



south dakota DEPARTMENT OF EDUCATION

Learning. Leadership. Service.

South Dakota Career and Technical Education Standards Revision 2021

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Introduction

Career and Technical Education (CTE) in South Dakota includes organized educational programs that provide a sequence of courses directly related to preparing individuals for employment in current or emerging high-wage and high-skill occupations. These programs offer standards-based learning that contributes to an individual's academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, and occupational-specific skills.

This year, the courses, sequences, standards, and sub-indicators for six CTE areas were reviewed and revised. The current CTE state standards utilized in South Dakota CTE were the starting point for the process of standards review and update.

Participants

Project participants included South Dakota Department of Education Division of Career and Technical Education Program Staff, South Dakota CTE Cluster Revision Teams comprised of subject experts, secondary and post-secondary educators, and industry partners, who reviewed and provided feedback along with project facilitators from Thomas P. Miller & Associates, Fleck Education, and Advancing Connections Inc.

Process

South Dakota's Career and Technical Education standards are undergoing a review, revision, and adoption process.

Rigorous standards, consistent and effective program quality across the state, alignment to postsecondary and industry needs, and robust participation from the business community were top priorities in the process of developing and reviewing standards.

The following CTE Clusters were included in the review process for this year.

- Agriculture, Food and Natural Resources
- Arts, Audio/Video Technology and Communications
- Finance
- Health Science
- Human Services
- Manufacturing

The Project Facilitators worked with South Dakota Department of Education Division of Career and Technical Education Program Staff to establish Cluster Revision Teams for each of the CTE Clusters being reviewed this year. These teams played an integral role in the process for standards review by providing oversight and feedback throughout each phase.

The Revision Teams considered the priority needs addressed in the charge from the South Dakota Department of Education Division of Career and Technical Education and utilized those principles as

guiding factors when reviewing standards and developing recommendations. Additionally, the following criteria for standards were considered:

- Research-based
- Rigorous
- Connected to industry
- Promote readiness for college, career, and life
- Support students' capacity for disciplinary thinking
- Show clear progression of career and technical expectations from foundation through capstone courses

Multiple steps and stakeholder groups were involved in the process for revising standards in career and technical education to encourage student success.

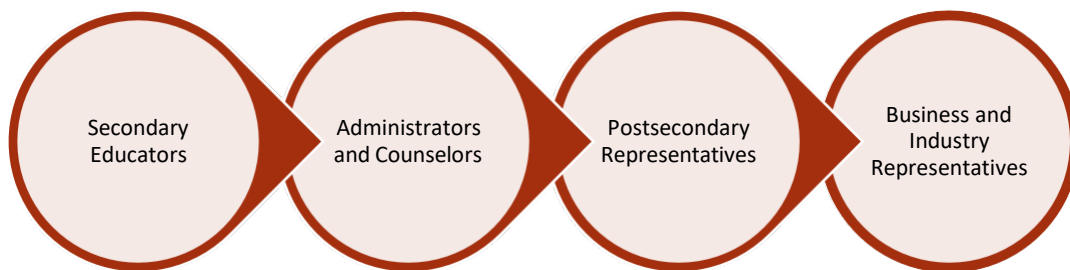
STEP 1	Specialists Reviewed Materials
STEP 2	Revision Teams Assembled
STEP 3	Stakeholders Surveyed
STEP 4	Data Utilized to Update Standards
STEP 5	Report Assembled for Public Review
STEP 6	Standards Finalized and Approved

Step One

Review of the standards by both South Dakota DOE/CTE Program Staff and Project Facilitators for analysis of state needs and alignment with national standards was an initial part of the process. South Dakota DOE/CTE Specialists met with Project Facilitators to review current program descriptions, sequencing, and standards, along with current and emerging needs.

Step Two

The second step was to engage stakeholders to serve on Revision Teams. Team members were solicited through a virtual application, which was communicated through distribution lists and outreach from DOE/CTE Staff. Revision Team members were sought to include the following representation.



Step Three

Online surveys were developed and widely distributed to stakeholders to review current standards and participate in the process. Stakeholder types included:

- Teacher
- Postsecondary educator
- Administrator
- Counselor

- Business and industry representative
- Organization representative
- Community member

Online surveys were made available to the public through the South Dakota Department of Education Division of Career and Technical Education's distribution lists. Revision Team members were invited and encouraged to help distribute the surveys through their own networks. The surveys were available online from April through mid-May. More than 100 reviewers provided their feedback.

Reviewers were asked to identify both their stakeholder types and the region they were from in order to document a broad-based review. Engagement of stakeholders from all six of South Dakota's CTE regions was evident on the survey results.

Reviewers were invited to provide feedback on each individual standard indicator, sub-indicator, and statements of knowledge, understanding, and skill. They could suggest keeping the standard as it was written, or suggest a revision, or suggest that the standard be eliminated. Reviewers could then suggest specific revisions and provide comments about why a standard should be revised or removed. Their responses provided both quantitative data about stakeholder ratings and standard-specific qualitative feedback to be considered. Survey results were utilized in editing and creating the 2021 CTE Standards presented in this report.

Step Four

Revision Teams were established and brought together virtually. They met over three days in June to review course titles, course sequences, course descriptions, standards/indicators, and sub-indicators, utilizing the survey data that had been summarized by the Project Facilitators. Each Revision Team received all survey results, including raw data and summarized recommendations for changes, standards that needed to be addressed because of the survey recommendations, and all comments from survey participants.

One day of the process was dedicated to conversation with business and industry representatives. The Revision Teams worked to discuss questions important to all business and industry sectors. Then they worked to delve deeper into business and industry needs related to particular sectors. This session time allowed more intentional focus on connecting South Dakota's CTE standards to industry needs.

Revision Teams utilized this data and their professional experiences to work collaboratively through a virtual system to address all feedback from survey participants and to address changes in the industry. The Revision Teams finalized their recommended changes in preparation for public review and adoption of standards.

Step Five

Standards were then finalized and assembled into a report to share at State Board of Education Standards Meetings and Public Hearings during the 2021-2022 school year.

Step Six

The final step in this phase of the process is adoption of the standards after public review and comment is conducted at the State Board of Education Standards Meetings.

Career and Technical Education Standards Revision Summary, Summer 2021

Career and Technical Education (CTE) in South Dakota includes organized educational programs offering a sequence of courses directly related to preparing individuals for employment in current or emerging occupations. These programs include standards-based learning that contributes to an individual's academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, and occupational-specific skills. This year, six CTE area courses, sequences, standards, and sub-indicators are being reviewed and revised.

- Agriculture, Food and Natural Resources
- Arts, Audio/Video Technology and Communications
- Finance
- Health Science
- Human Services
- Manufacturing

The important work of the Career and Technical Education standards revision included surveying educator stakeholders via a voluntary on-line survey in the spring of 2021. Revision Teams comprised of educator experts in each of the six areas under review were convened in June 2021. The revision teams reviewed current standards and recommendations gleaned from survey results and collaborated to make recommendations that would assure courses, course sequences, and standards that are rigorous, coherent, and focused to best serve the learning needs of all students in South Dakota.

Agriculture, Food, and Natural Resources Cluster

The Agriculture, Food, and Natural Resources Career Cluster engages students in the study of careers in the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources. The pathways available in this cluster include:

- Food Products and Processing Systems
- Plant Systems
- Animal Systems
- Power, Structural and Technical Systems
- Natural Resources Systems
- Environmental Service Systems
- Agribusiness Systems

Revision Team Members*

Matt Fleck	Fleck Education
Brianna Fabris	South Dakota DOE/CTE
Sara Colombe	Hoven High School
Joshua Johnson	Brookings High School
Matti Boomgaarden	Clark High School
Charlene Weber	Howard High School
Angela Ehlers	SD Association of Conservation Districts
Michelle Nelson	GDM Solutions
Tim Goldammer	Mitchell Tech
Kassandra Lee	Central High School
Laura Hasselquist	South Dakota State University
Shauna Steiner	LATC
Anne J Erdmann	Leola School
Shane Gross	Hitchcock-Tulare School
Lisa L Steinken	Rapid City Central High School
Kelly Dunkelberger	Parker School District
Jacob Englin	Deubrook High School
Nicole Roth	Winner School District
Noelle Swanson	Northwestern High School

*Work group members served in an advisory role in preparing the proposed CTE standards. The Department of Education is responsible for preparing the standards and submitting them to the Board of Education Standards for final approval.

Notable Changes

The Revision Team for Agriculture, Food and Natural Resources (AFNR) recommended several changes to the AFNR courses and standards in 2021.

- A new SAE course was proposed and developed, for students that complete a Supervised Agriculture Experience outside of classroom time.
- A common set of Supervised Agriculture Experiences (SAE) standards were added to the

standards of almost every AFNR course.

- A set of safety standards covering the proper use of equipment and tools was added to the standards of almost every AFNR course.
- Changes were proposed to the AFNR *Environmental Science* course, including retitling the course to *Issues in Environmental Science* to distinguish it from its science counterpart.
- Changed *Advanced Horticulture* to *Horticulture Operations* to better reflect the range of horticulture areas represented in the course.

Arts, Audio/Video Technology and Communications Cluster

The Arts, Audio/Video Technology and Communications Career Cluster engages students in the study of careers in designing, planning, managing, building, and maintaining the built environment. The pathways identified for this cluster include:

- A/V, Technology, and Film
- Journalism and Broadcasting
- Visual Arts

Revision Team Members*

Alyson McIntyre-Reiger	Advancing Connections
Jane Gubrud	South Dakota DOE/CTE
Brad Nupen	Brookings High School
Teresa Froelich	Meade School District
Marica Shannon	Mitchell High School
Karen Mettler	Eureka High School
Sarah Ellis	Mitchell Technical College
Michael Modahl	Lake Area Technical College
Charlotte Mohling	Wessington Springs School District
Suzy Ries	Washington High School
Karline Clark	Douglas High School
Cindy Brace	Redfield High School

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Notable Changes

All courses remained in the cluster but the team decided to streamline the cluster and reorganize the six existing pathways, creating the three pathways that best suit the industry needs and interests of students in South Dakota. This change helped to eliminate some repetition among pathways and will make implementing the pathways easier for South Dakota schools. Courses were identified for each pathway:

<i>A/V, Technology, and Film</i>	<i>Journalism and Broadcasting</i>	<i>Visual Arts Pathway</i>
Broadcast Technology	Broadcast Technology	Fashion Design
Digital Animation	Digital Production for Entertainment	Graphic Design I and II
Digital Music Production	Graphic Design I and II	Interior Design I and II
Digital Production for Entertainment	Journalism Design	Drafting and Design I
Electronics	Media Production	Photography I and II
Graphic Design I and II	Multimedia Design	Visual Media Design
Journalism Design	Photography I and II	Web Development I and II
Media Production	Production Tech	
Multimedia Design	Visual Media Design	
Network Technologies		

Photography I and II		
Production Tech		
Visual Media Design		
Web Development I and II		

In addition to major changes with the pathways, a few key topics emerged from stakeholder feedback and Cluster Revision Team discussions.

- Concept 1: The importance of universal design and ADA compliance in many areas related to media, graphics, and beyond.
- Concept 2: The importance of employability and industry skills. The Cluster Revision Team worked to make edits and identify clearer connections to industry-based skills along with verifying that employability skills were embedded into the pathways.
- Concept 3: Legalities around the design industries including laws and legal concepts that industry members would need to know.
- Concept 4: A shift in the name of Visual Communications to Visual Media Design to help distinguish the course from a current Art course and to better align to the standards included.

Changes in Courses

- Minor edits were made to update terminology, added, and increase industry connections.
- Standards for Interior Design I and Interior Design II were adjusted to distinguish between the two levels and to add universal design and sustainable practices.
- Digital Music Production – minor edits, content remained the same
- ADA compliance in graphic design added as standards in Graphic Design I and Graphic Design II.
- The course title Visual Communications was changed to Visual Media Design to better distinguish it from a course with a similar title in fine arts.

Finance Cluster

The Finance Career Cluster engages students in the study of careers in planning and services for financial and investment planning, banking, insurance, and business financial management. The pathways available in this cluster include:

- Accounting
- Banking Services
- Business Finance
- Insurance
- Securities and Investments

Revision Team Members*

Eric Feldberg	Fleck Education
Kara Schweitzer	South Dakota DOE/CTE
Ryan Kroger	Harrisburg High School
Kristie Olson	Madison High School
Drew Bunkers	Dell Rapids School
Robert Bergstrom	Oldham-Ramona School
Laura Elaine Quail	Brookings High School
Annika Russell-Manke	Mitchell Technical College
Kory Allen	First Premier Bank
Kerry Stager	Lake Area Technical College

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Notable Changes

The Revision Team considered course titles in the Finance Cluster and recommended several changes to help communicate the preferred sequence of courses and the course content:

- Change Advanced Accounting to Accounting II
- Change Specialized Accounting to Advanced Accounting
- Change Banking Services to Principles of Banking
- Change Introduction to Financial Services to Introduction to Financial Industries
- Change Risk Management and Insurance to Principles of Insurance

Many of the work group recommendations focused on updating and clarifying terminology in the indicators and refining the examples provided for each sub-indicator. Work groups also suggested changes in course descriptions to better communicate the course content. Principles of Banking received a new sub-indicator about new technologies and mobile banking apps. The team consolidated and clarified language in several courses.

Health Science Cluster

The Health Science Career Cluster engages students in the study of content knowledge and skills for entry level, technical, and professional careers in the healthcare industry.

The pathways available in this cluster include:

- Therapeutic Services
- Diagnostic Services
- Health Informatics
- Support Services
- Biotechnology Research and Development

Revision Team Members*

Peggy Wild	Advancing Connections
Jamie Boettcher	South Dakota DOE/CTE
Kristin Larson	South Dakota DOE/CTE
Michelle Osborn	Southeast Technical College
Lori Jo Christensen	Madison Central School District
Shirlyce Weisser	Mitchell Technical College
Brock Rops	HOSA, Sanford School of Medicine
Nicole Pahl	Lake Area Technical College
Robyn Adler	Lake Area Technical College
Brenda Norton	Lake Area Technical College

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Notable Changes

The Health Science Cluster Revision Team members represented both practitioners from post-secondary and educators. They worked as a team to review and recommend updates and revisions for the nine courses in the Health Science Cluster. Many of the work group recommendations focused on updating and clarifying terminology in the indicators and refining the examples provided for each sub-indicator. Work groups also suggested changes in course descriptions to better communicate the importance of involving industry personnel to assure compliance with requirements for students to earn certifications.

Course level changes being recommended to better reflect and communicate the purpose of each course

- Change Health Science Careers I to Health Science Careers I: Exploration
- Change Health Science Careers II to Health Science Careers II: Engagement
- Change Certified Nursing Assistant to Gateway to Certified Nursing Assistant to emphasize that students will have addition steps beyond completion of this course to receive a CLNA.
- Change Pharmacy Technician to Introduction to Pharmacy Technician - this course is an introductory-level course for this pathway so the course title will clarify the scope of the course content.

Human Services Cluster

The Human Services Career Cluster engages students in the study of content knowledge and skills for career pathways that relate to families and human needs, including professional and technical-level. The pathways available in this cluster are:

- Early Childhood Development and Services
- Family and Community Services/Mental Health Services
- Personal Care Services
- Consumer Services

Revision Team Members*

Kelly Dunn	Fleck Education
Amber Rost	South Dakota DOE/CTE
Roberta Stoebner	Menno District 33-2
Wrayanne Pankratz	Marion Middle/High School
Frankie Nelson	Bridgewater-Emery High School
Elissa Herman	Sioux Falls School District-Edison
Nicole A Graves	South Dakota State University
Sarah Armbrust	Vermillion School District
Suzy Ries	Washington High School
Sarah Jongeling	Madison Central High School
Charlotte Mohling	Wessington Springs School District
Julie Hart Schutte	Mitchell Technical College
Jill Donelan	Donelan Counseling
Janice Brandenburger	Brandenburger Consulting
Jackie Abel	Lake Area Technical College

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Notable Changes

The Human Services Cluster Revision Team members, representing both practitioners and educators, worked as a team to review and recommend updates and revisions for the courses in the Human Services Cluster. The group also reviewed feedback from survey participants to make updates as recommended and focused on updating and clarifying terminology. They also updated course descriptions to be more inclusive to the Human Services industry.

- Fundamental Food Concepts (16052) was added to the Family & Community Services/Mental Health Services Pathway in order to address content knowledge needed in the field.
- Course title Consumer Affairs was changed to Consumer Resources and Management. The course was updated to reflect more current themes and industry expectations related to consumer issues in Human Services areas.
- Course title Relationships across the Lifespan was changed to Lifespan Connections to better reflect the updated standards.

Manufacturing Cluster

The Manufacturing Career Cluster engages students in the study of careers in planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering. The pathways available in this cluster were streamlined to include:

- Welding
- Precision Machining
- Automation
- Design and Engineering

Revision Team Members*

Nioka Clark	Thomas P. Miller and Associates
Brianna Fabris	South Dakota DOE/CTE
Amy Miller	South Dakota DOE/CTE
Belinda Miller	Sioux Valley High School
Don Ryswyk	Sioux Falls Career and Technical Education Academy
Philip Russell	Mobridge Pollock School
Kyle Sander	Rapid City School District - South middle school
Jason Merritt	Southeast Technical College
Lee Anderson	Trail King Industries

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Notable Changes

Changes were made to address feedback from the initial review about the need to include skills needed for successful careers in this industry.

Many of the work group recommendations focused on updating and clarifying terminology in the indicators and refining the examples provided for each sub-indicator. Work groups also suggested changes in course descriptions to better communicate the course content.

Discussion within the revision team centered on several key points regarding trends and innovations in the industry. An increased focus on application to careers in the manufacturing cluster was inserted in these courses.