



California Community Colleges

AB 1111 COMMON COURSE NUMBERING TASK FORCE DRAFT – OUTLINE, FINDINGS & CONSIDERATIONS FOR THE SUMMARY REPORT

Draft as of August 15, 2023

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This document is being publicly released in August 2023. It includes a proposed outline for the final report, as well as key findings and considerations that the Common Course Numbering Task Force (hereafter “CCN Task Force”) will discuss at forthcoming public meetings (August, October and December 2023) as it works to develop its final, summary report.

Details about the CCN Task Force, including its meeting agendas and materials, can be found at its website:

<https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Educational-Services-and-Support/common-course-numbering-project>

I. Proposed Outline for CCN Task Force Summary Report

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The following outline is proposed for discussion at the August 31, 2023 meeting.

- 1) Front matter:
 - a) Table of Contents
 - b) Acknowledgments
 - c) Executive Summary
 - d) Letter from the Chancellor
 - 2) History and charge of the CCN Task Force (e.g., background, legislation, charge of the Task Force)
 - 3) Leadership and membership
 - 4) Timeline and arc of the CCN Task Force (e.g., research and analysis used, meetings, etc.)
 - 5) Recommended Implementation Plan (this is *what the CCN Task Force has been focused on, and it represents the majority of the content in this document*):
 - a) Scope and definition of student-facing common course numbering
 - b) Expected outcomes
 - c) Guiding principles
 - d) Milestones and activities to implement a student-facing common course numbering system
 - 6) Conclusion
- Timing and approach:
- Sections 1-4 will be drafted between the August 31, 2023 and the October 18, 2023 meetings of the CCN Task Force and shared for review.
 - See below for a draft of “findings and considerations” related to what will be developed into Section 5, the Recommended Implementation Plan. Section 5 will be discussed on August 31, 2023 and then further developed between the August 31, 2023 and the October 18, 2023 meetings.
 - Section 6, the Conclusion, will likely be drafted between the October and December meetings.

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II. Findings and Considerations for the Recommended Implementation Plan

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56 *Sections IIA and IIB were discussed by the CCN Task Force at prior public meetings and*
57 *documented in Meeting Summaries. Recent changes are formatted with bold text and*
58 *strike-throughs so they can be easily identified.*

59

60 **A. Scope and Definition of Student-Facing Common Course Numbering¹**

61 The Common Course Numbering Task Force’s commitment to building a student-facing
62 common course numbering (CCN) system stems from a shared belief that requiring students to
63 navigate the current ~~complex~~~~-anachronistic~~ course structures of the California Community
64 Colleges (CCCs), **involving 116 colleges and over 40,000 general education and transfer**
65 **pathway courses**, ~~with over 100 different course numbering systems and catalogs and just over~~
66 ~~130,000 credit-level courses~~, is confusing and is a factor contributing to inequities in student
67 outcomes. Reducing that confusion and providing clarity to our students will be hard work, but
68 it is necessary and it is the right thing to do. CCN is an indispensable piece of the student success
69 and equity puzzle, and an historic opportunity for CCCs to work together and show leadership as
70 the largest postsecondary system in the nation.

71

72 To better support students and meet the transfer-focused intent of the legislation, the CCN Task
73 Force defines student-facing CCN as a system that ensures students can identify courses across
74 the system as being comparable and therefore transferable, applicable and articulated to degree
75 completion across the California Community Colleges *and also to* the California State University
76 (CSU), University of California (UC) **and Association of Independent California College and**
77 **University** (AICCU) systems. To achieve this goal, the CCN Task Force has outlined a minimum
78 set of elements that all courses should have in common, including a number of elements that
79 are vital for ensuring articulation. Proposing a minimum set of elements ensures that faculty
80 continue to have appropriate influence over the content of their courses (see Work Stream 2.
81 Aligning Elements of a Course to the CCN Definition and Schema Work Stream, for a draft
82 minimum set of elements to be included in Course Outlines of Record, and used for CCN as well
83 as articulation to four-year transfer partners).

84

85 Additional necessary features of a student-facing CCN, emerging from CCN Task Force
86 discussions, include:

87 ¹ Reflects CCN Task Force discussion during Meetings 1, 2 and 3 and Meeting Summaries.

- 88 ● Is easily navigable and self-serviceable, so that students can use the system with
89 confidence on their own.
- 90 ● Does not require students to use a translator or crosswalk, or rely on a counselor, to
91 understand how their courses will transfer, and reduces or eliminates need for course
92 substitution petitions.
- 93 ● Is located in one place and where students interact with this information (i.e., in the
94 catalog and schedule of classes).

95

96 **B. Expected Outcomes of Student-Facing Common Course Numbering²**

97 When done well, the CCN Task Force expects that implementation of a student-facing common
98 course numbering system will achieve the following outcomes.

- 99 ● For students that attend multiple California Community Colleges (CCC), lower division
100 general education and major preparation requirements will be easily identified within
101 the California Community Colleges as comparable in order to eliminate students
102 unnecessarily re-taking a course when taking courses across multiple community
103 colleges.
- 104 ● The CCN Task Force intends for articulation to be improved for transfer into four-year
105 public and independent universities as well. Current law would benefit those students
106 that transfer within, or move around within, the CCC system, but participation by the
107 CSU, UC, and AICCU systems is needed for CCN to benefit students transferring to and
108 from those institutions.
- 109 ● This process and statewide collaboration will:
 - 110 ○ Bring increased transparency and real efforts to address the structural, systemic
111 and intersegmental barriers that students face regarding transfer and credit
112 mobility.
 - 113 ○ Make progress on the following Vision for Success³ goals: reduce unit
114 accumulation, improve transfer rates, and increase credential completion across
115 CCCs by ensuring that students 1) understand how a course may or may not
116 transfer and articulate within CCC and to UC, CSU, and independent institutions,
117 and 2) take the courses they need to meet their educational goals regardless of
118 the college where the courses were taken.
 - 119 ○ Demand attention to and provide resources for needed improvements in a
120 number of related areas, such as upgrading and aligning technology systems and
121 developing processes that facilitate timely sharing of information among CCCs,
122 and among CCCs and other segments of postsecondary education.

125 ² Reflects CCN Task Force discussion during Meetings 1, 2, 3, 4 and 5 and Meeting Summaries.

123 ³ California Community Colleges Chancellor's Office. (2021). Update to the Vision for Success. Retrieved April 18,
124 2023, from <https://www.cccco.edu/-/media/CCCCO-Website/Reports/vision-for-success-update-2021-a11y.pdf>

- 126 ● In concert with other important student success efforts underway across the state, such
127 as guided pathways implementation, disaggregated student outcomes data will
128 demonstrate that equity gaps are closing and transfer student outcomes are improving.
129

130 **C. Overarching Guiding Principles for the Implementation of Student-Facing Common**
131 **Course Numbering**

132 The CCN Task Force expects those engaged in advancing the implementation of a student-facing
133 common course numbering system to:

- 134 ● Align to the CCN Task Force’s definition of student-facing common course numbering
135 system.
136 ● Design solutions that respect college autonomy.
137 ● Recognize the value of the high-level outcomes as articulated by the CCN Task Force.
138 ● Commit to implementing student-facing common course numbering to better support
139 students.
140 ● Apply principles and guidelines of Universal Design throughout this work.
141

142 **D. Findings and Considerations for the Implementation of Student-Facing Common Course**
143 **Numbering**

144 This section includes a set of findings and considerations that the CCN Task Force will use to
145 distill its final recommendations for the Implementation Plan. The sections are broken out by
146 work streams identified by the CCN Task Force. The CCN Task Force will need to reconcile
147 inconsistencies that may exist among the findings and considerations since the findings and
148 considerations were developed independently in each work stream.
149

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1. CCN System Governance and Oversight Work Stream

151 This section of findings and considerations relates to the governance and operations of the
152 implementation of a student-facing common course numbering system.

153

154 **a. Summary**

155 To support the governance and oversight of the new CCN system, this section offers for
156 consideration a set of guiding principles for those engaged in governance and oversight of the
157 CCN work; a governance structure accompanied by defined roles, responsibilities, and
158 membership of that structure; and considerations related to the operations of the CCN system.
159 Effective implementation of a governance and oversight structure will require clarity of roles,
160 responsibilities, and deliverables of each entity.

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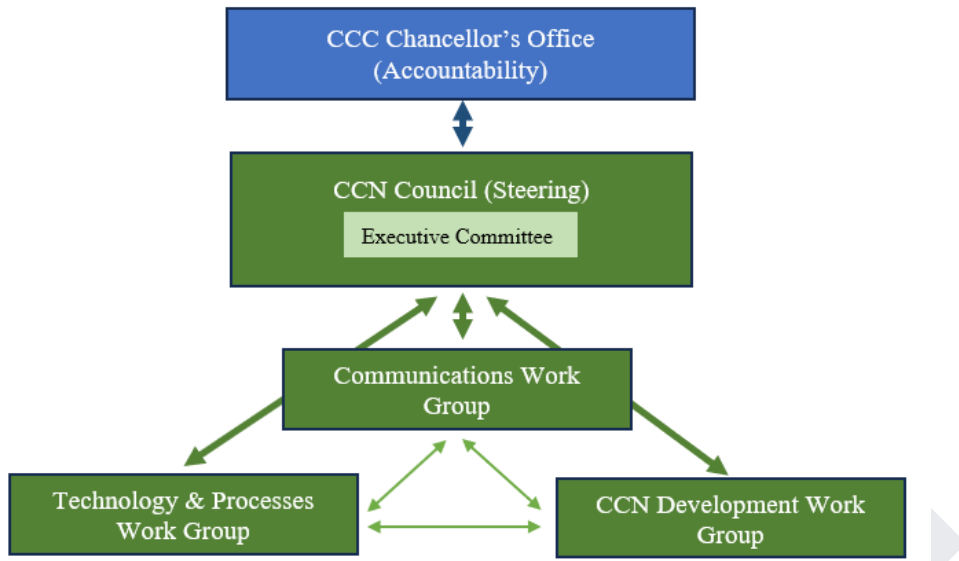
162 **b. Guiding Principles for the “CCN System Governance and Oversight” Work Stream**

163 The CCN Task Force expects those engaged in advancing this work stream to:

- 164 ● Establish a CCN Council that will be the coordinating and recommending body that helps to
165 guide and lead CCN implementation.
- 166 ● Empower the CCN Council to advocate for funding for implementation of the work given the
167 significant amount of change and impact this work will have on institutions.
- 168 ● Maintain the high-level proposed governance structure for a minimum of three years. In
169 maintaining the structure, it will be important to review and assess roles and tasks annually,
170 recommend, as appropriate, membership rotation for forward moving structure, modify or
171 sunset working sub-groups, and engage advisory groups.
- 172 ● Ensure that there is a process to maintain critical data related to historical course numbering
173 and articulation information through collaboration between key partners such as the
174 Academic Senate for California Community Colleges (ASCCC) and the California Community
175 Colleges Chancellor’s Office (CCCCO). .
- 176 ● Work to embrace existing structures as appropriate and feasible, rather than creating new
177 structures.
- 178 ● Design a process such that, as progress is made in initial implementation, the CCN structure
179 would run in parallel with the C-ID structure.

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181 **c. Governance Structure**



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184 **Note:** Dedicated operations staffing and resources are considered needed but the mechanism for
 185 ensuring operational support is not yet determined.

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187 **d. Governance and Operational Overview**

188 The following table is designed to offer considerations to the CCN Task Force related to roles for
 189 governance, and details on their purposes and who would be responsible.

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	Roles and Responsibilities	Members
CCC Chancellor's Office	<p>To ensure strong CCN implementation, CCCCCO roles to consider include:</p> <ul style="list-style-type: none"> ● Oversee the dedicated resources for the administration and operational support of implementation as a whole. ● Advocate for ongoing funding. ● Advocate for dedicated staffing to ensure CCN success. ● Advocate to ensure intersegmental articulation processes are approved by 4-year partners. <p>The magnitude of CCN implementation will require dedicated resources and operational support for the CCN program</p>	<ul style="list-style-type: none"> ● CCCCCO

	Roles and Responsibilities	Members
	<p>as a whole. Staffing roles and responsibilities to consider include:</p> <ul style="list-style-type: none"> ● Coordinate, delegate, and harmonize the activities of the work. ● Support the CCN Council’s Communication, Technology, and CCN Development work groups (see below for additional details) and any additional groups established. ● Implement the work beyond the capacity, expertise, or responsibility of the CCN Council and its work groups. <ul style="list-style-type: none"> ○ Supported by agreements which define scope of work, timeline, and budget. ● Manage all vendor agreements and hold vendors accountable for the work. 	
<p>CCN Council Executive Committee</p>	<p>The CCN Council Executive Committee is the leadership committee of the CCN Council. Roles and responsibilities to consider include:</p> <ul style="list-style-type: none"> ● Serves as the leadership of the CCN Council. ● Is responsible for the effective leading and coordination of the Council. ● Is the planning and facilitation body for the Council. ● Oversees and coordinates the goals & objectives, work, and meetings of the Council. ● Ensures work plans are implemented and timelines are met for effective progress of the work. ● Advocates for the processes and procedures needed for successful intersegmental articulation. ● Advocates for the funding and staff resources needed for successful intersegmental articulation. 	<p>Questions for CCN Task Force: Are the correct groups/roles identified?</p> <ul style="list-style-type: none"> ● California Community College Chancellor’s Office (CCCCO) Appointee ● Academic Senate for California Community Colleges (ASCCC) Appointee ● Chief Instructional Officers (CIO) Appointee ● Chief Student Services Officers (CSSO) Appointee

	Roles and Responsibilities	Members
CCN Council	<p>The CCN Council serves as a CCCCCO participatory governance⁴ group responsible for guiding the implementation of a common course numbering system. Roles and responsibilities to consider include:</p> <ul style="list-style-type: none"> ● Sets strategic direction and goals (e.g., develop a 3-year strategic plan). ● Oversees and helps guide the work of the implementation work groups. ● Assesses progress made by the CCN work groups. ● Tracks progress and makes recommendations for improving implementation processes. ● Communicates to the field about CCN implementation and provides various venues for gathering feedback. ● Identifies and advocates for the processes and procedures needed for successful intersegmental articulation. ● Reviews and helps refine all CCN products (i.e., communications artifacts) and policies. ● Identifies and advocates for needed state resources and policies, in regard to implementing an effective Common Course Numbering system, to the Legislature. 	<p>Question for the CCN Task Force: Does this feel like the right size and representation?</p> <ul style="list-style-type: none"> ● CCN Council Executive Committee Members ● CCCCCO CCN Leads and Staff (inclusive of those needed from ed services, research, communications, Institutional Effectiveness Partnership Initiative (IEPI), technology, Chancellor's Office Curriculum Inventory (COCI)) ● Appointees from key CCC participatory governance groups: <ul style="list-style-type: none"> ○ Students ○ Faculty ○ Chief Instructional Officers ○ Chief Student Services Officers ○ Articulation Officers (Faculty) ○ Chief Executive Officers ○ Admissions and Registrar Officers ○ Technology Officers ○ Researchers ○ Trustees ● Appointees from 4-years Segments: <ul style="list-style-type: none"> ○ CSU leadership, faculty and an articulation officer ○ UC leadership, faculty and an articulation officer ○ AICCU leadership, faculty and an articulation officer

191 ⁴ California Community Colleges. (January 2021). *2020-2021 Participatory Governance Handbook*. Retrieved August 14, 2023, from

193 <https://www.cccco.edu/-/media/CCCCO-Website/Files/BOG/20202021participatorygovernancehandbookfinala11y4882581.pdf?la=en&hash=845F8B172FAD963AAB447A01F98103936D8D9782>

	Roles and Responsibilities	Members
		<ul style="list-style-type: none"> ● Other Appointees Essential to Effective Implementation: <ul style="list-style-type: none"> ○ C-ID Director ○ CCC Curriculum Specialist ○ CCC Transfer Center Director ○ ASSIST Director & staff member <p>Stakeholder invitations as appropriate to present or discuss a given topic.</p>
CCN Development Work Group	<p>The CCN Development Work Group makes design recommendations to the CCN Council for the infrastructure and processes needed for curricular coordination to assign common course numbers. Roles and responsibilities to consider include:</p> <ul style="list-style-type: none"> ● Supports and helps provide guidance to the disciplinary team(s) resourced to complete this work. ● Guides and supports the implementation of a process for CCN Course Outline of Record (COR) elements development and approval for granting a college course a CCN. ● Designs processes and procedures for streamlined course articulation approval of CCN COR templates and course numbers. <ul style="list-style-type: none"> ○ Provides recommendations for policy and procedure revisions needed to achieve these aims. ● Coordinates the collaborations and connections with curriculum-focused entities such as California Community Colleges Curriculum Committee (5C), Intersegmental Curriculum Workgroup (ICW), General Education Advisory Committee (GEAC) and Intersegmental 	<ul style="list-style-type: none"> ● CCN Council and Executive Committee members for this area ● Coordination with participatory governance groups ● Coordination with groups such as 5C, ICW, GEAC, and ICAS <p>New Task: Identify specifically which members of Council and Exec belong here.</p>

	Roles and Responsibilities	Members
	Committee of the Academic Senates (ICAS).	
Technology & Processes Work Group	<p>The CCN Technology Work Group guides and supports the implementation of the technology and related processes and supports needed for CCN technology implementation. Roles and responsibilities to consider include:</p> <ul style="list-style-type: none"> ● Studies and identifies the technology tools and resources needed to implement CCN. ● Creates a work plan for the securing and deployment of needed technology tools & resources. ● Designs and supports the infrastructure needed to implement, evaluate, and sustain needed technology investments. ● Designs and supports workflow documentation and necessary templates for the processes necessary for implementing technology solutions. ● Engages and coordinates with technical specialists from each CCC institution for training, feedback, and implementation correspondence. 	<ul style="list-style-type: none"> ● CCN Council and Executive Committee members for this area <ul style="list-style-type: none"> ○ CCCCCO ESLEI, Data & Research, and DII Leads ○ ASSIST Director and staff ○ COCI Specialist ○ Course Identification Numbering System (C-ID) Specialist ● Coordination with participatory governance groups ● CCC Technical staff (representatives from a variety of institutional size, demographic, etc.) ● Other vendor representatives as appropriate ● Technical specialist representatives from CCCs to advise on training, feedback, and implementation correspondence
Communications Work Group	<p>The CCN Communications Work Group ensures consistent and relevant communication to the field, and across all operational, advisory, and steering groups. Roles and responsibilities to consider include:</p> <ul style="list-style-type: none"> ● Designs and implements a comprehensive system wide communications plan. 	<ul style="list-style-type: none"> ● CCN Council and Executive Committee members for this area ● Coordination with participatory governance groups

	Roles and Responsibilities	Members
	<ul style="list-style-type: none"> • Identifies, supports, and advises all CCN working and advisory groups on communication related activities. • Leads purposeful dissemination of information and gathering of feedback. 	

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196 2. Aligning Elements of a Course to the CCN Definition and Schema Work Stream

197 This section of findings and considerations relates to aligning elements of a course to the CCN
198 definition and schema, to support implementation of a student-facing common course
199 numbering system.

200

201 a. Summary

202 To support the alignment of courses to the CCN definition and schema, this section offers for
203 consideration a set of guiding principles for those engaged in implementation; a set of
204 definitions of key terms to support effective course alignment; and details related to
205 implementation. Effective implementation will require clarity about what CCN Descriptors are,
206 what they contain, and how CCN Descriptors are used to support assignment of common course
207 numbers as well as course articulation. This section also describes considerations for a
208 taxonomy for common course numbering.

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210 b. Guiding Principles for the “Aligning Elements of a Course to the CCN Definition and 211 Schema” Work Stream

212 The CCN Task Force calls upon those implementing the activities called for in this
213 implementation plan to adhere to the following guiding principles:

- 214 ● Ensure CCN Descriptors (a foundational document that defines the common minimum
215 elements of a course for common course numbering, see below for additional details)
216 will be developed by faculty and supporting subject matter experts at the CCC system
217 level in collaboration with CSU, UC, and AICCU faculty and supporting administrators.
218 CCN Descriptors will then be adopted at the CCC system level. Participating CSU, UC, and
219 AICCU campuses will opt in to adopt each CCN Descriptor. Four year campuses that have
220 adopted a CCN Descriptor as sufficiently aligned with their similar course will honor
221 course-to-course articulation with a course from any California Community College that
222 has been aligned with the CCN Descriptor.
- 223 ● Agree that student-facing common course numbering will require a minimum set of
224 requirements in a Course Outline of Record (COR), which is different from common
225 curriculum.
- 226 ● Create expectations of colleges that do not increase the amount or level of difficulty of
227 the work already in their queue. When at all possible, create a reduction and/or
228 streamlining of tasks and approvals.
- 229 ● Establish a collaborative and innovative spirit that provides opportunity to use batch and
230 modified processes to align courses that have already been through formal processes
231 and that have faculty input throughout development. In cases, for example, where
232 curriculum does not change and courses have already been approved, move to
233 implement without going through an onerous review and approval process.

- 234 ● Related to the taxonomy in particular:
- 235 ○ Design a system that provides all information the course number needs to
- 236 represent and let that determine the number of digits. Then work to resolve
- 237 downstream impacts.
- 238 ■ Minimize the number of digits from the student perspective with the least
- 239 impact on institutional workloads.
- 240 ○ Expect that students will adapt and learn the numbering system that is in place at
- 241 their institution and benefit from the consistency across community colleges.

242 **c. Key Definitions**

243 The following definitions were developed to offer considerations to the CCN Task Force. The goal
244 of these definitions is to establish a common understanding of key terminology in the CCN work.

- 245 ● **Articulation:** The process of developing a formal, written agreement that identifies
246 courses (or sequences of courses) on a “sending” campus that are comparable to, and
247 acceptable in lieu of, specific courses at a “receiving” campus.⁵ Some additional notes
248 about this definition include:
 - 249 ○ This definition could be “applied” to various contexts. For now, it would be
 - 250 applied to agreements with the California Community Colleges.
 - 251 ○ The term “comparable” is being used intentionally instead of “equivalent” in
 - 252 defining articulated courses.
 - 253 ○ The goal is to establish strong course-to-course articulation.
- 254 ● **Comparable:** Course (as a whole) has a minimum standard in common with another
255 course, as demonstrated by elements included in the CCN Descriptor, to the degree
256 needed for the course to be accepted in lieu of the receiving institution’s course.
 - 257 ○ **Identical:** (Relates to elements of a course) Exactly the same.
 - 258 ○ **Equivalent:** (Relates to elements of a course) Hold equal weight, worth, and value
 - 259 but are not necessarily identically worded.
- 260 ● **Transferable:** A course completed at one college or university that is then granted credit
261 by the receiving institution upon review by that institution, be it a CCC, CSU, UC, AICCU,
262 or any other institution of higher education.
- 263 ● **Applicability:** How the credits of a transferable course are applied to specific degree
264 requirements at the receiving institution.
- 265 ● **Duplication:** The result of a student completing courses that are comparable or courses
266 with similar or overlapping content that fulfill the same requirement.

269 ⁵ Adapted from: California Intersegmental Articulation Council. (Spring 2013). *California Articulation: Policies and*
270 *Procedures Handbook*. Retrieved August 8, 2023,
271 https://www.csusb.edu/sites/default/files/upload/file/CIAC_Handbook_Spring_2013.pdf

272 **d. Details to Support the Implementation of Items in this Work Stream**

273 This section provides for consideration by the CCN Task Force a set of details on what CCN

274 Descriptors are, what they contain, how CCN Descriptors are used to support assignment of

275 common course numbers as well as course articulation; and a taxonomy for common course

276 numbering.

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278 **d.1. CCN Descriptors**

279 A CCN Descriptor is a foundational document that defines the common minimum elements of a

280 course for common course numbering. The following table is designed to offer considerations to

281 the CCN Task Force related to the expectations for alignment of CCN Descriptors.

Common Course Numbering Descriptor Elements		Descriptor Elements Classification
Course Number		Identical
Course Title		Identical
Unit Amount		Adheres to an established minimum
Course Description	Part 1: Required	Identical
	Part 2: Optional	Expanded - local college discretion
Prerequisites		Identical
Course Content	Required Topics	Questions for CCN Task Force: Should this be identical only, if being equivalent will impact articulation? Equivalent or Identical
	Optional Additional Topics	Questions for CCN Task Force: Pending answer to question above, would this become Additional Detail Expansion? Expanded - local college discretion
Student Learning Objectives	Required Objectives	Questions for CCN Task Force: Should this be identical only, if being equivalent will impact articulation? Equivalent or Identical
	Optional Additional Objectives	Questions for CCN Task Force: Pending answer to question above, would this become Additional Detail Expansion? Expanded - local college discretion

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283 **d.2. Applicability of Courses with CCN Descriptors**

284 The following tables are designed to offer considerations to the CCN Task Force related to the
285 applicability of CCN-based courses to satisfy general education areas or to assure consistency of
286 articulation.

287 **General Education Areas**

288 Applicability of articulated courses to satisfy general education areas based on Cal-GETC
289 standards.

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From	To	CCC	CSU	UC	AICCU
CCC		Identical	Identical*	Identical*	Identical*
CSU		Identical			
UC		Identical			
AICCU		Identical			

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292 Identical means that the receiving institution will apply a transferring course to the same
293 general education area as designated by the sending institution. In the event that a
294 receiving institution does not have the same area, another area may be selected as best
295 aligns with Cal-GETC standards.

296

297 *Three instances:

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1. Full-certification of Cal-GETC results in acceptance. Note: Cal-GETC implemented
299 fall 2025, CCN Phase I post-fall 2025.

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2. No Cal-GETC certification - Individual courses with CCN Descriptors will be applied
301 based on CCC system level course-to-course articulation to meet Cal-GETC areas.
302 (i.e., all students have a course applied to the same area regardless of sending
303 CCC institution).

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3. No Cal-GETC certification - In cases where a receiving college does not have the
305 same course needed for course-to-course articulation, the Cal-GETC Area CCN
306 determination will be honored. Courses that are not developed through the CCN
307 process are based on institutional level course-to-course articulation, or are
308 evaluated by the receiving institution to identify how to best serve the student.
309 This includes courses taken at institutions outside of California, courses taken
310 before implementation of CCN, etc.

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Receiving institutions may apply a course to a different GE area for which the course satisfies upon transcript evaluation if the change benefits the student and aligns with Cal-GETC standards (for example: US History meeting Humanities and Social Science).

Course-to-Course Articulations

Applicability of CCN-aligned courses to course-to-course articulation.

From	To	CCC	CSU	UC	AICCU
CCC		Identical	Identical	Identical	Identical
CSU		Identical			
UC		Identical			
AICCU		Identical			

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For a course that already has a course-to-course articulation, “Identical” means for courses with CCN approval, the receiving institution will apply the CCN course-to-course articulation consistently for all students regardless of originating college.

Receiving institutions may apply an articulated CCN transfer course to a different requirement upon transcript evaluation if the change benefits the student, does not result in duplication of courses, and does not require students to complete additional units/courses to satisfy degree requirements. This may be as a result of differing institutional degree requirements.

Course-to-Course Articulation Assumptions:

- For courses not developed through the CCN process but there is a course-to-course articulation, then the receiving institution applies that articulation consistently.
- For courses not developed through CCN and there is not a course-to-course articulation in place, courses are evaluated to identify how to best serve the student.

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d.3. Common Course Number Taxonomy

This section provides considerations for a taxonomy for common course numbering.

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Discussion of Current Taxonomies in Course Numbering Systems

Throughout the California Community Colleges there is significant variability of numbering systems not only across the 116 institutions but also within a single institution. The technological data field [CB01](#) allows for 12 characters maximum for Department Abbreviation and Number including spaces and dashes.⁶ Here are samples of how numbering is currently done in California’s Community Colleges, noting that the department number (CB01B) contained the largest variance between the three datasets. (N= numerical digit, L = letter, 0 = placeholder)

→ NN	→ NNN.N	→ ONL	→ 00NNLL
→>NNL	→>NNNL	→>0>NNL	→>NNN-NNNNN
→>NNLL	→>NNNLL	→>00>NL	→>NL
→>NNN	→>NNNLLL	→>00>NNL	

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Considerations for CCN Taxonomy

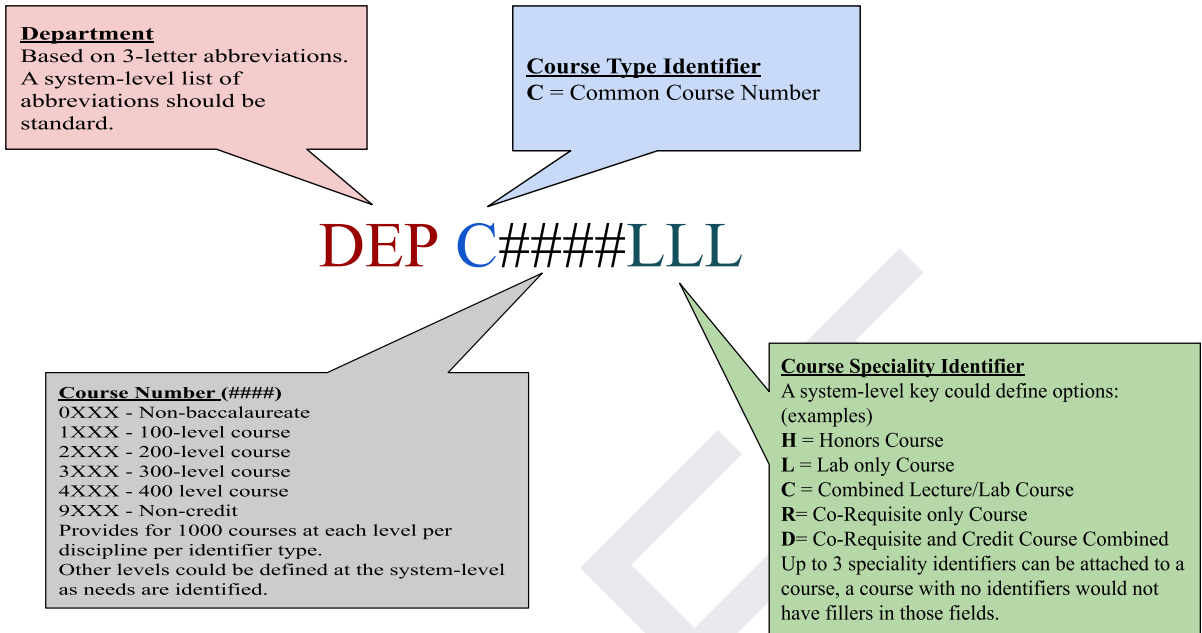
Based on the variability of current practices, the taxonomy system should include clear identification of the CCN component. Such an identification:

- Provides flexibility for managing local courses at individual or district institutions.
- Distinguishes the currently numbered courses from the CCN numbered courses throughout the various systems that are in any way connected to the California Community Colleges and their students.
- Avoids duplication of current local-numbering systems that prohibits clear identification of current and CCN based courses when listed in parallel.
- Provides a method for implying traditional course level (first year, second year, etc.).
- Provides a method for identification of speciality course types (such as Honors, Lab).
- Provides enough bandwidth to incorporate the volume of current and future courses.

367 ⁶ California Community Colleges. (n.d.). “Management Information System: Data Element Dictionary.” Retrieved
368 August 8, 2023, from <https://webdata.cccco.edu/ded/cb/cb01.pdf>

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Proposed Taxonomy



Example

	MTH C1801HL
Department	MTH = Math
Course Type	C = CCN
Course Number	1801 = 100-level course
Special Classifications	H = Honors L = Lab only course

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Further Collaboration

Further collaboration amongst CCC leadership and implementation teams is needed to determine if:

- One course numbering taxonomy is required of all courses in the system or if institutions have the option to continue local practices for local courses and are required only to align for CCN based courses.
- All CCC technologies (and technologies at intersegmental institutions) that will house the common course number are able to facilitate the change and/or have resources to adapt the appropriate fields. Examples of systems include local or systemwide curriculum management systems (CMS), student information systems (SIS), Schedulers, COCI, ASSIST, C-ID, etc.

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- Based on the proposed taxonomy, determine if the lead identifying letter will have a system-level directory for identifying courses and trailing letters will have a system-level key to be used for all courses.
- Once a system is developed and data is analyzed, strategies for institutions on the quarter system are needed to address both taxonomy and building of courses.

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407 **3. Technology System Requirements for Supporting CCN Work Stream**

408 This section of findings and considerations relates to the technology and processes that support
409 the implementation of a student-facing common course numbering system.

410

411 **a. Summary**

412 Successfully launching Common Course Numbering will require two technology-related
413 components: data reconciliation and new technology. This section offers for consideration a set
414 of guiding principles for those engaged in implementation, details related to implementation of
415 each component, and structural considerations for the taxonomy. Reconciling the CCN elements
416 of the CCC system’s current courses will help to identify colleges out of the norm. This will speed
417 integration. Technologically, the process requires a data repository where colleges can receive
418 existing CCN elements and upload new courses. In addition to an aggressive timeline for
419 developing and implementing the repository, it will also require funding to 1) develop the
420 repository, 2) assist colleges with implementing the repository into their Student Information
421 Systems, and 3) provide discounted incentives for colleges to use a common software for
422 curriculum, which will interact with the repository.

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424 **b. Guiding Principles for the “Technology System Requirements for Supporting CCN” Work**
425 **Stream**

426 The CCN Task Force calls upon those implementing the activities called for in this
427 implementation plan to adhere to the following guiding principles:

- 428 ● Any technology and implementation approach must strive for digital equity.
 - 429 ○ Digital equity exists when the technology infrastructure, tools, and resources
 - 430 across all campuses provide a high-quality, secure, and seamless online
 - 431 experience for students, faculty, and staff regardless of campus size or location.
- 432 ● Always consider the high level outcomes as articulated by the CCN Task Force.

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434 **c. Details to Support the Implementation of Items in this Work Stream**

435 Successfully launching Common Course Numbering (CCN) will require a number of
436 technology-related considerations, including data reconciliation, new technology and structural
437 considerations for supporting the CCN taxonomy. Considerations for each of those areas follow.

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444 **c.1. Data Reconciliation**

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446 **Assumptions**

447 When developing the considerations for this area, the CCN Task Force held the following
448 assumptions related to data reconciliation:

- 449 ● The CCN work and data reconciliation work can be completed in parallel. The data
450 reconciliation work will not stall or slow the CCN processes and timelines. Work
451 may continue, for example, on convening faculty groups for a cluster of courses
452 (e.g., courses designated to satisfy specific areas of general education for
453 Cal-GETC or courses already aligned with the same C-ID identifier).
- 454 ● The data reconciliation work will not impact the current articulation of courses
455 prior to CCN being implemented for that course.
- 456 ● The data reconciliation work will focus on currently active courses and not those
457 that are expired.
- 458 ● The end result of data clean-up is the addition of a unique identifier and the
459 consistency in the four data fields housing Course Title, Course/Department
460 Number, Course/Department Name, and Units.
- 461 ● There is a shared understanding that any changes to these four fields are
462 corrections, and changing these values only for the purpose of consistency does
463 not change the status of any course in any application.
- 464 ● ASSIST (UC, CSU, AICCU, and CCC) commits to processing corrections to the four
465 shared fields as a batch/migration without further effort required by the colleges.
- 466 ● COCI and C-ID will coordinate with ASSIST to align the timing for processing the
467 corrections.

468 **Considerations for Data Reconciliation, Clean-up, and Analysis**

469 Securing a data vendor for a one-time, centralized reconciliation effort has both
470 immediate and long-term benefits for students, faculty and staff. Data reconciliation
471 results in the responses for each of the four shared elements (Course Title,
472 Course/Department Number, and Course/Department Name) being reported the same in
473 every “primary source” application and allows the courses to be linked at the database
474 level.

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476 **Impact of Data Reconciliation and Clean-Up**

- 477 ● CCN elements live in multiple “primary source” applications. This means
478 that the data fields in COCI needed for CCN Descriptor work cannot be
479 collected to pair with the C-ID fields. In order to create a CCN system, we
480 need a unique identifier (like the course control number, which is used for

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management information systems (MIS) reporting) across all 3 systems (ASSIST, COCI, C-ID).

- Analyzing data at the college level provides institutions with information about how their course elements align to the norm. This will reduce workloads when we begin implementation.

Considerations for Data Structure within the Current “Primary Source” Applications

The required common CCN Descriptor elements* indicated below are housed across multiple systems or are locked data in PDF format. In order to complete the development of the CCN Descriptors and create a Common Course Outline of Record (CCOR) template based on the CCN Descriptors, these elements must be consistent across the technological systems and be accessible collectively in structured data format. Additional data elements currently housed across the three systems may play an important role in implementation work.

Shared Elements	ASSIST	COCI	C-ID
College	X	X	X
*Course Title	X	X	X
*Dept Name (CB01A)	X	X	X
*Dept Number (CB01B)	X	X	X
*Min Units (CB07)	X	X	X
Max Units (CB06)	X	X	X

Unique Elements	ASSIST	COCI	C-ID
ETS Code	X		
Unit Type	X		
Start Term	X		
End Term	X		
IGETC Area	X		
CSU-GE -Code	X		
TOP Code (CB03)		X	
Credit Status (CB04)		X	
Transfer Status (CB05)		X	
Course General Education Status		X	

Unique Elements	ASSIST	COCI	C-ID
(CB25)			
Control Number (CB00)		X	
*Course Description		X	
C-ID Number			X
C-ID Descriptor			X
COR Effective Term			X
*Course Prerequisites			X
*Course Content - Topics	Locked Data in C-ID and COCI COR		
*Student Learning Objectives	Locked Data in C-ID and COCI COR		

498 * Required common CCN Descriptor elements

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Systemic Challenges

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- There was no standardization of College Name between the available reports.

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- There was no unique ID for each course to automate matches between the reports.

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- Headings were different within the reports for common data elements (e.g., Dept Name, Department Name, Department Name - CB01A)

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- IGETC and CSU GE mappings are 1 subject area per row.

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- Dept Name (CB01A) values varied widely within and between the colleges.

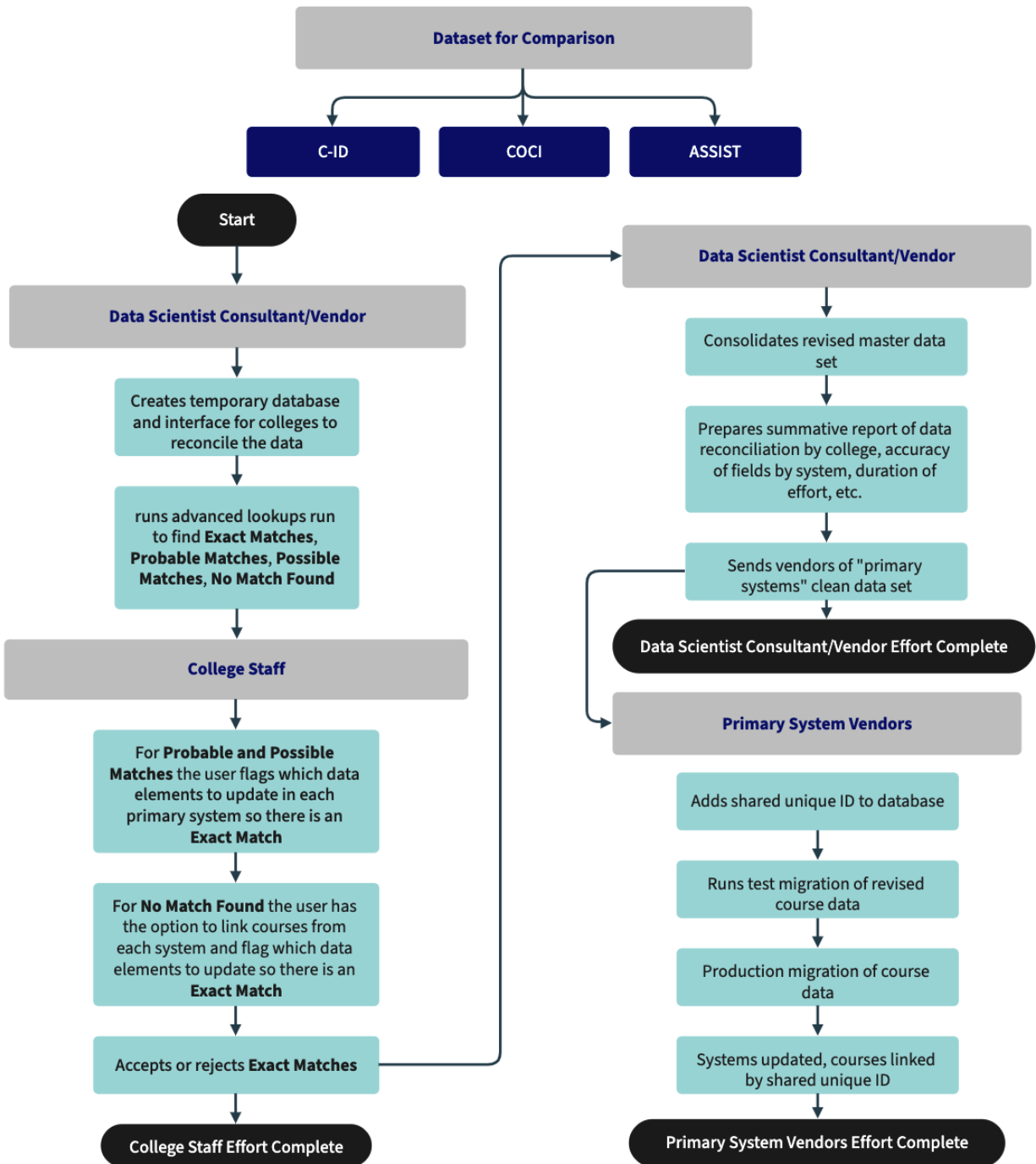
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- Dept Number (CB01B) contained the largest variance between the three datasets.

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Data Reconciliation and Analysis: Potential Deliverables



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Data Reconciliation

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- Provide a documented plan that describes the changes identified as they relate to articulation agreements.

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- Create a temporary database (repository) for colleges to reconcile and consolidate the data into a master data set.

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- Run advanced lookups to find Exact Matches, Probable Matches, Possible Matches, and No Matches Found. Document and categorize these for sorting.
- Provide an organized file to institutions that identify/provide the correct version of information.
- Prepare a summative report of data reconciliation by college, accuracy of fields by system, duration of effort, etc.
- Sends vendors of “primary systems” clean data sets that include Course Control Number as the shared unique ID; test migration, run migration in production.
- Result: systems updated; data standardization and courses linked by the Course Control Number.

Analysis

- Document how to access all of the data identified by the CCN Task Force as needed for the minimum set of elements to be included in Course Outlines of Record.
- Provide summative data of commonalities identified in courses. Grouped by descriptor elements. This information will be used to help inform the work of the work groups to define standardization of CCN elements and prioritize work.

Considerations for Starting CCN Descriptor work prior to data reconciliation and clean-up

A set of courses functioning as a proof of concept will allow building the CCN Descriptors, test templates and data support, and iron out any needed processes. Some data reconciliation and clean up work can occur in parallel with the proof of concept. As the work group identifies the small subset of courses with more consistent language, they will be able to do so without data reconciliation. Aligning courses without common nomenclature will benefit from a data summary. This will avoid potential biases from the work group, who may not be aware of what nomenclature or CCN elements are already common across the system.

c.2. New Technology

Assumptions

When developing the considerations for this area, the CCN Task Force held the following assumptions related to new technology:

- There is desire amongst the segments to apply technology as a solution for streamlining and storing the CCN work.
- Without a repository for which to identify all CCN elements, colleges may not succeed in having all courses matching each other.

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- A common repository would help to align the CCN elements, including those requiring exact or similar elements, across the system for existing and for newly developed courses.

Considerations for Streamlining Data Management - CCN Data Warehouse

The efficiency and success of the CCN work depends on the ability to streamline processes and/or technological solutions. Merging of the COCI and C-ID data repositories into a single system-level curriculum and articulation application results in a module-based platform with specialist permissions, access walls, and respect for CCCC curriculum review, faculty review in C-ID, and local data processes. This requires working with existing stakeholders to ensure necessary functions are not lost in the merger.

A single system-level application results in:

- Single and consistent data-entry for each of the CCN descriptors.
- Established dedicated space for work streams/permissions, which maintain currently accepted processes completed by statewide curriculum and articulation personnel.
- A significant increase in course data available for research that is currently fragmented.
- Development of Application Programming Interface’s (API) and support for local systems to resolve databases currently requiring manual entry.

Successful integration of a single system-level data repository requires:

- An agreement with a single software company to develop the repository.
- Systemic influences and sponsorship of local CMS/SIS vendors required work to ensure all colleges have equitable access and opportunity to participate.
- Paying for consultants to develop local APIs from this curriculum software to their SIS.
- An aggressive timeline for application development, testing, and implementation of repository.
- An equally aggressive timeline for implementing an API direct connect at the local level.

Future considerations:

- Colleges/districts opting out of the new system would be required to manually enter their curriculum using the repository. This creates a need to develop a way for them to submit their curriculum through the repository for modifications to existing curriculum or new classes.

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Considerations for Streamlining Data Management - Linking Repository to Local Curriculum Software

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Secure programmers to write customized APIs to connect the system repository to local curriculum software (CMS, SIS) and provide manpower and financial support to institutional level technology staff to complete the work, respect local processes and reduce entry.

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Similarly, provide intersegmental solutions through collaboration with ASSIST to develop an API to solve manual entry by pulling and pushing data from the repository into the ASSIST system, respecting the UC and CSU perspectives and roles in the ASSIST program.

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Options for automating the repository into local SIS systems. There are multiple curriculum software programs (e.g., eLumen, CourseLeaf, CourseDog, CurricUNET, etc); and multiple SIS systems (e.g., Banner, PeopleSoft, Colleague). Each curriculum software will house local courses, in addition to the courses impacted by AB 1111, which means a statewide system may encounter issues we cannot identify at this time. Once there is communication between the curriculum software and the SIS, it must also feed into the CMS. Most colleges are now on Canvas, which will help that process.

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Considerations for Integrated System-Level Application with API Connections to Local System

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College Level Considerations

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- Manual data entry significantly reduced.
- Complete alignment of data in local applications and system-level repository.
- College staff would continue to control their data in the repository by initiating data transfer through lookup tools or similar processes.

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System Level Considerations

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- Leverage CCCC and ASCCC to work directly with CMS vendors to drive schedule and scope of API.
- Testing and implementation is coordinated at the vendor level.
- Need to determine how much customization exists to local off the shelf systems and align resources to support college specific APIs.
- Colleges using homegrown systems may need an alternate connection option and/or additional resources to implement.

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Successful integration of APIs requires dedicated manpower.

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- This is the least expensive and time effective method.

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- It would likely take an average of 40 IT hours to write an API to an existing curriculum software. For colleges without an API from their curriculum software to their SIS, this would also likely be written.
- Timeline: 1 year for colleges with existing Curriculum-to-SIS APIs, and 3 years for colleges requiring additional technology.

Considerations for Streamlining Data Management - CCN Descriptors - Verifying Identical vs Equivalent for Articulation

The CCN approved descriptors, having been vetted with intersegmental faculty from CCCs, CSUs, UCs, and AICCUs, are required in many cases to be identical for all CCN descriptor-based courses. The implementation of technology solutions can certify courses that are completely aligned with CCN approved descriptors and which courses need “human” review as part of the approval process at the CCC and UC/CSU/AICCU levels.

Developing a technology solution for submitting a Common Course Outline of Record (CCOR) using a template based on structured data will result in:

- The accessibility of the course data that is currently locked in PDF/text fields.
- The development of a technology assisted review process that will create greater efficiency of process and better use of faculty reviewers’ time.
- An opportunity to intersegmentally certify courses as aligning to the CCN Descriptors and to flag courses needing manual review.

Developing a system of electronic submission and verification

- Building a CCOR outline through the use of a structured data CCOR template
 - College teams create courses by selecting descriptors where descriptors are required to be identical and build content for areas where local decision is appropriate.
 - Each CCN Descriptor is housed in individual fields and set for submission against the minimum requirement for that descriptor. Additional fields are added for optional or variable content.
 - The CCOR is electronically submitted after appropriate local approvals to appropriate administrative sectors for approval (COCI, C-ID, ASSIST, etc.)
- Building an automated certification system
 - System checks for level of variance between CCOR and CCN Descriptors and flags CCOR for manual review if the course exceeds the established threshold. If the CCOR meets established parameters, the course is certified and approved.

- 669 ○ Data repository would house all the elements in designated fields
- 670 providing opportunities for increased integration of data.
- 671 ○ The data repository will provide public-facing access to CCORs.
- 672

673 **c.3. Structural Considerations for Common Course Number Taxonomy**

674 The change in the parameters and use of any data field requires careful scrutiny related to its
675 impact on historical data as well as the capabilities for current systems to handle the changes.

676 From the technical perspective, the development of a taxonomy system should:

- 677 ● Not exceed the CB01 field parameters of 12 characters maximum for Department
- 678 Abbreviation and Number including space, dashes, etc.
- 679 ● Retain CB01 as the field for department course and number while creating CB2x to flag
- 680 the course with a CCN indicator.
- 681 ● Locally handle showing of two different numbers in catalog, etc.
- 682 ● Engage early with big SIS vendors and built-in MIS reporting support to update with
- 683 changes.
- 684 ● Result in easier access to MIS data from the research perspective.

DRAFT

