Computer Science and Cybersecurity
Content Standards Writing Committee
Meeting Minutes
July 31-August 1, 2024

Wednesday, July 31, 2024
8:15 AM – 4:30 PM
Bismarck Career Academy

Meeting Convened: 8:15 AM
Meeting Adjourned: 4:30 PM

Attendance – Computer Science and Cybersecurity Content Standard Writing Committee Members

- Lesley Allen
- James Bear
- Brenda Cain
- Sarah Francetich
- Misti Frink
- CindyGlavin
- Daphne Heid
- Kelly Kornkven
- Alicia Marsh
- Ullrich Reichenbach
- Marisa Riesinger
- Nicole Weltin (PM, online)
- Leah Wheeling

Attendance – Facilitators - NDDPI, NDCTE, and EduTech Staff Members

- Davonne Eldredge, NDDPI
- Brad Hoffarth, NDCTE
- Jason Mattheis, EduTech
- Steve Snow, NDDPI (AM)
- Tabitha Teel, EduTech
- Marty Creel, CODE.org (virtually)

Welcome
Davonne Eldredge welcomed the Computer Science and Cybersecurity Content Standards Writing Committee members and expressed gratitude for their service and committed support. She facilitated introductions of the committee members, NDDPI, NDCTE, and EduTech staff.

Welcome by Superintendent Baesler
Superintendent Kirsten Baesler greeted the committee members and discussed the purpose of the standards revision.

Introductions, Overview of Roles and Responsibilities
Davonne Eldredge thanked the committee for the vital work they will be doing. The roles and responsibilities throughout the process were reviewed.

Introduction to Standards Development
Davonne Eldredge reviewed the purpose of content standards, design elements, ND Legislative mandates, and the future selection of a Content Standards Review Committee. ND open records and meeting laws were also reviewed.

Guiding Process for Standards Development
Ms. Eldredge discussed group working agreements, the "Fist to Five" method of reaching consensus, various group structures, and the use of the TEAMS site for Committee work and resources.

Presentation and Discussion: Internet of Things and Basic Coding
Jason Mattheis presented information about the Internet of Things and basic coding. He then discussed how the committee thought the Internet of Things and basic coding could be represented in the revised standards and how much of this information should be included.

Discussion of Challenges Faced in Computer Science and Cybersecurity
The committee broke into small groups to discuss computer science and cybersecurity challenges. After the discussion, each group shared the challenges identified with the entire committee. Information was recorded for reference as the work on standards continued.

Tasks for July/August Meetings
Tasks for this two-day session were reviewed, and points to consider during the process were discussed. Ms. Eldredge stressed that all standards should be appropriate to all ND students and reflect ND priorities for content learning. She reviewed the differences between standards and curriculum. She reiterated that this committee writes the standards, while the curriculum is written in the local school district. The group was informed that the local school district sets the instructional units, lessons, and practices.
- Task 1: Current North Dakota standards analysis
- Task 2: Analyze comparable state and national standards
- Task 3: Determine the organizational structure
- Task 4: Identify and describe elements within the organizational structure

Review of Initial Survey Information
Ms. Eldredge led a review of the survey results given to North Dakota computer science and cybersecurity teachers before the standard's work. The survey requested information regarding perceived strengths, opportunities for change, current computer science and cybersecurity trends to embed in standards, and suggestions for the writing committee.

Group Work – Task 1
The committee broke into small groups to review the current North Dakota computer science and cybersecurity standards. They identified the standards' strengths and weaknesses and noted elements they may want to retain when revising them.

Whole Group Discussion of Task 1
Each group shared their observations and opinions regarding which elements of the current computer science and cybersecurity standards work and do not work, considerations from other states' standards, and survey results. The focus was on current content area research, reflecting ND priorities and user-friendly formats.

Presentation and Discussion: Large Language Models
Marty Creel from CODE.org provided a virtual presentation explaining how large language models work. The presentation outlined both positive and negative uses of these models. Following the presentation, committee members asked questions regarding these models and their use.

Group Work – Task 2
The committee broke into small groups to review national standards, standards from other states, and the North Dakota Library Media and NDCTS Computer Science standards. They noted the strengths and weaknesses of those standards and identified aspects they may want to consider when revising them.

Whole Group Discussion of Task 2
Tabitha Teel led the discussion, during which each group shared their observations and opinions regarding comparable standards from other states and national standards, emphasizing ND priorities and discussing the organizational formats used.

Presentation and Discussion: Cybersecurity and the Cyber.org Standards
Chuck Gardner from the Cyber Innovation Center shared information about cybersecurity and the recently developed Cyber.org National Standards. At the conclusion of the presentation, the committee members were able to ask questions.

Reflections on Day 1 and Planning for Day 2
Ms. Eldredge reviewed the events of the day, discussed the tasks for Day 2, and reviewed the tasks completed on Day 1, along with the challenges, reviews of standards, and a list of things to consider when revising the standards. The meeting adjourned at 4:30 PM.

Thursday. August 1, 2024
8:15 AM – 4:00 PM
Bismarck Creer Academy

Meeting Convened: 8:15 AM
Meeting Adjourned: 4:00 PM

Attendance - Computer Science and Cybersecurity Content Standard Writing Committee Members

- James Bear
- Brenda Cain
- Sarah Francetich
- Misti Frink
- CindyGlavin
- Daphne Heid
- Kelly Kornkven
- Alicia Marsh
- Ullrich Reichenbach
- Marisa Reissinger
- Nicole Weltin (online)
- Leah Wheeling

Attendance – Facilitators - NDDPI, NDCTE, and EduTech Staff Members
- Davonne Eldredge, NDDPI
- Brad Hoffarth, NDCTE
- Jason Mattheis, EduTech
- Steve Snow, NDDPI
- Tabitha Teel, EduTech

Welcome Back and Announcements
Davonne Eldredge welcomed the group back and previewed the agenda for the day.

Reflections on Day 1
Ms. Eldredge reviewed the challenges, standards reviews, and a list of things to consider when revising the standards from Day 1. Tasks for Day 2 were previewed, and the team's questions were reviewed.

Review of the North Dakota Learning Continuum
Based on the discussion from the Day 1 meeting, the committee examined the North Dakota Learning Continuum to identify attributes related to computer science and cybersecurity work. These attributes were recorded for future use.

Discussion Regarding the Computer Science/Cybersecurity Implementation Plan
Steve Snow shared information regarding the expectations for creating a computer science/ cybersecurity implementation plan. He outlined potential elements that must be included and explained how the standards' work may impact the plan. At the conclusion of the presentation, he answered questions from the committee.

Work Group – Task 3 – Determine the Organizational Structure of Standards
The committee discussed the organizational structure of the revised standards. The groups looked at the elements of standards and discussed the levels and elements that would be used as their work moved forward. The committee decided upon a three-tier structure consisting of concepts, sub-concepts, and standards.

Work Group – Task 4 – Definition of Computer Science and Cybersecurity
The committee decided they needed a working definition of computer science and cybersecurity that would be used to guide their work. They divided into small groups to create definitions. The groups shared their definitions with the larger group. Through editing and consensus, the committee identified definitions for each.

Work Group – Task 5 – Identification of Concepts
The committee discussed the concepts to be used to group the standards. The group decided upon five concepts: 1) Computing Devices and Systems, 2) Algorithms and Computations Thinking, 3) Impacts of Computing, 4) Digital Citizenship, and 5) Security. Once the concepts were identified, the group identified goal statements for each idea. Work was saved in the TEAMS file.

Work Group – Task 6 – Identification of Sub-Concepts
The committee broke into small groups to identify sub-concepts that would fall under each concept. These sub-concepts would help break down the concepts and assist with grouping the standards. The committee recorded their work in the TEAMS file. This work still needs to be finished and will be completed when the committee next meets.

Reflections on Day 2 and Planning for the September Meeting
Ms. Eldredge reviewed the progress the groups had made throughout the two days. The committee selected and defined goals for their concepts. They started identifying sub-concepts they would like to use to help group standards. This work will continue when the group meets again in September. Members were thanked for their hard work during the two days. The meeting adjourned at 4:00 PM.