

TEACHER PREP REVIEW

# Building Content Knowledge: Content Coverage Tool

User Manual

December 2022

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# About the Tool

To be successful, elementary teachers need content knowledge in science and social studies, both to build their students' understanding of the world and their critical thinking skills, and also to support students in becoming strong readers. Becoming a strong reader requires cumulative exposure to content knowledge, cutting across multiple domains and disciplines. The courses aspiring teachers take give them strong background knowledge in these subjects, and in turn, they give this knowledge to students.

NCTQ launched this **Building Content Knowledge: Content Coverage Tool** as part of the *Teacher Prep Review* to help teacher preparation programs identify actionable solutions for strengthening elementary teacher candidates' science and social studies content knowledge. The tool provides individual teacher preparation programs with a personalized analysis of (1) whether the program's requirements or institution's general education requirements adequately cover key content, and (2) guidance for courses the program could require or recommend to best prepare future teachers to pass content licensure exams, teach the breadth of elementary curricula, and, ultimately, boost students' reading comprehension. Specifically, the tool answers the following questions for each program:

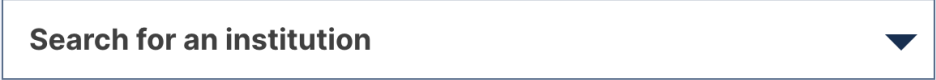
1. Do their current coursework requirement categories (including both program requirements and the institution's general education requirements) address the science and social studies themes and topics elementary teachers need to know?
2. Which existing courses at the institution cover the essential science and social studies content?
3. What is the best combination of courses a teacher candidate can take that will provide the most coverage of topics an elementary teacher needs to know?

This tool focuses on undergraduate elementary teacher preparation programs. Graduate programs and alternate-route programs are not included.

# Getting Started

## Search for an Institution

To begin, select your institution in the search field at the top left of the page.



A search field with a light blue background. Inside the field is a white box containing the text "Search for an institution" and a small dark blue downward-pointing triangle on the right side.

After selecting your institution, all information displayed is customized to the undergraduate elementary teacher preparation program at this institution.

## Select a Subject Area

The Building Content Knowledge: Content Coverage Tool covers two subject areas, Social Studies and Science, providing separate findings for each subject area.

Select the subject area you want to view in the navy bar. The selected subject area has a white background.



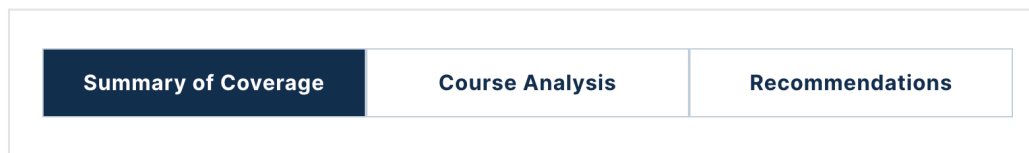
A horizontal bar with a light blue background. It contains two buttons: "Social Studies" on the left and "Science" on the right. The "Science" button is highlighted with a dark blue background and white text, while the "Social Studies" button has a white background and dark blue text.

## View Summary of Coverage, Course Analysis, or Recommendations

Below the subject area tabs in the navy bar, you can select a separate tab to view the analysis for your institution, which includes three sections. These sections are described in detail in the Tool Features section starting on p. 6:

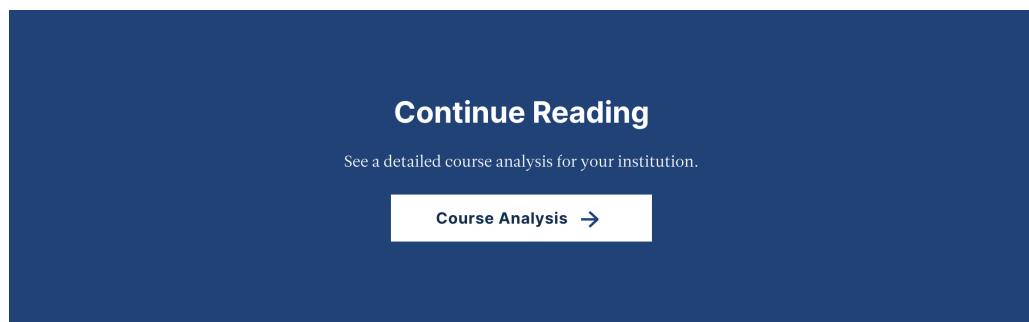
1. “Summary of Coverage”
2. “Course Analysis”
3. “Recommendations”

**NCTQ recommends starting with the “Summary of Coverage” section.**



## Continue Reading

You can easily navigate to the next section by clicking a new tab OR by clicking the box with an arrow at the bottom of each page.



# Tool Features

## Summary of Coverage

**NCTQ recommends reading the “Summary of Coverage” section first.**

This page provides a quick snapshot of whether elementary teacher candidates have the opportunity to take coursework in essential content and whether the coursework covers key themes and topics within science or social studies.

Analysis is based on both the institution’s requirements (e.g., general education course requirements) and coursework required or recommended by the preparation program.

Specifically, for each subject area selected, you can see the answers to the following three questions. (The institution receives a “Yes” or “No” based on what analysts found in the institution’s catalog or program requirements.)

1. **Coverage of [Social Studies or Science]:** Does the institution or teacher preparation program require or recommend elementary candidates complete any courses in [Social Studies or Science]?
2. **Theme Coverage:** Within [Social Studies or Science], there are [#] themes. Does the institution or teacher preparation program require or recommend courses to ensure each of the themes classified under [Social Studies or Science] are covered?
3. **Topic Coverage:** Within the [#] themes of [Social Studies or Science] are [#] topics common to teaching elementary students. Does this institution or preparation program require or recommend courses to ensure each of the [#] topics classified under [Social Studies or Science] are covered?

To view a full list of essential themes and topics for the subject area selected, click on the expandable blue bar at the bottom of the page.

**i** What are the thirteen topics of Social Studies content? ▼

## How to use this section:

This page gives programs a high-level overview of whether their current requirements and recommendations ensure candidates are expected to learn essential themes and topics within each subject.

We encourage programs to provide recommendations to their candidates (e.g., providing course recommendations for each general education requirement on their program website) so candidates can take a set of courses with the most robust content coverage relevant for an aspiring elementary teacher. Programs providing specific recommendations that lead to coverage of all topics earn a “Yes” for all three questions.

Explore the “Course Analysis” and “Recommendations” tabs for more detailed information about which courses the program should recommend.

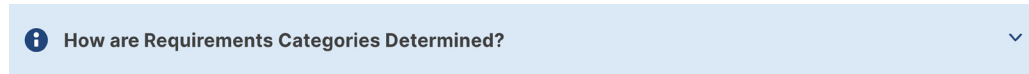
## Course Analysis

The “Course Analysis” section indicates which topics are addressed in each course option included in the institution or program’s requirements. You can explore:

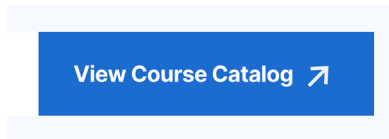
- **What course options are available to satisfy general education or teacher preparation requirement categories;**
- **What courses are required or recommended, either through general education requirements or the teacher preparation program; and**
- **Whether courses cover the themes and topics of either Social Studies or Science content knowledge.**

## Understanding Course Requirements

Click “How are Requirement Categories Determined?” in the light blue bar to see a description of NCTQ’s process to identify, analyze, and group the requirements at an institution.



Select the “View Course Catalog” button to view the catalog text NCTQ uses to derive these course lists, including requirement text and credit counts. Analysts use the institution’s course catalog and program materials (e.g., degree plans) to identify required or recommended courses, and use the course titles and descriptions in the institution’s course catalog to code whether those requirements align to the subjects, themes, and topics elementary teachers need to know.



Under “Course Analysis,” the initial view focuses on the first Requirement Category analyzed. Select another option from the dropdown menu to explore other Requirement Categories.



A Requirement Category is the specific course or category of courses a candidate must take according to the institution or program. Requirement Categories are labeled “Requirement One,” “Requirement Two,” etc. **View the Catalog Text to identify the specific course being referenced.**

For example, a Requirement Category might state all candidates have to take a single course (e.g., History 201: America to 1865), or a Requirement Category might state all undergraduate students have to take one American history course from a list of 10 course options. If a single course can meet a Requirement Category, one course appears on the table. If multiple different courses can meet a Requirement Category, all courses appear on the table.

If an institution offers a menu of course options to meet a Requirement Category, but the preparation program recommends candidates take a specific course from a list, both the course recommended by the program and additional, relevant course options are included.



## How to read the course analysis table

The left column of the table lists each course option associated with the identified Requirement Category. (The course code is written above the course title.)

The horizontal row across the top of the table represents the essential themes and topics for the subject area. Hover your mouse over a letter to see the topic name.

The row for each course illustrates the theme and topic coverage. If a course has coverage of a topic, the column displays a checkmark. If a course does not cover a topic, it has an “X”.

|                                      | Themes:   | Civics | Economics | History |   |            |   |   |   |               |   | Geography | Culture & Identity | Pedagogy |  |
|--------------------------------------|---|--------|-----------|---------|---|------------|---|---|---|---------------|---|-----------|--------------------|----------|--|
|                                      |   |        |           |         |   | US History |   |   |   | World History |   |           |                    |          |  |
|                                      |   | A      | B         | C       | D | E          | F | G | H | I             | J | K         | L                  | M        |  |
| HIST 101<br>Western Civilization I   | <i>Political Institutions, Participation, Rules, and Laws</i> |        | X         | X       | X | X          | X | ✓ | X | X             | X | X         | X                  |          |  |
| HIST 102<br>Western Civilization II  |   | X      | X         | X       | X | X          | X | X | ✓ | X             | X | X         | X                  |          |  |
| HIST 132<br>United States History II |   | X      | X         | X       | X | ✓          | ✓ | X | X | X             | X | X         | X                  |          |  |
| HIST 131<br>United States History I  |   | X      | X         | X       | ✓ | ✓          | ✓ | X | X | X             | X | X         | X                  |          |  |

## How the tool displays requirements that include multiple course requirements to meet one Requirement Category

Some requirements, as written by an institution in their catalog, ask candidates to select multiple courses to fulfill them. In these instances, each course is a separate Requirement Category in the drop-down menu.

### Example Catalog Text:

Choose six courses from the four core areas: Communication, Social Science, Humanities, and Math/Science (17–18 Credits)

### Action:

Because candidates must take six courses to meet this requirement, analysts captured each one as a separate Requirement Category in the tool. Each of the six Requirement Categories will include course possibilities from relevant disciplines. For example, under the Social Studies tab, only courses from Social Science and Humanities are included (even though a candidate could also take courses in Math/Science to meet this Requirement Category).

Some institutions have requirements that allow students to choose from a list of numerous course options to meet the requirement, often from various departments. For example, a candidate may have to take a history course, and can select from a list of 20 different history courses. In these instances, the Course Analysis Table will include one row for an “Extensive List,” which signals candidates have various possibilities, some of which may cover no relevant topics. The table will also include several rows with a small selection of courses from the “extensive list,” which NCTQ analysts selected to illustrate possible courses meeting the Requirement Category. Analysts prioritized choosing courses covering at least one topic.

**To learn more about the course analysis methodology, please see the Building Content Knowledge Technical Manual.**

## How to use this section:

**Programs can use this information in several ways.**

1. Identify which themes and topics are likely addressed or not addressed by current requirements and recommendations.
2. Consider what additional guidelines or requirements you can set for teacher candidates. Depending on your institution’s rules and practices, this could include:
  - Setting parameters on which general education courses candidates can take to fulfill a requirement.
  - Recommending specific courses and sharing those recommendations with candidates (or potential teacher candidates) during the advising process.
  - Adding additional courses so your teacher preparation program’s requirements provides strong coverage of key topics.
  - Adjusting the content of currently required courses to include currently missing topics.
3. Analyze current course-taking patterns by elementary education candidates.
  - Conduct an analysis of which content courses elementary education candidates often take, and use this tool to determine which topics and themes these commonly taken courses often address or omit.

## Recommendations

The “Recommendations” tab serves two functions:

1. To provide guidance on which courses teacher candidates and prospective candidates should take to satisfy graduation requirements and obtain maximum relevant content knowledge, and
2. To help programs improve content coverage by highlighting gaps and, when possible, filling the gaps in coverage with courses available at the institution.

In the “**Most Aligned**” Set of Courses column, NCTQ lists the set of courses that provides candidates with the maximum possible topic coverage within current institution and program course requirements. This is the group of courses programs might consider recommending to their candidates.

### **"Most Aligned" Set of Courses**

- 1) Social Studies Requirement 01**  
HIST 131 - United States History I
- 2) Social Studies Requirement 02**  
HIST 132 - United States History II
- 3) Social Studies Requirement 03**  
GEOG 103 - World Regional Geography-GTSS2
- 4) Social Studies Requirement 04**  
ECON 201 - Principles of Macroeconomics
- 5) Social Studies Requirement 05**  
POLS 101 - American Government
- 6) Social Studies Requirement 06**  
HIST 315 - American Indian History
- 7) Social Studies Requirement 07**  
HIST 331 - The 20th Century
- 8) Social Studies Requirement 08**  
EDUC 461 - Methods of Teaching Science and Social Studies:  
Early Childhood/Elementary

The “**How to Improve Content Coverage**” column provides a list of the topics that are still not covered even if a candidate completes all courses in the “Most Aligned” Set of Courses. NCTQ offers specific recommendations for additional courses a program could require to satisfy these missing topics. (These are courses that are already offered by the institution.)

### How to Improve Content Coverage

Using the “Most Aligned” Set of Courses, current course requirements can address up to 84.62% coverage of social studies topics.

The topics still lacking coverage include:

- Economic Principles and Exchange
- Pre-Columbian and/or Ancient Civilizations

To improve content coverage, the institution or teacher preparation program may need to require additional courses for their candidates to achieve coverage across all topics. Our analysts identified the following courses to cover these topics:

- Economic Principles and Exchange: ECON 202
- Pre-Columbian and/or Ancient Civilizations: HIST 101
- Pre-Columbian and/or Ancient Civilizations: HIST 225


## How to read the *Analysis of Content Covered by “Most Aligned” Set of Courses* table


The last part of this page, the *Analysis of Content Covered by “Most Aligned” Set of Courses* table, provides a comprehensive analysis of the content covered using the most optimal course selections (those listed under “Most Aligned Set of Courses”) to fulfill each Requirement Category.

This table does not include any additional courses allowing candidates to acquire complete topic coverage. The left column displays course options included in the “Most Aligned” Set of Courses. Each course fulfills one Requirement Category.

The horizontal row across the top of the table represents the essential themes and topics for the subject area. Hover your mouse over a letter to see the topic name.

The row of each course illustrates topic coverage.

 = coverage

 = no coverage

An orange indicator on the left of the course name indicates the teacher preparation program currently requires or recommends the selected course. The courses listed without the orange indicator represent an opportunity for the program to provide additional recommendations to their candidates and potential teacher candidates.

To download a copy, click the “Download Recommendations” button at the top of the table.

| Themes:   | Civics  | Economics   |   | History   |   |   |   |   |   | Geography   |   | Culture & Identity  | Pedagogy  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|   |   |   |   | US History  |   |   | World History   |   |   |   |   |   |   |
|   | Topics (hover to see name):   | A   | B   | C   | D   | E   | F   | G   | H   | I   | J   | K   | L   |
|  POLS 101<br><b>American Government</b>  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| HIST 315<br><b>American Indian History</b>  |   |   |   |   |   |   |   |   |   |   |   |   |   |
| HIST 331<br><b>The 20th Century</b>   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  EDUC 461<br><b>Methods of Teaching Science and Social Studies: Early Childhood/Elementary</b> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HIST 131<br><b>United States History I</b>  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HIST 132<br><b>United States History II</b>   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| GEOG 103<br><b>World Regional Geography-GTSS2</b>   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ECON 201<br><b>Principles of Macroeconomics</b>   |  |  |  |  |  |  |  |  |  |  |  |  |  |

The last row of the table provides a percentage of total content covered across all recommended courses. If the sequence has at least one course covering a topic, it receives a checkmark. If it does not, it displays an “X.” “Total Content Covered” shows, out of the total number of topics (13 for social studies and 9 for science), the maximum percentage of content covered.

| Total Content Covered: 84.62%   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| If a candidate takes the above courses, this is the topic coverage they would experience overall: | ✓ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✓ | ✓ | ✓ | ✓ |

## How to use this section:

**We encourage program leaders to use the recommendations to:**

1. Identify gaps in current requirements. It may be helpful to compare gaps with data from candidates’ performance on elementary content licensure tests, to see if the areas without required coursework are also challenging areas for aspiring teachers.
2. Provide explicit recommendations for prospective candidates in the program materials, such as a program website or course catalog. It is important to reach prospective candidates early, as they take many general education courses before officially enrolling in teacher preparation.
3. Use as an advising tool for current and prospective teacher candidates.
4. Advocate for a program’s needs when speaking with institutional leaders (e.g., increasing availability of courses covering specific topics relevant to elementary teachers or hiring faculty who can teach various courses).
5. Collaborate with liberal arts or science faculty to create alignment between current course content and the needs of teacher candidates, or open up additional seats in relevant courses, or give priority enrollment to teacher candidates.