

Career & Technical Education (CTE) Standards Revision Project

Cluster: Architecture & Construction

Pathways: Design & Pre-Construction, Construction, Maintenance /Operations

Architecture & Construction Cluster Overview

The Architecture & Construction cluster prepares students for careers in designing, planning, managing, building and maintaining the built environment. People employed in this cluster work on new structures, restorations, additions, alterations, and repairs. Pathways related to professional and technical support for this cluster: Design/Pre-Construction, Construction and Maintenance/Operations & Repairs. (Source: www.careerclusters.org)

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Skilled Trades & Technical Sciences Content Team

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Standards: Design and Pre-Construction

Career Cluster/Cluster Grouping:	Architecture and Construction
Pathway(s):	Design and Pre-Construction
Prepared Completer Competencies: <ul style="list-style-type: none"> • ACC10 Technical Skills: Use the technical knowledge and skills required to pursue the targeted careers for all pathways in the career cluster, including knowledge of design, operation, and maintenance of technological systems critical to the career cluster. 	
High School Expectations	
Concepts and skills students know include: <ul style="list-style-type: none"> • ACC 10.01 Read, interpret, and use technical drawings, documents, and specifications to plan a project. 	
Evidence Outcomes – Students Can:	21st Century Skills and Readiness Competencies
<p>a. Interpret drawings used in project planning.</p> <p>MAT01.02.a, MAT04.01.a, MAT04.01.b, MAT04.01.c MAT04.01.d, MAT04.03.a, MAT04.03.b, MAT04.04.c</p> <p>RWC02.02.a, RWC02.06.a, RWC02.05.d, RWC02.06.b, RWC04.06.c, RWC04.06.d, RWC04.06.e</p> <p>PWR01.01.a, PWR01.01.b, PWR01.01.c, PWR01.01.d, PWR01.01.e, PWR01.02.a, PWR01.02.b, PWR01.02.c, PWR01.02.d, PWR01.04.a, PWR01.04.b, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.01.d, PWR02.01.e, PWR02.01.f, PWR02.02.a, PWR02.02.b, PWR02.02.c, PWR02.03.a, PWR02.03.b, PWR02.03.c, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e, PWR02.06.f, PWR02.06.g, PWR02.07.a, PWR02.07.b, PWR02.07.d, PWR02.08.a, PWR02.08.b, PWR02.09.a, PWR02.09.b, PWR02.09.c</p>	Academic Content Knowledge Alignment: <p>MAT01.02.a-Mathematics, Number Sense, Properties, and Operations:</p> <ul style="list-style-type: none"> • Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently <ul style="list-style-type: none"> ○ Use appropriate computation methods that encompass estimation and calculation <p>MAT04.01.a-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> • Attributes of two- and three-dimensional objects are measurable and can be quantified. <ul style="list-style-type: none"> ○ Calculate (or estimate when appropriate) the perimeter and area of a two-dimensional irregular shape <p>MAT04.01.b-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> • Attributes of two- and three-dimensional objects are measurable and can be quantified <ul style="list-style-type: none"> ○ Justify, interpret, and apply the use of formulas for the surface area, and volume of cones, pyramids, and spheres including real-world situations

<p>b. Describe written standards and those specifications that apply.</p> <p>RWC02.02.a</p> <p>PWR01.01.a, PWR01.01.b, PWR01.01.c, PWR01.01.d, PWR01.01.e, PWR01.02.b, PWR01.02.d, PWR01.04.b, PWR02.01.a, PWR02.01.e, PWR02.01.f, PWR02.02.a, PWR02.02.c, PWR02.03.a, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e, PWR02.06.f, PWR02.06.g, PWR02.07.c, PWR02.07.d, PWR02.08.a, PWR02.08.b</p> <p>c. Recognize how specifications and standards are arranged for proper access.</p> <p>RWC02.02.a</p> <p>PWR01.01.b, PWR01.01e, PWR01.02.d, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.02.b, PWR02.02.c, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e, PWR02.06.f, PWR02.06.g, PWR02.07.c, PWR02.07.d, PWR02.08.a, PWR02.08.b</p> <p>d. Use architect's plan, manufacturer's illustrations and other materials to communicate specific data and visualize proposed work.</p> <p>MAT04.03.a, MAT04.03.b,</p> <p>RWC02.02a</p> <p>PWR01.01.a, PWR01.01.b, PWR01.01.c, PWR01.01d, PWR01.01e, PWR01.02.b, PWR01.02.d, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.01.d, PWR02.02.a, PWR02.02.b, PWR02.02.c, PWR02.03.a, PWR02.03.b, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e, PWR02.06.f, PWR02.06.g, PWR02.07.c, PWR02.07.d, PWR02.08.a, PWR02.08.c, PWR02.09.a, PWR02.09.b, PWR02.09.c, PWR02.09.d</p>	<p>MAT04.01.c-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> Attributes of two- and three-dimensional objects are measurable and can be quantified <ul style="list-style-type: none"> Solve for unknown quantities in relationships involving perimeter, area, surface area and volume <p>MAT04.01.d-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> Attributes of two- and three-dimensional objects are measurable and can be quantified <ul style="list-style-type: none"> Apply the effect of dimensional change, utilizing appropriate units and scales in problem-solving situations involving perimeter, area, and volume <p>MAT04.03.a-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> Objects in the plane can be transformed, and those transformations can be described and analyzed mathematically <ul style="list-style-type: none"> Make conjectures involving two-dimensional objects represented with Cartesian coordinates. Justify these conjectures using two-column proofs, paragraph proofs, flow charts and/or illustrations <p>MAT04.03.b-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> Objects in the plane can be transformed, and those transformations can be described and analyzed mathematically <ul style="list-style-type: none"> Represent transformations (reflection, translation, rotation, and dilation) using Cartesian coordinates <p>MAT04.04.c-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> Right triangles are central to geometry and its applications <ul style="list-style-type: none"> Determine the midpoint of a line segment and the distance between two points in the Cartesian coordinate plane <p>RWC02.02.a-Reading, Writing, and Communicating, Reading for All Purposes:</p> <ul style="list-style-type: none"> Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills <ul style="list-style-type: none"> Use reading and note-taking strategies (outlining, mapping systems, skimming, scanning, key word search) to organize information and make connections within and across informational texts <p>RWC02.05.d-Reading, Writing, and Communicating, Reading for All Purposes:</p> <ul style="list-style-type: none"> Literary and historical influences determine the meaning of traditional and contemporary literary texts <ul style="list-style-type: none"> Analyze how literary components affect meaning
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RWC02.06.b-Reading, Writing, and Communicating, Reading for All Purposes:

- The development of new ideas and concepts within informational and persuasive manuscripts
 - Analyze how a concept is presented and developed in multiple texts

RWC04.06.c-Reading, Writing, and Communicating, Research and Reasoning:

- Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions
 - Identify and evaluate potential sources of information for accuracy, reliability, validity, and timeliness

RWC04.06.d-Reading, Writing, and Communicating, Research and Reasoning:

- Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions
 - Use a variety of strategies (such as search engines, online databases, interview) to collect and organize relevant and significant information

RWC04.06.e-Reading, Writing, and Communicating, Research and Reasoning:

- Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions
 - Distinguish between types of evidence (such as expert testimony, analogies, anecdotes, statistics) and use a variety of types to support a particular research purpose

Learning & Behavioral Skills – Post Secondary & Workforce Readiness:

PWR01.01.a-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Read fiction and non-fiction, understanding conclusions reached and points of view expressed

PWR01.01.b-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Write clearly and coherently for a variety of purposes and audiences

PWR01.01.c-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Use logic and rhetoric to analyze and

PWR01.01.d-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Access and use primary and secondary sources to explain questions being researched

	<p>PWR01.01.e-Postsecondary & Workforce Readiness, Content Knowledge, Literacy</p> <ul style="list-style-type: none"> • Employ standard English language properly and fluently in reading, writing, listening, and speaking <p>PWR01.02.a-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences</p> <ul style="list-style-type: none"> • Think critically, analyze evidence, read graphs, understand logical arguments, detect logical fallacies, test conjectures, evaluate risks, and appreciate the role mathematics plays in the modern world, i.e., be quantitatively literate <p>PWR01.02.b-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences</p> <ul style="list-style-type: none"> • Understand and apply algebraic and geometric concepts and techniques <p>PWR01.02.c-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences</p> <ul style="list-style-type: none"> • Use concepts and techniques of probability and statistics <p>PWR01.02.d-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences</p> <ul style="list-style-type: none"> • Apply knowledge of mathematics to problem solve, analyze issues, and make critical decisions that arise in everyday life <p>PWR01.04.a-Postsecondary & Workforce Readiness, Content Knowledge, Social Studies and Social Sciences</p> <ul style="list-style-type: none"> • Identify and describe historical, social, cultural, political, geographical, and economic concepts <p>PWR01.04.b-Postsecondary & Workforce Readiness, Content Knowledge, Social Studies and Social Sciences</p> <ul style="list-style-type: none"> • Interpret sources, and evaluate evidence and competing ideas <p>PWR02.01.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Apply logical reasoning and analytical skills <p>PWR02.01.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Conduct research using acceptable research methods <p>PWR02.01.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Understand different research approaches
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PWR02.01.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Collect and analyze quantitative and qualitative data and research

PWR02.01.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Evaluate the credibility and relevance of information, ideas, and arguments

PWR02.01.f-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Discern bias, pose questions, marshal evidence, and present solutions

PWR02.02.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Select, integrate, and apply appropriate technology to access and evaluate new information

PWR02.02.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Understand the ethical uses of information

PWR02.02.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Provide citations for resource

PWR02.03.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Demonstrate intellectual curiosity

PWR02.03.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Generate, evaluate, and implement new ideas and novel approaches

PWR02.03.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Develop new connections where none previously existed

PWR02.06.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Plan and prioritize goals

PWR02.06.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Manage time effectively

PWR02.06.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take initiative, and follow directions

PWR02.06.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Learn from instruction and criticism

PWR02.06.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take responsibility for completion of work

PWR02.06.f-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Act with maturity, civility, and politeness

PWR02.06.g-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Demonstrate flexibility

PWR02.07.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Balance self-advocacy with the consideration of others

PWR02.07.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Possess financial literacy and awareness of consumer economics

PWR02.07.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Behave honestly and ethically

PWR02.07.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Take responsibility for actions

PWR02.08.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Read, write, listen and speak effectively

PWR02.08.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Construct clear, coherent, and persuasive arguments

	<p>PWR02.08.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication</p> <ul style="list-style-type: none">• Communicate and interact effectively with people who have different primary languages <p>PWR02.09.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Collaboration</p> <ul style="list-style-type: none">• Work effectively with others <p>PWR02.09.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Collaboration</p> <ul style="list-style-type: none">• Acknowledge authority and take direction <p>PWR02.09.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Collaboration</p> <ul style="list-style-type: none">• Cooperate for a common purpose <p>PWR02.09.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Collaboration</p> <ul style="list-style-type: none">• Use teamwork and leadership skills effectively
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High School Expectations	
Concepts and skills students know include:	
<ul style="list-style-type: none"> • ACC 10.02 Use and maintain appropriate tools, machinery, equipment, and resources to accomplish project goals. 	
Evidence Outcomes – Students Can:	21st Century Skills and Readiness Competencies
<p>a. Select tools, machinery, equipment and resources that match requirements of the job.</p> <p style="padding-left: 40px;">RWC02.02.a</p> <p style="padding-left: 40px;">PWR01.02.b, PWR01.02.d, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.02.a, PWR02.03.a, PWR02.03.b, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e, PWR02.06.f, PWR02.06.g, PWR02.07.a, PWR02.07.b</p> <p>b. Identify sources of information concerning state of the art tools, equipment, materials, technologies and methodologies.</p> <p style="padding-left: 40px;">RWC02.02.a</p> <p style="padding-left: 40px;">PWR01.01.b, PWR01.01.e, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.02.a, PWR02.02.b, PWR02.07.a, PWR02.07.b, PWR02.07.c, PWR02.08.a, PWR02.08.b</p> <p>c. Demonstrate use of tools, machinery, equipment and other resources commonly used in design and construction.</p> <p style="padding-left: 40px;">MAT01.02.a, MAT02.01.a, MAT02.01.b, MAT02.01.c, MAT02.04.b, MAT02.04.c</p> <p style="padding-left: 40px;">RWC02.02a, RWC04.09.a</p> <p style="padding-left: 40px;">PWR01.01.a, PWR01.01.b, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.02.a, PWR02.02.b, PWR02.02.c, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e, PWR02.06.f, PWR02.06.g, PWR02.07.c, PWR02.07.d, PWR02.08.a</p>	<p>Academic Content Knowledge Alignment:</p> <p>MAT01.02.a-Mathematics, Number Sense, Properties, and Operations:</p> <ul style="list-style-type: none"> • Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently. <ul style="list-style-type: none"> ○ Use appropriate computation methods that encompass estimation and calculation <p>MAT02.01.a-Mathematics, Patterns, Functions, and Algebraic Structures:</p> <ul style="list-style-type: none"> • Functions model situations where one quantity determines another and can be represented algebraically, graphically, and using tables <ul style="list-style-type: none"> ○ Determine, using all tools including graphing technology, when a relation is a function using a table, a graph, or an equation <p>MAT02.01.b-Mathematics, Patterns, Functions, and Algebraic Structures:</p> <ul style="list-style-type: none"> • Functions model situations where one quantity determines another and can be represented algebraically, graphically, and using tables <ul style="list-style-type: none"> ○ Demonstrate the relationship between all representations of linear functions using point-slope, slope-intercept, and standard form of a line <p>MAT02.01.c-Mathematics, Patterns, Functions, and Algebraic Structures:</p> <ul style="list-style-type: none"> • Functions model situations where one quantity determines another and can be represented algebraically, graphically, and using tables <ul style="list-style-type: none"> ○ Represent, using all tools including graphing technology, linear, quadratic, absolute value, power, exponential, logarithmic, rational, trigonometric (sine and cosine), and step functions in a table, graph, and equation and convert from one representation <p>MAT02.04.b-Mathematics, Patterns, Functions, and Algebraic Structures:</p> <ul style="list-style-type: none"> • Expressions, equations, and inequalities can be expressed in multiple, equivalent forms <ul style="list-style-type: none"> ○ Apply the properties of positive and negative rational exponents to generate equivalent algebraic expressions including those involving nth roots

MAT02.04.c-Mathematics, Patterns, Functions, and Algebraic Structures:

- Expressions , equations, and inequalities can be expressed in multiple, equivalent forms
 - Solve equations for one variable in terms of the others

RWC02.02.a-Reading, Writing, and Communicating, Reading for All Purposes:

- Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills
 - Use reading and note-taking strategies (outlining, mapping systems, skimming, scanning, key word search) to organize information and make connections within and across informational texts

RWC04.09.a-Reading, Writing, and Communicating, Research and Reasoning:

- Effective problem-solving strategies require high-quality reasoning
 - Analyze the purpose, question at issue, information, points of view, implications and consequences, inferences, assumptions and concepts inherent in thinking

Learning & Behavior Skills – Post Secondary & Workforce Readiness:

PWR01.01.a-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Read fiction and non-fiction, understanding conclusions reached and points of view expressed

PWR01.01.b-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Write clearly and coherently for a variety of purposes and audiences

PWR01.01.e-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Employ standard English language properly and fluently in reading, writing, listening, and speaking

PWR01.02.b-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Understand and apply algebraic and geometric concepts and techniques

PWR01.02.d-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Apply knowledge of mathematics to problem solve, analyze issues, and make critical decisions that arise in everyday life

PWR02.01.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Apply logical reasoning and analytical skills

PWR02.01.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Conduct research using acceptable research methods

PWR02.01.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Understand different research approaches

PWR02.02.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills -Find and Use Information/Information Technology

- Select, integrate, and apply appropriate technology to access and evaluate new information

PWR02.02.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Understand the ethical uses of information

PWR02.02.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Provide citations for resources

PWR02.03.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Demonstrate intellectual curiosity

PWR02.03.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Generate, evaluate, and implement new ideas and novel approaches

PWR02.06.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Plan and prioritize goals

PWR02.06.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Manage time effectively

PWR02.06.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take initiative, and follow directions

PWR02.06.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Learn from instruction and criticism

PWR02.06.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take responsibility for completion of work

PWR02.06.f-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Act with maturity, civility, and politeness

PWR02.06.g-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Demonstrate flexibility

PWR02.07.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Balance self-advocacy with the consideration of others

PWR02.07.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Possess financial literacy and awareness of consumer economics

PWR02.07.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Behave honestly and ethically

PWR02.07.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Take responsibility for actions

PWR02.08.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Read, write, listen and speak effectively

PWR02.08.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Construct clear, coherent, and persuasive arguments

High School Expectations

Concepts and skills students know include:

- ACPA 06.01 Develop technical drawings drafted by hand and computer generated plans to design structures.

Evidence Outcomes – Students Can:

- a. Identify client requirements.

MAT04.01.a, MAT04.01.b, MAT04.01.c, MAT04.03.a, MAT04.03.b,

RWC01.01.a, RWC01.01.b, RWC01.01.d, RWC01.01.e, RWC01.01.f, RWC01.02.c, RWC01.02.d, RWC01.02.e, RWC01.05.a, RWC01.05.b, RWC01.05.c, RWC01.05.d, RWC01.06.e, RWC02.02.a, RWC04.01.c, RWC04.03.a, RWC04.03.b, RWC01.01.f, RWC01.05.a, RWC01.05.b, RWC01.05.c, RWC01.05.d, RWC01.06.e

PWR01.01.a, PWR01.01b, PWR01.01c, PWR01.01d, PWR01.01e, PWR01.04.b, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.01.d, PWR02.01.e, PWR02.01.f, PWR02.02.a, PWR02.02.b, PWR02.02.c, PWR02.04.b, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e, PWR02.06.f, PWR02.06.g, PWR02.07.a, PWR02.07.c, PWR02.07.d, PWR02.08.a, PWR02.08.c, PWR02.09.a, PWR02.09.c

21st Century Skills and Readiness Competencies

Academic Content Knowledge Alignment

MAT01.02.a-Mathematics, Number Sense, Properties, and Operations:

- Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently.
 - Use appropriate computation methods that encompass estimation and calculation

MAT04.01.a-Mathematics, Shape, Dimension, and Geometric Relationships:

- Attributes of two- and three-dimensional objects are measurable and can be quantified
 - Calculate (or estimate when appropriate) the perimeter and area of a two-dimensional irregular shape

MAT04.01.b-Mathematics, Shape, Dimension, and Geometric Relationships:

- Attributes of two- and three-dimensional objects are measurable and can be quantified.
 - Justify, interpret, and apply the use of formulas for the surface area, and volume of cones, pyramids, and spheres including real-world situations

MAT04.01.c-Mathematics, Shape, Dimension, and Geometric Relationships:

- Attributes of two- and three-dimensional objects are measurable and can be quantified.
 - Solve for unknown quantities in relationships involving perimeter, area, surface area and volume

MAT04.03.a-Mathematics, Shape, Dimension, and Geometric Relationships:

- Objects in the plane can be transformed, and those transformations can be described and analyzed mathematically.
 - Make conjectures involving two-dimensional objects represented with Cartesian coordinates, Justify these conjectures using two-column proofs, paragraph proofs, flow charts and/or illustrations

<p>b. Use communication skills and strategies to work effectively with people. (including clients team members, and others)</p> <p>RWC01.01.a, RWC01.01.d, RWC01.01.e, RWC01.05.a, RWC01.05.b, RWC01.05.c, RWC01.05.d., RWC02.02.a, RWC04.01.c, RWC04.03.a, RWC04.03.b,</p> <p>PWR01.01.a, PWR01.01.b, PWR01.01.c, PWR01.01.d, PWR01.01.e, PWR02.04.b, PWR02.07.a, PWR02.07.c, PWR02.07.d, PWR02.08.a, PWR02.08.c, PWR02.09.a, PWR02.09.c</p> <p>c. Draw and sketch by hand to communicate ideas effectively.</p> <p>MAT04.01.a, MAT04.01.b, MAT04.01.c, MAT04.03.a, MAT04.03.b</p> <p>RWC01.01.a, RWC01.01.d, RWC01.01.e, RWC01.05.a, RWC01.05.b, RWC01.05.c, RWC01.05.d, RWC02.02.a, RWC04.01.c, RWC04.03.a, RWC04.03.b,</p> <p>PWR01.01.b PWR02.01.a, PWR02.02.a, PWR02.03.b PWR02.06.a, PWR02.06.b, PWR02.06.c</p> <p>d. Learn to read and produce technical drawings, understanding the significance of each line in a drawing.</p> <p>MAT01.02.a, MAT04.01.a, MAT04.01.b, MAT04.01.c MAT04.03.a, MAT04.03.b</p> <p>RWC01.01.a, RWC01.01.d RWC01.05.a, RWC01.05.b, RWC01.05.c, RWC01.01.e, RWC01.05.d, RWC02.02.a, RWC04.01.c, RWC04.03.a, RWC04.03.b, RWC04.03.d, RWC04.04.a, RWC04.04.b</p> <p>PWR01.01.b, PWR01.02.a, PWR01.02.b, PWR01.02.d, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.g</p>	<p>MAT04.03.b-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> • Objects in the plane can be transformed, and those transformations can be described and analyzed mathematically <ul style="list-style-type: none"> ○ Represent transformations (reflection, translation, rotation, and dilation) using Cartesian coordinates <p>MAT04.04.c-Mathematics, Shape, Dimension, and Geometric Relationships:</p> <ul style="list-style-type: none"> • Right triangles are central to geometry and its applications <ul style="list-style-type: none"> ○ Determine the midpoint of a line segment and the distance between two points in the Cartesian coordinate plane <p>RWC01.01.a-Reading, Writing, and Communicating, Oral Expression and Listening</p> <ul style="list-style-type: none"> • Effective speaking in formal and informal settings requires appropriate use of methods and audience awareness. <ul style="list-style-type: none"> ○ Prepare and deliver a formal presentation for different purposes and audiences (such as expository, persuasive, entertaining, inspirational, or recognition) <p>RWC01.01.b-Reading, Writing, and Communicating, Oral Expression and Listening:</p> <ul style="list-style-type: none"> • Effective speaking in formal and informal settings requires appropriate use of methods and audience awareness <ul style="list-style-type: none"> ○ Identify a central idea or thesis, organize ideas, and develop a speech for an intended purpose and audience <p>RWC01.01.d-Reading, Writing, and Communicating, Oral Expression and Listening</p> <ul style="list-style-type: none"> • Effective speaking in formal and informal settings requires appropriate use of methods and audience awareness <ul style="list-style-type: none"> ○ Use grammar and vocabulary appropriate for the situation, audience, topic, and purpose <p>RWC01.01.e-Reading, Writing, and Communicating, Oral Expression and Listening:</p> <ul style="list-style-type: none"> • Effective speaking in formal and informal settings requires appropriate use of methods and audience awareness <ul style="list-style-type: none"> ○ Choose specific words and word order for intended effect and meaning <p>RWC01.01.f-Reading, Writing, and Communicating, Oral Expression and Listening:</p> <ul style="list-style-type: none"> • Effective speaking in formal and informal settings requires appropriate use of methods and audience awareness <ul style="list-style-type: none"> ○ Select appropriate technical or specialized language
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RWC01.02.c-Reading, Writing, and Communicating, Oral Expression and Listening:

- Effective collaborative groups accomplish goals
 - Analyze differences in group perspectives to help bring the group to consensus or to solve a perceived problem

RWC01.02.d-Reading, Writing, and Communicating, Oral Expression and Listening:

- Effective collaborative groups accomplish goals
 - Participate in the preparations of the group activity or product, defining and assuming individual roles

RWC01.02.e-Reading, Writing, and Communicating, Oral Expression and Listening:

- Effective collaborative groups accomplish goals
 - Assume a leadership role in a group that is collaboratively working to accomplish a goal

RWC01.05.a-Reading, Writing, and Communicating, Oral Expression and Listening:

- Content that is gathered carefully and organized well successfully influences an audience
 - Organize and deliver a presentation that influences a specific audience

RWC01.05.b-Reading, Writing, and Communicating, Oral Expression and Listening:

- Content that is gathered carefully and organized well successfully influences an audience
 - Reflect on the content and approach to a presentation

RWC01.05.c-Reading, Writing, and Communicating, Oral Expression and Listening:

- Content that is gathered carefully and organized well successfully influences an audience
 - Select organizational patterns and structures and choose precise vocabulary and rhetorical devices

RWC01.05.d-Reading, Writing, and Communicating, Oral Expression and Listening:

- Content that is gathered carefully and organized well successfully influences an audience
 - Make decisions about how to establish credibility and enhance appeal to the audience

RWC01.06.e-Reading, Writing, and Communicating, Oral Expression and Listening:

- Effectively operating in small and large groups to accomplish a goal requires active listening
 - Support others in discussions, activities, and presentations

RWC02.02.a-Reading, Writing, and Communicating, Reading for All Purposes:

- Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills.
 - Use reading and note-taking strategies (outlining, mapping systems, skimming, scanning, key word search) to organize information and make connections within and across informational texts

RWC04.03.d-Reading, Writing, and Communicating, Research and Reasoning:

- Self-designed research provides insightful information, conclusions, and possible solutions.
 - Use a variety a strategies (e.g. technical reading, direct observation, survey development) to collect relevant information to support the thesis/research question and explain why specific strategies were used instead of others

RWC04.04.a-Reading, Writing, and Communicating, Research and Reasoning:

- Complex situations require critical thinking across multiple disciplines
 - Analyze the logic of complex situations by questioning the purpose, question at issue, information, points of view, implications and consequences inferences, assumptions and concepts

RWC04.04.b-Reading, Writing, and Communicating, Research and Reasoning:

- Complex situations require critical thinking across multiple disciplines
 - Evaluate strengths and weaknesses of their logic and logic of others by using criteria including relevance, clarity, accuracy, fairness, significance, depth, breadth, logic and precision

Learning & Behavioral Skills – Post Secondary & Workforce Readiness

PWR01.01.a-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Read fiction and non-fiction, understanding conclusions reached and points of view expressed

PWR01.01.b-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Write clearly and coherently for a variety of purposes and audiences

PWR01.01.c-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Use logic and rhetoric to analyze

	<p>PWR01.01.d-Postsecondary & Workforce Readiness, Content Knowledge, Literacy</p> <ul style="list-style-type: none"> • Access and use primary and secondary sources to explain questions being researched <p>PWR01.01.e-Postsecondary & Workforce Readiness, Content Knowledge, Literacy</p> <ul style="list-style-type: none"> • Employ standard English language properly and fluently in reading, writing, listening, and speaking <p>PWR01.02.a-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences</p> <ul style="list-style-type: none"> • Think critically, analyze evidence, read graphs, understand logical arguments, detect logical fallacies, test conjectures, evaluate risks, and appreciate the role mathematics plays in the modern world, i.e., be quantitatively literate <p>PWR01.02.b-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences</p> <ul style="list-style-type: none"> • Understand and apply algebraic and geometric concepts and techniques <p>PWR01.02.d-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences</p> <ul style="list-style-type: none"> • Apply knowledge of mathematics to problem solve, analyze issues, and make critical decisions that arise in everyday life <p>PWR01.04.b-Postsecondary & Workforce Readiness, Content Knowledge, Social Studies and Social Sciences</p> <ul style="list-style-type: none"> • Interpret sources, and evaluate evidence and competing ideas <p>PWR02.01.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Apply logical reasoning and analytical skills <p>PWR02.01.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Conduct research using acceptable research methods <p>PWR02.01.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Understand different research approaches <p>PWR02.01.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Collect and analyze quantitative and qualitative data and research
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	<p>PWR02.01.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Evaluate the credibility and relevance of information, ideas, and arguments <p>PWR02.01.f-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving</p> <ul style="list-style-type: none"> • Discern bias, pose questions, marshal evidence, and present solutions <p>PWR02.02.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology</p> <ul style="list-style-type: none"> • Select, integrate, and apply appropriate technology to access and evaluate new information <p>PWR02.02.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology</p> <ul style="list-style-type: none"> • Understand the ethical uses of information <p>PWR02.02.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology</p> <ul style="list-style-type: none"> • Provide citations for resources <p>PWR02.03.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation</p> <ul style="list-style-type: none"> • Generate, evaluate, and implement new ideas and novel approaches <p>PWR02.04.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Global and Cultural Awareness</p> <ul style="list-style-type: none"> • Interact effectively with and respect the diversity of different individuals, groups, and cultures <p>PWR02.06.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic</p> <ul style="list-style-type: none"> • Plan and prioritize goals <p>PWR02.06.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic</p> <ul style="list-style-type: none"> • Manage time effectively <p>PWR02.06.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic</p> <ul style="list-style-type: none"> • Take initiative, and follow directions
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PWR02.06.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Learn from instruction and criticism

PWR02.06.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take responsibility for completion of work

PWR02.06.f-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Act with maturity, civility, and politeness

PWR02.06.g-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Demonstrate flexibility

PWR02.07.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Balance self-advocacy with the consideration of others

PWR02.07.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Behave honestly and ethically

PWR02.07.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Take responsibility for actions

PWR02.08.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Read, write, listen and speak effectively

PWR02.08.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Communicate and interact effectively with people who have different primary languages

PWR02.09.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Collaboration

- Work effectively with others

PWR02.09.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Collaboration

- Cooperate for a common purpose

High School Expectations

Concepts and skills students know include:

- ACPA 06.02 Employ appropriate representational media to communicate concepts and design.

Evidence Outcomes – Students Can:

- a. Convey graphic information using multi dimensional drawings.

MAT0102.a, MAT02.01.b, MAT04.01.d, MAT04.03.a,
MAT04.04.a, MAT04.04.b, MAT04.04.c

RWC04.03.a, RWC04.03.b, RWC04.04.a

PWR01.01.a, PWR01.01.b, PWR01.02.a, PWR01.02.b,
PWR01.02.d, PWR02.01.a, PWR02.02.a

- b. Build models using referenced drawings and sketches.

Mat01.02.a, MAT02.01.b, MAT04.01.c, MAT04.01.d,
MAT04.03. a, MAT04.04.a, MAT04.04.b,

RWC04.03.a, RWC04.03b, RWC04.04.a

PWR01.01.b, PWR01.01.c, PWR01.02.a, PWR01.02.b,
PWR01.02.d, PWR02.01.a, PWR02.01.b, PWR02.01.d,
PWR02.01.e, PWR02.02.a, PWR02.03.b, PWR02.06.a,
PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e,
RWC02.06.f, PWR02.06.g, PWR02.07.d

21st Century Skills and Readiness Competencies

Academic Content Knowledge Alignment:

MAT01.02.a-Mathematics, Number Sense, Properties, and Operations:

- Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently
 - Use appropriate computation methods that encompass estimation and calculation

MAT02.01.b-Mathematics, Patterns, Functions, and Algebraic Structures:

- Functions model situations where one quantity determines another and can be represented algebraically, graphically, and using tables
 - Demonstrate the relationship between all representations of linear functions using point-slope, slope-intercept, and standard form of a line

MAT04.01.c-Mathematics, Shape, Dimension, and Geometric Relationships:

- Attributes of two- and three-dimensional objects are measurable and can be quantified
 - Solve for unknown quantities in relationships involving perimeter, area, surface area, and volume

MAT04.01.d-Mathematics, Shape, Dimension, and Geometric Relationships:

- Attributes of two- and three-dimensional objects are measurable and can be quantified
 - Apply the effect of dimensional change, utilizing appropriate units and scales in problem-solving situations involving perimeter, area, and volume

MAT04.03.a-Mathematics, Shape, Dimension, and Geometric Relationships:

- Objects in the plane can be transformed, and those transformations can be described and analyzed mathematically
 - Make conjectures involving two-dimensional objects represented with Cartesian coordinates. Justify these conjectures using two-column proofs, paragraph proofs, flow charts, and/or illustrations

- c. Utilize computer technology when communicating concepts and designs.

MAT01.02.a, MAT02.01.b, MAT04.01.c, MAT04.01.d, MAT04.03.a, MAT04.04 a, MAT04.04.b, MAT04.06.a, MAT04.06.b, MAT04.06.c,

RWC04.03.a, RWC04.03.b, RWC04.04.a

PWR01.01.a, PWR01.01.b, PWR01.01.e, PWR01.02.a, PWR01.02.b, PWR01.02.d, PWR02.01.a, PWR02.02.a, PWR02.02.b, PWR02.03.a, PWR02.03.b, PWR02.05.c, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.e, RWC02.06.f, PWR02.08.a

MAT04.04.a-Mathematics, Shape, Dimension, and Geometric Relationships:

- Right triangles are central to geometry and its applications
 - Apply right triangle trigonometry (sine, cosine, and tangent) to find indirect measures of lengths and angles

MAT04.04.b-Mathematics, Shape, Dimension, and Geometric Relationships:

- Right triangles are central to geometry and its applications
 - Apply the Pythagorean theorem and its converse to solve real-world problems

MAT04.04.c-Mathematics, Shape, Dimension, and Geometric Relationships:

- Right triangles are central to geometry and its applications
 - Determine the midpoint of a line segment and the distance between two points in the Cartesian coordinate plane

RWC04.03.a-Reading, Writing, and Communicating, Research and Reasoning:

- Self-designed research provides insightful information, conclusions, and possible solutions
 - Define and narrow a topic for research (thesis statement, hypothesis, research question) to address a specific purpose and audience

RWC04.03.b-Reading, Writing, and Communicating, Research and Reasoning:

- Self-designed research provides insightful information, conclusions, and possible solutions
 - Evaluate and revise research questions for precision and clarity

RWC04.04.a-Reading, Writing, and Communicating, Research and Reasoning:

- Complex situations require critical thinking across multiple disciplines
 - Analyze the logic of complex situations by questioning the purpose, question at issue, information, points of view, implications and consequences, inferences, assumptions and concepts

RWC04.06.a-Reading, Writing, and Communicating, Research and Reasoning:

- Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions
 - Define and narrow a topic for research, developing the central idea, focus, or question at issue

RWC04.06.b-Reading, Writing, and Communicating, Research and Reasoning:

- Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions
 - Formulate research questions that are clear and precise

RWC04.06.c-Reading, Writing, and Communicating, Research and Reasoning:

- Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions
 - Identify and evaluate potential sources of information for accuracy, reliability, validity, and timeliness

Learning & Behavioral Skills – Post Secondary & Workforce Readiness

PWR01.01.a-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Read fiction and non-fiction, understanding conclusions reached and points of view expressed

PWR01.01.b-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Write clearly and coherently for a variety of purposes and audiences

PWR01.01.c-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Use logic and rhetoric to analyze

PWR01.01.e-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Employ standard English language properly and fluently in reading, writing, listening, and speaking

PWR01.02.a-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Think critically, analyze evidence, read graphs, understand logical arguments, detect logical fallacies, test conjectures, evaluate risks, and appreciate the role mathematics plays in the modern world, i.e., be quantitatively literate

PWR01.02.b-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Understand and apply algebraic and geometric concepts and techniques

PWR01.02.d-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Apply knowledge of mathematics to problem solve, analyze issues, and make critical decisions that arise in everyday life

PWR02.01.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Apply logical reasoning and analytical skills

PWR02.01.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Conduct research using acceptable research methods

PWR02.01.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Collect and analyze quantitative and qualitative data and research

PWR02.01.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Evaluate the credibility and relevance of information, ideas, and arguments

PWR02.02.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Select, integrate, and apply appropriate technology to access and evaluate new information

PWR02.02.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Understand the ethical uses of information

PWR02.03.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Demonstrate intellectual curiosity

PWR02.03.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Generate, evaluate, and implement new ideas and novel approaches

PWR02.05.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Civic Responsibility

- Balance personal freedom with the interests of a community

PWR02.06.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Plan and prioritize goals

PWR02.06.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Manage time effectively

PWR02.06.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take initiative, and follow directions

	<p>PWR02.06.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic</p> <ul style="list-style-type: none">• Learn from instruction and criticism <p>PWR02.06.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic</p> <ul style="list-style-type: none">• Take responsibility for completion of work <p>PWR02.06.f-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic</p> <ul style="list-style-type: none">• Act with maturity, civility, and politeness <p>PWR02.06.g-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic</p> <ul style="list-style-type: none">• Demonstrate flexibility <p>PWR02.07.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility</p> <ul style="list-style-type: none">• Take responsibility for actions <p>PWR02.08.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication</p> <ul style="list-style-type: none">• Read, write, listen and speak effectively
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High School Expectations	
Concepts and skills students know include:	
<ul style="list-style-type: none"> • ACPA 06.03 Employ principles, conventions, standards, applications and restrictions pertaining to the manufacture and use of construction materials, components and assemblies to incorporate into project design. 	
Evidence Outcomes – Students Can:	21st Century Skills and Readiness Competencies
<p>a. Select building materials and assemblies upon evaluation that meet project specifications.</p> <p>RWC02.01c, RWC04.01.b, RWC02.02.b, RWC04.03.c</p> <p>PWR01.01.a, PWR01.01.b, PWR01.01.c, PWR01.01.e PWR01.02.a, PWR01.02.d, PWR01.03.b, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.01.d, PWR02.02.a, PWR02.02.c, PWR02.06.a, PWR02.06.b, PWR02.06.c PWR02.07.d, PWR02.08.a</p> <p>b. Use appropriate combinations of building materials and components that satisfy the requirements of building programs.</p> <p>MAT01.02.a, MAT03.02.b</p> <p>RWC02.01.c, RWC04.01.b, RWC02.02.b, RWC04.03.c</p> <p>PWR01.01a, PWR01.01.b, PWR01.01.c, PWR01.01.e, PWR01.02.a, PWR01.02.d, PWR01.03.b, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.01.d, PWR02.02.a, PWR02.02.c, PWR02.06.a, PWR02.06.b, PWR02.06.e, PWR02.07.d, PWR02.08.a</p>	<p>Academic Content Knowledge Alignment:</p> <p>MAT01.02.a-Mathematics, Number Sense, Properties, and Operations:</p> <ul style="list-style-type: none"> • Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently <ul style="list-style-type: none"> ○ Use appropriate computation methods that encompass estimation and computation <p>MAT03.02.c-Mathematics, Data Analysis, Statistics, and Probability:</p> <ul style="list-style-type: none"> • The design of an experiment or sample survey is of critical importance to analyzing the data and drawing conclusions <ul style="list-style-type: none"> ○ Differentiate between the inferences that can be drawn in experiments versus observational studies <p>RWC02.01.c-Reading, Writing, and Communicating, Reading for All Purposes:</p> <ul style="list-style-type: none"> • Literary criticism of complex texts requires the use of analysis, interpretive, and evaluative strategies <ul style="list-style-type: none"> ○ Evaluate the influence of historical context on the form, style, and point of view of a written work <p>RWC02.02.b-Reading, Writing, and Communicating, Reading for All Purposes:</p> <ul style="list-style-type: none"> • Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills <ul style="list-style-type: none"> ○ Use semantic cues, signal words, and transitions to identify text structures (such as critique, proposition/support, inductive/deductive) and to summarize central ideas and supporting details <p>RWC04.01.b-Reading, Writing, and Communicating, Research and Reasoning:</p> <ul style="list-style-type: none"> • Independent research designs articulate and defend information, conclusions and solutions that address specific contexts and purposes <ul style="list-style-type: none"> ○ Critique research questions of self and others for bias and underlying assumptions

RWC04.03.c-Reading, Writing, and Communicating, Research and Reasoning:

- Self-designed research provides insightful information, conclusions, and possible solutions
 - Evaluate quality, accuracy, and completeness of information and the bias, credibility and reliability of the sources

Learning & Behavior Skills – Post Secondary & Workforce Readiness:

PWR01.01.a-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Read fiction and non-fiction, understanding conclusions reached and points of view expressed

PWR01.01.b-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Write clearly and coherently for a variety of purposes and audiences

PWR01.01.c-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Use logic and rhetoric to analyze

PWR01.01.e-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Employ standard English language properly and fluently in reading, writing, listening, and speaking

PWR01.02.a-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Think critically, analyze evidence, read graphs, understand logical arguments, detect logical fallacies, test conjectures, evaluate risks, and appreciate the role mathematics plays in the modern world, i.e., be quantitatively literate

PWR01.02.d-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Apply knowledge of mathematics to problem solve, analyze issues, and make critical decisions that arise in everyday life

PWR01.03.b-Postsecondary & Workforce Readiness, Content Knowledge, Science

- Use theoretical principles within a scientific field and relevant empirical evidence to make and draw conclusions

PWR02.01.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Apply logical reasoning and analytical skills

PWR02.01.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Conduct research using acceptable research methods

PWR02.01.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Understand different research approaches

PWR02.01.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Collect and analyze quantitative and qualitative data and research

PWR02.02.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Select, integrate, and apply appropriate technology to access and evaluate new information

PWR02.02.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Provide citations for resources

PWR02.06.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Plan and prioritize goals

PWR02.06.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Manage time effectively

PWR02.06.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take initiative, and follow directions

PWR2.6.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take responsibility for completion of work

PWR02.07.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Take responsibility for actions

PWR02.08.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Read, write, listen and speak effectively

High School Expectations	
Concepts and skills students know include:	
<ul style="list-style-type: none"> ACPA 06.04 Apply basic organizational, spatial, structural and constructional principles to the design of interior and exterior space so that design plans are effective. 	
Evidence Outcomes – Students Can:	21 st Century Skills and Readiness Competencies
<p>a. Develop design alternatives that address a given problem.</p> <p>MAT01.02.a, MAT02.06.a, MAT02.06.b, MAT02.06.d</p> <p>RWC01.03.c, RWC01.03.d, RWC02.02.c</p> <p>PWR01.01.a, PWR01.01.b, PWR01.01.c, PWR01.01e PWR01.02.a, PWR01.02.b, PWR01.02.d, PWR02.01.a, PWR02.01.b, PWR02.01.c, PWR02.01.d, PWR02.02.a, PWR02.02.c, PWR02.03.a, PWR02.03.b, PWR02.03.c, PWR02.06.a, PWR02.06.b, PWR02.06.c, PWR02.06.d, PWR02.06.e, PWR02.06.g, PWR02.07.c, PWR02.07.d, PWR02.08.a, PWR02.08.b, PWR02.09.a, PWR02.09.c</p>	<p>Academic Content Knowledge Alignment:</p> <p>MAT01.02.a-Mathematics, Number Sense, Properties, and Operations:</p> <ul style="list-style-type: none"> Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently <ul style="list-style-type: none"> Use appropriate computation methods that encompass estimation and computation <p>MAT02.06.a-Mathematics, Patterns, Functions, and Algebraic Structures:</p> <ul style="list-style-type: none"> Quantitative relationships in the real world can be modeled and solved using functions <ul style="list-style-type: none"> Represent, solve, using all tools including graphing technology and interpret problems in various contexts using linear, quadratic, and exponential functions <p>MAT02.06.b-Mathematics, Patterns, Functions, and Algebraic Structures:</p> <ul style="list-style-type: none"> Quantitative relationships in the real world can be modeled and solved using functions <ul style="list-style-type: none"> Represent, solve, using all tools including graphing technology, and interpret problems involving direct and inverse variations and a combination if direct and inverse variation <p>MAT02.06.d-Mathematics, Patterns, Functions, and Algebraic Structures:</p> <ul style="list-style-type: none"> Quantitative relationships in the real world can be modeled and solved using functions <ul style="list-style-type: none"> Evaluate, using all tools including graphing technology, the costs and benefits of credit (PFL) <p>RWC01.03.c-Reading, Writing, and Communicating, Oral Expression and Listening:</p> <ul style="list-style-type: none"> Verbal and nonverbal cues impact the intent of communication <ul style="list-style-type: none"> Deliver oral talks with clear enunciation, vocabulary, and appropriate organization; nonverbal gestures; and tone

RWC01.03.d-Reading, Writing, and Communicating, Oral Expression and Listening:

- Verbal and nonverbal cues impact the intent of communication
 - Analyze audience responses to evaluate how effectively the talk or presentation met the talk or presentation met the purpose

RWC02.02.c-Reading, Writing, and Communicating, Reading for All Purposes:

- Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills
 - Obtain and use information from text and text features (index, bold or italicized text, subheadings, graphics) to answer questions, perform specific tasks, or identify and solve problems

Learning & Behavioral Skills – Post Secondary & Workforce Readiness:

PWR01.01.a-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Read fiction and non-fiction, understanding conclusions reached and points of view expressed

PWR01.01.b-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Write clearly and coherently for a variety of purposes and audiences

PWR01.01.c-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Use logic and rhetoric to analyze

PWR01.01.e-Postsecondary & Workforce Readiness, Content Knowledge, Literacy

- Employ standard English language properly and fluently in reading, writing, listening, and speaking

PWR01.02.a-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Think critically, analyze evidence, read graphs, understand logical arguments, detect logical fallacies, test conjectures, evaluate risks, and appreciate the role mathematics plays in the modern world, i.e., be quantitatively literate

PWR01.02.b-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Understand and apply algebraic and geometric concepts and techniques

PWR01.02.d-Postsecondary & Workforce Readiness, Content Knowledge, Mathematical Sciences

- Apply knowledge of mathematics to problem solve, analyze issues, and make critical decisions that arise in everyday life

PWR02.01.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Apply logical reasoning and analytical skills

PWR02.01.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Conduct research using acceptable research methods

PWR02.01.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Understand different research approaches

PWR02.01.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving

- Collect and analyze quantitative and qualitative data and research

PWR02.02.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Select, integrate, and apply appropriate technology to access and evaluate new information

PWR02.02.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology

- Provide citations for resources

PWR02.03.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Demonstrate intellectual curiosity

PWR02.03.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Generate, evaluate, and implement new ideas and novel approaches

PWR02.03.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Creativity and Innovation

- Develop new connections where none previously existed

PWR02.06.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Plan and prioritize goals

PWR02.06.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Manage time effectively

PWR02.06.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take initiative, and follow directions

PWR02.06.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Learn from instruction and criticism

PWR02.06.e-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Take responsibility for completion of work

PWR02.06.g-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Work Ethic

- Demonstrate flexibility

PWR02.07.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Behave honestly and ethically

PWR02.07.d-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Personal Responsibility

- Take responsibility for actions

PWR02.08.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Read, write, listen and speak effectively

PWR02.08.b-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Communication

- Construct clear, coherent, and persuasive arguments

PWR02.09.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Collaboration

- Work effectively with others

PWR02.09.c-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Collaboration

- Cooperate for a common purpose