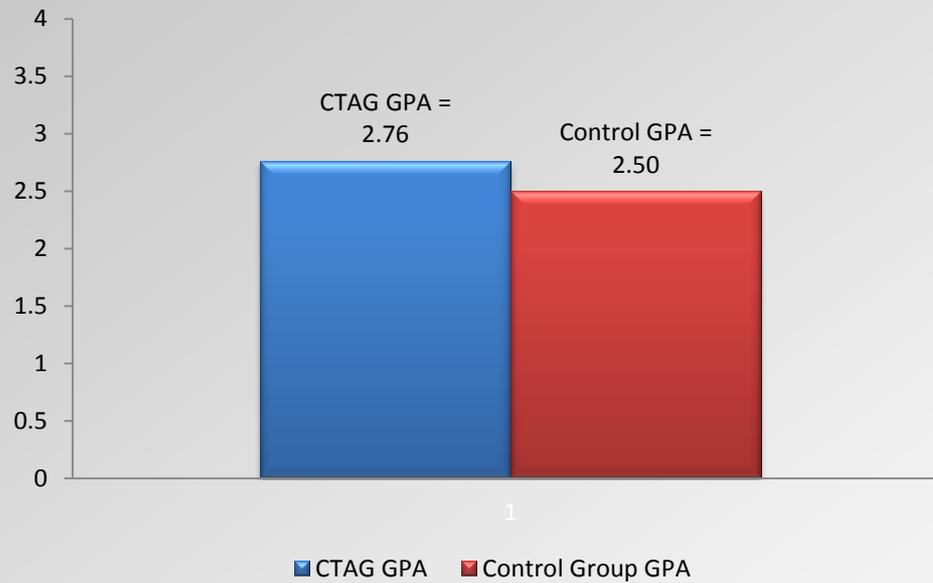
Popular CTAG Courses at Sinclair

Popular CTAG courses:	Students
A+ Operating Systems Troubleshooting	130
Introduction to Software Applications	126
Network Fundamentals	120
Enterprise Desktop Support Technician	105
Introduction to Operating Systems	98
A+ Certification IT Technician	72
CAD Concepts using AutoCAD	50

CTAG Students Grades

Grade	Count
A	585
B	554
C	420
D	150
F	311
W	181
	<u>2,201</u>

CTAG Student V. Comparison Group - GPA



CTAG Student V. Comparison Group: Accumulation of Credit Hours

CTAG Students			
Threshold	Passed Threshold	Students	Percent
12 Hours	No	112	42.26%
	Yes	153	57.54%
24 Hours	No	181	68.30%
	Yes	84	31.70%
36 Hours	No	238	89.81%
	Yes	27	10.19%



Control Students			
Threshold	Passed Threshold	Students	Percent
12 Hours	No	98	36.98%
	Yes	167	63.02%
24 Hours	No	154	58.11%
	Yes	111	41.89%
36 Hours	No	220	83.02%
	Yes	45	16.98%



CTAG Student V. Comparison Group: College Readiness (Remediation Needs)

Group	Levels Below College Ready					no placement
	0	1	2	3	4 or more	
CTAG	29	137	28	36	18	12
Control	7	66	42	26	74	50

Results and Key Findings (CTAG earners vs. comparison group)

- CTAG students tended to have a higher first semester GPA
- CTAG students come to Sinclair more ready for college level coursework
- CTAG students were much more likely to maintain satisfactory academic progress
- CTAG students completed credit hour thresholds (12/24/36 hours) more slowly
- Subsequent enrollment patterns, second semester GPA, and rates of credential attainment were not markedly different among CTAG students and the comparison group.

T · H · E

OHIO

STATE

UNIVERSITY

Institution: The Ohio State University

- The Ohio State University, Columbus, Ohio
 - Enrollment (Autumn 2015): 45,289 (Columbus Campus) and 6,521 (Regional Campuses and ATI)
 - Large/Urban/Multi-Campus/Public Research Institution
 - Regional Campuses: Mansfield, Marion, Newark, and Wooster (ATI)

Purpose of the Study :

This study was conducted to determine **the number of career-technical students receiving transfer** credit at The Ohio State University (OSU) for coursework taken at an Ohio public secondary or adult career-technical institution. Researchers also investigated the **type of credit awarded**, and investigate best practices going forward.

Results: The Ohio State University

- **About our CTAG students:**

- 222 total CTAG credits were awarded to 66 students between 2013 and 2015 for an average of 3.31 credits per student.
- 2013, 2014, 2015 Cohorts: Of those only 2 students have graduate so far, both this past spring 2016 term

Student Cohorts (HC)

2013	2014	2015	TOTAL
21	21	24	66

CTAN Popularity:

CTIT – Information
Technology

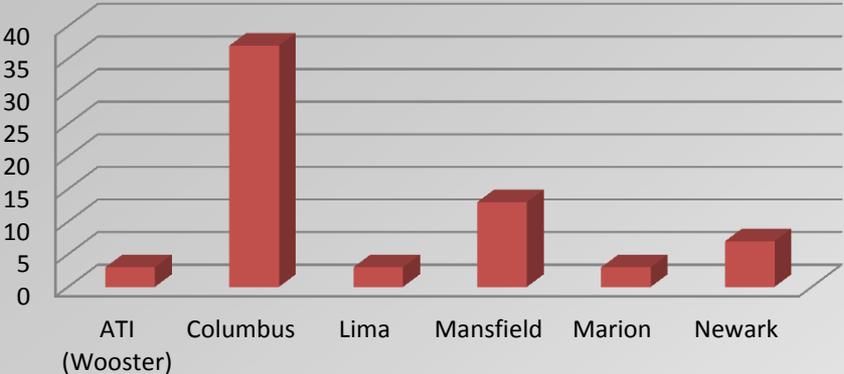
CTED – Education
(Introduction to Education)

However:

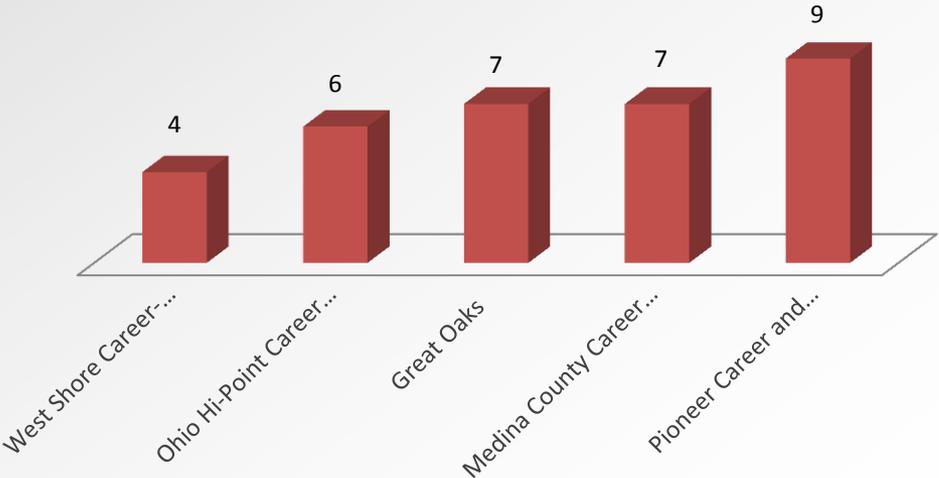
**The Most Popular Major of
CTAN Students :
Engineering**

Results Continued: The Ohio State University

2013-2015 Cohorts Students by Campus



Top 5 CTAG Feeder Institutions 2013-2015



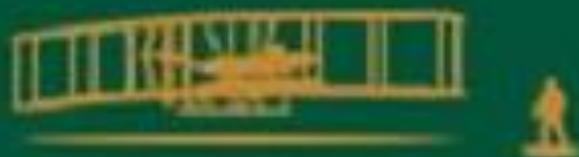
Results: CTAN Student Cohorts Average GPA

COHORTS	2013	2014	2015	TOTAL
Number of Students	21	21	24	66
Combined/ Averaged GPA	2.7	3.07	3.02	

Note: 5 students through out the three cohorts dropped out

Results, Key Findings, and Future Research

- Future research might provide comparison of cohorts against native, first time students.
- Extraction of data was labor intensive.
- OSU Process Improvements:
 - Set up a “CTAG” student group in our student system
 - Screen appropriate transcripts using specific information
 - Career-Technical Transcripts will now route directly to the Imaging Center and will have a uniform tag of “CTAG.”
 - Career-Technical transcripts will now flow through OnBase, the University’s document imaging system. This process will give us consistency when querying documents if necessary.
- The Student Group in SIS comment section will capture feeder HS



WRIGHT STATE
UNIVERSITY

Institution: Wright State University

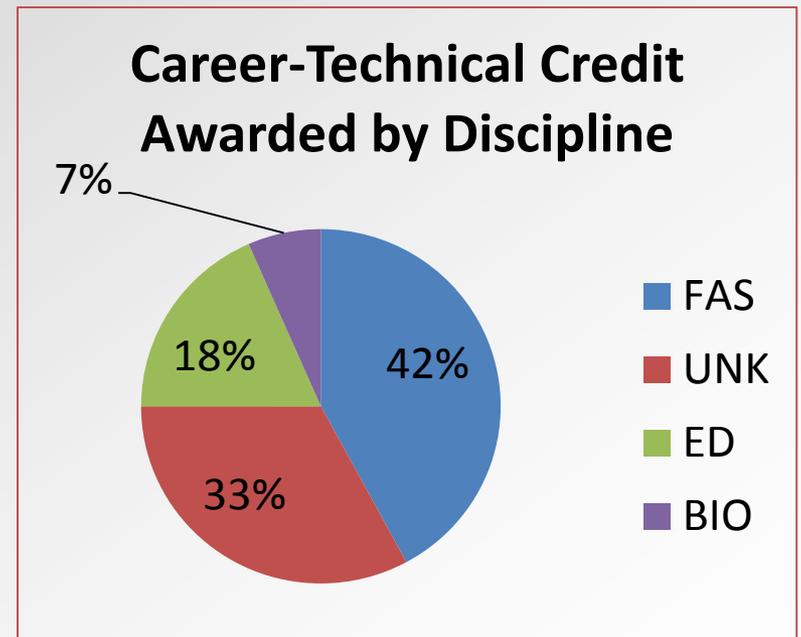
- Wright State University, Dayton, Ohio
 - Fall 2015 Enrollment: 18,059 (Dayton and Lake Campuses)
 - Undergraduate Enrollment: 13,710
 - 6 Year Graduation Rate – 2007 Cohort: 43%
 - 3 Year Graduate Rate - 2011 Cohort: 15%

Research Question: What is the overall success of students who transfer career-technical credit to WSU?

- Quantitative analysis of academic success
- Qualitative, open-ended interviews
 - 24 FAS students
 - 4 Introduction to Education students
 - 3 high school/career technical center counselors

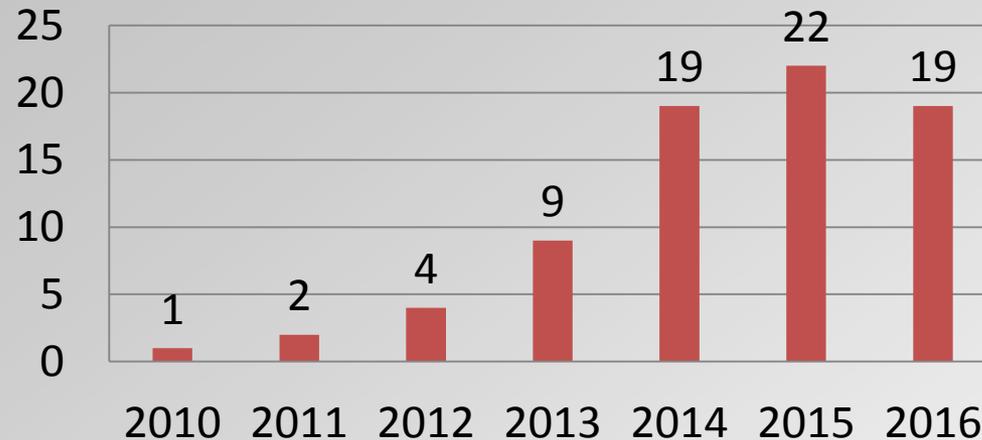
Results: Career-Technical Credit at WSU

- 15 CTAG courses
- 3 Bilateral agreement courses, all in Food & Agricultural Science (FAS)
- From AU 2010 through AU 2016:
 - 76 students
 - 331 credit hours
 - FAS – 32 students (42%)
 - Unknown – 25 students (33%)
 - Introduction to Education – 14 students (18%)
 - Medical Terminology – 5 students (7%)



Results: Academic Outcomes

- Increase in career technical credit awarded



- Between au2010 and au2015
 - 98% (56/57 students) were awarded credit
 - 91% (51/56 students) attended at least one term at WSU

Results: Academic Outcomes Cont.

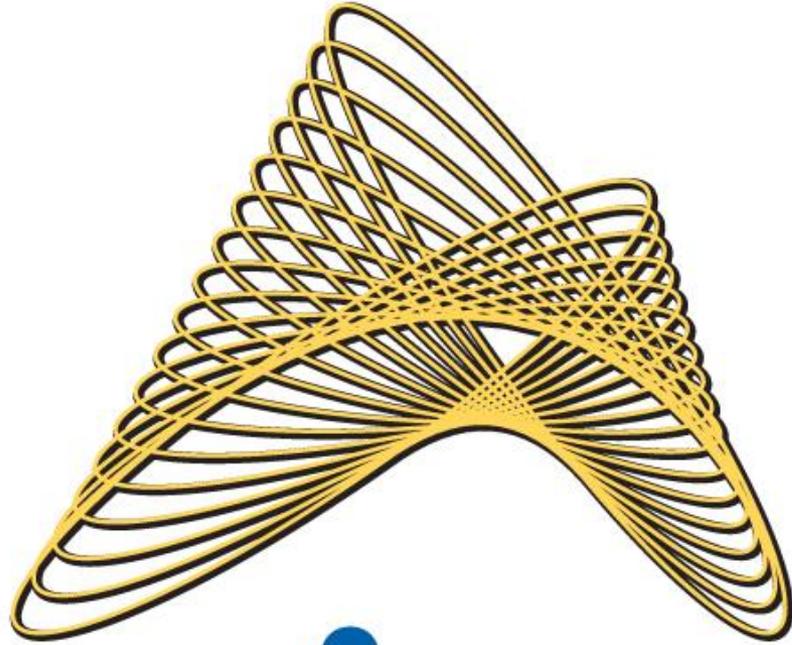
- The average GPA after their first semester at WSU (n=51) was 2.87.
- The average cumulative GPA after their second semester at WSU (n=46) was 2.90.
- The average cumulative GPA as of SP 2016 (n=51) was 2.82.
- The average number of years enrolled as of SP 2016 (n=51) was 1.65 years.
- The average number of credits earned at WSU as of SP 2016 (n=51) was 43.20 semester hours
- The number of students receiving a degree from WSU as of SP 2016 was 12/51 (24%); all but 1 were Associates degrees.

Results, Key Findings, and Future Research

- Assertive advising for FAS students
- Educate more high school/CTE counselors of the process
- Submit more CTAG courses (WSU)
- Connect with students who receive the credit
- Follow-up with students and counselors
- Create a cohort group for support

A Lasting Sentiment of the Qualitative Interviews:

“Career tech course was a good way to know if this was a good major for me.”



Marion
Technical College

Institution: Marion Technical College

- Marion Technical College, Central Ohio
 - Enrollment average: 2,400 – 2,700
 - Rural/Small
 - Serving: Marion, Morrow, and Wyandot counties
 - Degree completion rate: 14%
- Study Research Questions
 - How are CTAG students performing?
 - How aware are our frontline staff on articulation?

Results: Marion Technical College

– About our CTAG credit earning students:

- FY13-FY16 - 187,411 native credits earned by students, additional 60,478 alternative credits, of those 498 credits (28%) were CTAG credits.
- 18 students were identified for potential inclusion in the study
 - Earned articulated credit in an approved CTAN
 - Secondary student

Results: HS Enrollment During the Cohort Year and CTAN Approval Cycle AND Number or Articulated Credits Awarded

CTAG /Technology Approved at MTC	Enrollment in CTAG-related Program at MTC Between Fall2012-Spring 2016 who are graduates of high school between the years 2010-2015	Number of Students Receiving ANY Articulated Credit Fall 2012-Spring 2016 (STUDY Participants, N=18)	Notes
Criminal Justice - Spring 2015	3	1	Credit earned prior to Criminal Justice CTAN approval through a local articulation agreement
Engineering* – Spring 2013/Autumn 2012	109	9	Credit earned through local articulation; should have been CTAN. Earned early in the CTAN process (Fall 2012); no verification forms
Information Technology - Autumn 2012	38	4	2 Students were selected; had CTAN verification forms. 2 Students earned credits through local articulation agreement; no verification form
Nursing* – Autumn 2012	256	4	1 student earned credit through articulation with Hondros College 1 student earned credit through articulation with Tri-Rivers 2 students earned credit through LPN

Results: Student Outcomes and Interviews

- 2 of 18 received CTAN credit. One (1) additional earned credit but was excluded from the study because the student was dropped for non-payment prior to completing MTC coursework.
- While the numbers are low, both CTAN earners graduated with an Associate Degree within 2 years of HS graduation (100%).
- 38% of all other articulation types graduated during the same time period (numbers are too low to make comparisons)
- GPAs 2.91 and 3.29 respectively
- Both felt they were well-prepared for subsequent course work, both earned a “B” in the next course in the sequence of course, were CTAN credit had been awarded for the first course on the plan of study.

Results: Staff Interview “How aware are our frontline staff on articulation?”

- 21 staff members interviewed

Q1: What are CTAGs

	Admission	Fin Aid	Registrar	Academic	1 st Yr. Adv.
Knows	4	3	2	5	6
Not Know		1			

Results Continued: Staff Interview “How aware are our frontline staff on articulation?”

Q2: Have you ever had a discussion with a student about CTAGs?

	Admission	Fin Aid	Registrar	Academic	1 st Yr. Adv.
Yes	3	1	1	2	3
No	1	3	1	3	3

Q3: Have you ever had a discussion with a MTC employee about CTAGs?

	Admission	Fin Aid	Registrar	Academic	1 st Yr. Adv.
Yes	3	1	2	4	3
No	1	3		1	3

Results Continued: Staff Interview “How aware are our frontline staff on articulation?”

Q4: Have you ever had a discussion with a secondary or career center faculty about CTAGs?

	Admission	Fin Aid	Registrar	Academic	1 st Yr. Adv.
Yes	2			4	1
No	2	4	2	1	5

Q5: Have you ever directly or indirectly received communication from ODHE about CTAGs?

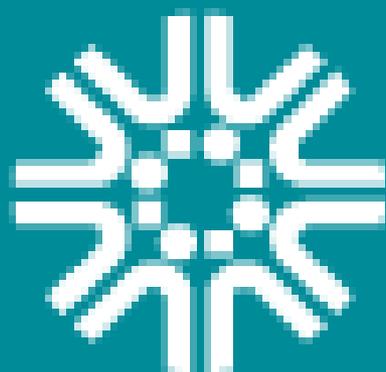
	Admission	Fin Aid	Registrar	Academic	1 st Yr. Adv.
Yes			1	2	
No	4	4	1	3	6

Results, Key Findings, and Future Research

- Communicating and awarding CTAN credits should be simplified
- Increasing awareness and internal communication about CTAGs is necessary
- Extracting the data was cumbersome
 - Updated process for handling CTAN Verification form
 - Added a CTAG tracking code for articulated courses
- Needing state leadership in tracking students who qualify for and earn all types of articulated credit
- Participating enabled MTC to improve its understanding and processes



Cuyahoga Community College



Institution: Cuyahoga Community College

- Cuyahoga Community College, Northeast Ohio
 - Enrollment: 55,000 credit and non-credit students annually
 - Urban/Multi-Campus/Large
 - Serving: Cuyahoga County and surrounding communities
 - Degree completion rate: 9.3%
- Study Research Questions
 - Since May 2012 how many students have been awarded CTAG credit?
 - Which Career Technical schools are the main feeder schools?
 - What were the CTAG students' first and second term GPAs?
 - How many CTAG students have completed a degree or certificate?
 - Which degrees/certificates were most frequently awarded to CTAG students?

Results: Cuyahoga Community College

– About our CTAG credit earning students:

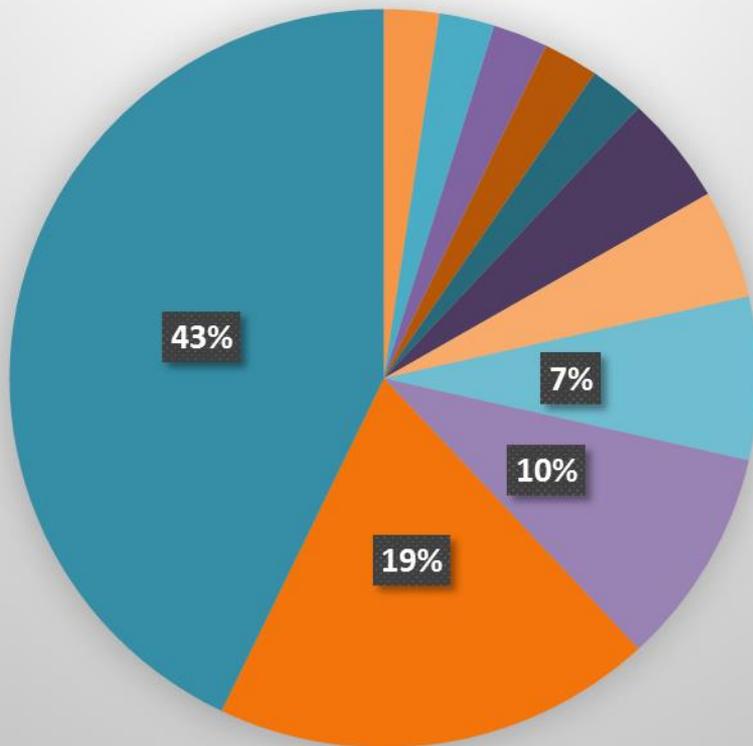
- 109 students have earned CTAG credit since May 2012
- 1,205 credits have been awarded across 15 subject areas
- Top three feeder schools-Parma City Schools (27%), Polaris Career Center (20%),Cuyahoga Valley Career Center (20%)

– Results and key findings:

- 84% of CTAG awardees enrolled at the college
- 72% enrolled in a major related to the CTAG subject area
- Average GPAs after CTAG award
 - 1st Term GPA 2.70 (Institutional Average 2.40)
 - 2nd Term GPA 2.93 (Institutional Average 2.51)
- 26% of CTAG awardees completed one or more degrees/certificates (Institutional grad rate 9.3%)

Results Continued: Cuyahoga Community College

% of Certificates or Degrees Awarded



Top Performing Degrees and Certificates Awarded:

- 43% - AAS Nursing
- 19% - Hospitality Management related degrees & certificates
- 10% - AAS Electrical / Electronic Engineering Tech (Computer Networking Hardware)
- 7% - Associate of Arts

Results Continued: Cuyahoga Community College

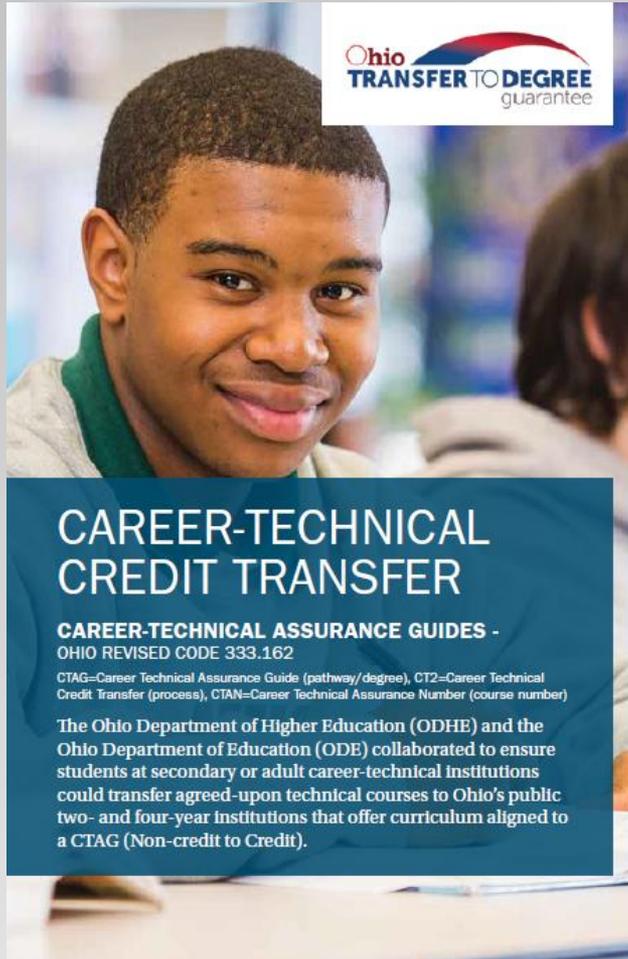
– Limitations:

- Within the past year, 42 additional students were not awarded due to one or more reasons:
 - Students had not applied to the college
 - High school transcript had not been submitted
 - Required certificates of completion had not been included
 - Verification form was incomplete or incorrectly completed

– Lessons Learned:

- Enhanced communication procedures with our partner Career-Technical Schools and students
- Improved outreach to students
 - CTAG inclusion in publication, “Ways You Can Earn College Credit Prior to Attending”

Example of The Publication



Ohio
TRANSFER TO DEGREE
guarantee

CAREER-TECHNICAL CREDIT TRANSFER

**CAREER-TECHNICAL ASSURANCE GUIDES -
OHIO REVISED CODE 333.162**

CTAG=Career Technical Assurance Guide (pathway/degree), CT2=Career Technical Credit Transfer (process), CTAN=Career Technical Assurance Number (course number)

The Ohio Department of Higher Education (ODHE) and the Ohio Department of Education (ODE) collaborated to ensure students at secondary or adult career-technical institutions could transfer agreed-upon technical courses to Ohio's public two- and four-year institutions that offer curriculum aligned to a CTAG (Non-credit to Credit).

- Requires curriculum to be submitted by secondary Career Technical Education programs, Ohio Technical Center (Adult Ed) programs, and colleges/universities to ODHE. It must then be reviewed and approved by a panel of faculty experts from around the state.
- Once a course/program is approved, students who complete the course/program and pass all requirements including any credentialing or licensing exam(s) are eligible for college credit at any of Ohio's public colleges or universities that offer the course/program.
- Grades do not transfer - credit does. Credit will only be posted to the student's record/transcript after the student has applied and is enrolled in classes at Tri-C.
- There is no cost to the student, the school/OTC or the college/university for CTAG credit.

TO RECEIVE CREDIT AT TRI-C, A STUDENT MUST:

- Apply for admission and enroll at Tri-C.
- Successfully complete the program/courses and all assessments, as required.
- Fill out Part I of the Verification Form and submit it to the career-technical institution from which they graduated (verification Form can be found at www.ohiohighered.org/transfer/ct2/how-to-access-ct2-credit).
- Have the career-technical institution complete Parts II and III and send the completed form to

Students cannot hand carry this document to the College! In some cases the career-technical institution or student must provide end-of-program assessment scores (e.g., Intro to Education Portfolio Score, IT exams or OCTCA/WebXam).

- Meet with the Tri-C counselor and bring all relevant certificates, licenses or credentials with them to this meeting.

Cuyahoga Community College
Office of the Registrar
PO Box 5966
Cleveland, OH 44101

For more information, contact
Becky Barnes at 216-987-3028 or
becky.barnes@tri-c.edu



Institution: Lorain County Community College

- Lorain County Community College, Northeast Ohio
 - Enrollment average: 10,000 – 12,000
 - Rural/Suburban
 - Serving: Lorain and Adjacent Counties
 - Degree completion rate: 14%
- Study Research Questions
 - How many students earned CTAG credits?
 - How CTAG credit students performed compared to general population cohort and other non-traditional credit students?

Results: Lorain County Community College

– About our CTAG credit earning students:

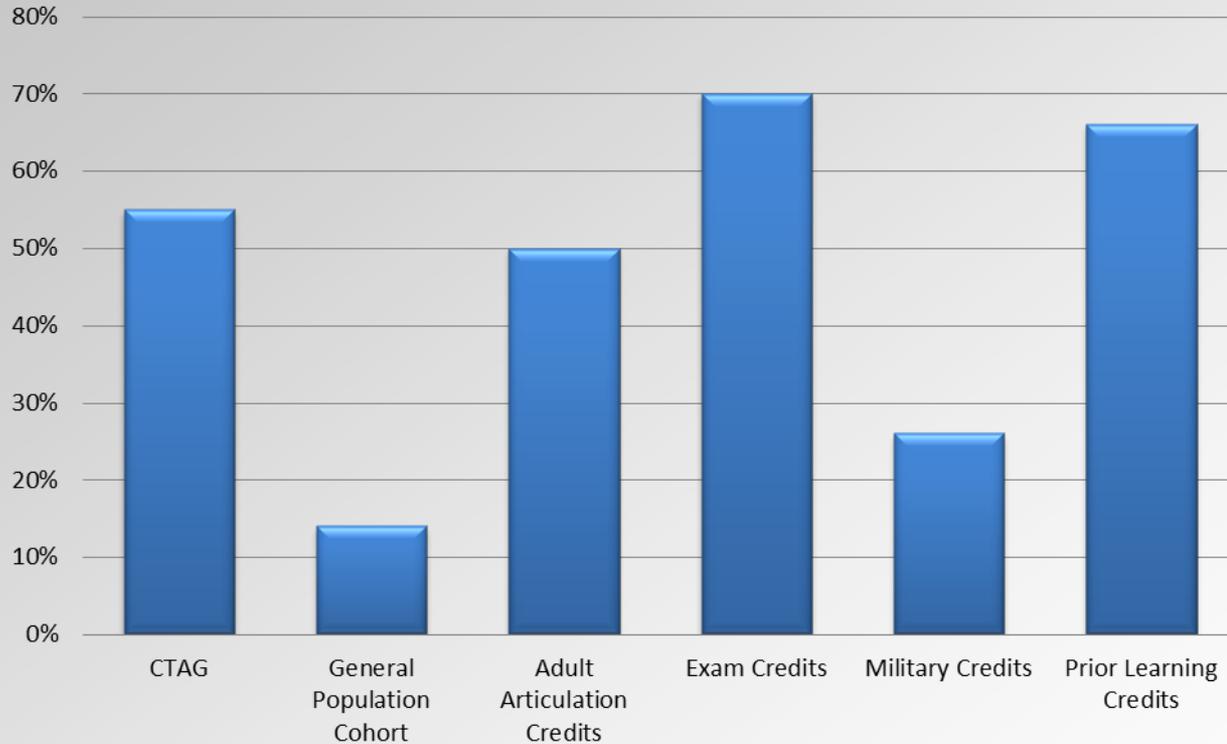
- 218 students earned 1,394 credits between academic year 2011-2012 to 2014-2015
- 86% enrolled and completed LCCC courses
- 18 students have not completed processes to earn credits

– Results and key findings:

- 40% declared same major as CTAG area
- 55% completed at least one credential
- 71% developmental education placement
- Higher term-to-term and year-to-year persistency rates
- First and Second term GPA was lower than the general population cohort

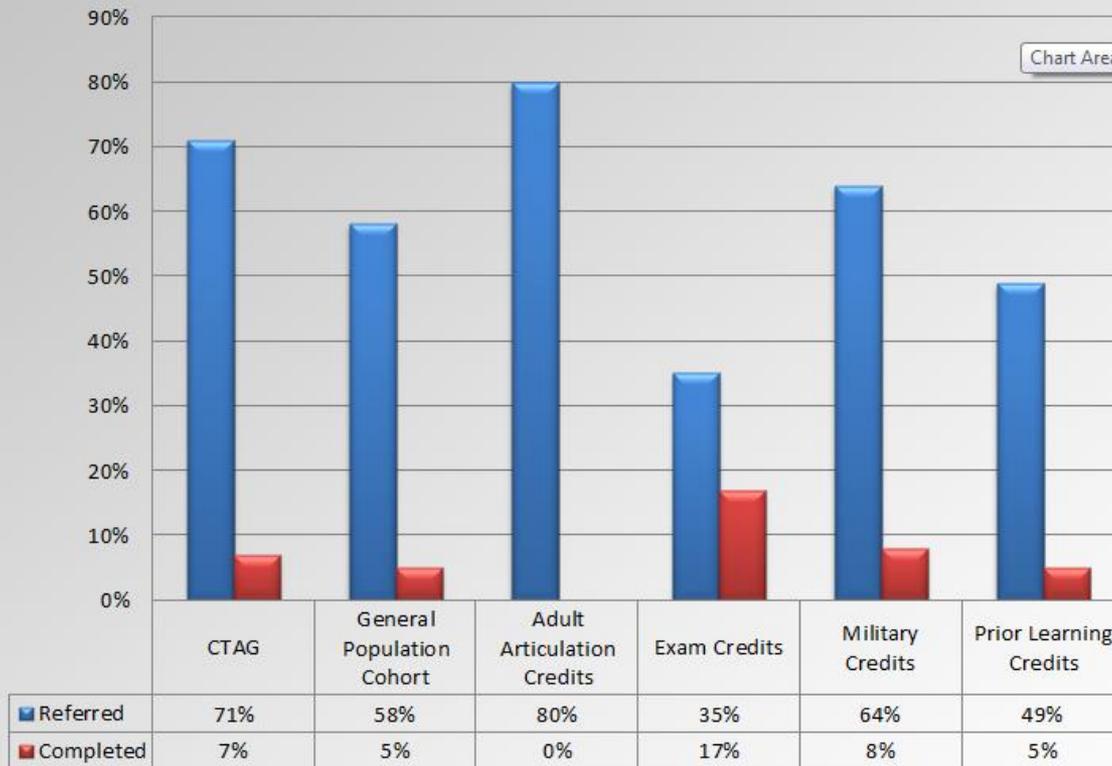
Results Continued: Lorain County Community College

Credential Completion Rate



Results Continued: Lorain County Community College

One Year DevEd Completion Rate



Results Summary Table

Success Measure	General Population	CTAG Credit Earning Students
Avg. First Semester Credit Earned	5.4	6.8
% Persisting Term to Term	61%	84%
%Persisting Year to Year	46%	58%
Completion Rate	14%	55%
%Placed in DevEd	58%	71%
1 st Year DevEd Completion Rate	5%	7%
Avg. First Semester GPA	2.74	2.09
%Successfully Completing Subs Major Course	90%	81%
Transfer Out Rate	45%	0%
Avg. Terms to Reach 12 Credit Hours	2.2	2.0
Avg. Terms to Reach 24 Credit Hours	3.6	3.3



Summary

- CTE articulation students tended to persist at greater rates among multiple campus studies
- Results are mixed in term of GPA comparison groups, but still positive
- CTAG articulation use is on the rise at most campuses, with FY16 yielding more numbers of students

Best Practices

- Increase college going rates of CTE students
- Improve student understanding and advising on CTAG process
- Data: tracking/disaggregated alternative credit tables = improved institutional analysis



Department of
Higher Education





Next Steps FY 17 - ODHE

- Additional CTAN Releases
- Video Modules to Communicate to Administrators and Students on the CTAG process.
- Investigation into data and transcription of articulated credit versus other types of credit



Where Can I Find CTAGs that Are Available to the State

- [Home](#) » [Educators](#) » [Credit Transfer](#) » [Career-Technical Credit Transfer \(CT\)²](#)
- Information included at this site:
 - All CTAG Documents
 - All Alignment Guides
 - Date of Release
 - Affirmation Form Directly Linked Below (Notes as Needed)

OhioHigherEd
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Home » Educators » Credit Transfer » Career-Technical Credit Transfer (CT)²

Career-Technical Assurance Guide (CTAG) Descriptions

- Air Transportation
 - [CTAG - December 7, 2015](#)
 - [Alignment Guide](#)
 - [Affirmation Form*](#)

*Affirmation Form can only be used for CTAN CTAIR002
- Automotive Technology
 - [CTAG - February 12, 2015](#)
 - [Alignment Guide](#)
- Culinary and Food Service Management - May 10, 2009
- Clinical/Medical Laboratory Technology
 - [CTAG - December 7, 2015](#)
 - [Alignment Guide](#)
- Construction
 - [CTAG - February 23, 2016](#)
 - [Alignment Guide](#)
 - [Affirmation Form](#)
- Criminal Justice
 - [CTAG - January 16, 2015](#)
 - [Alignment Guide](#)
 - [Affirmation Form](#)
- Education - October 4, 2010
- Electrical Engineering Technology
 - [CTAG - June 22, 2015](#)
 - [Alignment Guide](#)



CTAG Chart

- [Home](#) » [Educators](#) » [Credit Transfer](#) » [Career-Technical Credit Transfer \(CT\)²](#) » [SCTAI](#)

New SCTAI CTAGs

Updated 6-17-2016

Technical Area	CTAN	ODE Course #	Review Requirements
Air Transportation	CTAIR001-Air Transportation	177020	Full Review
	CTAIR002-Aircraft Ground Operations	177014	Full Review
	CTAIR003-Aviation Meteorology	177019	Certificate of Affirmation Form
	CTAIR004-Introduction to Aviation	177013	Full Review
	CTAIR005-		Review/Industry

Automotive Technology

Clinical/Medical Lab Technology

Construction

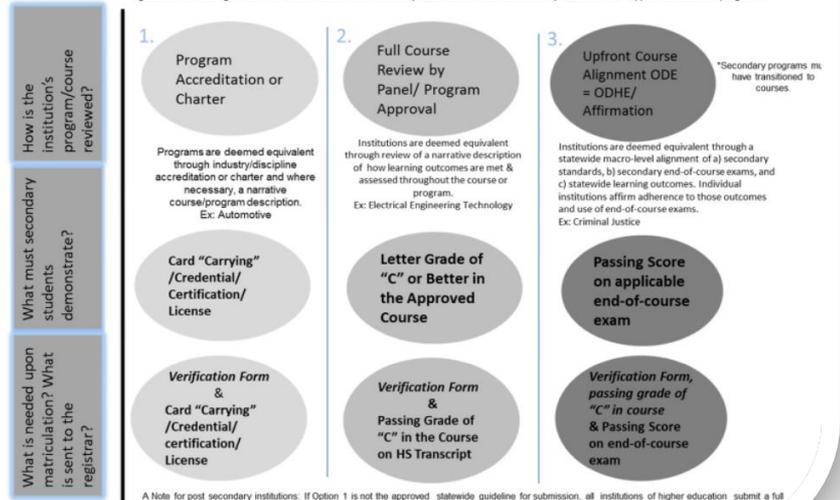
Criminal Justice

Electrical Engineering Technology

Emergency Medical Services

SECONDARY Submission Model

The Secondary Submission Model clarifies the three ways in which established statewide CTE articulation agreements are reviewed according to the guidelines of each agreement and further details how secondary students demonstrate what they have learned in approved courses or programs.



A Note for post secondary institutions: If Option 1 is not the approved statewide guideline for submission, all institutions of higher education submit a full course review (Option 2).

Transfer **Career-Technical** Credit

The Transfer to Degree Guarantee helps career and technical students transfer credits to community college or four-year degree programs.

Visit these pages to learn how your credits can transfer:

- [College and University Credit](#)
- [High School Advanced Placement Credit](#)
- [Military Credit](#)
- [Career-Technical Credit](#)

Use our simple four-step process to see if your credits transfer. In order to view the applicable credit hours for your Career-Technical courses, check out the "Just the Facts" PDF available [on this page](#).

STEP 1 ➔ * What was your program?

STEP 2 ➔ * What school district did you attend?

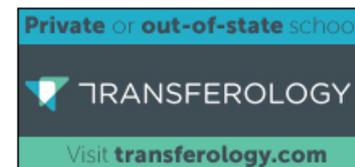
[Unsure of your school district?](#)

STEP 3 ➔ When did you take the program?

STEP 4 ➔ What college will you attend?

* Required value

SEARCH ➔





Where to Find Help

Jamilah Tucker, Director (CT)²

614-446-0543

jjones@highered.ohio.gov

(CT)² Help Desk

614.752.9474

For issues related to submissions, CEMS, and website.



Questions



THANK YOU
