



## **State Board for Career and Technical Education Agenda**

**April 28, 2025**

**10:00 AM CT**

**NDCTE Conference Room – 15<sup>th</sup> Floor**

Microsoft Teams - [Meeting Link](#)

- 1) Call to Order**
- 2) Board Outcome Progress Monitoring**
  - a) Board Quarterly Self Evaluation**
- 3) Consent Agenda**
  - a) Approve March 24, 2025 Minutes**
  - b) Accept Finance Reports**
  - c) Accept State Director's Report – Agency Update**
  - d) Approve ND Information Technology Education Content Standards**
  - e) Approve 2<sup>nd</sup> Reading Revised CTE Secondary Licensing & Certification Policy**
- 4) Discussion and Possible Action**
  - a) Funding Policy – 2<sup>nd</sup> Reading**
    - i. Draft Funding Policy Appendix**
    - ii. Draft Funding Policy**
- 5) Information Only**
- 6) Board Comments**
- 7) Adjourn**

NOTE: The exact time each agenda item will be discussed cannot be assured. Therefore, individuals interested in attending any portion of the meeting should plan their schedules accordingly.

Persons requiring auxiliary aids or services must contact CTE at 701-328-3180 at least three working days prior to the scheduled meeting date.

## Responses to Board Questions – April 2025

### 2)a) Board Quarterly Self Evaluation

Thank you for providing the quarterly progress tracker! Is it the intention that we complete the self-evaluation in advance of the meeting as individual board members? If I recall correctly, last quarter we responded to a survey in advance of the meeting indicating our marks. I only ask so that I can be properly prepared.

**The Self Evaluation will be completed by the Board during the meeting.**

Are the highlights within the self-evaluation tool (pg 7 – 12 in the packet) what we agreed upon last quarter OR your assessment of where we are now?

**The highlighted areas are where E&M assesses the Board to be.**

### 3)b) Consent Agenda – Accept Finance Reports

**CTE Administrative Budget Report:** Professional Services line item – is the percentage of time elapsed a mistake?

**Yes, that has been corrected.**

We are 87.5% through the biennium with only three months remaining and have expended 73.8% of our administrative budget. Do you have an estimate of where we will end the biennium with respect to our budget? Is there a similar report of the status of the grants portion of our budget?

**We estimate to be around 86% of the administrative budget to be spent by the end of the biennium, but I need to remind the Board that the budget includes spending authority and not actual dollars. The spending authority considers what the Legislature has provided the Department authority to spend, if additional federal dollars are secured. It also includes dollars for the new and vacant FTE funding pool, which we need to request, if needed.**

**Each Grant line status is included in the Appropriation Status Report, which is the first page of the finance report.**

### 3) d) NDI Content Standards: Were any significant changes made to the standards?

**Yes, since this is the first time since 2015 the IT standards were updated, this is a complete rewrite. The reason for the delay is the state was waiting for the national standards to be updated. The current standards were reviewed for accuracy and to keep them with current industry trends.**

Can you provide a summary of any changes that have been made to the IT Standards?

**No, unfortunately, I can't. As mentioned, this was an extensive rewrite, based on national standards and the time elapsed between updates. We do not compare the old standards to the new. We simply take the updated national industry standards and make edits, if necessary.**

#### 4) a) Discussion & Possible Action – Funding Policy

Funding Policy Memo – Were any alternative indicators considered to CTE Administrator FTE count as being the factor for calculating Center Operations? If so, what were they and how did your team arrive at Administrator FTE as the best strategy to index this portion of the policy with?

**The other indicators the Department looked at were either a flat allocation per center or a square footage model. The reasons why we decided on a director allocation and not the alternatives are as follows:**

- **Under our past model, one of the largest expenses in the local admin plan was the cost of the director. Not accounting for that expense moving forward is a message to the directors that their role is not a vital role. The Department's opinion is that it is a vital role and should be supported. A center cannot be successful without a director.**
- **Providing a flat allocation per center does not take into consideration the number of center directors that may fill multiple roles and not 100% of their time is allocated to a Center. In doing that, we are providing additional administrative dollars to a center that is funding that individual with other funding streams for non CTE job duties.**
- **A square footage funding indicator was considered but could be problematic. Would the Department be incentivizing sprawl? How do we ensure the space counted is being used efficiently? How would an allocation be provided to a virtual center, if there is no square footage?**

**Every CTE Center needs foundational leadership and administrative oversight to operate effectively, whether they serve 100 students or 1000.**

**Their responsibilities do not necessarily scale down because they offer less programs or serve fewer students. They still need to:**

- **Ensure compliance with federal (Perkins) and state regulations.**
- **Manage budgets, staffing and schedules.**
- **Coordinate with industry and education partners.**

**Even if enrollment and programs shift, the baseline administrative support remains constant.**

**It is the Department's opinion that providing funding based on a director FTE does not incentivize more directors. The Center still needs to partially fund it through local member funds and a local CTE board would need to approve that additional cost. Also, the Department can develop guardrails to determine if an additional director is warranted. It is also worth mentioning if funding is based on a CTE Administrator FTE, the Department would be able to reimburse based off the percentage of time that individual is contributing to the Center, which evens the playing field.**

Funding Policy Memo - Item 5c – Please explain what School District enrollment means. It is listed differently in the Funding Level doc, which I am a bit perplexed by.

**This was a typo. This should read School District membership.**

Funding Policy Memo - Item 5b (Program Weighting) – Please explain what this means as it is listed differently in the Funding Level doc.

**As it stands now, this is simply an equal allocation for every program. The Department is currently looking at what and how programs could be weighted differently.**

**After having discussions within the Department this week, it is recommended to distribute those funds equally based on the number of programs a Center offers and not weight each individual program using those funds. Those are program access funds, not necessarily the cost of program funds.**

**It is the recommendation if we are to weight programs, the weight should be placed on the program FTE base funding. Language has been added to the funding policy for the Board to consider. (Page 2 of the Funding Policy) A program weighting table will be included in the revised Board packet.**

Please explain what an amended version of the current interim policy means & how that would work, given it was not intended to be sustained into the 25-26 SY/FY. Additionally, please describe the infrastructure development required to administer the new policy.

**A proposed 2025-26 funding policy is included in the revised Board packet.**

**The infrastructure needed is primarily a grant management system that can help manage these funds. Since BRP needs to be retired and WebGrants does not meet our needs, Gwen is currently exploring other options. This may be a procurement process, which could be a delay. Once a solution is selected, it will need to be customized to meet the Department and local recipients' needs.**

What does the yellow highlight on the \$30,000 next to Comprehensive High School CTE Administrator mean?

**The yellow highlight simply means the funding policy needs to consider the cost of the CTE director at a School District. They still play a role and should be encouraged and supported.**

- **If this is not in place, a director that serves a dual role between a center and a school district is encouraged to move that individual to 100% Center director, although they are doing school district work.**
- **School districts that are not near a center but are large enough to have a designated CTE director would not be supported to do so, if funds were not provided.**
- **This is a limited number of local staff, therefore the overall impact on the budget is small.**

If we approve an interim funding policy for the 2025-2026 school year, is there any reason the 2026-2027 funding policy second reading needs to be approved at this time? Would it be possible to have discussion with the board and table this item for continued subcommittee work prior to approval?

**No, it does not need to be approved in April, but I encourage the Board to approve a policy this spring and not delay any further. This would allow the local recipients the time to adjust, the Department time to build the infrastructure to administer a new policy, and ensure the Board and Department completes its work on a funding policy.**

#### Item 4)a) Funding Policy Second Reading

Regarding Program Access Allocations, the Draft Appendix says “Additional work is needed if it is decided to provide more dollars to higher cost programs.” In the most recent version of the spreadsheet, we left the “Program” Access Allocation at 0% and the “Program Weighting” allocation at 45%, so does that suggest that we have already made the recommendation to allocate more funding to higher cost programs?

**No that has not been decided yet. The funding was left in the weighting bucket for now, but please reference my comment above concerning the direction the Board should consider on program weighting.**

Has the department made any progress on how programs would be weighted for this allocation factor?

**A table of weighted programs will be included in the revised Board packet. This was developed in consultation with a sample of local CTE Directors. Programs were placed in three tiers, funding each at a rate of 1.0, 1.25, and 1.50. This is the first version and will require additional conversation with a larger stakeholder group, including additional CTE Directors, School Administrators, and NDCTE Staff.**

Why do you recommend to defer implementation to the 2026-27 school year?

**I repeat that I recommend deferring full implementation until the 2026-27 school year for the following reasons:**

- **This will allow the Department to build the needed infrastructure to administer a new policy.**
- **Provide allocation amounts to recipients sooner as they need to finalize their own budgets.**
- **Allow recipients a year to adjust to the new policy.**
- **In addition, this allows the Department time to finalize the program weighting work.**

As discussed in Funding Subcommittee meetings, it is possible that less than 100% of the Quality Incentive funding will be earned by and distributed to programs. How might any leftover dollars be utilized to help us meet our outcome goals?

**It is recommended to develop a competitive new program startup grant program, to assist with equipment and supply costs, that may be considered a one-time expense. Any left-over quality incentive funding can be used to supplement that fund.**

The Funding Policy page 2 refers to funding based on Programs Offered, but no on Program Weighting. This does not seem consistent with the most recent version of the spreadsheet (see #2 above). As we left the formula spreadsheet, we had 0% in Programs and 45% in Program Weighting.

**As of now, the policy implies a flat amount for all programs. The intent of that language is to provide more funds to cover operations of the center, based on the count of programs being offered.**

**As previously stated, it is recommended the weighting is tied to the base funding bucket and not the program access funding.**

If weighting of more expensive programs is the direction the Board wishes the policy to go in, the Department recommends the base funding is weighted. Please refer to my responses above as well as the revision in the funding policy itself

How will the department manage the balance between centers and high school as migration to centers occur?

**The shift of programs and the dollars from high schools to CTE Centers is primarily because of the advent of the new Centers and the expansion of the existing Centers. These expansions include the development of new programs and the transition of existing programs over to a Center. The management is in the process of ensuring there is a benefit to that transition. The specific benefit is access to more schools and more students. If that cannot be demonstrated, the transition is not approved.**



## School Board Agenda Coversheet

**Meeting Date:** 4/28/2025

**Information Only** ☐ **First Read** ☐ **Action Requested** ☒ **Consent** ☐

**Agenda Item Title:** North Dakota CTE Board Be Legendary Quarterly Self Evaluation 2025 Q1

**Person Submitting:** Sonia Meehl

**Title:** Board President

### Summary:

2025 Q1 Be Legendary Board Self-Evaluation

1. Framework Review of Progress
2. Q1 Time Tracker Summary
3. Self-Evaluation Form

Quarterly self-evaluations assist the board in determining their progress towards improving student outcomes in the area of Career and Technical Education

### Backup Material:

Highlighted Framework, Q1 2025 Cumulative time tracker, and self-evaluation form

### Motion (if pulled from consent agenda):

I move to approve the Be Legendary Board Self- Evaluation as scored.

***\*Agenda cover sheet and all backup materials are due three weeks before the regularly scheduled board meeting***

## QUARTERLY PROGRESS TRACKER

School Board: ND Career and Technology Education

Date: 4/28/2025

Quarter Q1 2025

Framework	Three Quarters Ago	Two Quarters Ago	One Quarter Ago	Current Quarter	Next Quarter	Total Possible Points
1. The board has adopted Student Outcome Goal.		4	12			15
2. The board has adopted student goal progress measures aligned to each student outcome goal.		4	4			15
3. The board has adopted guardrails.		5	5			15
4. The board has adopted a monitoring calendar for each student outcome goal and goal progress measure.		0	16			20
5. The board has structured operations for success.		0	1			15
6. The board promotes active teamwork and advocacy.		0	0			20
<b>TOTAL SCORE</b>	0	13	38	0	0	100

By signing below, I affirm that the Be Legendary Integrity Instrument was completed and is accurate

**Board President and Vice-President Signatures:**

%  
Student  
Outcome  
Minutes

Vote Count  
For

Vote Count  
Against

18

## EVALUATION NOTES

The Standard of evidence for items where board action is required will be the minutes of the meeting during which the Board voted to take the described action. Where an opinion of the Board is required, a resolution or vote passed by the Board will meet the standard of evidence.



TIME USE TRACKER		Career and Technology Board Time Tracker (23/24 Framework)		Q1-2025	Jan- March Cummalitive
Framework Pillars	Outcome Minutes	Adult Behavior Minutes	The board tracks its time spent during public authorized meetings		Other Topic Minutes
1. Adopting Outcome Goals	0		← Minutes setting and adopting both outcome goals and goal progress measures.		
2. Adopting Outcome Goals					
3. Adopted Guardrails			← Minutes setting and adopting director and board guardrails, and a theory of action		
4. Adopted Monitoring Calendar for Outcome Goals and Director/ Board Guardrails, and Board Self-Evaluation	41		← Minutes receiving, discussing, and voting on Outcome Goal Monitoring Reports according to the board adopted Monitoring Calendar		
		65	← Minutes receiving, discussing, and voting on Guardrail Monitoring Reports according to the board adopted Monitoring Calendar		
		0	← Minutes performing board self-evaluations using the Be Legendary School Board Leadership Framework Instrument		
5. Structuring for Success	Minutes discussing and/or taking action other agenda items (including consent agenda items and reports) →				125
6. Active Teamwork and Advocacy	0		← Minutes hosting two-way communication meetings on outcome goals, constraints, theories of action and/or progress toward outcome goals		
			← Minutes recognizing the accomplishments of students and staff regarding progress on outcome goals		
Non-calculated time	Minutes fulfilling statutorily required public hearings, forums, and comments Minutes fulfilling statutorily required or Be Legendary Governance Institutes Minutes in closed session as permitted by law				
TOTALS	41	65	231		125
Use For Outcome and Adult Behavior Minutes Percentage Calculation:					
	106	+	231	× 100 =	45.89 % Outcome and Adult Behavior Minutes
Use For Student Outcome Minutes Percentage Calculation 3. Monitoring Outcome Goals and					
	41	÷	231	× 100 =	17.75 % Outcome Minutes

Board Members Present- 6. Active Teamwork and Advocacy	Board Absent	% Attendance	Count of 'Other' Agenda Items	Goals Discussed 3. Monitoring Outcome Goals	Goals on Target	% on Target
25	2	92.59	March=4, Feb=2, Jan=3	1	0	0.00
Consent Items 5. Operations for Success	Consent Items Removed	% Remaining on Consent Agenda		GPMs Discussed 3. Monitoring Goals Progress Measures	GPMs on Target	% on Target
11	2	81.82		3	0	0.00



**North Dakota Be Legendary**

# **School Board Leadership Framework**

***Student outcomes don't change until adult behaviors change.***

# OBJECTIVE 1:

## The board has adopted student outcome goals

DOES NOT MEET	0	NOVICE	1	PARTIALLY PROFICIENT	4	PROFICIENT	12	ADVANCED	15
The board does not meet if any of the following are true:		The board is novice if the following is true:		The board is partially proficient if all prior conditions and the following are true:		The board is proficient if all prior conditions and the following are true:		The board is advanced if all prior conditions and the following are true:	
<p>The board does not meet if any of the following are true:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The board does not have a vision.</li> <li><input type="checkbox"/> The board does not have goals.</li> <li><input type="checkbox"/> The board does not consistently distinguish between inputs, outputs, and outcomes.</li> </ul>		<p>The board has:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> adopted a vision statement;</li> <li><input type="checkbox"/> owned the vision development process while working collaboratively with the superintendent;</li> <li><input type="checkbox"/> adopted three to five goals; and</li> <li><input type="checkbox"/> owned the goal development process while working collaboratively with the superintendent.</li> </ul>		<p>The board has adopted three student outcome goals aligned to North Dakota K12 Vision Aspirational Goals that include:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> a population,</li> <li><input type="checkbox"/> a baseline,</li> <li><input type="checkbox"/> a deadline target,</li> <li><input type="checkbox"/> a measurement tool,</li> <li><input type="checkbox"/> a deadline date, and</li> <li><input type="checkbox"/> annual targets.</li> </ul>		<ul style="list-style-type: none"> <li><input type="checkbox"/> All board members and the superintendent agree that the student outcome goals               <ol style="list-style-type: none"> <li>1. will challenge the organization;</li> <li>2. require adult behavior change;</li> <li>3. are influenceable by the superintendent; and</li> <li>4. are the superintendent's first priority for resource allocation.</li> </ol> </li> <li><input type="checkbox"/> The board relied on a comprehensive student needs assessment and/or student data to inform the identification and prioritization of all student outcome goals.</li> </ul>		<p>All board members and the superintendent</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> have committed the vision and student outcome goals to memory;</li> <li><input type="checkbox"/> know the current status of each student outcome goal; and</li> <li><input type="checkbox"/> agree there is broad community ownership of the board's vision and student outcome goals through involvement and communication with students, staff, and community members.</li> </ul>	

## OBJECTIVE 2:

# The board has adopted goal progress measures aligned to each student outcome goal

DOES NOT MEET	0	NOVICE	1	PARTIALLY PROFICIENT	4	PROFICIENT	12	ADVANCED	15
The board does not meet if any of the following are true:		The board is novice if the following is true:		The board is partially proficient if all prior conditions and the following are true:		The board is proficient if all prior conditions and the following are true:		The board is advanced if all prior conditions and the following are true:	
<input type="checkbox"/> The board does not have goal progress measures.  <input type="checkbox"/> The board is treating the annual targets for student outcome goals as if they are goal progress measures.		<input type="checkbox"/> The board has adopted goal progress measures for each student outcome goal.  <input type="checkbox"/> The superintendent owned the goal progress measures development process while working collaboratively with the board.  <input type="checkbox"/> The status of each adopted goal progress measure is able to be updated multiple times during each school year.		<input type="checkbox"/> The board has adopted no more than four goal progress measures for each student outcome goal.  <input type="checkbox"/> All goal progress measures are student outputs, not adult inputs or outputs, or other outcomes that include <ol style="list-style-type: none"> <li>1. a population,</li> <li>2. a baseline,</li> <li>3. a deadline target,</li> <li>4. a measurement tool,</li> <li>5. a deadline date, and</li> <li>6. annual targets.</li> </ol>		All board members and the superintendent agree that the goal progress measures. <input type="checkbox"/> will challenge the organization; <input type="checkbox"/> require adult behavior change; <input type="checkbox"/> are influenceable by the superintendent; and <input type="checkbox"/> are all predictive of their respective student outcome goals.		All board members and the superintendent agree there is board community ownership of the goal progress measures through involvement and communication with students, staff and community members.	

## OBJECTIVE 3:

# The board has adopted guardrails

DOES NOT MEET	0	NOVICE	2	PARTIALLY PROFICIENT	5	PROFICIENT	13	ADVANCED	15
The board does not meet if any of the following are true:		The board is novice if the following is true:		The board is partially proficient if all prior conditions and the following are true:		The board is proficient if all prior conditions and the following are true:		The board is advanced if all prior conditions and the following are true:	
<input type="checkbox"/> The board does not have guardrails. <input type="checkbox"/> The board does not have superintendent guardrail progress measures.		The board has <ul style="list-style-type: none"> <li><input type="checkbox"/> adopted 1 to 5 superintendent guardrails;</li> <li><input type="checkbox"/> owned the superintendent guardrails development process while working collaboratively with the superintendent; and</li> <li><input type="checkbox"/> adopted superintendent guardrail progress measures for each superintendent guardrail.</li> <li><input type="checkbox"/> The superintendent owned the guardrail progress measures development process while working collaboratively with the board.</li> <li><input type="checkbox"/> The status of each adopted superintendent guardrail progress measure is able to be updated multiple times during each school year.</li> </ul>		The board is partially proficient if all prior conditions and the following are true: <ul style="list-style-type: none"> <li><input type="checkbox"/> Each superintendent guardrail describes a single operational action or class of actions the superintendent may not use or allow.</li> <li><input type="checkbox"/> The board has adopted no more than three superintendent guardrail progress measures for each superintendent guardrail.</li> <li><input type="checkbox"/> All superintendent guardrail progress measures include:               <ol style="list-style-type: none"> <li>1. a population,</li> <li>2. a baseline,</li> <li>3. a deadline target,</li> <li>4. a measurement tool,</li> <li>5. a deadline date, and</li> <li>6. annual targets.</li> </ol> </li> </ul>		The board is proficient if all prior conditions and the following are true: <ul style="list-style-type: none"> <li><input type="checkbox"/> The board has adopted one to five board self-guardrails.</li> <li><input type="checkbox"/> The board, where appropriate, relied on comprehensive student needs assessment and/or student data to inform the identification and prioritization of superintendent guardrails.</li> <li><input type="checkbox"/> All board members and the superintendent agree that the superintendent guardrails will challenge the organization to focus on the vision and uphold community values.</li> <li><input type="checkbox"/> All board members and the superintendent agree that the superintendent guardrail progress measures               <ol style="list-style-type: none"> <li>1. will challenge the organization to focus on the student outcomes;</li> <li>2. will challenge the organization to uphold community values;</li> <li>3. are all predictive of their respective superintendent guardrail; and</li> <li>4. are influenceable by the superintendent.</li> </ol> </li> </ul>		The board is advanced if all prior conditions and the following are true: <ul style="list-style-type: none"> <li><input type="checkbox"/> The board, in collaboration with the superintendent, has adopted one or more theories of action to drive overall strategic direction.</li> <li><input type="checkbox"/> All board members and the superintendent agree there is broad community ownership of the superintendent guardrails through involvement and communication with students, staff, and community members.</li> <li><input type="checkbox"/> All board members and the superintendent agree there is board community ownership of the superintendent guardrail progress measures through involvement and communication with students, staff, and community members.</li> </ul>	



**OBJECTIVE 4:****The board has adopted a monitoring calendar for student outcome goals and student outcome goal progress measures**

DOES NOT MEET	0	NOVICE	2	PARTIALLY PROFICIENT	6	PROFICIENT	16	ADVANCED	20
The board does not meet if any of the following are true:	The board is novice if the following is true:	The board is partially proficient if all prior conditions and the following are true:	The board is proficient if all prior conditions and the following are true:	The board is advanced if all prior conditions and the following are true:					
<ul style="list-style-type: none"><li>Any board member does not know if the school system is in low performing status and for how long.</li><li>Any board member does not know if any campus is in low performing status and for how long.</li><li>The board does not have student outcome goals, goal progress measures, superintendent guardrails, superintendent guardrail progress measures, or annual targets.</li><li>The board does not track its use of time in board meetings.</li><li>The board does not have a monitoring calendar.</li><li>The board has not voted to approve a self-evaluation within the past 12 months.</li></ul>	<ul style="list-style-type: none"><li>The superintendent owned the monitoring calendar development, working with the board to adopt a calendar that monitors<ol style="list-style-type: none"><li>Each student outcome goal at least four times per year;</li><li>No more than two student outcome goals per month;</li><li>Each superintendent guardrail at least once per year.</li></ol></li><li>The calendar spans the length of student outcome goals.</li><li>The board tracks its time in meetings, identifying each minute according to the time use tracker.</li></ul> <p>The Board:</p> <ul style="list-style-type: none"><li>performed a self-evaluation within the previous 12 months using a research aligned instrument;</li><li>performed a superintendent annual evaluation no more than 12 months ago;</li><li>been provided copies of the superintendent's implementation plan(s) to make progress towards the student outcome goals; and</li><li>not voted to approve the superintendent's implementation plan unless required by law.</li></ul>	<p>10% or more of the total quarterly minutes in board meetings were invested in improving student outcomes according to the time use tracker.</p> <p>The Board</p> <ul style="list-style-type: none"><li>performs self-evaluations using the North Dakota Be Legendary School Board Leadership Framework;</li><li>performed a self-evaluation no more than 45 days prior to the most recent superintendent's evaluation; and</li><li>evaluates the superintendent in part on the results and progress toward the student outcome goals and superintendent guardrails using information within monitoring reports according to the monitoring calendar.</li></ul>	<p>25% or more of the total quarterly minutes in board meetings were invested in improving student outcomes according to the time use tracker.</p> <ul style="list-style-type: none"><li>One quarter ago the board:<ol style="list-style-type: none"><li>performed a self-evaluation using the North Dakota Be Legendary School Board Leadership Framework; and</li><li>voted to approve the quarterly progress tracker.</li></ol></li></ul>	<p>50% or more of the total quarterly minutes in board meetings were invested in improving student outcomes according to the time use tracker.</p> <p>The board:</p> <ul style="list-style-type: none"><li>unanimously approved the current quarterly progress tracker;</li><li>has not modified outcome goals, goal progress measures, superintendent guardrails, superintendent guardrail progress measures or targets during the cycle applicable to the annual superintendent evaluation; and</li><li>considers superintendent performance as indistinguishable from system performance by evaluating the superintendent on only results and progress toward student outcome goals and superintendent guardrails using information in monitoring reports according to the monitoring calendar.</li></ul>					

## OBJECTIVE 5:

# The board has structured operations for success

DOES NOT MEET	0	NOVICE	1	PARTIALLY PROFICIENT	4	PROFICIENT	12	ADVANCED	15
The board does not meet if any of the following are true:		The board is novice if the following is true:		The board is partially proficient if all prior conditions and the following are true:		The board is proficient if all prior conditions and the following are true:		The board is advanced if all prior conditions and the following are true:	
<ul style="list-style-type: none"> <li><input type="checkbox"/> The board has not received a monitoring report.</li> <li><input type="checkbox"/> There were six or more board meetings in a month (unless a state of emergency was declared).</li> <li><input type="checkbox"/> Any meeting of the board lasted longer than eight hours.</li> <li><input type="checkbox"/> Board members did not receive the final version of materials to be voted on at least three calendar days in advance of the board meeting.</li> </ul>		<p>The board receives a monitoring report that includes:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> the student outcome goal and goal progress measures;</li> <li><input type="checkbox"/> date;</li> <li><input type="checkbox"/> actual student results compared to school board outcome goals and goal progress measures;</li> <li><input type="checkbox"/> an explanation from the Superintendent of the results, status, and next steps.</li> </ul>		<ul style="list-style-type: none"> <li><input type="checkbox"/> All consent-eligible items were placed on the consent agenda and more than 75% of the items were voted on using a consent agenda.</li> <li><input type="checkbox"/> The adopted monitoring calendar has not been modified during the past quarter.</li> </ul>		<ul style="list-style-type: none"> <li><input type="checkbox"/> Board members in the last quarter did not exceed               <ol style="list-style-type: none"> <li>1. an average of four meetings per month;</li> <li>2. an average of three hours per meeting; and</li> <li>3. an average of five topics per meeting beyond the consent agenda.</li> </ol> </li> <li><input type="checkbox"/> Board has               <ol style="list-style-type: none"> <li>1. reviewed its existing policies; and</li> <li>2. only adopted policies relevant to board responsibilities.</li> </ol> </li> </ul>		<ul style="list-style-type: none"> <li><input type="checkbox"/> Board meetings in the last quarter did not exceed               <ol style="list-style-type: none"> <li>1. an average of three meetings per month;</li> <li>2. an average of two hours per meeting; and</li> <li>3. an average of three topics per meeting beyond the consent agenda.</li> </ol> </li> <li><input type="checkbox"/> Board members received the final materials to be voted on at least seven calendar days before the meeting.</li> <li><input type="checkbox"/> No edits to the board's regularly scheduled meeting agenda in the three days prior to, or during, the meeting (unless a state of emergency was declared).</li> </ul>	

## OBJECTIVE 6: The board promotes active teamwork and advocacy

DOES NOT MEET	0	NOVICE	2	PARTIALLY PROFICIENT	6	PROFICIENT	18	ADVANCED	20
The board does not meet if any of the following are true:		The board is novice if the following is true:		The board is partially proficient if all prior conditions and the following are true:		The board is proficient if all prior conditions and the following are true:		The board is advanced if all prior conditions and the following are true:	
<ul style="list-style-type: none"><li><input type="checkbox"/> The board has not publicly communicated the board adopted student outcome goals.</li><li><input type="checkbox"/> The board has not arranged for any community engagement activities during the previous 12-month period beyond public comments during board meetings and/or required hearings.</li><li><input type="checkbox"/> The board has not adopted board operating procedures.</li><li><input type="checkbox"/> The board does not have a policy that contains a template of ethics and conflicts of interest statement.</li><li><input type="checkbox"/> The board has not been able to achieve a quorum in two or more board meetings during the previous three months.</li><li><input type="checkbox"/> Board members serve on committees formed by the superintendent or staff.</li><li><input type="checkbox"/> A board member voted on an item for which they had a conflict of interest, as defined by law, during the previous three months.</li></ul>	<p>The board has a two-way communication system in place where the board members at least once per year</p> <ul style="list-style-type: none"><li><input type="checkbox"/> listen for and discuss the student outcomes; and</li><li><input type="checkbox"/> superintendent guardrails.</li></ul> <p>The board</p> <ul style="list-style-type: none"><li><input type="checkbox"/> affirms that at least every two years, it has reviewed all policies governing board operating procedures;</li><li><input type="checkbox"/> affirms that all members have signed the ethics and conflict of interest statement in the past 12 months;</li><li><input type="checkbox"/> agrees that a board committees' role is to advise the board, not to advise the staff;</li><li><input type="checkbox"/> agrees that a board officers' role is to advise the board, not to advise the staff; and</li><li><input type="checkbox"/> maintained a quorum throughout all regularly scheduled meetings for the past three months.</li></ul>	<p>The board has</p> <ul style="list-style-type: none"><li><input type="checkbox"/> provided time during regular scheduled board meetings to recognize the accomplishments of its students and staff regarding progress on student outcome goals; and</li><li><input type="checkbox"/> hosted a community meeting to discuss progress toward student outcome goals during the previous 12-month period.</li></ul> <p>The board</p> <ul style="list-style-type: none"><li><input type="checkbox"/> agrees that every member is responsible for the outcomes of all students, not just students in the region of the school system;</li><li><input type="checkbox"/> maintained an average attendance of 70% or higher throughout all regularly scheduled board meetings over the previous three months; and</li><li><input type="checkbox"/> has set the expectation that information provided to one board member is provided to all board members.</li></ul>	<p>The board</p> <ul style="list-style-type: none"><li><input type="checkbox"/> displays and keeps updated the status and targets of all student outcome goals and goal progress measures permanently and publicly on websites and at all buildings; and</li><li><input type="checkbox"/> has led or co-led at least one training on the North Dakota Be Legendary School Board Leadership for its stakeholders during the previous six-month period.</li></ul> <p>The board</p> <ul style="list-style-type: none"><li><input type="checkbox"/> maintained an average attendance of 80% or higher throughout all regularly scheduled board meetings over the previous three months;</li><li><input type="checkbox"/> agrees that all members have adhered to all policies governing board operating procedures;</li><li><input type="checkbox"/> agrees that every member has completed all statutorily required trainings; and</li><li><input type="checkbox"/> rather than the superintendent, led the completion of North Dakota Be Legendary School Board Leadership expectations.</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Students have been included in at least one North Dakota Be Legendary School Board Leadership training in the previous 12-month period.</li><li><input type="checkbox"/> Newly selected board members have received an orientation on the North Dakota Be Legendary School Board Leadership by fellow board members or a coach prior to being seated.</li></ul> <p>All board members and the superintendent</p> <ul style="list-style-type: none"><li><input type="checkbox"/> have completed the North Dakota Be Legendary School Board Leadership Institute;</li><li><input type="checkbox"/> agree that all board members have adhered to all adopted board guardrails during the previous three months; and</li><li><input type="checkbox"/> agree that no board member has given operational advice or instructions to staff members during the previous three months.</li></ul>					



**Minutes for State Board for Career and Technical Education  
March 24, 2025**

**Call to Order:**

The regular meeting of the State Board for Career and Technical Education was held on Monday, March 24, 2025, via Microsoft Teams. It was called to order by Chair Sonia Meehl at 1:00 pm CT.

Roll call was conducted and voting members present include:

Board Member Levi Bachmeier  
Superintendent Kirsten Baesler  
Board Member Pat Bertagnolli  
Board Member Lyndsi Engstrom  
Ms. Claire Gunwall proxy for Chancellor Mark Hagerott  
Vice-Chair Mike McHugh  
Board Member Eric Nelson  
Board Member Jason Rohr

Also present: Wayde Sick, Mark Wagner, Gwen Ferderer, Marcia McMahon, Pam Stroklund, Daniel Spellerberg, Lyle Krueger, Ronda Schauer, Randal Brockman, Eric Ripley, Nick Klemisch, Kenzie Brown, Susan McNeil, Derrick Bopp, Michael Netzloff, Dawn Ulmer and Lorie Ruff.

Meeting chat information for this meeting does not exist.

**Board Outcome Progress Monitoring:**

Wayde Sick provided update on Director Guardrail 2, The Director will not allow the Department to operate without systems to ensure high quality instructors. The number of CTE educators that attend professional development provided by the agency currently is targeted at 1,200. As of March 18, 2025, our numbers are 1,061 but we have three months left in this year with several workshops and trainings still to occur. Director Sick anticipates that we will surpass our goal target. Our next step to ensure continued increase will be to have agency staff review this Guardrail and Progress Measure and determine what professional development opportunities are necessary to meet our educator's needs and set a plan of action.

Eric Nelson moved to accept the Director's Board Outcome Progress Monitoring Report for Director Guardrail 2 and it was seconded by Jason Rohr. The motion passed unanimously.

**Consent Agenda:**

Levi Bachmeier moved to approve and accept the items listed on the consent agenda and it was seconded by Mike McHugh. The motion passed unanimously.

**Discussion and Possible Action:**

Chair Meehl reported there being no items for discussion and possible action.

**Information Only:**

Chair Meehl referenced the items included in the material packet that was information only: Funding Subcommittee Progress Report, February Time Tracking Report and Strategic Questioning Strategies.

**Board Comments:**

Eric Nelson informed members that the new Williston Basin CTE Center had their open house a couple months ago. He told of an EMS student success story and how great it is to hear these achievements from all over the state.

Chair Meehl reported that she recently toured the Minot Area Workforce Academy and encouraged any Board Member to seize the chance if visit opportunities arise to any of the CTE Centers.

Wayde Sick reported he was informed that Governor Armstrong enjoyed CTE in Memorial Hall and has recently attended a CTSO event. We are getting exposure with our new administration which is exciting.

Sonia Meehl and Wayde Sick informed members that Mr. Mark Wagner has announced his retirement from the agency. They thanked him for his years of service and wished him well on his next endeavors.

The next meeting is scheduled for April 28.

There being no other business brought before the Board, the meeting adjourned at 1:26 pm.

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Sonia Meehl  
SBCTE Chairperson

**DEPARTMENT OF CAREER AND TECHNICAL EDUCATION**  
**APPROPRIATION STATUS REPORT**  
**FOR THE MONTH ENDED MARCH 31, 2025**

	ORIGINAL APPROPRIATION	CURRENT APPROPRIATION	BIENNIUM TO DATE EXPENSE	%	BALANCE OF APPROPRIATION
<b>EXPENDITURES BY LINE ITEM</b>					
SALARIES AND WAGES	\$4,984,211.00	\$5,406,928.00	\$4,237,920.59	78%	\$1,169,007.41
OPERATING EXPENSES	\$3,046,350.00	\$3,046,350.00	\$2,000,335.45	66%	\$1,046,014.55
GRANTS	\$12,007,349.00	\$12,007,349.00	\$5,528,295.27	46%	\$6,479,053.73
GRANTS - SECONDARY	\$41,537,780.00	\$41,537,780.00	\$29,788,421.63	72%	\$11,749,358.37
GRANTS - STEM	\$100,000.00	\$100,000.00	\$53,785.58	54%	\$46,214.42
CRF-INITIATIVE GRANT PROGRAM	\$97,276,228.00	\$157,167,541.85	\$89,983,563.07	57%	\$67,183,978.78
ADULT FARM MANAGEMENT	\$1,706,138.00	\$1,706,138.00	\$485,071.01	28%	\$1,221,066.99
WORKFORCE TRAINING	\$2,987,500.00	\$2,986,419.68	\$2,973,919.68	100%	\$12,500.00
MARKETPLACE FOR KIDS	\$300,000.00	\$300,000.00	\$238,364.08	79%	\$61,635.92
<b>TOTAL EXPENDITURES</b>	<b>\$163,945,556.00</b>	<b>\$224,258,506.53</b>	<b>\$135,289,676.36</b>	<b>60%</b>	<b>\$88,968,830.17</b>
<b>EXPENDITURES BY SOURCE</b>					
GENERAL FUND EXPENDITURES	\$53,200,708.00	\$53,532,351.34	\$37,604,505.95	70%	\$15,927,845.39
FEDERAL FUND EXPENDITURES	\$110,589,874.00	\$143,558,681.19	\$74,071,114.41	52%	\$69,487,566.78
SPECIAL FUND EXPENDITURES	\$154,974.00	\$27,167,474.00	\$23,614,056.00	87%	\$3,553,418.00
<b>TOTAL EXPENDITURES</b>	<b>\$163,945,556.00</b>	<b>\$224,258,506.53</b>	<b>\$135,289,676.36</b>	<b>60%</b>	<b>\$88,968,830.17</b>

# DEPARTMENT OF CAREER AND TECHNICAL EDUCATION

## CTE ADMINISTRATIVE BUDGET

2023 - 2025 Biennium

Mar-25	23 - 25 BUDGET	CURRENT MONTH EXPENDITURES	YEAR TO DATE EXPENDITURES	BALANCE OF BUDGET	PERCENT OF BUDGET EXPENDED	PERCENT OF TIME ELAPSED
<b>SALARIES</b>	\$5,406,928.00	\$221,458.48	\$4,237,920.59	\$1,169,007.41	78.38%	87.50%
<b>OPERATING EXPENSES</b>	\$3,046,350.00	\$31,773.52	\$2,000,333.45	\$1,046,016.55	65.66%	87.50%
TRAVEL	\$380,000.00	\$7,238.94	\$260,555.94	\$119,444.06	68.57%	87.50%
DUES & PROFESSIONAL DEVELOPMENT	\$400,000.00	\$2,648.00	\$95,687.17	\$304,312.83	23.92%	87.50%
PROFESSIONAL SERVICES	\$361,350.00	\$0.00	\$53,692.96	\$307,657.04	14.86%	87.50%
RENT/LEASES/UTILITIES/REPAIRS	\$210,000.00	\$765.00	\$164,378.80	\$45,621.20	78.28%	87.50%
POSTAGE	\$25,000.00	\$199.80	\$4,490.74	\$20,509.26	17.96%	87.50%
OPERATING FEES	\$75,000.00	\$976.38	\$27,147.43	\$47,852.57	36.20%	87.50%
SUPPLIES	\$1,200,000.00	\$9,677.39	\$1,205,591.95	(\$5,591.95)	100.47%	87.50%
PRINTING & PAPER	\$100,000.00	\$2,964.04	\$32,448.84	\$67,551.16	32.45%	87.50%
TELEPHONE	\$20,000.00	\$692.30	\$13,103.97	\$6,896.03	65.52%	87.50%
ITD	\$200,000.00	\$6,611.67	\$140,450.17	\$59,549.83	70.23%	87.50%
FURNITURE & EQUIPMENT	\$75,000.00	\$0.00	\$2,785.48	\$72,214.52	3.71%	87.50%
<b>TOTAL</b>	<b>\$8,453,278.00</b>	<b>\$253,232.00</b>	<b>\$6,238,254.04</b>	<b>\$2,215,023.96</b>	<b>73.80%</b>	<b>87.50%</b>

SmartSheet Subscription \$7,461

## **CTE State Director's Report April 2025**

### **Goal Progress**

- 1) Develop an equitable and effective Career and Technical Education funding model that would incentivize access to quality Career and Technical Education programs.

A draft policy continues to be worked on by the Board Funding Subcommittee. A draft policy, policy appendix and recommendation is in the Board meeting packet.

- 2) Review and edit the Department's Mission, Vision, and Strategic Plan. Procure an outside organization as needed.

This work continues, under the guidance of Elliot and McMahon. October's training session was the conclusion of the formal training from E&M. The remainder of the assistance from E&M will include coaching for the Director and the various subcommittees.

- 3) Develop a common virtual Career and Technical Education course catalog. This would include the review of course alignment with standards and explore the option of adding virtual CTE course codes. How a theory course aligns with the coordinated plans of study and scholarship eligibility will need to be studied as well.

This continues to be a discussion with the Funding subcommittee, to determine how to best fund and deliver virtual career and technical education statewide.

### **General Updates**

#### **Executive Officer for State Board for CTE**

The draft funding policy is included in the Board packet for review and possible action.

The teacher certification policy is included in the Board packet for final review and approval.

The Department continues to navigate the potential upcoming move of the Department. We are working with OMB, the Legislator and Legislative Counsel, to determine a plan moving forward.

#### **Interpret and Implement Board Policy and State and Federal Law**

The Department is currently reviewing its state plan, targets and budget, to ensure it complies for resubmission in May 2025. No changes were made to the plan, as it was written to use Board policy and Department procedures to complete its work.

#### **Planning and Coordination**

The Department is attempting to schedule an in person CTE Directors meeting for the month of June.

Department staff are attending NDUS Academic Discipline Group meetings, to not only learn more of what is happening in Higher Education but help bridge the gap between secondary and postsecondary programs.

The Department has accelerated its work on aligning North Dakota career and technical education coordinated plans of study with the Modernized Career Clusters Framework.

#### **Fiscal Management**

The Department is on pace to finish the biennium within budget.

#### **Advocate for Career and Technical Education**

The focus of this area is working with the Legislative Assembly.

## Legislative Update

The Department is currently tracking 149 bills, with various levels of engagement. I am not including any Department Appropriations bills, as we are tracking a number of those as well. I have also removed any bills that have failed and are no longer under consideration.

Below are the bills the Department are most interested in:

HB1098 – This bill would allow for students taking the General Education teacher pathway to be eligible for the State Scholarship. This has passed and signed by the Governor.

HB1126 – This bill would allow students, the age of 16, to be trained as cosmetologists. It would require them to be in a registered apprenticeship program to do so. This has passed both the House and Senate and has been returned to the house for concurrence or Conference Committee

HB1188 – This bill would provide flexibility to local CTE Center Boards, on how they assess their member schools. This has passed and has been signed by the Governor.

HB1214 – This bill, among other things, codifies that transportation will be reimbursed by DPI to CTE Centers and other school districts, to enroll in CTE Courses. This is to be included in the per pupil payment. This has passed the Senate and has been returned to the House for concurrence or Conference Committee.

HB1404 – This bill adds a military pathway as an avenue of earning the State Scholarship. This has passed both the House and Senate and has been sent to the Governor for signature.

HB1498 – This bill would allow a local school board the ability provide sign on bonuses to new teachers. The Department was able to amend this bill to also give a Center Board the same ability. This has been returned to the House for concurrence or Conference Committee.

SB2019 – ND CTE Appropriations bill. This has passed the House amended as follows. A Conference Committee is expected.

- Adding dollars back in for salaries, specific to the FTE Funding and Vacancy Pool. Employee pay increases are currently set at an average of a 3% increase for each year of the biennium.
- Accept the \$4M Cost to Continue request
- Includes an \$8M increase for New and Expanding Programs. The initial request was \$22M
- Accept the \$2.5M in Perkins spending authority
- Includes \$100,000 for Market Place for Kids. The initial request was \$150,000
- Includes \$750,000 for TrainND. The initial request was \$1.6M
- Includes \$1,000,000 for Virtual Reality Career Exploration. The initial request was \$2,000,000
- Includes \$750,000 increase for Work-Based Learning Grants. The initial request for \$1.5M.
- Increases not included are as follows:
  - o STEM Network - \$250,000
  - o CTE Educator Recruitment - \$650,000
  - o Apprenticeship FTEs - \$600,000
  - o Capital Projects - \$56M
- The House also amended 2019 to include the following policy changes, at the request of the Department:
  - o Remove Senate language that required the Department to allocate \$500,000 of TrainND funds based on 2023-25 FTE counts.
  - o Provided carry over authority for any unspent CTE Capital Projects Grants. This allows projects that will not be complete by June 2025, to still draw dollars from the Department.
- Finally, \$150,000 was added to the budget to account for moving expenses.

SB2147 – This bill makes amendments, primarily clean up language, to several of the state scholarships, including the State Scholarship and Career Builders. This has been returned to the Senate and a Conference Committee has been assigned.

SB2234 – This bill creates and funds the Choice Ready grant through DPI. This has been returned to the Senate, after the House removed the appropriation. It would require DPI to find dollars in its budget, if it wishes to issue Choice Ready grants.

SB2274 – This bill moves the Farm Management Education Program from NDCTE to the Department of Agriculture. This has been signed by the Governor.

SB2308 – This is a bill that will study the multiple Boards and Commissions and dissolve others. This would dissolve the SLDS Committee, and an amendment was introduced to place the authority of SLDS under the NDIT, which I feel is appropriate. A conference committee has been assigned.

The Legislative Calendar for the remainder of the session is listed below:

April 30<sup>th</sup> – The Legislative Assembly's goal to adjourn sine die.

May 9<sup>th</sup> – 80<sup>th</sup> Day

## North Dakota Information Technology Education Standards

Department of Career and Technical Education staff has reviewed and updated the North Dakota Information Technology Education Standards. These Standards were reviewed by the North Dakota Information Technology Education Instructors.

I recommend approval of the ND Information Technology Education Standards as presented.



# **North Dakota Information Technology Education**

## **Content Standards**



**North Dakota Department of Career and Technical Education**

**Wayde Sick, State Director and Executive Officer**

**600 E Boulevard Avenue, Dept. 270**

**Bismarck, North Dakota 58505-0610**

## **North Dakota Technical Education Team and Standards Process**

**This set of standards was reviewed by the North Dakota state IT teachers, with special thanks to:**  
Ullrich Reichenbach II, Fargo Schools

**Questions regarding these standards can be directed to:**

Michael Netzloff  
Standards and Curriculum Specialist  
ND Department of Career and Technical Education  
600 E. Boulevard Avenue, Department 270  
Bismarck, ND 58505-0610  
(701) 328-3187  
[mnetzloff@nd.gov](mailto:mnetzloff@nd.gov)

Adapted from Common Career and Technical Core, Career Cluster™, Information Technology 2012, careertech.org.

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It is the policy of the North Dakota State Board for Career and Technical Education not to discriminate in its educational programs, activities, or employment policies as required by Final Regulation implementing Title IX of the 1972 Education Amendments, Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973.

The Board policy does not advocate, permit, nor practice discrimination on the basis of sex, race, color, national origin, religion, age, or disability as required by various state and federal laws. Equal education opportunity is a priority of the North Dakota State Board for Career and Technical Education.

## **North Dakota State Board for Career and Technical Education Board Members**

### **Chair**

Sonia Meehl  
Oakes Public Schools  
Oakes, ND

Levi Bachmeier  
West Fargo Public School  
West Fargo, ND

Patrick Bertagnolli  
Job Service North Dakota  
Bismarck, ND

Dr. Mark Hagerott  
North Dakota University System  
Bismarck, ND

Jason Rohr  
Jamestown School District  
Jamestown, ND

### **Vice Chair**

Mike McHugh  
ND Aeronautics Commission  
Mandan, ND

Kirsten Baesler  
Department of Public Instruction  
Bismarck, ND

Lyndsi Engstrom  
Westhope Public Schools  
Westhope, ND

Eric Nelson  
Creedence Energy Services, LLC  
Williston, ND

# **Career and Technical Education Standards Introduction**

## **Mission**

The mission of the State Board for Career and Technical Education (CTE) is to work with others to provide all North Dakota citizens with the technical skills, knowledge, and attitudes necessary for successful performance in a globally competitive workplace.

## **Vision**

The State Board for Career and Technical Education (CTE) is committed to providing career awareness, work readiness skills, occupational preparation, and retraining of workers throughout the state. Career and technical education will span all educational levels, providing youth with exploration opportunities and the foundation skills needed to enter the world of work while providing adults with skills needed to enter, re-enter, or advance in the workforce.

## **Goal**

North Dakota Career and Technical Education's goal is to create a competitive and knowledgeable work force. This is accomplished through a variety of educational program areas that are organized to prepare students for careers in their chosen fields, to take leadership roles, and balance their multiple roles in life. CTE programs prepare students with the knowledge and skills to make informed career choices, to integrate and apply academic concepts, to prepare for successful participation in a global society, and to engage in lifelong learning.

## **Standards Development Process**

Standards development is a multi-phase process. Existing and/or industry standards are the basis for the North Dakota Program Standards. A team of expert secondary and postsecondary teachers, business and industry representatives, and the state program supervisor draft the standards document. Once the document is finalized, the State Board for Career and Technical Education approves and adopts the standards.

Course Frameworks are also developed by the writing team. A framework includes a brief overview of the course content, topical units of study, and identifies the standards recommended for inclusion within the course. The frameworks are tailored to prepare young people for the opportunities in North Dakota. School Districts will use the frameworks as a guide for developing curriculum that reflects local needs.

# Key Principles of Career and Technical Education

## We believe that Career Technical Education:

**1. Draws its curricula, standards, and organizing principles from the workplace.**

The workplace provides the context, objectives, and organizing constructs for instruction and assessment. The workplace also defines the standards of performance necessary, including those required for academic, technical, and employability skills.

**2. Is a critical and integral component of the total educational system, offering career-oriented benefits for all students.**

CTE classes offer educational benefits to students pursuing careers requiring specific technical skills as well as providing a strong foundation for those pursuing a traditional four-year (or more) degree.

**3. Is a critical and integral component of the workforce development system, providing the essential foundation for a thriving economy.**

Preparation of a well-prepared, qualified workforce requires solid academics, good work ethics, and specific technical skills as well as the ability to communicate, work with others, solve problems, and use information. CTE contributes directly to this preparation by providing a curriculum tied to specific workplace requirements.

**4. Maintains high levels of excellence supported through identification of academic and workplace standards, measurement of performance (accountability), and high expectations for participant success.**

Career Technical Education is committed to continuous improvement, attention to industry certification, and the development of highly qualified teachers.

**5. Is robust and flexible enough to respond to the needs of the multiple educational environments, customers, and levels of specialization.**

CTE involves a large and complex delivery system that (1) integrates career exploration, (2) provides effective tools for organizing all curricula, (3) facilitates the teaching and use of technology, (4) is integrated into the total learning experience, (5) enhances the learning of academic subjects, (6) teaches broad occupational skills, (7) includes all aspects of the industry, (8) teaches how to balance family and work responsibilities, (9) provides job-specific training, (10) is offered at multiple levels of the educational continuum, and (11) is delivered through a variety of educational environments.

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<b>Standard 1</b>	<b><i>INFORMATION TECHNOLOGY BASICS</i></b>	
<b>Topic 1.1</b>	<b>Summarize the process of IT product/service design.</b>	
	<b>Student Competencies</b>	
	1.1.1	Test products for reliability.
	1.1.2	Initiate predictive maintenance procedures.
	1.1.3	Demonstrate knowledge of the hardware components associated with information systems.
	1.1.4	Compare key functions and applications of software and determine maintenance strategies for computer systems.
<b>Topic 1.2</b>	<b>Identify and implement new products/services and new IT technologies.</b>	
	<b>Student Competencies</b>	
	1.2.1	Identify new technologies relevant to information technology.
	1.2.2	Plan for, create, and test new products/services for reliability.
	1.2.3	Maintain the reliability of new products/services.
	1.2.4	Assess the importance of new technologies to future developments and to future knowledge worker productivity.
	1.2.5	Identify new and emerging drivers and inhibitors of information technology change.
	1.2.6	Assess the potential importance and impact of new IT technologies in the future.
<b>Topic 1.3</b>	<b>Explain legal issues faced by IT professionals.</b>	
	<b>Student Competencies</b>	
	1.3.1	Demonstrate knowledge of the legal issues that face IT professionals.
	1.3.2	Identify issues and trends affecting computers and information privacy.
	1.3.3	Explain legal issues involved in a company security policy.
	1.3.4	Identify legal issues involved concerning a security breach.
	1.3.5	Summarize the rights and responsibilities of IT workers.
	1.3.6	Identify ethical issues common to the IT field.
<b>Topic 1.4</b>	<b>Demonstrate understanding of the impact of IT on businesses.</b>	
	<b>Student Competencies</b>	
	1.4.1	Demonstrate knowledge of how both PCs and larger computer systems impact people and are used in business/industry/government and other institutions.
	1.4.2	Demonstrate knowledge of the impact of computers on career pathways in business/industry (e.g., how computers have eliminated and created jobs).
	1.4.3	Demonstrate knowledge of the impact of computers on access to information and information exchange worldwide.
	1.4.4	Demonstrate knowledge of ethical issues that have surfaced in the information age.

<b>Topic 1.5</b>	<b>Explain the need for regular backup procedures and how to configure, perform, and maintain backup procedures.</b>	
	<b>Student Competencies</b>	
	1.5.1	Recognize the need for regular backup procedures.
	1.5.2	Load backup software.
	1.5.3	Load compression drive backup software.
	1.5.4	Install surge suppression protection.
	1.5.5	Identify battery backup equipment.
	1.5.6	Identify hot and warm site backup concepts.
<b>Topic 1.6</b>	<b>Assess security threats.</b>	
	<b>Student Competencies</b>	
	1.6.1	Describe potential security threats to information systems
	1.6.2	Identify the range of security needs and the problems that can occur due to security lapses.
	1.6.3	Maximize threat reduction.
	1.6.4	Assess exposure to security issues.
	1.6.5	Ensure compliance with security rules, regulations, and codes.
	1.6.6	Demonstrate knowledge of virus protection strategy.
	1.6.7	Implement security procedures in accordance with business ethics.
	1.6.8	Develop plans to address secure threats.
	1.6.9	Document security procedures.
<b>Topic 1.7</b>	<b>Implement plans to address security procedures.</b>	
	<b>Student Competencies</b>	
	1.7.1	Maintain confidentiality.
	1.7.2	Load virus detection and protection software.
	1.7.3	Identify sources of virus infections.
	1.7.4	Report viruses in compliance with company standards.
	1.7.5	Implement backup and recovery procedures.
	1.7.6	Follow disaster plan.
	1.7.7	Provide for user authentication and restricted access (e.g., assign passwords, access level).
<b>Topic 1.8</b>	<b>Summarize the elements of a quality management system.</b>	
	<b>Student Competencies</b>	
	1.8.1	Demonstrate knowledge of the control devices used in functional areas (e.g., SPC, equipment).
	1.8.2	Demonstrate knowledge of the relationship among organizational structures, policies, procedures, and quality assurance.
	1.8.3	Identify internal and external customers.
	1.8.4	Differentiate between prevention and detection.
	1.8.5	Differentiate between variable and attribute data.



	1.8.6	Identify types of control charts.
	1.8.7	Demonstrate knowledge of how statistical techniques are used to control quality (e.g., SPC, DOE, CR).
<b>Topic 1.9</b>	<b>Describe the role of and demonstrate the effective use of computer forensic investigation.</b>	
	<b>Student Competencies</b>	
	1.9.1	Define computer forensics.
	1.9.2	List some of the basic skills and knowledge a computer forensics specialist should possess.
	1.9.3	Identify the circumstances under which computer forensics evidence is typically used, who typically uses such evidence, and how it is used.
	1.9.4	Identify and attempt to retrieve possible evidence that may exist on a computer system.
	1.9.5	List what should and should not be done with the computer and evidence during an investigation.
<b>Topic 1.10</b>	<b>Identify criminal activity in relationship to cybercrime, the Internet, and Internet trafficking.</b>	
	<b>Student Competencies</b>	
	1.10.1	List common internet crimes.
	1.10.2	List some prevention actions related to cybercrime.
	1.10.3	Describe techniques to identify criminal activity.
	1.10.4	Identify how one files a complaint if a cybercrime is suspected or has occurred.

<b>Standard 2</b>	<b><i>INFORMATION SUPPORT AND SERVICES</i></b>	
<b>Topic 2.1</b>	<b>Employ effective planning skills when working with client.</b>	
	<b>Student Competencies</b>	
	2.1.1	Identify support needs.
	2.1.2	Apply information and data analysis techniques.
	2.1.3	Identify skill level needs and available resources.
	2.1.4	Define scope of work to meet customer needs.
	2.1.5	Evaluate present data and system configuration.
	2.1.6	Formulate a support plan/confirm plan with client.
<b>Topic 2.2</b>	<b>Employ customer service principles/scientific method when working with consumers.</b>	
	<b>Student Competencies</b>	
	2.2.1	Respond to user questions and question customer.
	2.2.2	Provide troubleshooting/research of hardware/software.
	2.2.3	Analyze symptoms of problem and use diagnostic skills.
	2.2.4	Perform technical functions required by customer/user.
	2.2.5	Employ appropriate hardware and software tools to perform task in the most cost-effective manner.
	2.2.6	Employ effective problem-solving skills in performing support, maintenance and/or repair.
	2.2.7	Utilize effective field note techniques in documentation of technical support provided.
<b>Topic 2.3</b>	<b>Evaluate and follow-up on customer service provided.</b>	
	<b>Student Competencies</b>	
	2.3.1	When appropriate, follow up support session for evaluation.
	2.3.2	Employ evaluative tools (software/recordings) to check work.
	2.3.3	Understand steps to take to create improvement plan when needed.
	2.3.4	Communicate evaluation and feedback to customer.
<b>Topic 2.4</b>	<b>Perform configuration management activities.</b>	
	<b>Student Competencies</b>	
	2.4.1	Demonstrate knowledge of identification and control functions.
	2.4.2	Demonstrate knowledge of version management and interface control.
	2.4.3	Select appropriate tools for configuration management.
	2.4.4	Determine standards to be applied (e.g., international, industry, military).
	2.4.5	Specify baseline and software life-cycle phases.
	2.4.6	Assess the impact of changes that affect interfaces.

<b>Topic 2.5</b>	<b>Evaluate application software packages.</b>	
	<b>Student Competencies</b>	
	2.5.1	Perform workflow analysis to determine user needs.
	2.5.2	Evaluate appropriateness of software for specific projects.
	2.5.3	Prepare a cost-benefit analysis for a software package.
	2.5.4	Document results of the software evaluation.
	2.5.5	Perform a software configuration audit.
	2.5.6	Perform a physical configuration audit.
	2.5.7	Develop a method for evaluation.
	2.5.8	Test the functionality of proposed software configuration.
<b>Topic 2.6</b>	<b>Identify the purpose of computer components (e.g. current and new technologies as they arrive).</b>	
	<b>Student Competencies</b>	
	2.6.1	Explain the purpose of computer components and how they work together as a system.
	2.6.2	Demonstrate knowledge of the CPU (e.g., Intel, AMD, etc.) and sockets.
	2.6.3	Demonstrate knowledge of Chipsets/BIOS and their drivers.
	2.6.4	Demonstrate knowledge of motherboard/CPU (e.g., North/Southbridge, L1/L2, multi-core, bus, 32/64 bit, form-factor, slots, etc.).
	2.6.5	Demonstrate knowledge of memory modules (e.g., DDR3, DDR4, etc.).
	2.6.6	Demonstrate knowledge of hard drive setup and troubleshooting.
	2.6.7	Demonstrate knowledge of hard drive technologies.
	2.6.8	Demonstrate knowledge of I/O ports.
	2.6.9	Demonstrate knowledge of NIC/wireless cards and troubleshooting their problems.
	2.6.10	Demonstrate knowledge of video cards, PCIe, and slots.
	2.6.11	Demonstrate knowledge of INPUT and OUTPUT devices (e.g., keyboard, mouse, touchpad, cameras, scanners, microphones, printers, barcode scanners, etc.).
	2.6.12	Demonstrate knowledge of portable devices and how they connect to and share data with computers.
	2.6.13	Demonstrate knowledge of power and power supplies and how associated problems can be solved.
	2.6.14	Demonstrate knowledge of peculiar features and problems of notebooks and other portable devices.
<b>Topic 2.7</b>	<b>Demonstrate knowledge to build or install computer system.</b>	
	<b>Student Competencies</b>	
	2.7.1	Demonstrate knowledge of how hardware components interact and how conflicts arise.
	2.7.2	Access needed information using manufacturers' references (e.g., procedural manuals, documentation, standards, work flowcharts, device drivers).
	2.7.3	Secure supplies and resources.
	2.7.4	Demonstrate knowledge of error messages and symptoms of hardware failures.
	2.7.5	Install mainboard (with memory/CPU).
	2.7.6	Connect peripherals and expansion cards to/in mainboard.

	2.7.7	Demonstrate knowledge to install drives (e.g., SATA).
	2.7.8	Employ appropriate safety precautions for the worker and hardware when working with PC.
	2.7.9	Configure hardware system.
	2.7.10	Verify system operation.
	2.7.11	Check OS operations, updates and Service Packs.
	2.7.12	Document system installation activities.
	2.7.13	Backup system and configuration.
	2.7.14	Test all applications.
	2.7.15	Restore system and configuration.
	2.7.16	Transfer system settings and files from old system to new.
<b>Topic 2.8</b>	<b>Demonstrate ability to couple troubleshooting skills with hardware knowledge to solve client problems.</b>	
	<b>Student Competencies</b>	
	2.8.1	Know startup sequence.
	2.8.2	Identify priorities and interrupts at system level.
	2.8.3	Demonstrate ability to couple memory upgrades with motherboard (RAM chips, different types).
	2.8.4	Test system using diagnostic tools/software.
	2.8.5	Identify problems in the operating system and related hardware.
	2.8.6	Differentiate between hardware and software failure.
	2.8.7	Demonstrate hard drive maintenance procedures (e.g. scan, clear caches, etc.).
	2.8.8	Gather information on problem from user.
	2.8.9	Conduct appropriate diagnostic tests.
	2.8.10	Replace malfunctioning hardware.
	2.8.11	Reinstall software as needed.
	2.8.12	Demonstrate backup and recovery.
	2.8.13	Restore system to various states (safe modes, previous date, etc.).
<b>Topic 2.9</b>	<b>Demonstrate knowledge of Operating System components in the building and deployment of computer systems.</b>	
	<b>Student Competencies</b>	
	2.9.1	Identify differences between O/Ss (Windows/Linux/Mac).
	2.9.2	Demonstrate knowledge of components of O/S (explorer, Control panel, etc.).
	2.9.3	Demonstrate knowledge of startup sequence of O/Ss.
<b>Topic 2.10</b>	<b>Demonstrate knowledge of Operating System components in the repair and maintenance of computer systems.</b>	
	<b>Student Competencies</b>	
	2.10.1	Connect stations to each other and to Internet.
	2.10.2	Connect stations to peripheral devices, especially printers.
	2.10.3	Protect stations from viruses, malwares, adware, security breaches, etc.
	2.10.4	Test integrity and drivers of all devices recognized by O/S.
	2.10.5	Recover from system errors.

	2.10.6	Understand the importance of upgrading from one generation of O/S to the next.
	2.10.7	Install new hardware (drives, cards, etc.) on O/S.
<b>Topic 2.11</b>	<b>Describe basic network classifications, topologies and network operating systems (NOS).</b>	
	<b>Student Competencies</b>	
	2.11.1	Interpret basic networking terminology.
	2.11.2	Differentiate between LANs, MANs and WANs.
	2.11.3	Identify the basic point-to-point/broadcast network topologies (e.g., routers, switches, wireless technologies, star, tree, network, irregular).
<b>Topic 2.12</b>	<b>Demonstrate the use of networking concepts in the support and maintenance of the computers on the network.</b>	
	<b>Student Competencies</b>	
	2.12.1	Demonstrate knowledge of the characteristics and uses of network components (e.g., switches, routers, wireless routers, firewall).
	2.12.2	Differentiate between a physical and logical topology.
	2.12.3	Demonstrate knowledge of LAN transmission methods, standards, and protocols.
<b>Topic 2.13</b>	<b>Initiate a system project.</b>	
	<b>Student Competencies</b>	
	2.13.1	Identify the phases in a system project.
	2.13.2	Select basic fact-gathering techniques to be used.
	2.13.3	Define the scope of the systems project.
	2.13.4	Conduct a preliminary investigation.
<b>Topic 2.14</b>	<b>Evaluate applications within the information system.</b>	
	<b>Student Competencies</b>	
	2.14.1	Design a framework for evaluating information system functions.
	2.14.2	Design a framework for evaluating individual applications.
	2.14.3	Recommend new features or enhancements to existing tools.
	2.14.4	Research the concept of information system life cycles.
<b>Topic 2.15</b>	<b>Troubleshoot problems and evaluate problem-solving processes and outcomes.</b>	
	<b>Student Competencies</b>	
	2.15.1	Demonstrate knowledge of basic troubleshooting steps.
	2.15.2	Minimize impact of problems on productivity (e.g., minimize downtime).
	2.15.3	Evaluate problem-solving outcomes to determine whether the problem was solved as intended.
	2.15.4	Evaluate whether the process was applied in an efficient and responsible manner.
	2.15.5	Assess the validity and usefulness of the outcomes.
	2.15.6	Determine needed follow-up actions.
<b>Topic 2.16</b>	<b>Apply quality cost implications to a project.</b>	
	<b>Student Competencies</b>	
	2.16.1	Establish cost/quality objectives.

	2.16.2	Establish guidelines for liability prevention.
	2.16.3	Classify costs (e.g., direct and indirect, fixed and variable, methods and standards).
	2.16.4	Classify quality costs (e.g., prevention, evaluation, pre-delivery failure, post-delivery failure).
	2.16.5	Identify safety terms of product.
	2.16.6	Identify safety responsibility within organization.

<b>Standard 3</b>	<b><i>NETWORK SYSTEMS</i></b>	
<b>Topic 3.1</b>	<b>Conduct needs analysis.</b>	
	<b>Student Competencies</b>	
	3.1.1	Collect information on system objectives from users.
	3.1.2	Develop workflow analysis to determine user needs.
	3.1.3	Analyze existing procedures.
	3.1.4	Define business objectives to be achieved by the application.
	3.1.5	Determine necessary user applications (e.g., web access, email).
	3.1.6	Access needed information using company and manufacturers' references (e.g., procedural manuals, documentation, standards, and work flowcharts).
<b>Topic 3.2</b>	<b>Develop networking requirements specifications.</b>	
	<b>Student Competencies</b>	
	3.2.1	Demonstrate knowledge of the use, structure, and contents of a requirements specification document.
	3.2.2	Define system and software requirements.
	3.2.3	Develop informal and formal specifications.
	3.2.4	Evaluate installation requirements.
	3.2.5	Solve conflicting requirements.
	3.2.6	Review and verify specifications with customer.
<b>Topic 3.3</b>	<b>Analyze requirements/specifications using current IT approaches.</b>	
	<b>Student Competencies</b>	
	3.3.1	Analyze facilities' bandwidth requirements.
	3.3.2	Demonstrate knowledge of how to use software methodologies to analyze a real-world problem.
	3.3.3	Identify site and system constraints.
	3.3.4	Identify security requirements.
	3.3.5	Identify time, technology, and resource constraints.
	3.3.6	Identify physical requirements for system implementation.
	3.3.7	Identify system requirements for various types of installations.
	3.3.8	Identify new application requirements within the system.
	3.3.9	Identify environment requirements, conditions, and limitations.
	3.3.10	Determine required service level.
	3.3.11	Identify input and output requirements.
	3.3.12	Identify hardware, networking, and software system functional requirements.
	3.3.13	Demonstrate knowledge of nonfunctional requirements (e.g., integrity response time, reliability, support, and documentation).

<b>Topic 3.4</b>	<b>Analyze the computer site environment.</b>	
	<b>Student Competencies</b>	
	3.4.1	Identify power and power supplies.
	3.4.2	Define power conversion.
	3.4.3	Analyze facilities' capacity planning.
	3.4.4	Evaluate the potential effects of emerging technologies on information system software/hardware.
<b>Topic 3.5</b>	<b>Analyze network security systems.</b>	
	<b>Student Competencies</b>	
	3.5.1	Identify security requirements and the need for data protection.
	3.5.2	Identify specific access levels that need to be accommodated.
	3.5.3	Match security system design to identified security requirements.
	3.5.4	Develop security plan.
<b>Topic 3.6</b>	<b>Demonstrate knowledge of the basics of network architecture.</b>	
	<b>Student Competencies</b>	
	3.6.1	Demonstrate knowledge of the characteristics and uses of network components.
	3.6.2	Differentiate between a physical and logical topology.
	3.6.3	Demonstrate a basic knowledge of OSI modeling.
	3.6.4	Demonstrate knowledge of LAN transmission protocols, methods, and standards.
	3.6.5	Demonstrate knowledge of various frame types and formats.
	3.6.6	Differentiate processes, services, and protocols.
<b>Topic 3.7</b>	<b>Demonstrate knowledge of basic network classifications and topologies.</b>	
	<b>Student Competencies</b>	
	3.7.1	Differentiate between LANs and WANs.
	3.7.2	Differentiate between point-to-point and point-to-multipoint network topologies.
	3.7.3	Demonstrate knowledge of packet-switching techniques.
	3.7.4	Identify basic physical and logical topologies.
	3.7.5	Demonstrate knowledge of characteristics of connection-oriented and connectionless networks.
	3.7.6	Identify emerging networks.
	3.7.7	Investigate emerging technologies.
	3.7.8	Demonstrate knowledge of electronic communications.
	3.7.9	Demonstrate knowledge of Voice over IP (VoIP) concepts.
	3.7.10	Explain convergence issues, including codec choice, jitter, wander, and connecting analog telephone adapter equipment.
	3.7.11	Describe common VoIP protocols, including Session Initiation Protocol (SIP), H.323, and Megaco/H.248.
	3.7.12	Explain the benefits of implementing convergence.



<b>Topic 3.8</b>	<b>Implement common network computing platforms.</b>	
	<b>Student Competencies</b>	
	3.8.1	Identify how the four components of a network operating system support network operations.
	3.8.2	Select a LAN/WAN technology that meets defined set of requirements.
	3.8.3	Demonstrate knowledge of the reasons for installing a network.
	3.8.4	Demonstrate knowledge of local-area network (LAN) trends and issues.
	3.8.5	Analyze current trends and development in LANs.
<b>Topic 3.9</b>	<b>Characterize network connectivity basis, transmission line applications, and communication standards for networks.</b>	
	<b>Student Competencies</b>	
	3.9.1	Demonstrate knowledge of the principles and operation of wired and wireless systems.
	3.9.2	Demonstrate knowledge of the principles and operation of analog and digital circuits.
	3.9.3	Demonstrate knowledge of the open system interconnection (OSI) standard.
	3.9.4	Identify standard high-speed networks.
	3.9.5	Demonstrate knowledge of the TCP/IP protocol suite.
<b>Topic 3.10</b>	<b>Use WAN systems in network development.</b>	
	<b>Student Competencies</b>	
	3.10.1	Relate voice, data concepts, and video to delivery of video services.
	3.10.2	Select primary and backup data circuits.
	3.10.3	Evaluate analog and digital transmission for cost, performance, and reliability.
	3.10.4	Demonstrate knowledge of firewall implementation between trusted network and WAN.
	3.10.5	Demonstrate knowledge of interconnecting LANs using WAN services.
<b>Topic 3.11</b>	<b>Implement network security systems.</b>	
	<b>Student Competencies</b>	
	3.11.1	Demonstrate knowledge of security requirements and the need for data protection.
	3.11.2	Demonstrate the knowledge of access levels that need to be accommodated.
	3.11.3	Implement security plan.
	3.11.4	Demonstrate knowledge of the role that routers, firewalls, intrusion detection systems, and VPNs play in security.
<b>Topic 3.12</b>	<b>Characterize the use of Network Operating Systems.</b>	
	<b>Student Competencies</b>	
	3.12.1	Demonstrate knowledge of the general characteristics of network operating systems.
	3.12.2	Demonstrate knowledge of network operating systems.
	3.12.3	Demonstrate knowledge about the difference between stand-alone, peer-to-peer, and client-server networks and software.
<b>Topic 3.13</b>	<b>Install a network infrastructure.</b>	
	<b>Student Competencies</b>	
	3.13.1	Evaluate installation requirements.
	3.13.2	Install appropriate operating system hardware and software and peripherals.

	3.13.3	Identify differences between stand-alone and network applications/operating systems.
	3.13.4	Access needed technical information using software help facilities.
	3.13.5	Install structured cabling.
	3.13.6	Ensure that all multi-user aspects of the application function are operational.
<b>Topic 3.14</b>	<b>Configure and install a network operating system.</b>	
	<b>Student Competencies</b>	
	3.14.1	Demonstrate knowledge of network operating system to configure.
	3.14.2	Load software with minimum disruption of process flow.
	3.14.3	Resolve compatibility issues.
	3.14.4	Configure software appropriately for system and user application.
	3.14.5	Add capability to a software system by recording macros and storing them in the system's library.
	3.14.6	Customize a general-purpose software package (e.g., DBMS) to provide specific functionality beyond the default setting.
	3.14.7	Assemble necessary components to complement information system design.
	3.14.8	Install LAN Management software.
<b>Topic 3.15</b>	<b>Monitor network performance including information management and infrastructure.</b>	
	<b>Student Competencies</b>	
	3.15.1	Monitor system status and performance.
	3.15.2	Conduct post-implementation evaluation.
	3.15.3	Identify abnormal system performance.
	3.15.4	Create a baseline of system/network performance.
	3.15.5	Identify required service level.
	3.15.6	Identify system alerts.
	3.15.7	Identify security problems.
	3.15.8	Identify environmental problems.
	3.15.9	Perform remote monitoring.
<b>Topic 3.16</b>	<b>Demonstrate knowledge of disaster recovery and business continuance.</b>	
	<b>Student Competencies</b>	
	3.16.1	Differentiate between disaster recovery and business continuance.
	3.16.2	Identify the steps in a disaster recovery plan and a business resumption plan.
	3.16.3	Identify methods for avoiding common computer system disasters.
	3.16.4	Identify common backup devices.
	3.16.5	Identify the criteria for selecting a backup system.
	3.16.6	Compare/contrast streaming file-by-file backup systems.
	3.16.7	Establish process for archiving files.
	3.16.8	Develop a disaster recovery plan.
	3.16.9	Develop a business resumption plan.

	3.16.10	Conduct backup of system.
	3.16.11	Conduct system restore.
<b>Topic 3.17</b>	<b>Perform network system administration tasks.</b>	
	<b>Student Competencies</b>	
	3.17.1	Identify principles governing software acquisition and upgrades.
	3.17.2	Manage inventory and assets.
	3.17.3	Retrieve/analyze historical data for trends analysis.
	3.17.4	Perform administration functions using LAN manager software.
	3.17.5	Respond appropriately to system messages.
	3.17.6	Choose and implement an appropriate routing protocol.
	3.17.7	Develop a logical device naming convention.
	3.17.8	Define traffic priorities.
<b>Topic 3.18</b>	<b>Perform network system maintenance.</b>	
	<b>Student Competencies</b>	
	3.18.1	Demonstrate knowledge of the basic elements of network maintenance.
	3.18.2	Identify available diagnostic tools used for system maintenance.
	3.18.3	Identify maintenance procedures and processes.
	3.18.4	Identify problems using diagnostic tools.
	3.18.5	Respond to system messages.
	3.18.6	Document network system malfunction(s).
	3.18.7	Fix recoverable problems.
	3.18.8	Perform preventive maintenance procedures on computer and peripheral devices.
	3.18.9	Identify new or replacement networking components needed.
	3.18.10	Establish a preventive maintenance plan.
	3.18.11	Create maintenance plan for regular integrity checks.

<b>Standard 4</b>	<b><i>PROGRAMMING AND SOFTWARE DEVELOPMENT</i></b>	
<b>Topic 4.1</b>	<b>Gather data to identify customer requirements.</b>	
	<b>Student Competencies</b>	
	4.1.1	Demonstrate knowledge of nonfunctional requirements (e.g., security, integrity response time, reliability, support, and documentation).
	4.1.2	Identify input and output requirements.
	4.1.3	Identify system processing requirements.
	4.1.4	Identify hardware, networking, and software system functional requirements.
	4.1.5	Access needed information using company and manufacturers' references.
<b>Topic 4.2</b>	<b>Define scope of work for the programming project.</b>	
	<b>Student Competencies</b>	
	4.2.1	Demonstrate knowledge of how to use software methodologies to analyze a real-world problem.
	4.2.2	Demonstrate knowledge of the key functions and subsystems of the software product.
	4.2.3	Demonstrate knowledge of software development process and issues.
	4.2.4	Demonstrate knowledge of the system life-cycle approach.
<b>Topic 4.3</b>	<b>Design and execute software project plan.</b>	
	<b>Student Competencies</b>	
	4.3.1	Demonstrate knowledge of software development methodology.
	4.3.2	Identify system processing requirements.
	4.3.3	Identify data communication trends and major current issues.
	4.3.4	Identify new and emerging classes of software and IT technologies.
	4.3.5	Determine compatibility of hardware and software.
<b>Topic 4.4</b>	<b>Explain measurement techniques for increased productivity due to information systems implementation.</b>	
	<b>Student Competencies</b>	
	4.4.1	Identify metrics for measurements.
	4.4.2	Measure increases in productivity realized by the implementation of information systems.
<b>Topic 4.5</b>	<b>Employ tools in developing software applications.</b>	
	<b>Student Competencies</b>	
	4.5.1	Demonstrate knowledge of software development environment.
	4.5.2	Use prototyping techniques.
	4.5.3	Use appropriate configuration management tools.
	4.5.4	Use appropriate issues tracking tools.
	4.5.5	Demonstrate knowledge of reuse and components.

<b>Topic 4.6</b>	<b>Demonstrate use of computer-aided software engineering (CASE) tools.</b>	
	<b>Student Competencies</b>	
	4.6.1	Use appropriate requirement analysis tools.
	4.6.2	Use appropriate modeling and analysis tools.
	4.6.3	Use requirement tracking tools.
	4.6.4	Demonstrate knowledge of software reuse, design pattern, and components.
<b>Topic 4.7</b>	<b>Apply language-specific programming tools/techniques.</b>	
	<b>Student Competencies</b>	
	4.7.1	Develop programs using appropriate language.
	4.7.2	Use appropriate development environment for the selected language.
	4.7.3	Use user interface development tools.
<b>Topic 4.8</b>	<b>Describe software development processes and methodology.</b>	
	<b>Student Competencies</b>	
	4.8.1	Identify the use of program design tools in a software development process.
	4.8.2	Identify roles of team members/customers in the software development process.
	4.8.3	Identify current information life cycle models.
	4.8.4	Create design specifications for a computer application.
	4.8.5	Describe trade-offs involved in design choices.
	4.8.6	Summarize the use of the principles of effective information management, information organization, and information-retrieval skills when designing a software application.
	4.8.7	Demonstrate knowledge of the information system life cycle.
	4.8.8	Demonstrate knowledge of system analysis issues related to design, testing, implementation, and maintenance.
<b>Topic 4.9</b>	<b>Explain programming language concepts.</b>	
	<b>Student Competencies</b>	
	4.9.1	Demonstrate knowledge of the hardware-software connections.
	4.9.2	Demonstrate knowledge of the concepts of data and procedural representations.
	4.9.3	Demonstrate knowledge of the basic principles for analyzing a programming language.
	4.9.4	Demonstrate knowledge of the basics of structured, object-oriented language.
	4.9.5	Demonstrate knowledge of how a programming language can support multitasking and exception-handling.
<b>Topic 4.10</b>	<b>Summarize program development methodology.</b>	
	<b>Student Competencies</b>	
	4.10.1	Demonstrate knowledge of how to resolve program implementation issues.
	4.10.2	Demonstrate knowledge of software development issues.
	4.10.3	Demonstrate knowledge of code analysis issues related to design, testing, implementation, and maintenance.
	4.10.4	Demonstrate knowledge of how to design and implement programs in a top-down manner.
	4.10.5	Demonstrate knowledge of how to translate algorithmic and modular designs to develop a program.
	4.10.6	Demonstrate knowledge of structured/modular programming.

	4.10.7	Demonstrate knowledge of how programming control structures are used to verify correctness.
	4.10.8	Use code development tools (e.g. debugger, integrated development environments).
<b>Topic 4.11</b>	<b>Demonstrate proficiency in developing an application using an appropriate programming language.</b>	
	<b>Student Competencies</b>	
	4.11.1	Describe the range of languages used in software development.
	4.11.2	Demonstrate knowledge of current key programming languages and the environment in which they are used.
	4.11.3	Translate data structure and program design into code in an appropriate language.
	4.11.4	Demonstrate knowledge of key constructs and commands specific to a language.
<b>Topic 4.12</b>	<b>Explain basic software systems implementation.</b>	
	<b>Student Competencies</b>	
	4.12.1	Use appropriate programming language.
	4.12.2	Compile and/or debug code.
	4.12.3	Prepare code documentation.
	4.12.4	Conduct unit testing and bug fixes.
<b>Topic 4.13</b>	<b>Develop software requirements/specifications and integration.</b>	
	<b>Student Competencies</b>	
	4.13.1	Access needed information using company and manufacturers' references.
	4.13.2	Divide design specifications into logical process blocks and identify parameters.
	4.13.3	Follow specifications or drawings.
	4.13.4	Record the programming process utilizing flowcharts and/or step-by-step documentation.
	4.13.5	Identify unexpected results.
	4.13.6	Review and revise code.
<b>Topic 4.14</b>	<b>Develop a software test plan.</b>	
	<b>Student Competencies</b>	
	4.14.1	Access needed information using appropriate reference materials.
	4.14.2	Define test procedures.
	4.14.3	Analyze requirement and design specifications.
	4.14.4	Development test cases using requirements and design specification.
<b>Topic 4.15</b>	<b>Perform testing and validation.</b>	
	<b>Student Competencies</b>	
	4.15.1	Perform integration testing.
	4.15.2	Perform regression testing.
	4.15.3	Help with user-acceptance test.
	4.15.4	Validate user documentation.
	4.15.5	Document test results.
	4.15.6	Document errors discovered.
	4.15.7	Perform defect tracking.

<b>Topic 4.16</b>	<b>Summarize software quality assurance (QA) procedures.</b>	
	<b>Student Competencies</b>	
	4.16.1	Demonstrate knowledge of Software QA process.
	4.16.2	Demonstrate knowledge of the standards/requirements for Software QA.
	4.16.3	Develop team relationships to support Software QA tasks.
	4.16.4	Identify standards and issues related to I/O programming and design of I/O interfaces.
	4.16.5	Recognize the relationship between dependability, functionality, ease of use, etc.
	4.16.6	Conduct code walkthrough and/or inspection.
	4.16.7	Follow established procedures for testing, identifying problems, and tracking resolutions.
<b>Topic 4.17</b>	<b>Analyze software technical support needs.</b>	
	<b>Student Competencies</b>	
	4.17.1	Identify maintenance and support requirements.
	4.17.2	Apply information and data analysis techniques.
	4.17.3	Implement solutions in code and documentation.
	4.17.4	Release software and documentation updates according to procedures.
<b>Topic 4.18</b>	<b>Explain database development processes.</b>	
	<b>Student Competencies</b>	
	4.18.1	Identify appropriate database type based on customer requirements, availability of software and hardware resources, and distribution specifications, etc.
	4.18.2	Apply information and data analysis specifications to create a database model using techniques such as Entity Relationship Diagramming.
	4.18.3	Analyze and normalize the developed database model looking for and resolving potential problems.
	4.18.4	Analyze the security needs for the database.
<b>Topic 4.19</b>	<b>Create, populate, and maintain a database.</b>	
	<b>Student Competencies</b>	
	4.19.1	Create a database from model specifications using both program code and Graphic User Interface (GUI) processes when provided by the database software.
	4.19.2	Perform database queries to analyze database functionality and diagnose problems.
	4.19.3	Perform database troubleshooting and system-tuning functions.
	4.19.4	Communicate and document technical support provided.
	4.19.5	Release software and documentation updates according to procedures.
<b>Topic 4.20</b>	<b>Perform database interfacing with web applications.</b>	
	<b>Student Competencies</b>	
	4.20.1	Develop scripts and forms that permit access via websites to the database.
	4.20.2	Identify and analyze potential security problems for web access to the database.
	4.20.3	Propose security solutions to web-based security problems.
	4.20.4	Implement solutions in code and documentation.

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<b>Standard 5</b>	<b><i>WEB AND DIGITAL COMMUNICATIONS</i></b>	
<b>Topic 5.1</b>	<b>Collect requirements data from customers and competing web sites.</b>	
	<b>Student Competencies</b>	
	5.1.1	Determine purpose of the digital communication project.
	5.1.2	Determine the digital communication elements to be used.
	5.1.3	Determine clients' privacy policy and expectations.
	5.1.4	Apply for approval of a web site plan.
	5.1.5	Communicate technical concepts from web design to non-technical audiences.
<b>Topic 5.2</b>	<b>Analyze usability and accessibility as it pertains to customer needs.</b>	
	<b>Student Competencies</b>	
	5.2.1	Demonstrate knowledge of WAI priorities.
	5.2.2	Demonstrate knowledge of web metrics and governance (policies and stylebooks).
	5.2.3	Demonstrate knowledge of cultural implications on design and deployment of digital communication products.
	5.2.4	Engage in user testing throughout the design and development process.
<b>Topic 5.3</b>	<b>Prepare functional specifications.</b>	
	<b>Student Competencies</b>	
	5.3.1	Develop flowchart/navigational blueprints.
	5.3.2	Develop storyboards.
	5.3.3	Determine delivery platform(s).
	5.3.4	Design system architecture.
	5.3.5	Design user interface.
	5.3.6	Design navigational schema.
<b>Topic 5.4</b>	<b>Prepare visual design specifications.</b>	
	<b>Student Competencies</b>	
	5.4.1	Apply principles of design (color theory and schemes, proximity, alignment, repetition, web graphics, optimization, typography).
	5.4.2	Identify technical constraints.
	5.4.3	Create sample design showing placement of buttons/navigational graphics and suggested color scheme.
	5.4.4	Identify available media and content sources.
	5.4.5	Develop preliminary project budget.
<b>Topic 5.5</b>	<b>Select and use appropriate software tools.</b>	
	<b>Student Competencies</b>	
	5.5.1	Demonstrate proficiency in the use of digital imaging, digital video techniques, and equipment.
	5.5.2	Demonstrate knowledge of available graphics, video, motion graphics, web software programs.

	5.5.3	Demonstrate knowledge of available project management and collaborative tools.
	5.5.4	Demonstrate knowledge of integrated development environments (such as Visual Studio, Dreamweaver, Waterproof, etc.).
	5.5.5	Manipulate images, video, and motion graphics.
	5.5.6	Demonstrate knowledge of the basic principles of motion graphics.
	5.5.7	Identify how different user agents (browsers, devices) affect the digital communication product.
<b>Topic 5.6</b>	<b>Create product visual design.</b>	
	<b>Student Competencies</b>	
	5.6.1	Apply principles and elements of design.
	5.6.2	Apply color theory to select appropriate colors.
	5.6.3	Create and/or implement the look and feel of the product.
	5.6.4	Create graphical images and/or video elements.
	5.6.5	Apply knowledge of typography.
	5.6.6	Enhance digital communication presentation using a photographic process.
	5.6.7	Alter digitized images using an image manipulation program.
	5.6.8	Alter digitized video using a video manipulation program.
<b>Topic 5.7</b>	<b>Employ basic motion graphic programming knowledge.</b>	
	<b>Student Competencies</b>	
	5.7.1	Demonstrate knowledge of key frames and frames.
	5.7.2	Demonstrate knowledge of the impact that deployment device has on design and production needs.
	5.7.3	Demonstrate knowledge of animation techniques.
	5.7.4	Demonstrate knowledge of motion graphic security.
	5.7.5	Demonstrate that motion graphic meets the validation process and is compatible across multiple browsers or devices.
<b>Topic 5.8</b>	<b>Use basic web development skills.</b>	
	<b>Student Competencies</b>	
	5.8.1	Demonstrate knowledge of HTML, XHTML, and CSS.
	5.8.2	Demonstrate knowledge of version control and documentation.
	5.8.3	Demonstrate knowledge of basic web application security.
	5.8.4	Demonstrate that website meets the validation process and is compatible across multiple browsers and devices.
	5.8.5	Explain importance of web standards.
<b>Topic 5.9</b>	<b>Summarize Internet architecture elements.</b>	
	<b>Student Competencies</b>	
	5.9.1	Demonstrate knowledge of transfer protocols (FTP, WebDav).
	5.9.2	Demonstrate knowledge of Internet standards bodies.
	5.9.3	Identify cross-platform issues.

	5.9.4	Keep up-to-date with new and emerging trends related to the internet.
	5.9.5	Demonstrate knowledge of Web 3.0.
<b>Topic 5.10</b>	<b>Employ basic web programming knowledge.</b>	
	<b>Student Competencies</b>	
	5.10.1	Demonstrate knowledge of the purpose of web content delivery enablers (e.g., CGI, API, SSI).
	5.10.2	Demonstrate knowledge of how to interface client/server.
	5.10.3	Demonstrate knowledge of client-side processing and its advantages/disadvantages.
	5.10.4	Identify security issues related to server-side processing.
	5.10.5	Identify standard scripting languages (e.g., JavaScript, .NET frameworks, PHP, ActiveX,).
	5.10.6	Demonstrate knowledge of XML/XSL.
	5.10.7	Demonstrate knowledge of quality assurance.
	5.10.8	Demonstrate knowledge of the uses and advantages/disadvantages of various scripting languages.
	5.10.9	Demonstrate knowledge of how to use a scripting language to program a site.
<b>Topic 5.11</b>	<b>Employ web administration skills to maintain a web application.</b>	
	<b>Student Competencies</b>	
	5.11.1	Demonstrate knowledge of how to use advanced communication protocols.
	5.11.2	Compare the advantages and disadvantages of running your own server vs. using a server provider.
	5.11.3	Identify hardware requirements for a server.
	5.11.4	Identify server software options.
	5.11.5	Evaluate server providers.
	5.11.6	Establish a domain name.
	5.11.7	Comply with TCP/IP (Transfer Control Protocol/Internet Protocol).
	5.11.8	Upload files to the server.
	5.11.9	Publicize the site (e.g., submit announcements to major search engines).
	5.11.10	Explain the importance of ethical behaviors and legal issues.
	5.11.11	Collect/analyze usage statistics.
	5.11.12	Utilize back-up and restore software features.
	5.11.13	Document server environment to include specifications, passwords, and software versions.
<b>Topic 5.12</b>	<b>Produce a digital communication product.</b>	
	<b>Student Competencies</b>	
	5.12.1	Develop a conceptual model for the digital communication project.
	5.12.2	Select the media elements (e.g., sound, video, graphics, text, motion graphics) to be used.
	5.12.3	Integrate media elements.
	5.12.4	Select the publication process to be used.
	5.12.5	Select the distribution method to be used.
	5.12.6	Explain the impact that publication processes and distribution methods have on product development.

<b>Topic 5.13</b>	<b>Acquire and produce content for a digital communication product.</b>	
	<b>Student Competencies</b>	
	5.13.1	Produce or acquire graphics content.
	5.13.2	Produce or acquire motion graphics content.
	5.13.3	Produce or acquire audio content.
	5.13.4	Produce or acquire video content.
<b>Topic 5.14</b>	<b>Employ basic motion graphic programming knowledge.</b>	
	<b>Student Competencies</b>	
	5.14.1	Integrate the use of photographic special effects into interactive media presentations.
	5.14.2	Integrate photographically derived images with hand-drawn graphic images.
<b>Topic 5.15</b>	<b>Describe search engine management (SEM) and search engine optimization (SEO).</b>	
	<b>Student Competencies</b>	
	5.15.1	Measure current traffic on site.
	5.15.2	Determine and measure traffic sources.
	5.15.3	Determine that search engines can easily index web pages.
	5.15.4	Ensure code is W3C-compliant.
	5.15.5	Develop and implement a legal statement, privacy statement, and site map.
<b>Topic 5.16</b>	<b>Integrate media elements.</b>	
	<b>Student Competencies</b>	
	5.16.1	Determine needed media elements for site.
	5.16.2	Implement appropriate media elements for site.
<b>Topic 5.17</b>	<b>Explain the concept of intellectual property.</b>	
	<b>Student Competencies</b>	
	5.17.1	Identify and discuss appropriate state intellectual property laws.
	5.17.2	Identify and discuss national intellectual property laws.
	5.17.3	Identify any intellectual property issues in created web pages.
<b>Topic 5.18</b>	<b>Differentiate between copyright and trademarks.</b>	
	<b>Student Competencies</b>	
	5.18.1	Discuss the difference between copyright and trademarks.
	5.18.2	Discuss any copyright issues in web page being designed and how they will be managed.
	5.18.3	Discuss any trademark issues in web page being designed and how they will be managed.
<b>Topic 5.19</b>	<b>Describe the function of a non-disclosure agreement (NDA).</b>	
	<b>Student Competencies</b>	
	5.19.1	Discuss what a non-disclosure agreement (NDA) is.
	5.19.2	Identify who will be included in the NDA for the developed web page(s).
	5.19.3	Identify and discuss what will be included in the NDA.
	5.19.4	Determine the length of time the agreement will be in effect.

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# Career Ready Practices

## **1. Lead as a Contributing & Professional Employee**

Career-ready individuals understand the role and responsibilities of their position and demonstrate this understanding by regularly contributing to the success of their organization. They are reliable and lead by example through work ethic and professionalism, as defined by the standards set by their workplace. This Career Ready Practice includes understanding and exhibiting the core values of their organization and modeling strong morals, motivation, excellence, and consistency.

## **2. Communicate Clearly, Effectively, & with Reason**

Career-ready individuals are able to communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. This Career Ready Practice includes actively listening to peers and colleagues regardless of level and ensuring that diverse perspectives are heard, considered, and fostered. Regardless of communication method, individuals understand the needs of a specific audience and are able to tailor their message or style to meet these needs. Proficiency in communication helps build strong relationships, facilitates collaboration, and ensures that information is accurately exchanged.

## **3. Think Critically to Make Sense of Problems & Persevere in Solving Them**

Career-ready individuals are able to communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. This Career Ready Practice includes actively listening to peers and colleagues regardless of level and ensuring that diverse perspectives are heard, considered, and fostered. Regardless of communication method, individuals understand the needs of a specific audience and are able to tailor their message or style to meet these needs. Proficiency in communication helps build strong relationships, facilitates collaboration, and ensures that information is accurately exchanged.

## **4. Collaborate Productively while Using Cultural & Global Competencies**

Career-ready individuals are able to work effectively in diverse teams to successfully accomplish a goal in both in-person and virtual environments. This Career Ready Practice includes understanding team dynamics, respecting diverse perspectives, demonstrating empathy, and contributing positively to team outcomes. Effective collaboration leverages the strengths of team members, enhances problem-solving, and leads to innovative solutions by recognizing that each team member has something unique to contribute. Preparing to work in diverse teams ensures readiness for the collaborative nature of modern workplaces and requires recognizing biases and advocating for inclusive practices. Cultivating an inclusive environment not only enhances team dynamics but also drives innovation and reflects positively on organizational culture.

## **5. Use digital Skills & Technologies to Enhance Productivity & Make Data-informed Decisions**

Career-ready individuals are digitally literate—proficient with the digital skills and technology that are regularly used in their evolving workplace. This Career Ready Practice involves using digital tools to enhance productivity, understanding the impact of technology on one’s work, and staying updated with technological advancements that may have future impacts for a given industry area. Individuals can use technology and digital tools to analyze and report data, helping to make decisions that are data informed and data driven. Digitally literate individuals are also able to understand digital security and privacy and are able to use social media professionally and responsibly.

## **6. Remain Resilient in a Changing Workplace & World of Work**

Career-ready individuals have the ability to adjust to change and remain resilient in the face of challenges, both within a workplace and throughout their careers. This Career Ready Practice involves maintaining a positive attitude despite challenges and being open to new ideas and feedback. Individuals seek to act in ways that contribute to the betterment of themselves and their teams, families, community, and workplace. Developing adaptability, flexibility, and resilience helps individuals navigate career transitions, embrace new opportunities, and maintain productivity and well-being under pressure. This Career Ready Practice also includes attending to one’s own mental well-being and developing an appropriate work-life balance to sustain productivity, reduce stress, and enhance overall quality of life, which directly affects professional performance and satisfaction.

## **7. Manage Time & Space Effectively**

Career-ready individuals are able to effectively manage their time and use organizational skills to prioritize tasks and meet deadlines. This Career Ready Practice includes planning, delegating tasks effectively, and maintaining a well-organized workspace in both physical and virtual environments. Developing these skills leads to increased efficiency, better project outcomes, and a balanced workload.

## **8. Demonstrate a Creative & Innovative Mindset**

Career-ready individuals are able to use innovation and creativity to think outside the box and develop new ideas and solutions. This Career Ready Practice encourages a mindset of continuous improvement and adaptability and fosters a spirit of curiosity, experimentation, and calculated risk-taking. It prepares individuals to improve systems, drive change, create value, and stay competitive in a rapidly evolving workplace.

## **9. Act as a Good Steward of Organizational & Personal Finances & Resources**

Career-ready individuals are financially literate and can demonstrate their ability to make cost effective decisions on behalf of themselves and their workplace. This Career Ready Practice includes managing personal finances, understanding financial documents, and making informed financial decisions. Financial literacy empowers individuals to make sound investments, budget effectively, and contribute to the financial health of their organization.

**10. Navigate an Education & Career Path Aligned to Strengths, Work Style, Interests, & Goals**

Career-ready individuals are self-aware about their strengths and working style and can understand how to leverage these traits effectively to maximize their careers. They are also aware of their areas for improvement, seeking opportunities for growth and acting on feedback to continuously improve. This Career Ready Practice is essential for setting realistic career goals, pursuing professional development opportunities, reskilling and upskilling to keep skills and knowledge relevant, and achieving personal and professional fulfillment.

**11. Consider the Environmental & Social Impacts of Decisions**

Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively affect and/or mitigate negative impact on other people, their communities, and the environment. They make decisions with integrity by considering the moral and ethical consequences of their decisions and actively planning for the long-term success of projects, systems, and processes. Developing sustainability and environmental literacy skills prepares individuals to also contribute to a greener future and address global challenges.

**12. Apply appropriate academic & technical skills**

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be effective and productive employees. They have the technical proficiency to use the language, tools, technologies, and methodologies that are relevant to their specific industry sector. They make connections between abstract concepts and real-world applications, and they make correct determinations about when applying an academic skill is appropriate in a workplace situation. This Career Ready Practice includes staying updated about industry advancements and continuously improving technical skills aligned with the changing needs of their sector.



Area	Date Updated	Needs to be Done This Year	Next Update
<b>Agriculture</b>	Jan-16	Close to being done in 2025, Ag teachers working on Frameworks right now	2021
Agriculture			
<b>Automated Manufacturing</b>	Aug-21		2026
Automated Manufacturing Standards			
<b>Auto Collision</b>	May-20	<b>Almost done</b>	2025
Auto Collision Standards			
<b>Automotive Technology</b>	May-24		2029
Automotive Technology			
<b>Aviation</b>	May-24		2029
Aviation			
<b>Business</b>	Jun-21		2026
Business and Office Technology Standards			
<b>Building Trades</b>	Oct-21		2026
Building Trades			
<b>Career Development</b>	Sep-23		2028
Career Development			
<b>Drafting</b>	Apr-06	1 program in the state, no need to redo	
Drafting			
<b>Electronics</b>	Mar-22		2027
Electronics Standards			
<b>Emerging Technology</b>	2007	Possible never to be redone, very precise curriculum already written.	
Emerging Technology - Technology Education			
<b>Family and Consumer Science</b>	Jan-18	Leaving as is until 2028, when nationals will be redone	2028
FACS Standards			
<b>Graphic Communications</b>	May-20		2025
Graphic Communications			
<b>Health Careers</b>	Oct-23		2028
Health Careers Standards			
<b>Information Technology</b>	Feb-15	Close to being done in 2025	2020
Information Technology Standards			
<b>Marketing</b>	Sep-17		2027
Marketing			
<b>Technology Education</b>	Feb-21		2026
Technology Education Standards			
<b>Welding</b>	May-24		2029
Welding			
<b>Possibly Soon---New</b>			
Firefighter			

## Secondary Licensing and Certification Policy – Second Reading Memo

The Department recommends the approval of the 2<sup>nd</sup> reading of the Secondary Licensing and Certification Policy.

There was one minor change to the policy since the 1<sup>st</sup> reading in March. Top of page 2, language was added that would advise all applicants that they must adhere to relevant rules and fee structures, as required by the Education Standards and Practices Board (ESPB). This because the Department of Career and Technical Education does not grant the license, it simply approves or recommends the granting of the license. ESPB grants the license, which includes other rules and fees.

Although written feedback was not requested on the policy, the policy was discussed during a CTE Directors Teams meeting. A question we did receive was specific to the Praxis requirement (Page 4, item 2.d.) and was it a necessary requirement. In visiting with NDCTE Program Supervisors, this is requirement they strongly recommend as it is a way to verify an individual has strong content knowledge in a potentially broad program area. Once awarded a license, an individual may have several course codes they are now able to teach. The Praxis is a way NDCTE can ensure they possess the background to appropriately teach those courses.



# North Dakota State Board for Career and Technical Education

## Secondary Licensing & Certification Policy

Approved Date: MM/DD/YYYY

[ND State Board for CTE Board Members](#)

[ND Department of Career and Technical Education](#)

It is the policy of the North Dakota State Board for Career and Technical Education not to discriminate in its educational programs, activities, or employment policies as required by Final Regulation implementing Title IX of the 1972 Education Amendments, Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973.

The Board policy does not advocate, permit, nor practice discrimination on the basis of sex, race, color, national origin, religion, age, or disability as required by various state and federal laws. Equal education opportunity is a priority of the North Dakota State Board for Career and Technical Education.

### ND DEPARTMENT OF CAREER AND TECHNICAL EDUCATION **LICENSURE OPTIONS**

- Administration
- Agricultural Education
- Business Education
- Career Advisors
- Career Development
- Career Resource Network
- Curriculum and Standards
- Educational Equity
- Family and Consumer Sciences Education
- Information Technology Education
- Marketing Education
- Special Populations – CTE
- Technology & Engineering Education
- Trade, Industry, Technical, and Health Sciences Education
  - Includes the program areas of: Automated Manufacturing, Auto Collision, Auto Technology, Aviation Technology, Building Trades, Commercial Art, Culinary Arts, Diesel Technology, Drafting Technology, Electronics Technology, Facilities Maintenance, Graphic Arts, Health Sciences, Heavy Equipment Operations, Machine Tooling, Power Sports, Video Production Technology, and Welding Technology.
- Work-based Learning

All applicants must follow relevant rules and fee structures, as required by the Education Standards and Practices Board.

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## ADMINISTRATION

### Secondary

1. Valid North Dakota Educator's Professional License or a CTE License.
2. Equivalent of three years of teaching experience in a secondary career and technical education program or other related career and technical education support services recognized by the Department of Career and Technical Education.
3. A master's degree\* with a major concentration in a career and technical education area, secondary administration, or other related areas.  
\*May be granted a provisional if enrolled and scheduled to complete master's degree program within two years.
4. Successful completion of the following courses or recognized equivalents:
  - a. Philosophy of Career and Technical Education
  - b. Administration and Management in CTE
  - c. Secondary school curriculum design, instruction and learning.

Successful completion of three of the following recognized course equivalents:

- a. Leadership, Administration, and Organization in Secondary Schools
  - b. Educational Law
  - c. Educational Finance and Policy
  - d. Personnel, Supervision, and Staff Development in Secondary Schools
  - e. Education for Special Populations
5. A provisional credential may be granted not to exceed a two-year period as long as there is demonstrated progress being made in provision #4.

Two additional one-year provisional may be granted following the initial two-year provisional.

### Five-Year Renewal

1. A minimum of four (4) semester hours of related graduate coursework in education (transcript required).
2. Attendance at ten workshops and conferences from the following list: (verification – personal log showing title and dates of attendance)
  - a. Professional Development Conference
  - b. State-called career and technical education director's meetings
  - c. North Dakota Council of Educational Leaders state or area meetings
  - d. Special topic seminars and meetings sponsored or endorsed by the Department of Career and Technical Education or the Department of Public Instruction including leadership development.

# Agricultural, Business, Family & Consumer Sciences, Marketing and Technology & Engineering Education

## Secondary Initial Licensure

Initial licenses are issued to first-time applicants who have met all the requirements for licensure based on the type of license they are applying for.

### 1. Traditional (Two-Year)

- a) Issued to an applicant that has earned a bachelor's degree with a major, major equivalency, minor, or minor equivalency (as accepted by ESPB) in Agricultural Education, Business Education, Family & Consumer Sciences Education, Marketing Education or Technology & Engineering Education (referred to as relevant content area) from an approved institution and meets the ND standards and Praxis test score requirements.

### 2. Collegiate License – CTE Recommended (Two-Year)

- a) Individual must have a relevant minimum bachelor's degree in the area to be taught.
- b) Individual must have 5 years of full-time teaching experience or its equivalent (90 semester credit hours) at an accredited institution of higher education in the academic subject for which licensure is sought as determined by the Department of North Dakota Department of Career & Technical Education.
- c) After issuance of the initial Collegiate License – CTE Recommended, individuals must show evidence of completion of Native American competencies, cultural diversity, strategies for creating learning environments that contribute to positive human relationships, and strategies for teaching and assessing diverse learners and mental health competency. This must be completed by the end of the initial license period before a regular or CTE regular license will be issued.
- d) Must pass all Praxis exams for the desired content area to measure content knowledge in first year of teaching.

### 3. Alternate Access License – ESPB Issued (One-Year)

- a) Individual must have an employment offer from a school to begin the Alternative Licensing process.
- b) July 1 is the earliest start date for the Alternative Licensure process.
- c) Consideration will be given to designated teacher shortage areas as determined by ESPB.
- d) Candidates must have a relevant bachelor's degree in the area to be taught. If the degree is not within the area being taught, at least 30 credits in the content area or closely related area to be considered. Based on a transcript review and a minimum 2.5 GPA.
- e) Upon issuance of the Alternative Access License, a plan of study will be created by the North Dakota Education Standards and Practices Board for that content area to be completed by the individual prior to receiving their initial license. The individual should be working on their Plan of Study to show progress in the first year.
- f) Must pass all Praxis exams to measure content knowledge in first year of teaching.
- g) The Alternate Access License is issued for a year at a time, for up to three years. It is the expectation that the teacher on an Alternate Access License works with a college to complete the courses for a regular education license or completes American Board. Progress on coursework must be made each year to renew. The school must also request the renewal each year. If the person chooses to complete American Board, it must be completed in the first year on an Alternate Access License.

### 4. CTE Alternative Access License – CTE Recommended (One-Year)

- a) Individual must have an employment offer from a school to begin the Alternative Licensing process.
- b) July 1 is the earliest start date for the CTE Alternative Licensure process.
- c) Consideration will be given to designated teacher shortage areas determined by ESPB.
- d) Candidates must have a relevant bachelor's degree in the area to be taught as determined by the CTE State Supervisor for that content area. Based on a transcript review and a minimum 2.5 GPA.
  - Work experience – consideration will be given when determining the relevance of bachelor's degree.
- e) Upon issuance of the CTE Alternative Access License, a plan of study will be created by the CTE State Supervisor for that content area to be completed by the individual prior to receiving their regular CTE

License. Please see the section on CTE Licensure Pathways for Alternative Licensing for additional information.

- f) Must pass all Praxis exams to measure content knowledge in first year of teaching.
- g) A CTE Alternative Licensed teacher will be issued a maximum of two, one-year provisional licenses. To receive the second year of a provisional license, a letter of recommendation must be received from the school's Superintendent or Area Center Director.

## Secondary Teaching Permit

### 1. Teaching Permit (One-year)

- a) Individual must have an employment offer from a school to begin the Teacher Permit process.
- b) Consideration for teaching permits will not be granted until after August 1 and will be given to designated teacher shortage areas determined by ESPB.
- c) Requests for a teaching permit must be initiated by a school in writing to the Education Standards and Practices Board for consideration of a teaching permit.
- d) Candidates must have proficiency and hold minimum qualifications of four thousand (4,000) hours over five years of relevant work experience in the subject area to be taught or possess a certificate, license, or degree in the subject area to be taught.
- e) A teaching permit is to address documented shortage areas only. Teaching permits may not be issued to applicants who have failed to meet the deadlines or conditions of their regular licensure renewal.
- f) Upon issuance of the CTE Alternative Access License, a plan of study (including the State Mentorship program) will be created by the CTE State Supervisor for that content area to be completed by the individual prior to receiving their initial license. Please see the section on CTE Licensure Pathways for Alternative Licensing for additional information.

## Endorsements

### 1. PRAXIS Testing Option

- a) Must hold a valid North Dakota Regular Educator Professional License.
- b) Must successfully complete the PRAXIS subject area assessment, meeting or exceeding the minimum scores determined by ESPB.
- c) Upon successful completion of the PRAXIS subject area assessment the individual is encouraged to participate in and successfully complete a one-year content area mentorship with an approved content specialist teacher. Mentorship will include a developed checklist of topics, including safety which is a key element in lab classes.

### 2. Out-of-Field

- a) Must hold a valid North Dakota Regular Educator Professional License (excludes Alternative Access Licenses).
- b) Endorsement is valid for one year. This endorsement can be renewed at the school's request for an additional 1 year – 2 years total.

### 3. Minor Equivalency

- a) Must hold a valid North Dakota Regular Educator Professional License.
- b) Two levels of content area endorsements:
  - i. ME 16 (Business Ed, Marketing Ed, Family & Consumer Sciences Ed) – Requires a minimum of 16 semester hours of content-specific coursework beyond the introductory level. The ME 16 is issued for a maximum period of five years and is not renewable. Individuals who wish to continue to be endorsed in the area after the five-year limit must obtain the remaining requirements to complete the ME 24 level.
  - ii. ME 24 (Agriculture Ed, Business Ed, Family & Consumer Sciences Ed, Marketing Ed, Technology & Engineering Ed) – Requires a minimum of 24 semester hours of content-specific coursework beyond the introductory level including special methods of teaching in the content area and is considered equivalent to a full teaching minor. [Link to Minor Equivalency Forms \(ESPB Website\)](#)

### 4. CTE Content Endorsement

- a) Must hold a valid North Dakota Regular Educator Professional License.
- b) Available in the following program Areas: Information Technology Ed, Health Sciences Ed, Trade/Industry & Technical Ed.

- c) Candidates must show evidence of courses taken, training, certificates obtained or relevant industry experience (minimum of 4,000 hours in the last 5 years) for content-specific endorsements.

### **Alternative Pathways for Initial, 5-Year Regular, or CTE 5-Year Regular Licensure**

Initial (next license after Alternate Access), Regular or CTE Regular Licenses are issued to individuals who have met all of the requirements for a license based on the type of license they are applying for.

1. Traditional Education Program – Undergraduate or Graduate Level
  - a) Individual successfully completes an education program, Undergraduate or Graduate level, within their content field. [Link to North Dakota State Approved Teacher Preparation Programs](#)
2. Completion of an approved plan of study
  - a) Individual completes a personalized plan of study which may include, but not limited to, any combination of the following components as determined by the Department of North Dakota Department of Career & Technical Education:
    - i. Teacher Licensure Option (TLO) (Ag and FCS only) – Undergraduate or Graduate Level  
[Link to AG TLO Program \(NDSU Website\)](#)   [Link to FCS TLO Program \(NDSU Website\)](#)
    - ii. Practitioner Preparation (P2) Program (Ag and FCS only) – Undergraduate or Graduate Level  
[Link to AG P2 Program \(NDSU Website\)](#)   [Link to FCS P2 Program \(NDSU Website\)](#)
    - iii. Clinical Practice (minimum of 15 semester hours of an approved program).  
[Link to VCSU Clinical Practice Program \(Transition to Teaching\)](#)
    - iv. Mentorship Program (this may be built into one of the above programs or taken separately)  
[Link to ND Rise Program \(ND ESPB Website\)](#)
    - v. Additional coursework may be required in the case of deficient content areas as determined by the content area's Program Area Department of Career & Technical Education's State Supervisor.
    - vi. Praxis Exams where available. [Link to North Dakota Praxis Requirements \(Praxis Website\)](#)

### **Five-Year Renewal**

1. Teacher License - The renewal of the five-year license requires verification of a minimum of six (6) semester hours of college or university credit earned within the dates of the certification period. This is in accordance with the North Dakota Teaching License Renewal Requirement.
2. Additional Content-Specific Endorsement – For endorsements that expire, a minimum of **2 credits or 30** hours within the endorsed content area is required within the dates of the certification period.

### **CTE Certified Instructor for funded programs**

1. Must hold a valid secondary teaching license issued by the North Dakota Education Standards and Practices Board to teach Agricultural Education, Business Education, Family & Consumer Sciences Education, Marketing Education, or Technology & Engineering Education courses.
2. Completion of CTE application for a relevant content area Certificate. A copy of all teaching licenses/certificates, and transcripts of all college courses completed must be submitted with the application.
3. Must complete two courses within three years of granting a provisional certification or verify that they have been previously completed in a teacher prep program:
  - a) A history/philosophy of Career and Technical Education course
  - b) A managing Career and Technical Student Organizations course
4. Provisional career and technical education certification may be granted for up to three years for a candidate to meet the requirements.



# Health Sciences, Information Technology and Trade, Industry & Technical Education

## Secondary Initial Licensure

### 1. CTE Initial – CTE Recommended (Two-Year)

- a) Individual must have an employment offer from a school to begin the CTE Licensing process.
- b) Individuals (Information Technology and Trade, Industry & Technical Education) must hold a high school diploma or its equivalent.
- c) Individuals (Health Sciences) must be graduates of an accredited school in an appropriate health sciences area acceptable to the Department of Career & Technical Education
- d) Individuals must have a minimum of four years (8,000 hours) of progressive work experience in the occupation being taught within the past eight years.
  - i. Credit for up to two years (4,000 hours) will be given to those completing an approved specialized postsecondary training program within the past five years.
  - ii. Successful passage of an approved competency examination may be substituted for one year (2,000) of work experience.
  - iii. Individuals who have earned two or more semester hours of instruction in an approved specialized secondary program within the last five years could receive credit towards work experience.
- e) In occupations governed by a licensing agency or board, individuals shall hold a current valid license/certificate at the time of initial licensure.

### 2. Collegiate License – CTE Recommended (Two-Year)

- a) Individual must have a relevant minimum bachelor's degree in the area to be taught.
- b) Individual must have 5 years of full-time teaching experience or its equivalent (90 semester credit hours) at an accredited institution of higher education in the academic subject for which licensure is sought as determined by the Department of North Dakota Department of Career & Technical Education.
- c) After issuance of the initial Collegiate License – CTE Recommended, individuals must show evidence completion of Native American competencies, cultural diversity, strategies for creating learning environments that contribute to positive human relationships, and strategies for teaching and assessing diverse learners and mental health competency. This must be completed by the end of the initial license period before a regular or CTE regular license will be issued.

### 3. Industry Educator License – CTE Recommended (Two-Year)

- a) Individual must have a relevant industry-recognized educator license in the content area.
- b) Individual must have 5 years of industry teaching experience.
- c) After issuance of the initial CTE License, individuals must show evidence of completion of Native American competencies, cultural diversity, strategies for creating learning environments that contribute to positive human relationships, and strategies for teaching and assessing diverse learners and mental health competency. This must be completed by the end of the initial license period before a regular or CTE regular license will be issued.

## CTE Licensure Pathway for CTE Licensing

### 1. Clinical Practice and Mentorship Program

- a) Individuals must complete a minimum of 15 semester hours of an approved Clinical Practice and Mentorship Program. [Link to VCSU Clinical Practice Program \(Transition to Teaching\)](#)

## Five-Year Renewal

1. CTE License - The renewal of the five-year license CTE License requires verification of a minimum of six (6) semester hours of college or university credit earned AND participation in **sixty (60) hours** of Professional Development related to the content area being taught within the dates of the certification period.
2. Additional Content-Specific Endorsements – For endorsements that expire, a minimum of **2 credits or 30** hours within the endorsed content area is required within the dates of the certification period.

### CTE Certified Instructor for funded programs

1. Must hold a valid secondary teaching license issued by the North Dakota Education Standards and Practices Board to teach Health Sciences Education, Information Technology Education, or Trade, Industry and Technical Education courses.
2. Completion of CTE application for a relevant content area Certificate. A copy of all teaching licenses/certificates, and transcripts of all college courses completed must be submitted with the application.
3. Must complete two courses within three years of granting a provisional certification or verify that they have been previously completed in a teacher prep program:
  - a) A history/philosophy of Career and Technical Education course
  - b) A managing Career and Technical Student Organizations course
4. Provisional career and technical education certification may be granted for up to three years for a candidate to meet the requirements.

## CAREER ADVISORS

### Secondary License or Endorsement

1. To receive a Regular North Dakota Career Advisor Credential or Endorsement, a person must meet all of the following requirements:
  - a. Hold a baccalaureate degree from an accredited institution of higher education;
  - b. Have at least a five-year employment history;
  - c. Complete the Career Advisor Training provided by the North Dakota Department of Career and Technical Education; and
  - d. After completing the training, career advisors must obtain and maintain a Global Career Development Facilitator credential issued by the [Center for Credentialing and Education](#) **OR** a Certified Career Services Provider credential from the [National Career Development Association](#) For more information about these credentials, please visit their websites.
2. To receive a \*Provisional North Dakota Career Advisor Credential, a person must:
  - a. Hold a baccalaureate degree from an accredited institution of higher education;
  - b. Have at least a five-year employment history;
  - c. Provide the Department of Career and Technical Education with a plan for completing requirements c & d for a Regular Career Advisor Credential.

\*The Provisional North Dakota Career Advisor Credential is a one-time, two-year credential.

### Application Process

- a. To apply for a North Dakota Career Advisor Credential, complete the Application for Career and Technical Education Certification ([SFN 61262](#)) located on the [Career and Technical Education website](#), include a copy of your training certificate and global credential when sending the application form.

### Five-Year Renewal

1. The renewal of the five-year credential requires verification of continued global credentialing from the Center for Credentialing and Education. To renew a North Dakota Career Advisor Credential, complete and submit the Renewal Application for Career and Technical Education Certification ([SFN 51688](#)) along with a copy of current Global Career Development Facilitator credential.

## CAREER DEVELOPMENT

### Secondary Credential

1. To receive a Regular Career Development Credential from CTE, a career development counselor must have a master's degree with a major in guidance and counseling and meet all of the following requirements:
  - a. Hold a North Dakota Educator's Professional License; or hold or be approved to hold a North Dakota Educator's Professional License in School Counseling by the [Education Standards and Practices Board](#).
  - b. Hold, or be eligible to hold one of the following credentials from the North Dakota Department of Public Instruction: a [North Dakota Professional School Counselor Credential](#) or a [written plan of study](#) (approved by DPI).

- c. Have had at least one year's occupational experience at wage earning pursuits other than education; or complete Career Advisor Training as provided by the Department of Career and Technical Education\*.
  - d. Have earned three (3) semester hours of credit in History and Philosophy of Career and Technical Education.
  - e. Have completed a minimum of four (4) semester hours of credit in other applicable courses as approved by the CTE Career Development State Supervisor. Such courses could include:
    - i. Career education
    - ii. Theories of career development
    - iii. Career Resource Network Workshops
    - iv. Career Advisor Training\*
  - f. A provisional license may be granted for up to four years (with progress made on an annual basis) for a candidate to meet the requirements of d and e.
- \*Career Advisor Training can only be used to fulfill one requirement.

### **Application Process**

1. To apply for a Career Development Credential, complete the Application for Career and Technical Education Certification ([SFN 61262](#)) located on the [Career and Technical Education website](#).

### **Five-Year Renewal**

1. The successful renewal of the five-year credential requires a career development counselor to maintain their North Dakota Educator's Professional License and Counselors Credential. Half of the credits earned during the renewal must be Career Development related such as the CTE Professional Development Conference or other approved workshops (i.e. CRN Workshops). To renew a Career Development Credential, complete the Renewal Application for Career and Technical Education Certification ([SFN 51688](#)).

## **SPECIAL POPULATIONS - CTE**

### **Career and Technical Education Resource Educator (CTRE)**

1. Each instructor must hold a valid North Dakota Educator's Professional License.
2. Licensed special education teacher with a minimum of six (6) semester hours credit from the following:
  - a. Philosophy of Career and Technical Education
  - b. Career and Technical Education Assessment
  - c. Occupational Analysis
  - d. Career Development
  - e. Organization of Part-time Cooperative Programs
  - f. Career Education
  - g. Competency Based Career and Technical Education, or
  - h. Other courses or workshops as approved by the Department of Career and Technical Education
3. Certified career and technical education instructor with a minimum of six (6) semester hours credit from the following:
  - a. Special Populations Teaching Methods
  - b. Counseling the Disadvantaged
  - c. Behavior Management
  - d. Introduction to Exceptional Children, Cognitive Disabilities, Emotional Disturbance, etc., or
  - e. Other courses or workshops as approved by the Department of Career and Technical Education
4. Certified career development counselor with a minimum of six (6) semester hours credit from the following:
  - a. Special Populations Teaching Methods
  - b. Counseling the Disadvantaged
  - c. Behavior Management
  - d. Introduction to Exceptional Children, Cognitive Disabilities, Emotional Disturbance, etc., or
  - e. Other courses or workshops as approved by the Department of Career and Technical Education

### **Career and Technical Education Basic Skills Educator (CTBSE)**

1. Each instructor must hold a valid North Dakota Educator's Professional License.
2. Certified secondary education teacher or postsecondary instructor with a major or minor in English or Mathematics, and with two (2) semester hours credit in philosophy of career and technical education and four (4) semester hours from the following curricular areas:
  - a. Remedial Reading
  - b. Introduction to Exceptional Children, Cognitive Disabilities, Emotional Disturbance, etc.
  - c. Career Development
  - d. Remedial Mathematics
  - e. Career Education
  - f. Competency Based Career and Technical Education
  - g. Other courses or workshops as approved by the Department of Career and Technical Education

### **Career and Technical Education Special Populations Tutor or Aide**

1. Minimum of one-year occupational experience in the career and technical education area, or
2. One year completion of approved career and technical education program in the career and technical education area, or
3. Determination and documentation by the employing agency or institution that competencies required by the written job description are met.

### **Career and Technical Education Special Populations Support Person**

1. Minimum occupational experience and minimum training requirements will be determined by the Department of Career and Technical Education on the basis of the job description submitted by the local education agency or postsecondary educational institution.

### **Provisional**

1. Teachers holding a valid North Dakota license in a discipline other than special education, Career Development Counseling, Career and Technical Education, English or mathematics, seeking to earn a
2. CTBSE endorsement must provide documentation of:
  - a. Successful completion of two (2) semester hours of college or university coursework in Philosophy of Career and Technical Education.
  - b. Successful completion of four (4) semester hours of accredited college or university coursework pertaining to special population student services. Related coursework includes but is not limited to: exceptional children and youth, assessment of students with disabilities, behavior management, cognitive disabilities, transition, corrective reading, and assistive technologies.
  - c. Successful coursework towards an earned minor in English or mathematics at an accredited college or university.
3. Provisional certification as a CTBSE may be granted upon approval of an instructional plan to earn the required credits. Such provisional certification may be renewed annually with verified documentation of progress towards fulfillment of the instructional plan.

### **Five-Year Renewal**

1. Licensed CTE special populations personnel with the CTRE, CTBSE, or Mentor endorsement will earn six (6) semester hours as required by ESPB for renewal of the North Dakota Teaching License. To renew a CTE Special Populations Credential, complete [SFN 51688](#), per the instructions. Documentation of attendance at the CTE Professional Development Conference, the ND Special Needs Educators' Conference, or credits earned at accredited colleges or universities related to provision of services to special populations will be accepted.

## Work-based Learning Coordinator

### Provisional Endorsement

The Provisional North Dakota Work-based Learning Coordinator Endorsement is a one-time, two-year endorsement. To receive a Provisional Work-based Learning Coordinator Endorsement, individuals must:

1. Hold a bachelor's degree from an accredited institution of higher education.
  - a. NDCTE reserves the right to approve applicants without a bachelor's degree through a formal appeal process.
2. Have at least a five-year employment history.
3. Complete the application for a Regular Work-based Learning Coordinator Endorsement through the North Dakota Department of Career and Technical Education on the ESPB Site.
4. Complete the NDCTE Work-based Learning Coordinator Training.
5. Provide the Department of Career and Technical Education with a plan for completing the requirements for the Work-based Learning Coordinator Endorsement.

### FIVE-YEAR RENEWAL

1. At the end of the 2-year provisional period, WBL Coordinators can renew their endorsement if they have followed the guidelines established by NDCTE and documented the WBL Program impact.
2. The WBL Coordinators will complete and submit the NDCTE WBL Program Impact Surveys twice each year and attend monthly WBL Professional Development and Collaboration Meetings. WBL Coordinators will apply for the WBL Coordinator Endorsement Renewal on the ESPB Website. [Renewal Application for Career and Technical Education Certification \(SFN 51688\)](#).

## Funding Policy Memo

The funding subcommittee is providing the following Funding Policy and Funding Policy Appendix for Board review and possible action.

The funding subcommittee collected feedback from CTE Directors as well as continues to weight priorities. The weighting process developed percentages of the Department's current appropriation, in which to create a baseline to build upon, when additional dollars are Legislatively appropriated.

With guidance from the funding subcommittee and input from local CTE Directors, the Department is making the following recommendations:

- 1) 5% of the current secondary grants line is to be set aside to fund the Performance Indicators of Work-based Learning and Concentrator targets.
- 2) 67% of the remaining funds are to support CTE Centers allocations
- 3) 33% of the remaining funds are to support School District allocations. These funds are to be distributed based on FTE count, including dollars to support school district CTE Administrators.
- 4) 82% of the CTE Center allocation would be considered base funding.
  - a. 75% of the base would be distributed based on instructional and counseling FTE counts.
  - b. 25% would support Center Operations.
    - i. Center operations would be distributed based on the FTE Count of the CTE Administrators.
    - ii. A brick-and-mortar center would receive a 2:1 allocation compared to a virtual center, to account for higher infrastructure costs.
- 5) The remaining 18% of Center funding would support the access allocations as follows:
  - a. 27.5% - Enrollment
  - b. 45% - Program Weighting
  - c. 27.5% - School District Membership

With these percentages, the Department was able to calculate the allocations for each bucket, based on current appropriation. That established the allocations included in the Funding Policy Appendix. Those allocations will grow, when infused with Legislatively appropriated cost to continue dollars. That will also set the allocation for any new, expanding, transferring, or reinstated programs.

It is the Department's recommendation to approve the appendix and policy, with the flexibility to adjust at the conclusion of the Legislative Session. It is also the recommendation of the Department to extend an amended version of the current interim policy for the 2025-26 school year and to implement the new policy in 2026-27. This will allow the Department to build the needed infrastructure to administer a new policy, provide allocation amounts to recipients sooner, and allow recipients a year to adjust to the new policy.

## Secondary Career and Technical Education Funding Levels

Funding levels will be reviewed annually and may be adjusted, based on available funds. Eligible recipients will be notified in a timely manner for proper planning and budgeting for the upcoming year.

In legislative years, when allocations are not immediately available due to pending legislative decisions, eligible recipients should proceed with using the previous year's allocation until updated amounts are finalized and communicated.

Below is the base funding, performance-based adjustments and CTE Center operating funds levels for the 2025-2026 school year.

Base Funding – Funding received for each instructional and career development FTE

### Comprehensive High School

#### Program

Tier 1 - \$13,966

Tier 2 - \$17,457.50

Tier 3 - \$20,949

CTE Administrator - \$30,000

### Career and Technical Education Center

#### Program

Tier 1 - \$34,074

Tier 2 - \$42,592.50

Tier 3 - \$51,111

Performance Allocations – Funding received for each instructional FTE meeting the state determined targets

WBL - \$981

Concentrator - \$981

### CTE Center Access Allocations

Student Enrollment - \$50

Programs Offered - \$8952 — This is per program. Additional work is needed, if it is decided to provide more dollars to higher cost programs.

Member School Districts - \$5471

CTE Center Operations – Funding received for each CTE Administrator FTE – The administrator must be approved by the Department to receive funding.

Brick and Mortar Center - \$174,056

Virtual Center - \$87,028

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<b>Added-Cost Funding District</b>		
<b>Tier 1 - 1X \$13,966.00</b> Business Education Career Development Health Sciences Information Technology Tech & Engineering Family & Consumer Sciences Marketing Education Electronics Graphic Arts/Communications Commercial Art Visual Arts Facilities Maintenance Restaurant Management Law Enforcement Recreation Engine Petroleum Technology	<b>Tier 2 - 1.25X \$17,457.50</b> Auto Technology Aviation Technology Building Trades Auto Collision Machine Tooling Electrical Culinary Arts	<b>Tier 3 - 1.5X \$20,949.00</b> Agriculture Automated Manufacturing Heavy Equipment Welding Diesel Technology CDL
<b>Added-Cost Funding Center</b>		
<b>Tier 1 - 1X \$34,074.00</b> Business Education Career Development Health Sciences Information Technology Tech & Engineering Family & Consumer Sciences Marketing Education Electronics Graphic Arts/Communications Commercial Art Visual Arts Facilities Maintenance Restaurant Management Law Enforcement Recreation Engine Petroleum Technology	<b>Tier 2 - 1.25X \$42,592.50</b> Auto Technology Aviation Technology Building Trades Auto Collision Machine Tooling Electrical Culinary Arts	<b>Tier 3 - 1.5X \$51,111.00</b> Agriculture Automated Manufacturing Heavy Equipment Welding Diesel Technology CDL



# North Dakota State Board for Career and Technical Education

## Career and Technical Education Funding Policy

Approved Date: MM/DD/YYYY

[ND State Board for CTE Board Members](#)

[ND Department of Career and Technical Education](#)

It is the policy of the North Dakota State Board for Career and Technical Education not to discriminate in its educational programs, activities, or employment policies as required by Final Regulation implementing Title IX of the 1972 Education Amendments, Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973.

The Board policy does not advocate, permit, nor practice discrimination on the basis of sex, race, color, national origin, religion, age, or disability as required by various state and federal laws. Equal education opportunity is a priority of the North Dakota State Board for Career and Technical Education.

The Career and Technical Education (CTE) Program Funding Policy was developed to address several State Board for Career and Technical Education (Board) priorities.

The funding policy therefore aligns with the following six priorities:

- 1) Ensures equitable access,
- 2) Ensures quality,
- 3) Incentivizes high quality,
- 4) Eases understanding for stakeholders,
- 5) Lessens the time burden on Department of Career and Technical Education (Department) Staff and local recipients, and
- 6) Focuses on outputs instead of inputs.

### Minimum Requirements

Department Program Supervisors must ensure programs meet the definition of size, scope, and quality as defined in the [Perkins V State Plan](#) and Vision Visit results.

Department Program Supervisors will notify the Fiscal Department which programs are eligible for funding.

High Schools and CTE Centers will not be funded for programs that cease to be provided or if a Program Supervisor determines the CTE program to be ineligible. Any program that has a gap in offering or approval (ex. offered in 2021-22 but not in 2022-23) must apply as a reinstated program to be eligible for funding.

## Funding Allocation

The funding allocation provided is designated for use within CTE programs. Eligible recipients have the flexibility to apply these funds as needed to support and enhance CTE offerings, whether it be for equipment, resources, curriculum development, or other initiatives that align with program goals and needs.

The total amount of funding allocated to each eligible recipient will be determined yearly by the following components:

- 1) **Base Allocation:** Each eligible recipient will receive a base funding allocation calculated from the FTE of the program. Programs will be placed in tiers, based on the traditional average cost of a program. Each tier will have a base funding allocation assigned to it, which is intended to address variations in expenses of programs considered low cost and high cost.
- 2) **Performance Allocation:** Eligible recipients may qualify for performance-based funding, with adjustments determined using FTE calculations:
  - a. Meeting the annual CTE Concentrator target set by the Board. (The definition of a secondary CTE Concentrator is a student that has completed at least two credits in a coordinated plan of study.)
  - b. Meeting the work-based learning target set by the Board. (The work-based learning experience must meet guidelines as defined in the work-based learning guidance.) [WBL Guidance](#)

Achieving these criteria demonstrates commitment to student success and workforce readiness, which are key factors in securing additional funding to support educational programs.

## Career and Technical Center Access Allocations

CTE Centers will receive funding based on the following access factors:

- 1) **Member Schools:** A center will receive an allocation based on the number of member school districts served by the CTE Center.
- 2) **Programs Offered:** A center will receive an allocation based on the number of programs delivered.
- 3) **Student Enrollment:** A center will receive an allocation based on all CTE Center student enrollments. Course credits are used to determine enrollments.

## Career and Technical Center Operations Allocations

A CTE Center will receive an allocation based on each CTE Administrator FTE. The administrator must be approved by NDCTE to receive funding.

## **Funding for New, Expanding, Transferring, and Reinstated Programs**

Any new, expanding, transferring, or reinstated programs will be drawn from Legislatively appropriated new and expanding funds. To ensure stable funding, programs will *only* receive funding as specifically appropriated by the legislative body.

**Funding New Programs:** A new program will receive the base funding amount along with all performance-based factors in year one. In the second year, funding will be adjusted based on reaching performance-based targets. A new CTE program refers to a program that a high school or CTE center has not offered within the last five years.

**Funding Transferring Programs:** A transferring program will receive the base funding amount and performance-based adjustments based on the program's recent year's performance data for the first year of the transfer. In the second year, funding will be adjusted based on reaching performance-based targets. A transferring program is an approved CTE program(s) transferring from a High School or an existing/dissolving CTE Center to a CTE Center.

**Funding Reinstating Programs:** A reinstated program will receive the base funding amount and performance-based adjustments from the last year the program was in operation, if data is available. In the second year, funding will be adjusted based on reaching performance-based targets. A reinstated program is a CTE program that had a gap in offering or approval for more than one year, but less than five years.

**Funding Expanding Programs:** Funding for an expanding program will be adjusted according to the nature of the expansion, such as changes in FTE count, enrollment increases, or other relevant criteria. An expansion is defined as a program that increases access through additional course offerings, course sections, and/or staffing.

## **Funding Level Adjustments**

All funding levels will be reviewed annually and may be adjusted, based on available funds. A preliminary estimate will be shared by March 31, with a final allocation being communicated by May 31, if changes occur. New allocations will take effect July 1 of each year.

In legislative years, when allocations are not immediately available due to pending legislative decisions, eligible recipients should proceed with using the previous year's allocation amount until the updated amounts are finalized and communicated.

Allocations for existing, transferring, new, expanding, and reinstated CTE programs are dependent upon the availability of sufficient funds.

## **Fiscal Accountability Requirements**

Eligible recipients shall report to the Fiscal Department by September 15<sup>th</sup> how the funds were used. This will be completed utilizing the Annual Expenditure Report. A desk audit of 10% of all recipients will be conducted annually. Adverse findings in the desk audit may negatively impact funding. If an eligible recipient fails to submit the Annual Expenditure Report, they will be ineligible for funding in the subsequent year.



## North Dakota Department of Career and Technical Education

### Funding Policy for 2025-26 School Year

**Approved Date: June 26, 2023**

**Effective Date: July 1, 2023**

**Amended Date: New approval date**

[ND State Board for CTE Board Members](#)

[ND Department of Career and Technical Education](#)

It is the policy of the North Dakota State Board for Career and Technical Education not to discriminate in its educational programs, activities, or employment policies as required by Final Regulation implementing Title IX of the 1972 Education Amendments, Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973.

The Board policy does not advocate, permit, nor practice discrimination on the basis of sex, race, color, national origin, religion, age, or disability as required by various state and federal laws. Equal education opportunity is a priority of the North Dakota State Board for Career and Technical Education.

#### **Purpose:**

To effectively obligate funds allocated to the Department of Career and Technical Education (CTE) as a result of the 69th Legislative Assembly to currently approved Career and Technical Education programs provided by Area Career and Technical Education Centers (CTE Centers) and High Schools, and to provide funding for transferring, new, expanding, and reinstated programs for the 202526 school year that meet the definition of size, scope, and quality as defined in the North Dakota Perkins V State Plan.

<b>CTE Centers</b>	A minimum of three occupational programs of career and technical education with attendance by three or more participating school districts. To receive funding, a CTE Center must have a Joint Powers Agreement (JPA), approved by the State Board for Career and Technical Education. The Governing Board, indicated in the JPA, will assume governance responsibility and hire a CTE Director, certified by the Department of Career and Technical Education.
<b>High School</b>	Must provide at least one career and technical education program to receive funding.

## **Existing Programs (Previously Approved)**

To be reimbursed, CTE State Program Supervisors must ensure programs meet the definition of size, scope, and quality as defined in the North Dakota Perkins V State Plan and State Vision Visit results. Program supervisors will notify the CTE Administrative Team which programs are eligible for funding.

High Schools and CTE Centers will not be funded for programs that cease to be provided. Any program that has a gap in providing, i.e., provided in 2022-23 but not 2023-24, may apply as a reinstated program and will be reimbursed at the existing program reimbursement rate based on the budget provided. Program reimbursement will be prorated, if courses provided are reduced but still meet program quality requirements, according to size, scope, and quality as defined in the North Dakota Perkins V State Plan and State Vision Visit results.

For the 2025-26 School Year, previously approved CTE Programs operating prior to the 2023-25 Biennium will be reimbursed based on 2024-25 fiscal year reimbursement plus an increase of 4% if provided by a High School and 7% if provided by a CTE Center.

Programs that were approved in the 2024-25 Biennium and received the 75% or 50% new program reimbursement rate will be prorated to the traditional 40% and 27% reimbursement, plus a x% increase if provided for a High School or y% increase if provided for a CTE Center, for the 2025-26 school year.

High Schools and CTE Centers shall report to CTE annually, by July 15, how the funds were used. This will be completed utilizing the Annual Expenditure Report. A desk audit of 10% of all programs and recipients will be conducted annually, based on an agency (CTE) risk assessment.

## Transferring, New, Expanding and Reinstated Programs

### Definitions:

<b>Transferring</b>	Approved CTE program(s) transferring from a High School to a CTE Center.
<b>New</b>	CTE program(s) not previously provided by a High School or CTE Center.
<b>Expanding</b>	A CTE program that is increasing access through additional courses provided, course sections and/or staffing.
<b>Reinstated</b>	A CTE program that had a gap in providing instruction for one year or more.

High Schools and CTE Centers providing transferring, new, expanding, and reinstated programs shall apply for approval to the Department of Career and Technical Education. Once approved, transferring, new, expanding, and reinstated programs shall submit all required documentation to verify reimbursement amounts for the first year of providing programming. Documentation includes receipts, teacher contracts, etc. Approved expenses are depicted as follows:

<b>CTE Center</b>	Approved salaries; fringe benefits; and supplies which may include curriculum, equipment, or lease of facilities that would facilitate the delivery of the CTE program. Approved equipment as a part of the Career and Technical Education Capital Project Program is excluded from this policy.
<b>High School</b>	Approved salary and travel

- **Transferring Program Funding Rate**

Transferring CTE program(s) will be reimbursed 40% of all approved CTE program costs.

- **New Program Funding Rate**

New CTE program(s) will be reimbursed 75% of all approved costs for the first year of implementation if provided by a CTE Center and 50% for the first year of implementation if provided by a High School. The reimbursement rate will be adjusted to the State Board for Career and Technical Education approved reimbursement rate in year two.

A sustainability plan for each program must be submitted to be an approved program.

- **Expanding Program Funding Rate**

Expanding CTE program(s) will be reimbursed 27% of salary and 30% of approved travel if provided by a High School and 40% of all approved costs if provided by a CTE Center.

- **Reinstated Program Funding Rate**

Reinstated CTE program(s) will be reimbursed 27% of salary and 30% of approved travel if provided by a High School and 40% of all approved costs if provided by a CTE Center.

## **Transferring, Expanding and Reinstated Family & Consumer Sciences, Technology & Engineering Education, and Career Development Programs**

These programs will be reimbursed as follows:

<b>Family &amp; Consumer Sciences</b>	<ul style="list-style-type: none"><li>• 19% Reimbursement on Instructional Salaries and Extended Contracts</li><li>• 30% Reimbursement on Approved Travel</li><li>• No State Reimbursement on Equipment</li><li>• Current Reimbursement is for grades 9-12 only</li></ul>
<b>Technology &amp; Engineering Education</b>	<ul style="list-style-type: none"><li>• 27% Reimbursement on Instructional Salaries and Extended Contracts<ul style="list-style-type: none"><li>○ (Engineering by Design and Project Lead the Way programs in grades 9-12 only)</li></ul></li><li>• 30% Reimbursement for Approved Travel</li><li>• 40% Reimbursement on Equipment in grades 7 and 8 only</li></ul>
<b>Career Development</b>	<ul style="list-style-type: none"><li>• 35% Reimbursement on Salaries and Extended Contracts</li><li>• 30% Reimbursement on Travel</li></ul>

This policy will expire on June 30, 2026. Reimbursement of existing, transferring, new, expanding, and reinstated CTE programs is dependent upon the availability of sufficient funds.