

Standards by Design Tool Instructions

INTRODUCTION

The Ohio Department of Education & Workforce created the Standards by Design tool to help both career-technical and academics educators instruct their students more efficiently and effectively. Often, the skills being taught in career-technical education classrooms are simply practical applications of the concepts being taught in academic classrooms across the hall. To spotlight these similarities, career-tech and academics educators across Ohio examined the teaching standards and competencies of all career pathways and academic subjects. The Department then compiled the results in a searchable database called the Standards by Design tool for all educators to use.

Educators can use the tool in several ways to design instruction. For example, a student may ask, “Why are we learning this? I’ll never use this in real life!”

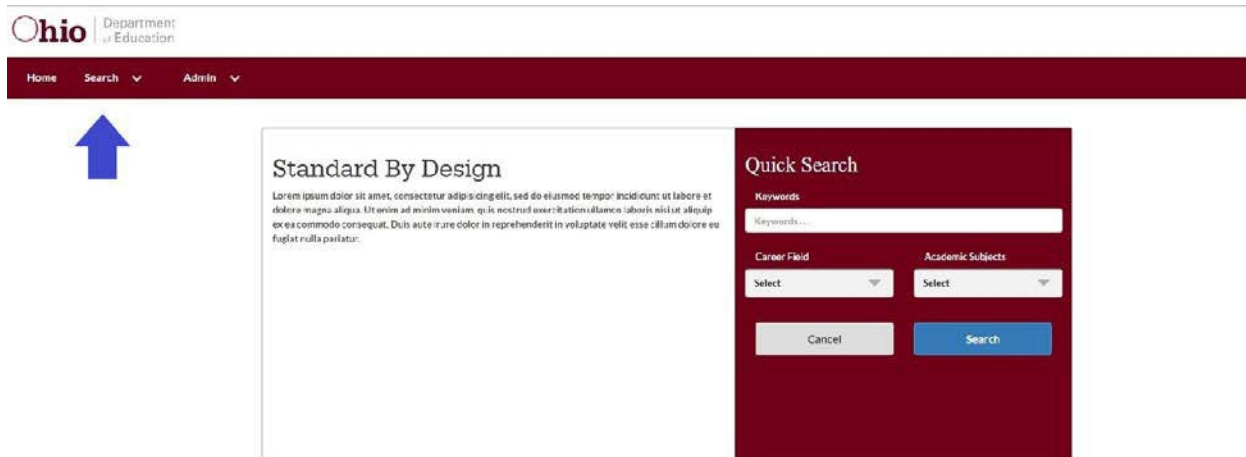
The Standards by Design tool can answer this and similar questions. Educators can use it to uncover new ideas for lesson plans or build instructional units they will deliver concurrently with their colleagues in multiple courses. Schools can use the Standards by Design tool to promote collaboration among faculty. They also can use it to make use of precious instruction time to deliver simultaneous credit.

The Department has provided a few examples of standards alignments to help walk educators through the process of using the Standards by Design tool. Be sure to have all your educators explore the database.

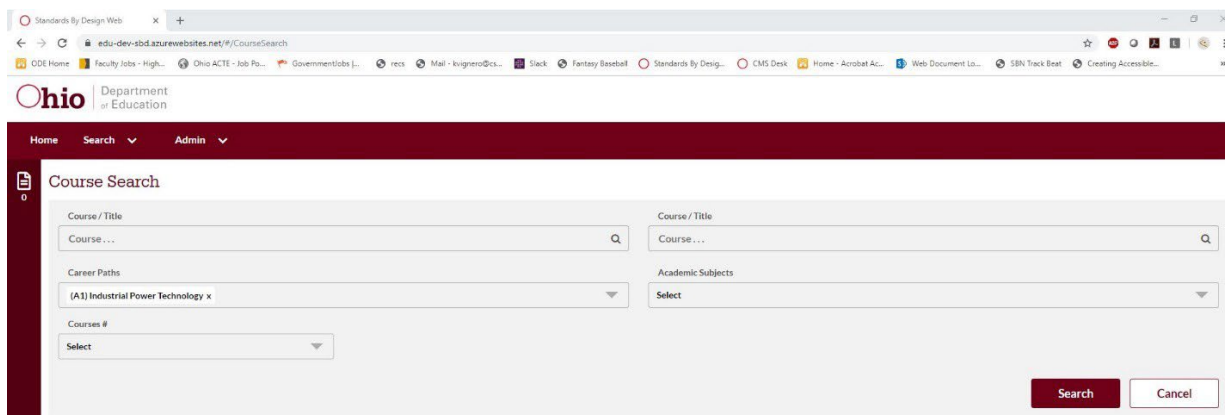
HOW TO: Search a Course

The course Search function helps educators discover and use alignments for specific courses.

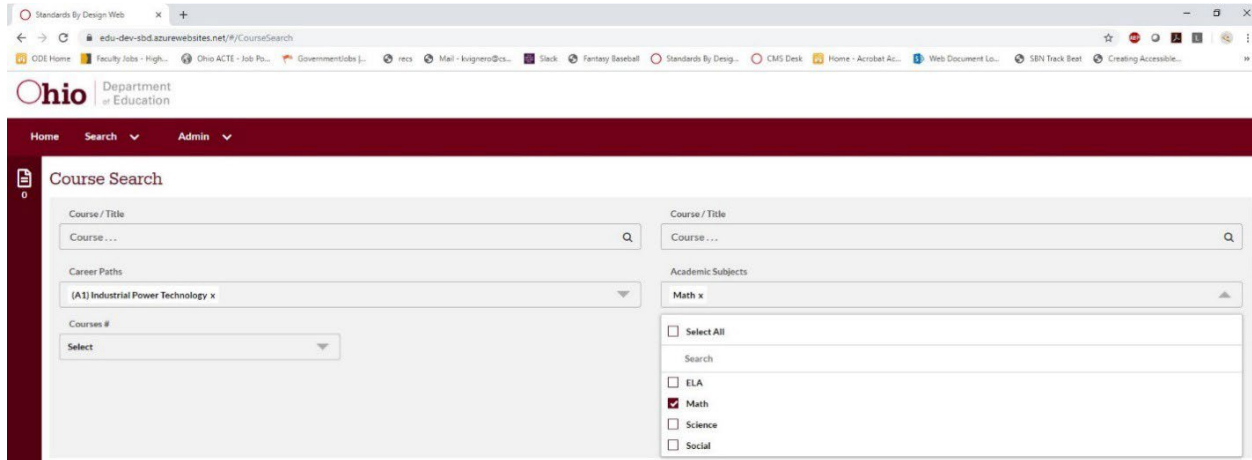
To begin using the function, click the Search tab at the **top left** of the Standards by Design Quick Search page, as pictured here.



From the Search page, pictured below, users can search for alignments in two different ways. One way is to fill in the name of a course in the Course/Title search bar, at top left, to find all alignments for that course. Another is to search for alignments between a known career-technical education course and an academic content area.

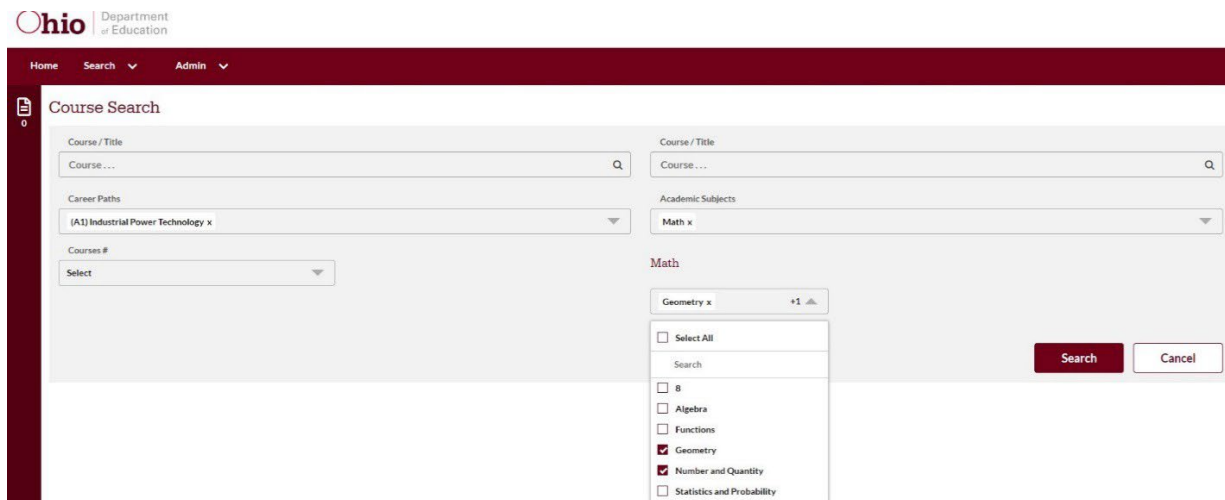


Or, click on the Career Paths selection box to produce a list of Ohio's career-technical education career pathways, listed in order of their alphanumeric EMIS designations. For example, explore the alignments between the Industrial Power Technology career pathway and the Geometry and Number and Quantity strands in math. To do so, click the Career Paths box, pictured below, and select (A1) Industrial Power Technology.



In the Academic Subjects search box, pictured below, select Math.

This action will generate a search box directly under the Academic Subjects search box for strands within Math. In this newly generated search box, pictured below, select the Geometry and Number and Quantity strands.



In the Courses # search box, pictured below, select the Hydraulics and Pneumatics and Outdoor Power and Technology courses. With all required fields filled, click the Search button at the bottom.

The screenshot shows the 'Course Search' interface. At the top, there are navigation links for 'Home', 'Search', and 'Admin'. The main search area includes a 'Course / Title' search box, a 'Career Paths' dropdown menu set to '(A1) Industrial Power Technology x', and a 'Courses #' dropdown menu. The 'Courses #' menu is expanded, showing a list of options: 'Electronic & Electrical Systems', 'Engines & Fuel Systems', 'Hydraulics and Pneumatics' (checked), 'Outdoor Power Technology' (checked), 'Power Sports', and 'Power Trains'. To the right, there is another 'Course / Title' search box, an 'Academic Subjects' dropdown menu set to 'Math x', and a 'Math' dropdown menu set to 'Geometry x'. At the bottom right, there are 'Search' and 'Cancel' buttons.

The resulting page displays the search results. The column on the left shows the career-tech pathway. The middle column displays the academic subject. The column on the right shows the number of aligned competencies.

Click the down arrow to the right of the Alignment column to expand the alignments box and display the career-technical courses on the left. Then, click the number of alignments to expand the list of the individual career-technical competencies aligned to the academic subject.

The screenshot shows the 'Search Results' page. At the top, there are navigation links for 'Home', 'Search', and 'Admin'. The 'Search Criteria' section shows 'Career Paths: (A1) Industrial Power Technology' and 'Courses #: Hydraulics and Pneumatics +5'. The 'Academic Subjects' dropdown is set to 'Math' and the 'Courses #' dropdown is set to 'Geometry +5'. The 'Search Results' section shows 'Found 2 courses for your search criteria'. Below this is a table with three columns: 'CAREER PATHS', 'ACADEMIC SUBJECTS', and 'ALIGNMENT'. The table has three rows of data. The first row shows '(A1) Industrial Power Technology' in the 'CAREER PATHS' column, 'Math' in the 'ACADEMIC SUBJECTS' column, and '2' in the 'ALIGNMENT' column. The second row shows 'Hydraulics and Pneumatics' in the 'CAREER PATHS' column, 'Math' in the 'ACADEMIC SUBJECTS' column, and '1' in the 'ALIGNMENT' column. The third row shows 'Outdoor Power Technology' in the 'CAREER PATHS' column, 'Math' in the 'ACADEMIC SUBJECTS' column, and '2' in the 'ALIGNMENT' column. At the bottom right, there are 'Generate' and 'Cancel' buttons.

CAREER PATHS	ACADEMIC SUBJECTS	ALIGNMENT
<input type="checkbox"/> (A1) Industrial Power Technology	Math	2
<input type="checkbox"/> Hydraulics and Pneumatics	Math	1
<input type="checkbox"/> Outdoor Power Technology	Math	2

To view the academic subject competencies rather than career-technical competencies, click the Toggle Alignments button.

Once you have selected the competency alignments you want to highlight, click the Generate button to produce the alignments document. Then, either save the results to your profile or download them as a PDF.

Report Results

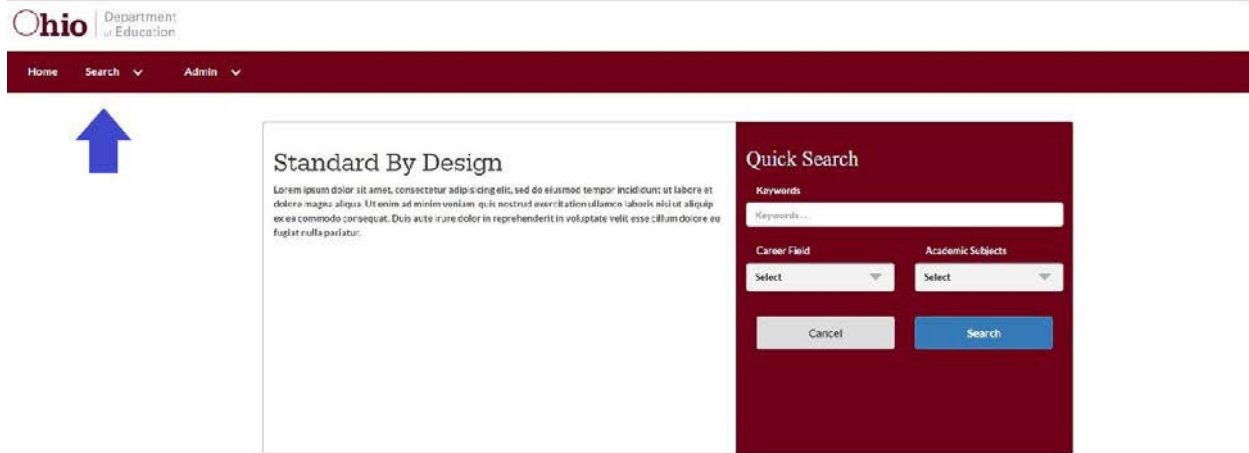
Hydraulics and Pneumatics ↔ Number and Quantity

CTE Courses	Academic Course
Hydraulics and Pneumatics	Number and Quantity
<p>Competencies:</p> <p>Test, diagnose and repair or replace fluid conveyance components (e.g., hoses, lines, fittings).</p>	<p>Standards:</p> <p>A 1.7.RP.1.Analyze proportional relationships and use them to solve real-world and mathematical problems.7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{\frac{1}{2}}{\frac{1}{4}}$ miles per hour, equivalently 2 miles per hour.</p> <p>A 1.N.Q.1.Reason quantitatively and use units to solve problems.N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>
<p>Non-Aligned Competencies</p> <p>Formulate and prepare rations and diets for production, specialty markets and special diets</p> <p>Select and implement feeding and watering practices and systems, based on the animal population and purpose</p> <p>Simulate the administration of drug treatments and vaccines, following quality assurance guidelines, and monitor common adverse effects and potential problems associated with administration</p> <p>Contrast formal/symmetrical, informal/asymmetrical and radial balance.</p> <p>Recognize the use of proportion/scale.</p> <p>Differentiate between raster- and vector-based layouts.</p> <p>Research and analyze trends and local markets for opportunities.</p>	<p>Non-Aligned Standards</p> <p>2.7.SP.2.Broaden understanding of statistical problem solving.7.SP.2 Broaden statistical reasoning by using the GAISE model. a. Formulate Questions: Recognize and formulate a statistical question as one that anticipates variability and can be answered with quantitative data. For example, "How do the heights of seventh graders compare to the heights of eighth graders?" (GAISE Model, step 1)b. Collect Data: Design and use a plan to collect appropriate data to answer a statistical question. (GAISE Model, step 2)c. Analyze Data: Select appropriate graphical methods and numerical measures to analyze data by displaying variability within a group, comparing individual to individual, and comparing individual to group. (GAISE Model, step 3)d. Interpret Results: Draw logical conclusions and make generalizations from the data based on the original question. (GAISE Model, step 4)</p> <p>1.N.Q.1.Reason quantitatively and use units to solve</p>

HOW TO: Alignment Search

The alignment search function helps educators discover and use alignments for specific career-technical education competencies and academic subject standards.

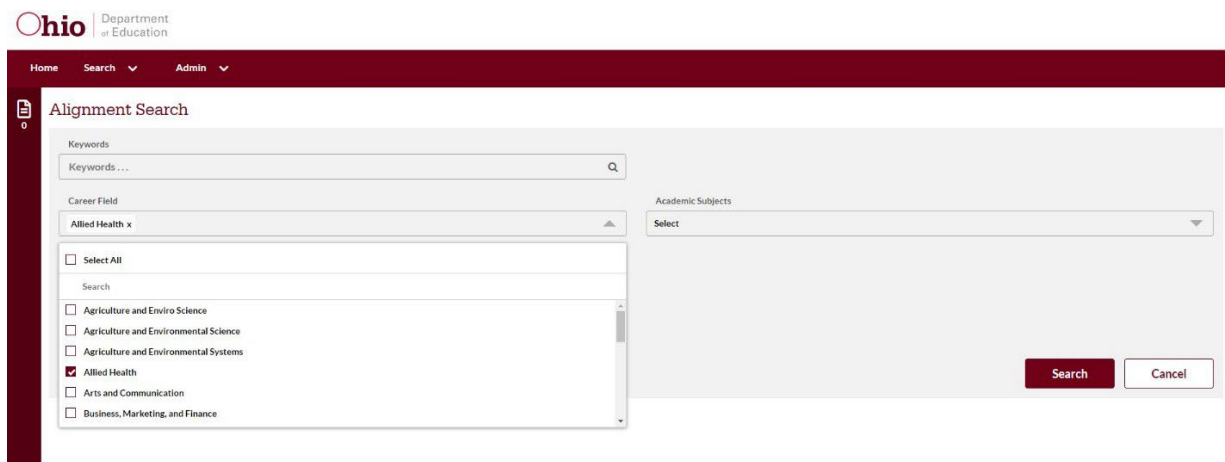
Click the Search tab at the top left of the page, as pictured below.



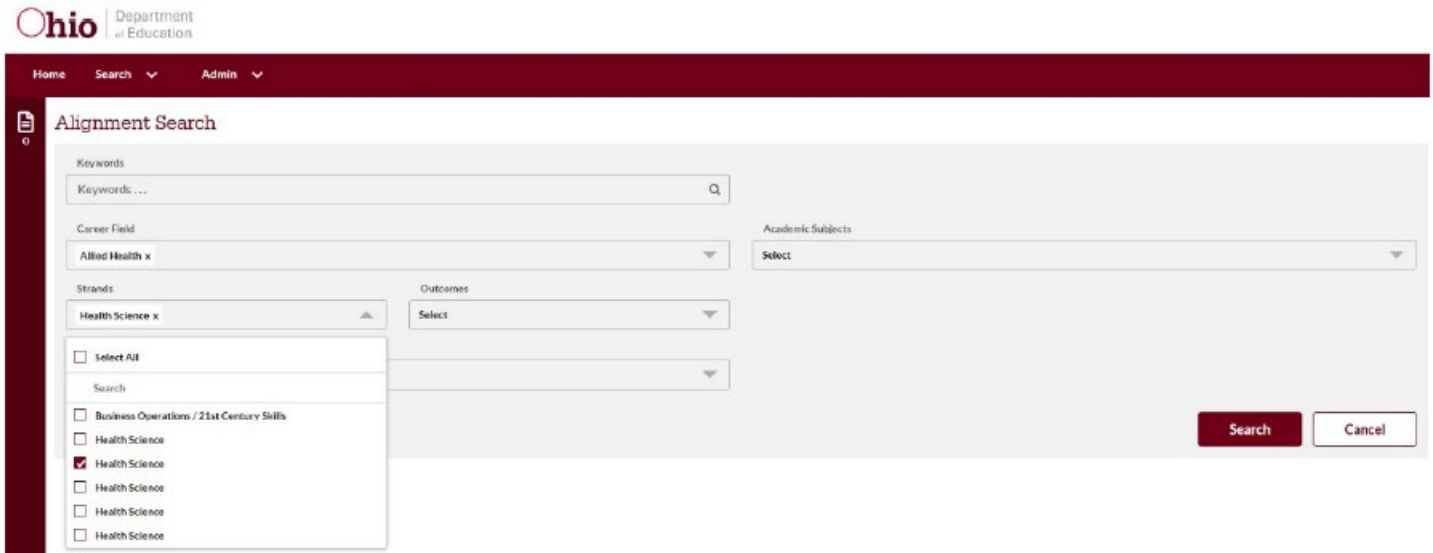
From the Alignment Search page, pictured below, you can execute a variety of searches to find alignments. Fill in the Keywords search bar or search for alignments between chosen career-tech competencies and academic subject standards.

Click on the Career Field selection box to produce an alphabetical list of various career-technical pathways. The example below explores the alignments between the Disorders of the Skin, Glands, Hair and Scalp outcome in the Health Science strand of the Allied Health career pathway and English language arts.

In the Career Field selection box, choose Allied Health.

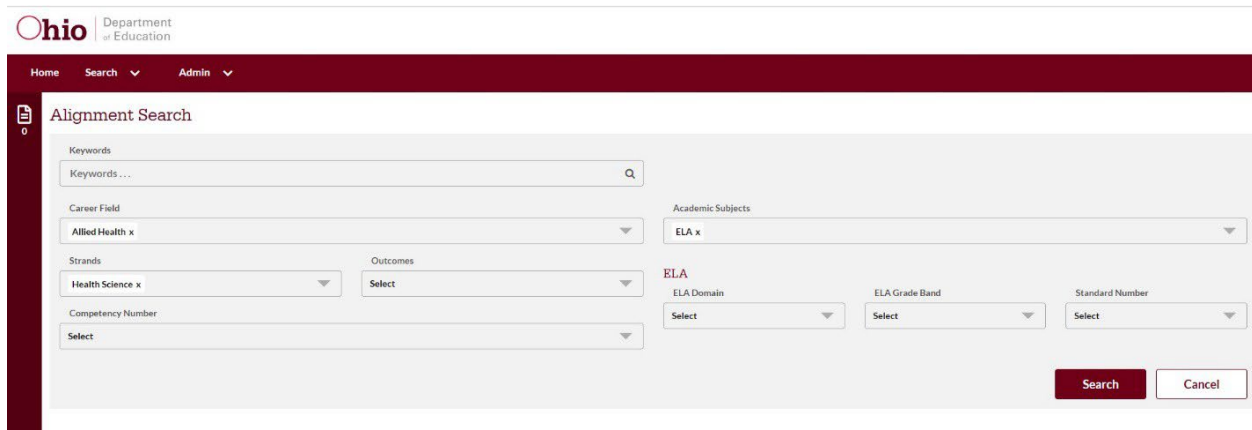


In the Strands selection box, pictured next, select Health Science.



The screenshot shows the 'Alignment Search' interface. At the top, there are navigation links for 'Home', 'Search', and 'Admin'. The main form includes a 'Keywords' search box, a 'Career Field' dropdown set to 'Allied Health x', and an 'Academic Subjects' dropdown set to 'Select'. The 'Strands' dropdown is open, displaying a list of options: 'Select All', 'Search', 'Business Operations / 21st Century Skills', 'Health Science', 'Health Science', 'Health Science', 'Health Science', and 'Health Science'. The 'Health Science' option is selected with a checkmark. There are also 'Outcomes' and 'Competency Number' dropdowns, both set to 'Select'. 'Search' and 'Cancel' buttons are located at the bottom right.

In the Academic Subjects selection box, pictured below, select ELA.



The screenshot shows the 'Alignment Search' interface with the 'Academic Subjects' dropdown menu open. The 'Academic Subjects' dropdown is set to 'ELA x'. Below it, there are three sub-dropdowns: 'ELA Domain' (set to 'Select'), 'ELA Grade Band' (set to 'Select'), and 'Standard Number' (set to 'Select'). The 'Strands' dropdown is now set to 'Health Science x'. The 'Career Field' remains 'Allied Health x'. The 'Keywords' search box is empty. 'Search' and 'Cancel' buttons are at the bottom right.

You can refine the search by selecting specific career-technical competencies and academic standards, but in this example, we will search for alignments between the entire career-technical education outcome and all of English language arts.

When you have filled in all desired search parameters, click the Search button. The resulting page, pictured below, will display the career-technical career field in the left column, the academic subject in the middle column, and the number of alignments in the right column.

Home Search Admin

Search Criteria

Career Field: **Allied Health** | Outcomes: **Disorders of the Skin, Glands, Hair and Nails** -1 Update Search

Academic Subjects: **ELA**

Search Results

Found 70 Alignments for your search criteria Toggle Alignments

CAREER FIELDS	ACADEMIC SUBJECT	ALIGNMENT
<input type="checkbox"/> <small>Career Field</small> Allied Health	→ ELA	70 ^
<input type="checkbox"/> <small>Stand</small> Health Science	ELA	70 v

Generate Cancel

To view the academic subject competencies rather than the career-technical competencies, click the Toggle Alignments button.

Once you have selected the alignments you want to highlight, click the Generate button to generate the alignments document. Then, either save the results to your profile or download them as PDFs.