



To: Indiana State Board of Education (SBOE)

Date: December 12, 2018

Subject: SY 19/20 Career & Technical Education Program Categorizations and Funding Recommendations

Pursuant to Indiana Code (IC) [20-43-8-7.5](#), the Indiana Department of Workforce Development (DWD), in consultation with the Department of Education (DOE), submits the following report, providing recommendations to the Indiana State Board of Education (SBOE) on Career and Technical Education (CTE) program designations.

**Funding Methodology Overview**

CTE courses are statutorily funded at the following levels:

<b>Advanced CTE Course Funding Levels – Enrollment Reimbursement Rates Per Credit Hour</b>	
<b>High Value Program</b>	\$680
<b>Moderate Value Program</b>	\$400
<b>Less than Moderate Value Program</b>	\$200

<b>Other CTE Course Funding Levels – Enrollment Reimbursement Rates Per Pupil</b>	
<b>Introductory</b>	\$300
<b>Apprenticeship</b>	\$150
<b>Cooperative Education Course</b>	\$150
<b>Foundational</b>	\$150
<b>Work-Based Learning</b>	\$150
<b>Area Participation Program</b>	\$150

**CIP-SOC Crosswalk**

In 2017, representatives from the private sector, DOE, DWD, secondary/postsecondary education, and other interest groups developed a crosswalk of CTE courses (CIP) to relevant occupations (SOC). The standards of each course were evaluated to determine what skills

would be gained by the students from the CTE instruction that most directly aligned to skills necessary to enter and be prepared for certain occupations. The occupations associated with each course in the crosswalk were then scored per the occupational ranking methodology (referenced below) to determine a value for the course and its subsequent funding level.

The same CIP-SOC crosswalk was used for SY 19/20 CTE course recommendations as was utilized and adopted by the SBOE for SY 18/19 courses unless standards for a course changed or a new CTE course was adopted by SBOE.<sup>1</sup> These changes are denoted in Appendix A.

**Occupational Ranking Methodology**

DWD used the IN Demand Ranking methodology to evaluate demand and wage for occupations associated with CTE courses per IC 20-43-8. Each occupation was evaluated on a decile scoring system across five variables, which was then summarized to equate to an overall value of between 1 and 5.<sup>2</sup> This was the same methodology that was used and adopted by the SBOE for SY18/19 CTE course designations.

**Scoring Mechanism**

IN Demand Ranking scores of each occupation were summed and averaged to equate to an overall CTE course score. Less than moderate value CTE courses scored within a 0.00-2.99 threshold. Moderate value CTE courses scored within a 3.00-3.49 threshold, and high value CTE courses scored between 3.5 and 5.00.

<b>Flame Funding Levels with Flames Threshold</b>		
<b>Course Designation</b>	<b>Flame Threshold</b>	<b>Reimbursement Rate (per Credit, Max of 3)</b>
Less than Moderate Value	0.00-2.99	\$200
Moderate Value	3.00-3.49	\$400
High Value	3.50-5.00	\$680

<sup>1</sup> 2017 CTE Course Recommendations [Memo](#) provides more information on the process used to develop the CIP-SOC crosswalk.

<sup>2</sup> [IN Demand Ranking Methodology](#): Each occupation in Indiana is designated a 1-10 score in 5 categories: Total Openings (X2), Growth Openings for both short term and long term outlook, Percentage Change, Real Time Labor Market Information, and Wages using 2016-2018 Short Term Projections and 2014-2024 Long Term Projections and Bureau of Labor Statistics Occupational Employment Statistics wage estimates. The scoring method is determined by deciles or, in other words, a percentile system ranging from the 90<sup>th</sup> percentile down to the 10<sup>th</sup> percentile and under. The averaged total for each occupation is then divided by two to produce an Indiana Demand Ranking in both outlooks. Lastly, both the short term and long term outlook Indiana Demand Ranking scores for each occupation are averaged to calculate the occupation’s final rating. Because occupational demand drives the ranking of occupations, median wage levels can vary within each scoring threshold, however wage rules are in place to prevent low wage, high demand occupations from scoring highly. Any occupation scoring 3 or 4 (out of 10) in the wage category cannot score higher than 3 flames, and any occupation scoring 1 or 2 (out of 10) in the wage category cannot score higher than 2 flames.

<b>IDOE Course Code</b>	<b>IDOE Course Name</b>	<b>Cluster/Subject Area</b>	<b>Credits Per Semester</b>	<b>Max Credits Allowed</b>	<b>CTE Funding Threshold</b>	<b>CTE Funding Level</b>
5530	3-D Computer Animation and Visualization	AV	1-3	6	Less Than Moderate Value	\$200
5268	Administrative and Office Management	BFM	1-2	4	High Value	\$680
5330	Adult Roles and Responsibilities	ED	1	1	Foundational	\$150
4522	Advanced Accounting	BFM	1	2	Moderate Value	\$400
5360	Advanced Child Development	ED	1	2	Introductory	\$300
5070	Advanced Life Science: Animals (L)	AG	1	2	Moderate Value	\$400
5072	Foods(Chemistry of Foods) (L)	AG F&CS	1	2	Moderate Value	\$400
5074	Advanced Life Science: Plants and Soils (L)	AG	1	2	Less Than Moderate Value	\$200
5608	Advanced Manufacturing I	MAN	1-3	6	High Value	\$680
5606	Advanced Manufacturing II	MAN	1-3	6	High Value	\$680
5340	Advanced Nutrition and Wellness	HHS	1	2	Introductory	\$300
5518	Aerospace Engineering non-PLTW	ENGI	1	2	High Value	\$680
4816	Aerospace Engineering PLTW	ENGI	1	2	High Value	\$680
5002	Agribusiness Management	AG	1	2	Moderate Value	\$400
5088	Agriculture Power, Structure and Technology	AG	1-3	6	High Value	\$680
5276	Anatomy & Physiology	HS	1	2	High Value	\$680
5008	Animal Sciences	AG	1	2	Moderate Value	\$400
5640	Architectural Drafting and Design I	A&C	1-3	6	Moderate Value	\$400
5652	Architectural Drafting and Design II	A&C	1-3	6	Moderate Value	\$400
5514	Automotive Collision Repair I	T&L	1-3	6	Moderate Value	\$400
5544	Automotive Collision Repair II	T&L	1-3	6	Moderate Value	\$400

5510	Automotive Services Technology I	T&L	1-3	6	High Value	\$680
5546	Automotive Services Technology II	T&L	1-3	6	High Value	\$680
5524	Aviation Flight	T&L	1-3	6	Moderate Value	\$400
5520	Aviation Maintenance I	T&L	1-3	6	Moderate Value	\$400
5522	Aviation Maintenance II	T&L	1-3	6	Moderate Value	\$400
5528	Aviation Operations	T&L	1-3	6	Moderate Value	\$400
5258	Banking and Investment Capstone	BFM	1-3	6	Moderate Value	\$400
5344	Biochemistry of Foods (L)	F&CS	1	2	Moderate Value	\$400
5593	Building & Facilities Maintenance I	A&C	1-3	6	Moderate Value	\$400
5594	Building & Facilities Maintenance II	A&C	1-3	6	Moderate Value	\$400
5592	Building and Facilities Management I	A&C	1-3	6	High Value	\$680
5595	Building and Facilities Management II	A&C	1-3	6	High Value	\$680
4560	Business Law and Ethics	BFM	1	2	Less Than Moderate Value	\$200
5239	Career & Technical Education Pilot Course	CTE	1-3	6	Pilot	\$300
5362	Child Development	ED	1	1	Foundational	\$150
5650	Civil Engineering and Architecture non PLTW	ENGI	1	2	High Value	\$680
4820	Civil Engineering and Architecture PLTW	ENGI	1	2	High Value	\$680
5570	Commercial Photography	AV	1-3	6	Moderate Value	\$400
5534	Computer Integrated Manufacturing non PLTW	ENGI	1	2	High Value	\$680
4810	Computer Integrated Manufacturing PLTW	ENGI	1	2	High Value	\$680
4801	Computer Science I	IT	1	2	High Value	\$680
5236	Computer Science II (replaces Computer Science II: Programming)	IT	1-3	6	High Value	\$680
5253	Computer Science III: Cybersecurity <b>NEW</b>	IT	1-3	6	High Value	\$680

5250	Computer Science III: Databases (replaces Computer Science II: Databases)	IT	1-3	6	High Value	\$680
5251	Computer Science III: Informatics (replaces Computer Science II: Informatics)	IT	1-3	6	High Value	\$680
5249	Computer Science III: Software Development NEW	IT	1-3	6	High Value	\$680
5252	Computer Science III: Special Topics (replaces Computer Science II: Special Topics)	IT	1-3	6	High Value	\$680
4800	Computers in Design and Production	MAN	1	2	Introductory	\$300
5496	Construction Technology HVAC I	A&C	1-3	6	High Value	\$680
5498	Construction Technology HVAC II	A&C	1-3	6	High Value	\$680
5580	Construction Trades I	A&C	1-3	6	High Value	\$680
5578	Construction Trades II	A&C	1-3	6	High Value	\$680
4830	Construction Trades: Electrical I	A&C	1-3	6	High Value	\$680
4832	Construction Trades: Electrical II	A&C	1-3	6	High Value	\$680
5497	Construction Trades: Heavy Equipment I	A&C	1-3	6	High Value	\$680
5495	Construction Trades: Heavy Equipment II	A&C	1-3	6	High Value	\$680
5334	Consumer Economics	F&CS	1	1	Foundational	\$150
5802	Cosmetology I	HHS	1-3	6	Less Than Moderate Value	\$200
5806	Cosmetology II	HHS	1-3	6	Less Than Moderate Value	\$200
5822	Criminal Justice I	PS	1-3	6	Moderate Value	\$400
5824	Criminal Justice II Advanced	PS	1-3	6	Moderate Value	\$400
5440	Culinary Arts and Hospitality I	HHS	1-3	6	Less Than Moderate Value	\$200
5346	Culinary Arts and Hospitality II: Culinary Arts	HHS	1-3	6	Less Than Moderate Value	\$200

5458	Culinary Arts and Hospitality II: Hospitality Management	HHS	1-3	6	Moderate Value	\$400
5203	Dental Careers I	HS	1-3	6	High Value	\$680
5204	Dental Careers II	HS	1-3	6	High Value	\$680
4834	Design Fundamentals NEW	BMIT	1	2	Introductory	\$300
5620	Diesel Service Technology I	T&L	1-3	6	High Value	\$680
5624	Diesel Service Technology II	T&L	1-3	6	High Value	\$680
4826	Digital Electronics PLTW	ENGI	1	2	High Value	\$680
5538	Digital Electronics Technology non PLTW	ENGI	1	2	High Value	\$680
5412	Early Childhood Education I	ED	1-3	6	Moderate Value	\$400
5406	Early Childhood Education II	ED	1-3	6	Moderate Value	\$400
5408	Education Professions I	ED	1-3	6	Moderate Value	\$400
5404	Education Professions II	ED	1-3	6	Moderate Value	\$400
5684	Electronics and Computer Technology I	MAN	1-3	6	High Value	\$680
5694	Electronics and Computer Technology II	MAN	1-3	6	High Value	\$680
5210	Emergency Medical Services	PS	1-3	6	Moderate Value	\$400
5616	Energy Industry I	STEM	1-3	6	Less Than Moderate Value	\$200
5618	Energy Industry II	STEM	1-3	6	Less Than Moderate Value	\$200
5698	Engineering Design and Development non PLTW	ENGI	1	2	High Value	\$680
4828	Engineering Design and Development PLTW	ENGI	1	2	High Value	\$680
5966	Entrepreneurship and New Ventures Capstone	BFM	1-3	6	Moderate Value	\$400
4818	Environmental Sustainability	ENGI	1	2	Moderate Value	\$400

5420	Fashion and Textile Careers I	F&CS	1-3	6	Less Than Moderate Value	\$200
5421	Fashion and Textile Careers II	F&CS	1-3	6	Less Than Moderate Value	\$200
5820	Fire and Rescue I	PS	1-3	6	Moderate Value	\$400
5826	Fire and Rescue II	PS	1-3	6	Moderate Value	\$400
5102	Food Science	AG	1	2	Moderate Value	\$400
5550	Graphic Design and Layout	AV	1-3	6	High Value	\$680
5572	Graphic Imaging Technology	AV	1-3	6	Less Than Moderate Value	\$200
5282	Health Science Education I	HS	1-3	6	High Value	\$680
5290	Health Science Education II: Athletic Training	HS	1-3	6	Moderate Value	\$400
5288	Health Science Education II: Medical Forensics	HS	1-3	6	Moderate Value	\$400
5284	Health Science Education II: Nursing	HS	1-3	6	High Value	\$680
5214	Health Science II: Pharmacy	HS	1-3	6	High Value	\$680
5215	Health Science II: Physical Therapy	HS	1-3	6	High Value	\$680
5286	Health Science II: Special Topics	HS	1-3	6	Moderate Value	\$400
5132	Horticultural Science	AG	1-3	6	Moderate Value	\$400
5352	Housing and Interior Design Careers I	F&CS	1-3	6	Moderate Value	\$400
5460	Housing and Interior Design Careers II	F&CS	1-3	6	Moderate Value	\$400
5336	Human and Social Services I	HHS	1-3	6	High Value	\$680
5462	Human and Social Services II	HHS	1-3	6	High Value	\$680
5366	Human Development and Wellness	HHS	1	2	Introductory	\$300
5610	Industrial Automation and Robotics I	MAN	1-3	6	High Value	\$680

5612	Industrial Automation and Robotics II	MAN	1-3	6	High Value	\$680
5686	Industrial Technical Maintenance I	A&C	1-3	6	Moderate Value	\$400
5688	Industrial Technical Maintenance II	A&C	1-3	6	Moderate Value	\$400
5230	Information Technology Support (replaces Computer Tech Support)	IT	1-3	6	High Value	\$680
5232	Interactive Media	AV	1-3	6	Less Than Moderate Value	\$200
5902	Interdisciplinary Cooperative Education	WBL	1-3	6	Work Based Learning	\$150
5364	Interpersonal Relationships	HHS	1	1-Jan	Foundational	\$150
4524	Introduction to Accounting	BFM	1	2	Introductory	\$300
4796	Introduction to Advanced Manufacturing and Logistics	MAN	1	2	Introductory	\$300
5056	Introduction to Agriculture, Food and Natural Resources	AG	1	2	Introductory	\$300
4518	Introduction to Business <b>NEW</b>	BFM	1	2	Introductory	\$300
4790	Introduction to Communication	AV	1	2	Introductory	\$300
4803	Introduction to Computer Science <b>NEW</b>	IT	1	2	Introductory	\$300
4792	Introduction to Construction	A&C	1	2	Introductory	\$300
5438	Introduction to Culinary Arts and Hospitality	HHS	1	2	Introductory	\$300
4794	Introduction to Design Processes	AV	1	2	Introductory	\$300
4802	Introduction to Engineering Design non PLTW	ENGI	1	2	Introductory	\$300
4812	Introduction to Engineering Design PLTW	ENGI	1	2	Introductory	\$300
5967	Introduction to Entrepreneurship <b>NEW</b>	BFM	1	2	Introductory	\$300



5380	Introduction to Fashion and Textiles	F&CS	1	2	Introductory	\$300
5272	Introduction to Health Science Careers	HS	1	2	Introductory	\$300
5350	Introduction to Housing and Interior Design	A&C	1	2	Introductory	\$300
4784	Introduction to Manufacturing	MAN	1	2	Introductory	\$300
5614	Introduction to the Energy Industry	STEM	1	2	Introductory	\$300
4798	Introduction to Transportation	T&L	1	2	Introductory	\$300
5231	IT Support Capstone	IT	1-3	6	High Value	\$680
5136	Landscape Management I	AG	1-3	6	Less Than Moderate Value	\$200
5137	Landscape Management II	AG	1-3	6	Less Than Moderate Value	\$200
5982	Marketing in Hospitality	BFM	1	2	Moderate Value	\$400
4836	Mechanical Drafting and Design I	A&C	1-3	6	Moderate Value	\$400
4838	Mechanical Drafting and Design II	A&C	1-3	6	Moderate Value	\$400
5274	Medical Terminology	HS	1	2	Introductory	\$300
5962	Merchandising	BFM	1	2	Moderate Value	\$400
5180	Natural Resources	AG	1	2	Less Than Moderate Value	\$200
5234	Networking I	IT	1-3	6	High Value	\$680
5245	Networking II: Cybersecurity <b>NEW</b>	IT	1-3	6	High Value	\$680
4588	Networking II: Infrastructure	IT	1-3	6	High Value	\$680
5257	Networking II: Servers	IT	1-3	6	High Value	\$680
5342	Nutrition and Wellness	HHS	1	1	Foundational	\$150
5456	Nutrition Science Careers I	F&CS	1-3	6	Less Than Moderate Value	\$200
5457	Nutrition Science Careers II	F&CS	1-3	6	Less Than Moderate Value	\$200
5170	Plant and Soil Science	AG	1	2	Less Than Moderate Value	\$200

5219	PLTW Biomedical Innovation	HS-B	1	2	High Value	\$680
5216	PLTW Human Body Systems	HS-B	1	2	High Value	\$680
5217	PLTW Medical Interventions	HS-B	1	2	High Value	\$680
5218	PLTW Principles of Biomedical Sciences	HS-B	1	2	High Value	\$680
5782	Precision Machining I	MAN	1-3	6	High Value	\$680
5784	Precision Machining II	MAN	1-3	6	High Value	\$680
5394	Preparing for College and Careers	B, F&CS	1	1	Foundational	\$150
4562	Principles of Business Management	BMIT	1	2	High Value	\$680
5644	Principles of Engineering non PLTW	ENGI	1	2	High Value	\$680
4814	Principles of Engineering PLTW	ENGI	1	2	High Value	\$680
5914	Principles of Marketing	BFM	1	2	High Value	\$680
5986	Radio and Television I	AV	1-3	6	Less Than Moderate Value	\$200
5992	Radio and Television II	AV	1-3	6	Less Than Moderate Value	\$200
5842	Recreational and Mobile Equipment I	T&L	1-3	6	Less Than Moderate Value	\$200
5844	Recreational and Mobile Equipment II	T & L	1-3	6	Less Than Moderate Value	\$200
5472	Residential Property Management Careers I	A&C	1-3	6	Moderate Value	\$400
5858	Residential Property Management Careers II	A&C	1-3	6	Moderate Value	\$400
4728	Robotics Design and Innovation	ENGI	1	2	Introductory	\$300
5984	Sports and Entertainment Marketing	BFM	1	2	Moderate Value	\$400
5918	Strategic Marketing	BFM	43102	4	High Value	\$680
5601	Supply Chain Management and Logistics	T&L	43103	6	High Value	\$680
5229	Sustainable Energy Alternatives	AG	1	2	Less Than Moderate Value	\$200

5622	Tractor/Trailer Operation	AV	1-3	3	High Value	\$680
5211	Veterinary Careers I	HS	1-3	6	High Value	\$680
5212	Veterinary Careers II	HS	1-3	6	High Value	\$680
5602	Warehouse Operations and Materials Handling	T&L	1-3	6	High Value	\$680
5776	Welding Technology I	MAN	1-3	6	High Value	\$680
5778	Welding Technology II	MAN	1-3	6	High Value	\$680
5974	Work Based Learning Capstone, Multiple Pathways	WBL	1-3	6	Work Based Learning	\$150