

Automotive Technology CT² Survey Executive Summary March 28, 2007

I. Background

Career-Technical Credit Transfer (CT²)

Amended Substitute House Bill (H.B.) 66 directs the Ohio Board of Regents to work collaboratively with the Ohio Department of Education's Office of Career-Technical and Adult Education, public adult and secondary career-technical education, and state-supported institutions of higher education to establish criteria, policies, and procedures to transfer agreed upon technical courses from one system to another. The initiative is referred to as Career-Technical Credit Transfer.

H.B. 66 enables students to take equivalent technical courses anywhere within the public educational system and transfer technical credits without unnecessary duplication or institutional barriers. Technical courses identified as equivalent will adhere to recognized industry standards and reflect agreed-upon knowledge and skills.

Learning Outcomes Development

In support of H.B. 66 and in an effort to formalize a state-wide guarantee enabling progression to higher education, a five-step process was adopted that includes 1.) Defining – Faculty panels define learning outcomes based on recognized industry standards and 2.) Agreeing – Educational partners agree to the learning outcomes.

Joining faculty panels in nursing, mechanical/electrical engineering technology, medical assisting, and information technology – networking, thirteen secondary and postsecondary automotive technologies faculty members (some with adult workforce program experience) were collaborated to make recommendations for equivalent content. In late November 2006, the Automotive Technologies Faculty Panel reached consensus agreement on learning outcomes that reflect the National Automotive Technicians Education Foundation (NATEF) core content. In addition, the Faculty Panel reached consensus agreement on five (5) additional recommendations related to documentation of student learning and guaranteed credit.

Agreement Surveys

As a key step in implementing Amended Substitute House Bill (H.B.) 66 and its mandate to establish a system of credit equivalency, three web surveys - nursing, mechanical/electrical engineering technology, and automotive technology - were disseminated in early February 2007 to secondary, adult, and higher education administrators. This statewide review of the learning outcomes and other recommendations for guaranteed credit concluded in mid-March 2007.

II. Automotive Technology Survey Summary

Respondent Information

Higher education program responses reflected nearly all of the existing automotive technology programs in Ohio. Career-technical program respondents were representative of the secondary and adult automotive technology programs offered in Ohio institutions. Forty-three (43) respondent surveys were summarized as follows:

- **Type of Institution:** 25 joint vocational school districts; 3 local school districts; 7 city school districts; 7 two-year colleges awarding certificates of completion and associate degrees
- **Award Granted:** Majority of career-technical adult and secondary programs award a certificate of completion and a Career Passport documenting competencies; majority of two-year colleges award an Associate of Applied Science as well as a certificate of completion

Current Program Information

Responses reflected the long and productive history of secondary, adult, and higher education automotive technology collaboration and pathways development; recognition and incorporation of the national industry standards by Ohio programs; and the assessment standards mandated for secondary and adult career-technical programs.

- **College Tech Prep:** 6 of 7 two-year college respondents are College Tech Prep; 15 of 27 Career-technical secondary respondents are College Tech Prep.
- **Written Local/Bilateral Agreements:** 5 of 7 two-year college respondents have agreements. Career-technical respondents reported 14 College Tech Prep agreements and 24 overall agreements. (Note: College Tech Prep agreements may have been combined by the respondents.)
- **# of Hours Granted:** Two-year college respondents ranged from 12 to 31 (not typical) quarter hours; 7 semester hours were also reported by the two-year college respondents. Career-technical secondary respondents ranged from 3 to 30 quarter hours and from 7 to 16 semester hours. Adult respondents ranged from 3 to 27 (limited information on quarter or semester). (Note: The wide range in credit hours reported may signal a need to clarify this survey question.)
- **NATEF Program Certification (accreditation):** 6 of 7 two-year college programs are NATEF; 29 of 30 career-technical respondents are NATEF
- **End-of-Program or Certification Test:** 24 of 29 career-technical secondary respondents reported using AYES or NATEF; some with combinations including ASE; 5 reported other tests. 6 or 10 career-technical adult respondents reported ASE and 4 reported other tests.

Learning Outcome Input

The survey respondents were in agreement (or partial agreement) with the learning outcomes of the NATEF core areas:

Learning Outcomes (NATEF Core)	Survey Agreement	Survey Partial Agreement
Brakes	89%	11%
Electrical/Electronic Systems	91%	9%
Engine Performance	89%	11%
Suspension and Steering	89%	11%

100% of the two-year college respondents supported all learning outcomes as presented. Only four or less career-technical respondents were in partial agreement; however, the vast majority was in full agreement. Partial agreement was primarily due to time constraints at the high school level or not a NATEF priority one level outcome. (Note: NATEF establishes the required percentages for P-1, P-2, and P-3 tasks. Programs must address 95% of P-1 tasks, 80% of P-2 tasks, and 50% of P-3 tasks, thus the survey respondents frequently listed P-2 and P-3 tasks as areas of partial agreement.)

The following four tables reflect the level of agreement by entity and the areas of disagreement and rationale for disagreement. (Note: Learning outcome numbers were assigned for survey response identification.)

Brakes

38 Respondents	Career-technical Agreement/ Partial Agreement	Two-year College Agreement/ Partial Agreement	Areas of Disagreement (outcomes reported by 3)	Rationale for Disagreement
38 of 38 (34 -89% agreement; 4 - 11% partial agreement)	31 of 31 (88% agreement; 12% partial agreement)	7 of 7 (100% agreement)	-9.3, 13.0, 13.4, 13.6 -12.0, 12.1, 13.4, 13.5, 13.9 -13.7	Time; Difficulty; NATEF priority 3 expectation

Electrical/Electronic Systems

32 Respondents	Career-technical Agreement/ Partial Agreement	Two-year College Agreement/ Partial Agreement	Areas of Disagreement (outcomes reported by 3)	Rationale for Disagreement
32 of 32 (29 - 91% agreement; 3 - 9% partial agreement)	25 of 25 (88% agreement; 12% partial agreement)	7 of 7 (100% agreement)	-18.6, 18.7 -17.0, 18.7, 18.9, 19.6, 19.9 -15.8, 16.0, 16.8, 17.0, 18.9, 19.6, 20.2, 20.3	Time; Difficult to achieve

Engine Performance

37 Respondents	Career-technical Agreement/ Partial Agreement	Two-year College Agreement/ Partial Agreement	Areas of Disagreement (outcomes reported by 3)	Rationale for Disagreement
37 of 37 (31 - 89% agreement; 4 - 11% partial agreement)	30 of 30 (86% agreement; 13% partial agreement) (1 respondent indicated partial agreement at 69% or less)	7 of 7 (100% agreement)	-21.7 - 20.9, 22.4, 22.6, 23.1, 23.2, 23.8, 23.9, 25.5 25.9, 26.2 - 20.5, 21.6, 21.7, 22.4, 22.5, 22.6, 22.9	Unrealistic for high school; Not entry level requirements; Postsecondary content

Suspension and Steering

37 Respondents	Career-technical Agreement/ Partial Agreement	Two-year College Agreement/ Partial Agreement	Areas of Disagreement (outcomes reported by 3)	Rationale for Disagreement
37 of 37 (33 - 89% agreement; 4 - 11% partial agreement)	30 of 30 (87% agreement; 13% partial agreement)	7 of 7 (100% agreement)	- 1.6, 3.8 - 4.3, 2.1, 3.3, 3.5, 5.5, 6.7 - some P-2 and all P-3's	Time; Not high school content

Other Requirements for Guaranteed Credit

There is overall agreement with the other requirements for guaranteed credit. Due to the survey design, some areas of disagreement may not have been clarified until the opportunity to write general comments.

	Assessment/ Certification	Faculty Sign-off & Assessment/ Certification	3 Quarter/2 Semester per NATEF Core Course	2 years to Access CT² Credit
Total	39 (87% agreement; 13% disagreement)	39 (82% agreement; 18% disagreement)	39 (85% agreement; 15% disagreement)	39 (95% agreement; 5% disagreement)
Career- Technical Disagreement	4 – disagree	4 – disagree; 2 – somewhat disagree	2 – disagree; 4– somewhat disagree	2 – disagree
Two-Year College Disagreement	1 – somewhat disagree	1 – somewhat disagree	0	0

General Comments

Eleven respondents submitted general comments. Common comments follow:

- amount of time in secondary career-technical programs to fully address and acquire the NATEF core;
- concern regarding providing college credit for content learned in high schools;
- verification of knowledge and skills (instructor sign-off, assessment, NATEF accreditation); and
- other (transcribed credit, work experience consideration, printing of survey, positive about CT²).

Respondents	Time	Credit	Verification	Other
Career- Technical (7)	2	2	1	2
Two-Year College (4)	0	1	2	1
	2	3	3	3

III. Conclusion

The high level of agreement reported by survey respondents support the recommendations made by the CT² Automotive Technologies Faculty Panel. During spring 2007, utilizing the learning outcomes and other guaranteed credit recommendations for automotive technology, a regional beta-test will be conducted for the matching, submitting, and reviewing steps. Statewide matching, submitting, and reviewing will commence in late summer/early fall 2007.