



Food Science,
Dietetics, and
Nutrition

Hospitality,
Tourism, and
Recreation

Food Service
and Hospitality

Hospitality, Tourism, and Recreation



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Hospitality, Tourism, and Recreation

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Overview

The Career Technical Education (CTE) Model Curriculum Standards publication is organized for use as a complete document or for access to individual industry sectors and pathways. The document includes Standards for Career Ready Practice—which describe the knowledge and skills that students need prior to entering a career technical education program—as part of the career technical education sequence or as integrated elements of other course work in preparation for careers and college.

Each of the 15 industry sector sections includes a description, anchor standards, pathway standards, and an academic alignment matrix. The standards can be adjusted to be part of the curriculum (grades seven through twelve), provided through adult education, or included in community college programs. The document also lists the representatives who participated in each sector's content development and the references that were consulted to revise the CTE standards.

Standards for Career Ready Practice

California's Standards for Career Ready Practice, which follow this overview, are based on the Career Ready Practices of the Common Career Technical Core (CCTC), a state-led initiative sponsored by the National Association of State Directors of Career Technical Education Consortium (NASDCTEc):

Career Ready Practices describe the career-ready skills that educators should seek to develop in their students. These practices are not exclusive to a Career Pathway, program of study, discipline or level of education. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study. (NASDCTEc 2012, 2)

California's 12 Standards for Career Ready Practice align with the state's CTE anchor standards and reflect the expectations from business and industry, labor and community organizations, and secondary and postsecondary education representatives from 42 participating states.

Anchor Standards

The 11 anchor standards build on the Standards for Career Ready Practice and are common across the 15 industry sectors. Content for these standards was drawn from several documents: "Preparing Students for the 21st Century Economy" (American Association of Colleges for Teacher Education and the Partnership for 21st Century Skills 2010); *How Should Colleges Prepare Students to Succeed in Today's Global Economy?* (Association of American Colleges and Universities and Peter D. Hart Research Associates, Inc. 2006); "Importance of Skills and Knowledge for College and Career Readiness," from *The MetLife Survey of the American Teacher: Preparing Students for College and Careers* (MetLife, Inc. 2011); and *Are They Really Ready to Work? Employers' Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce* (The Conference Board et al. 2006).

Each anchor standard is followed by performance indicators using action verbs from the Beyond Knowledge Construct, presented in a hierarchical progression of simple tasks to more complex tasks. Performance indicators provide guidance for curriculum design and standards measurement.



The industry-sector anchor standards have been customized with selected additions to better reflect the needs and special conditions of each industry sector.

Anchor Standard 1 (Academics) guides users to sector-specific core academic standards related to each industry sector, which are listed in the alignment matrix at the end of each sector section. Anchor standards 2–10 are deliberately aligned with one of the Common Core English language arts standards, using similar language demonstrating the natural connections between the two subjects. Anchor Standard 11 (Demonstration and Application) highlights classroom, laboratory, and workplace learning specific to the individual sector and pathways.

Pathway Standards

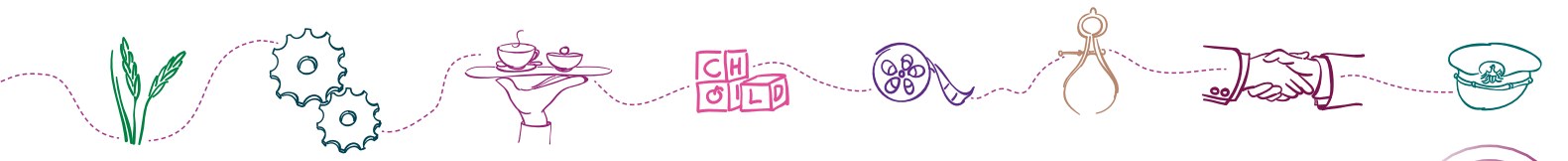
All 15 industry sectors contain multiple pathways. In order to be identified and listed for an industry sector, each pathway had to meet the following criteria:

- unique to an industry sector
- has an occupational focus
- consistent in size and scope
- composed of similar functions
- inclusive of all aspects of the industry
- includes 8–12 pathway-specific standards
- demonstrates sequence potential
- reasonable and appropriate for high school
- leads to high-skill, high-wage, or high-demand jobs
- sustainable and viable over the next 10 years

Academic Alignment Matrix

Each sector includes an academic alignment matrix that displays where a natural, obvious alignment occurs. Compiled by five teams of academic content experts in collaboration with industry-sector consultants, teachers, and other advisers, the alignment was selected if it was determined that the pathway standard would enhance, reinforce, or provide an application for a specific academic subject standard.

The alignment matrices include the subjects of Common Core English language arts and mathematics standards, history/social studies standards, and Next Generation Science Core Ideas. To assist with further review and implementation, each academic alignment is notated with specific pathway standards codes.



Implementation

The Standards for Career Ready Practice can be integrated with a course or incorporated into several courses over multiple school years (grades seven through twelve). The practices are expectations for all students, whether they are enrolled in a CTE program or following a more generalized course sequence. It is expected that all students who exit high school will be proficient in these practices.

The anchor standards are the basis for each of the pathways within each sector. These standards are designed to assist with the development of course curricula and instructional lesson plans; they describe what is to be taught and measured. In most cases, the teacher determines the sequence and strategies to be used to meet the needs of the student population he or she is serving.

The performance indicators that follow each standard offer guidance for both course design and student assessment. They are intended to guide course work as it is developed. The pathways organize the standards with a career focus, but they are not designed to be offered as single courses. Rather, the standards from each pathway are collected and organized into a sequence of learning. To meet local demands of business and industry and particular student populations, standards can be collected from more than one sector to create a course.

Using the academic alignment matrices as a resource, academic and CTE teachers can see where enhancements and support for both sets of standards can be initiated. CTE teachers can quickly identify academic standards that have a substantial relationship to their instruction. Likewise, academic teachers can specify individual academic standards and quickly identify related CTE standards, which will assist them in incorporating application and technology in their curricula and lessons.

The CTE Model Curriculum Standards are intended to serve the entire education community—from middle schools and high schools to postsecondary colleges and career training programs. A major aim of these standards is to prepare students for postsecondary education and training and to help them make a smooth transition into the workforce. In order for both the people and the economy of California to prosper, it is essential for all students to emerge from schools ready to pursue their career and college goals. Equipping all high school students with the knowledge and skills necessary to plan and manage their education and careers throughout their lives will help to guarantee these important outcomes. Strong CTE programs will continue to provide important educational opportunities to assist students as they pursue their dreams and strive for economic prosperity. The CTE Model Curriculum Standards are a resource for educators and the business world for ensuring high-quality CTE learning experiences and improved student outcomes in the twenty-first-century economy.





California Standards for Career Ready Practice

Standards for Career Ready Practice describe the fundamental knowledge and skills that a career-ready student needs in order to prepare for transition to postsecondary education, career training, or the workforce. These standards are not exclusive to a career pathway, a CTE program of study, a particular discipline, or level of education. Standards for Career Ready Practice are taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study. Standards for Career Ready Practice are a valuable resource to CTE and academic teachers designing curricula and lessons in order to teach and reinforce the career-ready aims of the CTE Model Curriculum Standards and the Common Core State Standards.

1. Apply appropriate technical skills and academic knowledge.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education. They make connections between abstract concepts with real-world applications and recognize the value of academic preparation for solving problems, communicating with others, calculating measures, and other work-related practices.

2. Communicate clearly, effectively, and with reason.

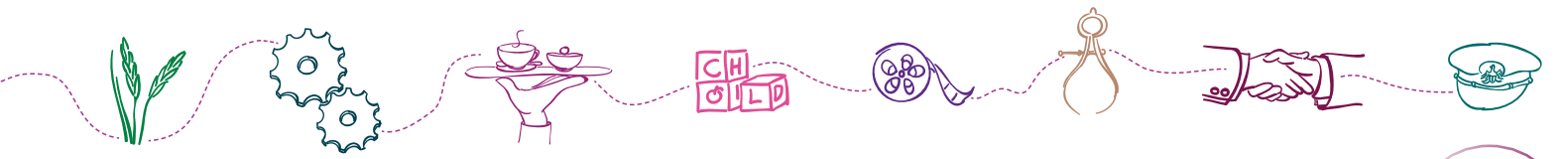
Career-ready individuals communicate thoughts, ideas, and action plans with clarity, using written, verbal, electronic, and/or visual methods. They are skilled at interacting with others, are active listeners who speak clearly and with purpose, and are comfortable with the terminology common to the workplace environment. Career-ready individuals consider the audience for their communication and prepare accordingly to ensure the desired outcome.

3. Develop an education and career plan aligned with personal goals.

Career-ready individuals take personal ownership of their own educational and career goals and manage their individual plan to attain these goals. They recognize the value of each step in the educational and experiential process and understand that nearly all career paths require ongoing education and experience to adapt to practices, procedures, and expectations of an ever-changing work environment. They seek counselors, mentors, and other experts to assist in the planning and execution of education and career plans.

4. Apply technology to enhance productivity.

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They understand the inherent risks—personal and organizational—of technology applications, and they take actions to prevent or mitigate these risks.



5. Utilize critical thinking to make sense of problems and persevere in solving them.

Career-ready individuals recognize problems in the workplace, understand the nature of the problems, and devise effective plans to solve the problems. They thoughtfully investigate the root cause of a problem prior to introducing solutions. They carefully consider options to solve the problem and, once agreed upon, follow through to ensure the problem is resolved.

6. Practice personal health and understand financial literacy.

Career-ready individuals understand the relationship between personal health and workplace performance. They contribute to their personal well-being through a healthy diet, regular exercise, and mental health activities. Career-ready individuals also understand that financial literacy leads to a secure future that enables career success.

7. Act as a responsible citizen in the workplace and the community.

Career-ready individuals understand the obligations and responsibilities of being a member of a community and demonstrate this understanding every day through their interactions with others. They are aware of the impacts of their decisions on others and the environment around them and think about the short-term and long-term consequences of their actions. They are reliable and consistent in going beyond minimum expectations and in participating in activities that serve the greater good.

8. Model integrity, ethical leadership, and effective management.

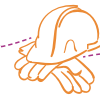
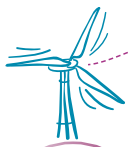
Career-ready individuals consistently act in ways that align with personal and community-held ideals and principles. They employ ethical behaviors and actions that positively influence others. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and they recognize the short-term and long-term effects that management's actions and attitudes can have on productivity, morale, and organizational culture.

9. Work productively in teams while integrating cultural and global competence.

Career-ready individuals positively contribute to every team as both team leaders and team members. They apply an awareness of cultural differences to avoid barriers to productive and positive interaction. They interact effectively and sensitively with all members of the team and find ways to increase the engagement and contribution of other members.

10. Demonstrate creativity and innovation.

Career-ready individuals recommend ideas that solve problems in new and different ways and contribute to the improvement of the organization. They consider unconventional ideas and suggestions by others as solutions to issues, tasks, or problems. They discern which ideas and suggestions may have the greatest value. They seek new methods, practices, and ideas from a variety of sources and apply those ideas to their own workplace practices.



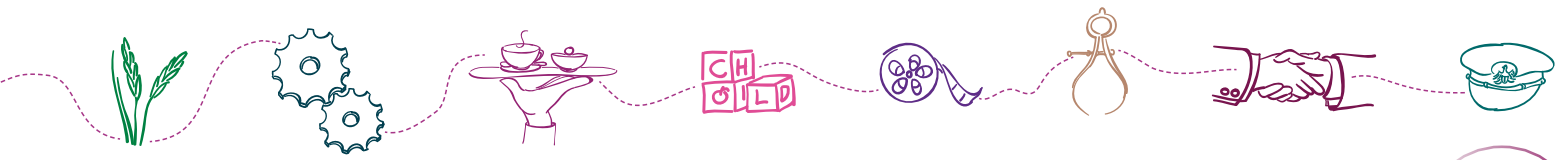
11. Employ valid and reliable research strategies.

Career-ready individuals employ research practices to plan and carry out investigations, create solutions, and keep abreast of the most current findings related to workplace environments and practices. They use a reliable research process to search for new information and confirm the validity of sources when considering the use and adoption of external information or practices.

12. Understand the environmental, social, and economic impacts of decisions.

Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact other people, organizations, the workplace, and the environment. They are aware of and utilize new technologies, understandings, procedures, and materials and adhere to regulations affecting the nature of their work. They are cognizant of impacts on the social condition, environment, workplace, and profitability of the organization.

Note: As stated previously, California's Standards for Career Ready Practice are based on the CCTC Career Ready Practices posted at <https://careertech.org/> (accessed June 8, 2016).

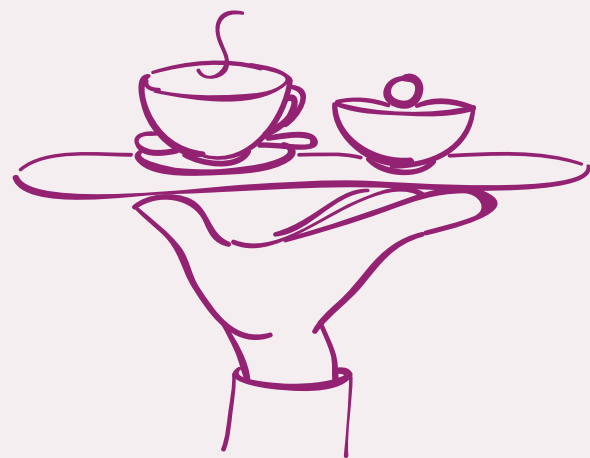


Hospitality, Tourism, and Recreation



Sector Description

The Hospitality, Tourism, and Recreation sector provides students with the academic and technical preparation necessary to pursue high-skill, high-demand careers in these related and growing industries. The sector encompasses three distinct, yet interrelated, career pathways: Food Science, Dietetics, and Nutrition; Food Service and Hospitality; and Hospitality, Tourism, and Recreation. The standards are designed to integrate academic and career technical concepts. The anchor standards include Consumer and Family Studies comprehensive technical knowledge and skills that prepare students for learning in the pathways. The knowledge and skills are acquired within a sequential, standards-based pathway program that integrates hands-on projects, work-based instruction, and leadership development such as that offered through Family, Career and Community Leaders of America (FCCLA). Standards in this sector are designed to prepare students for technical training, postsecondary education, and entry to a career.





Hospitality, Tourism, and Recreation Knowledge and Performance Anchor Standards

1.0 Academics

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Hospitality, Tourism, and Recreation academic alignment matrix for identification of standards.

2.0 Communications

Acquire and accurately use Hospitality, Tourism, and Recreation sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats. (Direct alignment with LS 9-10, 11-12.6)

- 2.1 Recognize the elements of communication using a sender–receiver model.
- 2.2 Identify barriers to accurate and appropriate communication.
- 2.3 Interpret verbal and nonverbal communications and respond appropriately.
- 2.4 Demonstrate elements of written and electronic communication such as accurate spelling, grammar, and format.
- 2.5 Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- 2.6 Advocate and practice safe, legal, and responsible use of digital media information and communications technologies.

3.0 Career Planning and Management

Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans. (Direct alignment with SLS 11-12.2)

- 3.1 Identify personal interests, aptitudes, information, and skills necessary for informed career decision making.
- 3.2 Evaluate personal character traits such as trust, respect, and responsibility and understand the impact they can have on career success.
- 3.3 Explore how information and communication technologies are used in career planning and decision making.
- 3.4 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure.
- 3.5 Integrate changing employment trends, societal needs, and economic conditions into career planning.
- 3.6 Recognize the role and function of professional organizations, industry associations, and organized labor in a productive society.
- 3.7 Recognize the importance of small business in the California and global economies.
- 3.8 Understand how digital media are used by potential employers and postsecondary agencies to evaluate candidates.
- 3.9 Develop a career plan that reflects career interests, pathways, and postsecondary options.



4.0 Technology

Use existing and emerging technology, to investigate, research, and produce products and services, including new information, as required in the Hospitality, Tourism, and Recreation sector workplace environment. (Direct alignment with WS 11-12.6)

- 4.1 Use electronic reference materials to gather information and produce products and services.
- 4.2 Employ Web-based communications responsibly and effectively to explore complex systems and issues.
- 4.3 Use information and communication technologies to synthesize, summarize, compare, and contrast information from multiple sources.
- 4.4 Discern the quality and value of information collected using digital technologies, and recognize bias and intent of the associated sources.
- 4.5 Research past, present, and projected technological advances as they impact a particular pathway.
- 4.6 Assess the value of various information and communication technologies to interact with constituent populations as part of a search of the current literature or in relation to the information task.

5.0 Problem Solving and Critical Thinking

Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Hospitality, Tourism, and Recreation, using critical and creative thinking; logical reasoning, analysis, inquiry, and problem-solving techniques. (Direct alignment with WS 11-12.7)

- 5.1 Identify and ask significant questions that clarify various points of view to solve problems.
- 5.2 Solve predictable and unpredictable work-related problems using various types of reasoning (inductive, deductive) as appropriate.
- 5.3 Use systems thinking to analyze how various components interact with each other to produce outcomes in a complex work environment.
- 5.4 Interpret information and draw conclusions, based on the best analysis, to make informed decisions.

6.0 Health and Safety

Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Hospitality, Tourism, and Recreation sector workplace environment. (Direct alignment with RSTS 9-10, 11-12.4)

- 6.1 Locate, and adhere to, Material Safety Data Sheet (MSDS) instructions.
- 6.2 Interpret policies, procedures, and regulations for the workplace environment, including employer and employee responsibilities.
- 6.3 Use health and safety practices for storing, cleaning, and maintaining tools, equipment, and supplies.



- 6.4 Practice personal safety when lifting, bending, or moving equipment and supplies.
- 6.5 Demonstrate how to prevent and respond to work-related accidents or injuries; this includes demonstrating an understanding of ergonomics.
- 6.6 Maintain a safe and healthful working environment.
- 6.7 Be informed of laws/acts pertaining to the Occupational Safety and Health Administration (OSHA).

7.0 Responsibility and Flexibility

Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Hospitality, Tourism, and Recreation sector workplace environment and community settings. (Direct alignment with SLS 9-10, 11-12.1)

- 7.1 Recognize how financial management impacts the economy, workforce, and community.
- 7.2 Explain the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.
- 7.3 Understand the need to adapt to changing and varied roles and responsibilities.
- 7.4 Practice time management and efficiency to fulfill responsibilities.
- 7.5 Apply high-quality techniques to product or presentation design and development.
- 7.6 Demonstrate knowledge and practice of responsible financial management.
- 7.7 Demonstrate the qualities and behaviors that constitute a positive and professional work demeanor, including appropriate attire for the profession.
- 7.8 Explore issues of global significance and document the impact on the Hospitality, Tourism, and Recreation sector.

8.0 Ethics and Legal Responsibilities

Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms. (Direct alignment with SLS 11-12.1d)

- 8.1 Access, analyze, and implement quality assurance standards of practice.
- 8.2 Identify local, district, state, and federal regulatory agencies, entities, laws, and regulations related to the Hospitality, Tourism, and Recreation industry sector.
- 8.3 Demonstrate ethical and legal practices consistent with Hospitality, Tourism, and Recreation sector workplace standards.
- 8.4 Explain the importance of personal integrity, confidentiality, and ethical behavior in the workplace.
- 8.5 Analyze organizational culture and practices within the workplace environment.
- 8.6 Adhere to copyright and intellectual property laws and regulations, and use and appropriately cite proprietary information.
- 8.7 Conform to rules and regulations regarding sharing of confidential information, as determined by Hospitality, Tourism, and Recreation sector laws and practices.



9.0 Leadership and Teamwork

Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the career technical student organization (FCCLA). (Direct alignment with SLS 11-12.1b)

- 9.1 Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders.
- 9.2 Identify the characteristics of successful teams, including leadership, cooperation, collaboration, and effective decision-making skills as applied in groups, teams, and career technical student organization activities.
- 9.3 Understand the characteristics and benefits of teamwork, leadership, and citizenship in the school, community, and workplace setting.
- 9.4 Explain how professional associations and organizations (such as FCCLA) and associated leadership development and competitive career development activities enhance academic preparation, promote career choices, and contribute to employment opportunities.
- 9.5 Understand that the modern world is an international community and requires an expanded global view.
- 9.6 Respect individual and cultural differences and recognize the importance of diversity in the workplace.
- 9.7 Participate in interactive teamwork to solve real Hospitality, Tourism, and Recreation sector issues and problems.

10.0 Technical Knowledge and Skills

Apply essential technical knowledge and skills common to all pathways in the Hospitality, Tourism, and Recreation sector, following procedures when carrying out experiments or performing technical tasks. (Direct alignment with WS 11-12.6)

This section is specific to the foundational knowledge and skills required for Consumer and Family Studies.

- 10.1 Interpret and explain terminology and practices specific to the Hospitality, Tourism, and Recreation sector.
- 10.2 Comply with the rules, regulations, and expectations of all aspects of the Hospitality, Tourism, and Recreation sector.
- 10.3 Construct projects and products specific to the Hospitality, Tourism, and Recreation sector requirements and expectations.
- 10.4 Collaborate with industry experts for specific technical knowledge and skills.
- 10.5 Define the principles of nutrition and their relationship to good health through the life cycle.
- 10.6 Define and identify the basic principles of food safety and sanitation and the proper techniques for preparing and serving food.
- 10.7 Apply the principles of food purchasing, food preparation, and meal management in a variety of settings.



- 10.8 Describe commonly accepted food customs as well as table setting, meal service, and etiquette practices of the United States and other cultures.
- 10.9 Identify the aspects of science related to food preparation, product development, and nutrition.
- 10.10 Describe food production, processing, and distribution methods and the relationship of those techniques to consumer food supply and nutrition.
- 10.11 Explain how to select, safely use, and efficiently care for facilities and equipment related to food product development, food preparation, dining, lodging, tourism, and recreation.
- 10.12 Assess the individual, family, and workplace factors that influence decisions related to health, leisure, and recreation at each stage of the life cycle and quality of life.
- 10.13 Explain how individuals apply strategies that enable them to manage personal, family, and work responsibilities to enhance productivity.
- 10.14 Demonstrate an understanding of how knowledge, skills, attitudes, and behaviors learned in Consumer and Family Studies can be transferred to advanced education and training or careers in Hospitality, Tourism, and Recreation.

11.0 Demonstration and Application

Demonstrate and apply the knowledge and skills contained in the Hospitality, Tourism, and Recreation anchor standards, pathway standards, and performance indicators in classroom, laboratory and workplace settings, and through the career technical student organization (FCCLA).

- 11.1 Utilize work-based/workplace learning experiences to demonstrate and expand upon knowledge and skills gained during classroom instruction and laboratory practices specific to the Hospitality, Tourism, and Recreation sector program of study.
- 11.2 Demonstrate proficiency in a career technical pathway that leads to certification, licensure, and/or continued learning at the postsecondary level.
- 11.3 Demonstrate entrepreneurship skills and knowledge of self-employment options and innovative ventures.
- 11.4 Employ entrepreneurial practices and behaviors appropriate to Hospitality, Tourism, and Recreation sector opportunities.
- 11.5 Create a portfolio, or similar collection of work, that offers evidence through assessment and evaluation of skills and knowledge competency as contained in the anchor standards, pathway standards, and performance indicators.



A. Food Science, Dietetics, and Nutrition Pathway

The Food Science, Dietetics, and Nutrition pathway focuses on three specializations centered on the science of food and its relationship to the health and well-being of individuals. Students pursuing this career pathway learn about industry awareness; food safety and sanitation; workforce and organizational management; food, fitness, and wellness; nutritional requirements and processes; food chemistry and technology; research and product development; and marketing and public relations.

Sample occupations associated with this pathway:



Food Demonstrator

Certified Fitness Nutritionist

Nutritionist

Registered Dietitians

- A1.0 Demonstrate an understanding of key aspects of the food science, dietetics, and nutrition industry and the role of the industry in the local, state, national, and global economies.
 - A1.1 Define and compare core elements of the food science, dietetics, and nutrition industry from the supporting industries and regulatory agencies.
 - A1.2 Evaluate the contributions of the various segments of the industry to local, state, national, and international economies.
 - A1.3 Create a product depicting the different requirements and standards for employees in the industry, including education, training, licensures, and certifications.
- A2.0 Identify important workforce and organizational management concepts.
 - A2.1 Find information on the primary business procedures for food science, dietetics, and nutrition organizations.
 - A2.2 Explain the differences and importance of the main elements in day-to-day operational procedures at various types of food-related facilities.
 - A2.3 Evaluate important management strategies for planning, decision making, shared responsibility, and negotiations.
- A3.0 Demonstrate the application of primary standards and regulations for safe food handling and sanitation practices.
 - A3.1 Practice industry-recommended standards for personal grooming and hygiene.
 - A3.2 Interpret safe and sanitary food-handling procedures as set forth by local, state, and federal health and safety codes, including reporting and dealing with violations of the food safety code.
 - A3.3 Produce a product that integrates the use of procedures for preventing the spread of food-borne pathogens and illness, allergens, cross-contacts, and contaminants.



- A4.0 Recognize the relationship of basic nutritional principles and concepts to the physical and emotional well-being of individuals.
 - A4.1 Understand the relationship of emotional, psychological, and physiological needs to food intake and natural hunger cues.
 - A4.2 Analyze appropriate nutrient intake, diet, and energy expenditure for individuals of different ages and with different dietary and health needs.
 - A4.3 Illustrate the anatomical structure and functions of the digestive system, including the biochemical processes involved in digestion, absorption, metabolism, energy balance, and food-drug interactions.
 - A4.4 Formulate recommended diets for different dietary and health needs.
- A5.0 Demonstrate an understanding of the correlation of food and fitness to wellness.
 - A5.1 Explain how research-based, recognized dietary guidelines relate to nutrition, fitness, and overall wellness.
 - A5.2 Interpret nutritional information needed to implement and sustain change in behavior and lifestyle management.
 - A5.3 Analyze popular diets for recommendations that are consistent with, or contrary to, approved dietary guidelines.
 - A5.4 Analyze nutrient density as it relates to food quality and dietary choices for individual nutrition, fitness, and wellness goals.
 - A5.5 Provide examples of how social and cultural norms and barriers relate to the implementation of nutrition, fitness, and wellness changes.
- A6.0 Identify the basics of community collaborative opportunities and methods of outreach in the field of nutrition, fitness, and wellness.
 - A6.1 Classify the available community services, agencies, and outreach programs that provide nutrition, fitness, and wellness information and services.
 - A6.2 Understand the differences in services and outreach methods of community organizations that provide nutrition, fitness, and wellness information and services.
 - A6.3 Provide examples of the influence of cultural health-related practices and food preferences on the nutrition, fitness, and wellness of individuals.
- A7.0 Explain the basic principles of managing and operating food service outreach programs.
 - A7.1 Identify the types of community-based and institutional programs that provide food and nutrition outreach services.
 - A7.2 Summarize the factors that affect the management and operation of a food service outreach program.
 - A7.3 Explain the training needs of an effective food service outreach staff.



- A8.0 Interpret the basic principles of chemistry and physics related to changes in foods and food products during preparation, processing, and preservation.
 - A8.1 Recognize terminology, methods, and equipment used in the food science and technology industry.
 - A8.2 Practice safe laboratory and equipment use and maintenance procedures.
 - A8.3 Understand important chemical and physical changes that occur during food preparation.
 - A8.4 Conduct scientific experiments using the scientific method.
 - A8.5 Document experiments and maintain laboratory records.

- A9.0 Demonstrate an understanding of the basic principles of research and development, food analysis, and sensory evaluation in the field of food science and technology.
 - A9.1 Understand the purpose, importance, and basic procedures of sensory evaluation experiments.
 - A9.2 Explain quality control, assurance standards, and the procedures for each used in research and development.
 - A9.3 Analyze research implications on food trends, value-added processing, genetic engineering, and irradiation.
 - A9.4 Prepare and test formulas for developing new food products.
 - A9.5 Test food products by using controls, variables, and random sampling.
 - A9.6 Create a product that explores global, logistical, ecological, and economic impacts of food production and packaging methods, including genetic engineering.

- A10.0 Describe the fundamental concepts of marketing and public relations used in the dissemination of information about food science, dietetics, and nutrition.
 - A10.1 Explain the differences between public relations, advertising, and provision of accurate information to consumers.
 - A10.2 Understand the methods and importance of communicating accurate information to consumers about nutrition, food safety, and food products.
 - A10.3 Evaluate the psychological effects of market branding, subliminal messages, and advertising on consumer choices.
 - A10.4 Explain the use of technical reports in preparing and disseminating information.
 - A10.5 Compare and contrast the influence of consumer trends and expectations on product development and marketing.



Hospitality, Tourism, and Recreation Pathway Standards

B. Food Service and Hospitality Pathway

The Food Service and Hospitality pathway focuses on the key aspects of the industry. Students pursuing this career pathway have in-depth, hands-on experiences that emphasize industry awareness; sanitation and safe food handling; food and beverage production; nutrition; food service management; and customer service.

Sample occupations associated with this pathway:



Food Expeditor



Restaurant Manager



Banquet and Catering Director



Research Chef



Executive Chef

- B1.0 Demonstrate an understanding of major aspects of the food service and hospitality industry and the role of the industry in local, state, national, and global economies.
 - B1.1 Define and compare core elements of the food service and hospitality industry from various supporting industries.
 - B1.2 Understand how the various segments of the industry contribute to, and impact, local, state, national, and international economies, cultures, and the environment.
 - B1.3 Explain the relationship between industry trends and local, state, national, and international economic trends.
 - B1.4 Research the advantages and disadvantages of the working conditions of various careers in the food service and hospitality industry.
- B2.0 Demonstrate the basics of safe work habits, security, and emergency procedures required in food service and hospitality establishments.
 - B2.1 Identify the causes, prevention, and treatment of common accidents and the reporting procedures involved.
 - B2.2 Practice the basic procedures for the safety of employees and guests, including the procedures for emergency situations.
 - B2.3 Understand the role of the California Occupational Safety and Health Administration, the Environmental Protection Agency, and other agencies in regulating practices in the food service and hospitality industry.
 - B2.4 Understand the source and purpose of information in the Material Safety Data Sheets (MSDS) and know the proper use of personal protective equipment (PPE).
- B3.0 Interpret the basic principles of sanitation and safe food handling.
 - B3.1 Employ the standards of personal grooming and hygiene required by local, state, and federal health and safety codes.



- B3.2 Understand basic local, state, and federal sanitation regulations as they pertain to food production and service.
- B3.3 Explain the types of food contamination, the potential causes, including cross-contamination, and methods of prevention.
- B3.4 Practice safe and sanitary procedures in all food handling, including food receiving, storage, production, service, and cleanup.
- B3.5 Understand the essential principles of Hazard Analysis Critical Control Points, including the use of flowcharts.
- B3.6 Understand the purpose and process of required industry certification (e.g., ServSafe, California Food Handlers Card).

- B4.0 Analyze the basics of food service and hospitality management.
 - B4.1 Understand the responsibilities of management, such as ensuring safe work practices and conditions and complying with important laws and regulations that affect employment, such as wage and hour laws, tenant status, and accommodation of minors.
 - B4.2 Understand the importance of specific human resource practices and procedures that address workplace diversity, harassment, personal safety, and discrimination.
 - B4.3 Interpret the differences in goals and organizational management of various food service businesses.
 - B4.4 Understand the relationship of effective management and business procedures to important outcomes, such as profitability, productivity, workplace atmosphere, consumer and guest satisfaction, and business growth.
 - B4.5 Design and interpret business plans including: the mission, vision, target market, location, financing, and the community and ecological context of the business.

- B5.0 Demonstrate an understanding of the basics of systems operations and the importance of maintaining facilities, equipment, tools, and supplies.
 - B5.1 Apply the procedures for cleaning and maintaining facilities and equipment and the importance of preventive maintenance and the use of nontoxic and less toxic materials.
 - B5.2 Recognize the types of materials and supplies used in the maintenance of facilities, including the identification of the hazardous environmental and physical properties of chemicals and the use of Material Safety Data Sheets (MSDS).
 - B5.3 Practice the procedures for maintaining inventories: ordering food, equipment, and supplies; and storing and restocking supplies.
 - B5.4 Understand the relationship between facilities management and profit and loss, including the costs of resource consumption, breakage, theft, supplies use, and decisions for repairs or replacement.
 - B5.5 Understand how various departments in a food service facility contribute to the economic success of a business.
 - B5.6 Prioritize tasks and plan work schedules based on budget and personnel.



- B6.0 Illustrate and apply the basics of food preparation and safety and sanitation in professional and institutional kitchens.
- B6.1 Use, maintain, and store the tools, utensils, equipment, and appliances safely and appropriately for preparing a variety of food items.
 - B6.2 Apply the principle of *mise en place*, including the placement and order of use of ingredients, equipment, tools, and supplies.
 - B6.3 Prepare food by using the correct terminology, food safety, techniques, and procedures specified in recipes and formulas.
 - B6.4 Plan and follow a food production schedule, including timing and prioritizing of tasks and activities.
 - B6.5 Evaluate the qualities and properties of food items and ingredients used in food preparation.
 - B6.6 Design plating techniques, including accurate portioning and aesthetic presentation skills.
 - B6.7 Develop a food preparation plan using forecasting and cross-utilization of products to maximize profit and eliminate waste.
- B7.0 Illustrate and apply the basics of baking, pastry, and dessert preparation and safety and sanitation in professional and institutional kitchens.
- B7.1 Use, maintain, and store the tools, utensils, equipment, and appliances safely and appropriately for preparing, serving, and storing baked goods, pastries, and desserts.
 - B7.2 Apply the principle of *mise en place*, including the placement and order of use of the ingredients, equipment, tools, and supplies unique to baking and pastry production.
 - B7.3 Produce baked goods, pastries, and desserts by using the correct terminology, food safety, techniques, procedures, and various finishing techniques.
 - B7.4 Evaluate the qualities and properties of food items and ingredients used for baked goods, pastries, and desserts.
 - B7.5 Understand packaging and merchandising techniques to feature seasonal and standard bakery products.
 - B7.6 Develop a plan using forecasting and cross-utilization of products to maximize profit and eliminate waste.
- B8.0 Apply the knowledge and skills essential for effective customer service.
- B8.1 Analyze the importance of customer service to the success of the food service establishment.
 - B8.2 Demonstrate the concept of exceptional customer service and know ways of anticipating the needs and desires of customers to exceed their expectations.
 - B8.3 Recognize common customer complaints and the service solutions for preventing or resolving complaints.



- B8.4 Understand the roles of management and employees in effectively meeting the needs of culturally, generationally diverse, special needs customers.
- B8.5 Interact with customers in a positive, responsive, and professional manner.
- B9.0 Apply the basic procedures and skills needed for food and beverage service.
 - B9.1 Differentiate the required duties of various positions, including those of the host/hostess, wait staff, bus person, and others related to opening, closing, change-of-shift, and preparatory work.
 - B9.2 Apply the concept of *mise en place* in relation to food and beverage service.
 - B9.3 Practice safe, efficient, and proper procedures for setting, serving, maintaining, and busing tables.
 - B9.4 Practice proper techniques for customer service, including greeting, seating, presenting and explaining menu items, and taking customer orders.
 - B9.5 Integrate appropriate, effective, and efficient techniques for writing food and beverage orders, relaying orders to the kitchen, coordinating and assembling food orders, and preparing and presenting checks to customers.
 - B9.6 Apply procedures for handling cash transactions, converting currency, and identifying counterfeit currency.
 - B9.7 Apply the procedures for handling noncash transactions including: credit cards, debit cards, ATM cards, money orders, personal checks, coupons, discounts, and online transactions.
 - B9.8 Conduct all financial transactions in an accurate, professional, and ethical manner, including gratuities.
 - B9.9 Produce a product that identifies and explains the impact of theft on the food service and hospitality industry.
- B10.0 Demonstrate and apply basic nutritional concepts in meal planning and food preparation.
 - B10.1 Apply basic nutritional principles and know how to use food preparation techniques that conserve nutrients.
 - B10.2 Interpret nutritional or ingredient information from food labels and fact sheets and analyze menu items to meet the dietary needs of individuals.
 - B10.3 Create nutritious, creative, and profitable menus in accord with availability and demand.
- B11.0 Demonstrate an understanding of the basic processes of costing and cost analysis in food and beverage production and service.
 - B11.1 Understand the customer's perception of value and its relationship to profit and loss.
 - B11.2 Understand the components of a profit and loss statement emphasizing food and labor costs.
 - B11.3 Utilize the practices of reduce, reuse, and recycle to maximize profits.



- B11.4 Understand the importance and structure of standardized systems, such as the Uniform System of Accounts for Restaurants.
 - B11.5 Evaluate the importance of the menu as the primary source of revenue generation and cost control.
 - B11.6 Calculate recipe costs and pricing per portion and compare the cost per cover to the theoretical cost.
- B12.0 Describe the fundamentals of successful sales and marketing methods.
- B12.1 Recognize methods to develop and maintain long-term customer relations.
 - B12.2 Identify the major market segments of the industry and understand how marketing principles and procedures can be applied to target audiences.
 - B12.3 Understand basic marketing principles for maximizing revenue based on supply and demand and competition.
 - B12.4 Understand the value of advertising, public relations, social networking, and community involvement.
 - B12.5 Research the various types of entrepreneurial opportunities in the food service industry.
 - B12.6 Design marketing strategies, including branding, benchmarking, and promotional selling and upgrading and their effect on profits.



C. Hospitality, Tourism, and Recreation Pathway

The Hospitality, Tourism, and Recreation pathway integrates various facets of the hospitality industry: lodging, travel, and tourism; event planning; theme parks, attractions, and exhibitions; and recreation. Students engaged in this pathway have broad experiences related to the specific industry segments, including: industry awareness; organizational management; customer service; sales and marketing; facilities management; lodging; travel destinations; and reservations, ticketing, and itineraries.

Sample occupations associated with this pathway:



Guest Services Agent



Director of Conference Services



Certified Meeting/Event Planner



Theme Park Director

- C1.0 Demonstrate an understanding of the major aspects of the hospitality, tourism, and recreation industry (i.e. lodging, travel, and tourism; event planning; theme parks, attractions, and exhibitions; and recreation) and the industry's role in local, state, national, and global economies.
 - C1.1 Define and compare core elements of the hospitality, tourism, and recreation industry from those of various supporting industries.
 - C1.2 Analyze the working conditions of various careers in the hospitality, tourism, and recreation industry.
 - C1.3 Analyze the impact and contributions of various segments of the industry on local, state, national, and international economies and cultures, and the environment.
 - C1.4 Compare and contrast the relationship between industry trends and local, state, national, and international economic trends.
- C2.0 Analyze the basic elements of workforce and organizational management, including the roles and responsibilities of effective management and employees in the industry.
 - C2.1 Interpret how the mission and goals of a business affect operations in the hospitality, tourism, and recreation industry.
 - C2.2 Understand the importance of specific human resource practices and procedures that address workplace diversity, harassment, personal safety, and discrimination.
 - C2.3 Explain common safety, security, and emergency policies and procedures used in the hospitality, tourism, and recreation industry to protect guests, visitors, and employees, such as safe work practices and conditions, confidentiality of customer information, control of keys, infectious disease control, first aid procedures, and emergency training.
 - C2.4 Analyze the relationship of management techniques and appropriate business procedures, such as spreadsheets for payroll and inventories, tools for budgeting, recordkeeping, and corresponding to key outcomes: profitability, productivity, positive work environment, consumer and client satisfaction, business growth, business plans, corporate social responsibility, and environmental stewardship.



- C2.5 Create a product which explains the impact of main laws and regulations that affect accommodations and practices, including the requirements of the California Occupational Safety and Health Administration and the Americans with Disabilities Act, wage and hour laws, tenant status, and accommodation of minors.
- C3.0 Apply the knowledge and skills essential for effective guest services in the hospitality, tourism, and recreation industry sector.
 - C3.1 Analyze the importance of guest services to the success of the industry.
 - C3.2 Demonstrate the concept of exceptional guest service.
 - C3.3 Anticipate the needs, desires, and interests of guests in order to exceed their expectations by implementing total quality management practices (TQM).
 - C3.4 Recognize common guest complaints and the service solutions for preventing or resolving them.
 - C3.5 Understand the roles of management and employees in effectively meeting the needs of culturally and generationally diverse guests and special needs customers.
 - C3.6 Interact with guests in a positive, responsive, and professional manner.
- C4.0 Describe the fundamentals of successful sales and marketing methods.
 - C4.1 Recognize ways of developing and maintaining long-term guest relationships.
 - C4.2 Identify the major market segments of the hospitality, tourism, and recreation industry.
 - C4.3 Understand basic marketing principles for maximizing revenue based on supply and demand and competition.
 - C4.4 Understand the value of advertising, public relations, social networking, and community involvement.
 - C4.5 Analyze marketing strategies, including promotional selling and upgrading, and their effect on profits.
 - C4.6 Analyze the way in which basic marketing principles and procedures can be applied to targeting an audience, including: branding, bench marking, and promotional selling and upgrading and their effect on profits.
- C5.0 Demonstrate an understanding of the basics of systems operations and the importance of maintaining facilities, equipment, tools, and supplies.
 - C5.1 Apply the procedures for cleaning, maintaining, and repairing facilities and equipment and the importance of preventive maintenance.
 - C5.2 Recognize the types of materials and supplies used in the maintenance of facilities, including the identification of the hazardous properties of chemicals and the use of Material Safety Data Sheets (MSDS).
 - C5.3 Practice procedures for maintaining inventories, requisitioning equipment and tools, and storing and restocking supplies.



- C5.4 Understand the relationship between facilities management and profit and loss, including the costs of resource consumption, breakage, theft, supplies use, and decisions for repairs or replacement.
- C5.5 Analyze work to be completed, prioritize tasks, and prepare a schedule to meet facility and personnel needs within an allotted budget.
- C5.6 Understand how essential departments in a hospitality, tourism, and recreation business contribute to economic success.
- C6.0 Implement procedures for common types of financial transactions.
 - C6.1 Apply procedures for handling cash transactions, such as balancing cash, handling cash control, converting currency, and identifying counterfeit currency.
 - C6.2 Apply the procedures for handling noncash transactions: credit cards, debit cards, ATM cards, money orders, personal checks, coupons, discounts, and online transactions.
 - C6.3 Conduct all financial transactions in an accurate, professional, and ethical manner.
 - C6.4 Produce a product that identifies and explains the impact of identity theft on the hospitality, tourism, and recreation industry.
- C7.0 Demonstrate an understanding of the essential aspects of the lodging industry.
 - C7.1 Distinguish between the segments of the lodging industry, such as motels, limited service, full service resorts, all suites, extended-stay hotels, convention hotels, boutique hotels, and bed and breakfast facilities.
 - C7.2 Differentiate the required duties of various positions, including those of front desk and other service providers in relation to the functions of the business: checking guests in and out, greeting, assessing needs, delivering services, and closing the transaction.
 - C7.3 Understand the internal hierarchy and departmental interrelationships of lodging establishments.
 - C7.4 Compare the types of food service offered at various lodging facilities.
- C8.0 Interpret the basics of global and domestic physical and cultural geography in relation to the hospitality, tourism, and recreation industry.
 - C8.1 Understand fundamental ways in which physical geography, culture, and politics, affect local economies and world travel and tourism.
 - C8.2 Create a product using types of basic information that international travelers need, including physical geography, time zones, International Date Line, rights and responsibilities, laws, insurance, emergency services, and customs.
- C9.0 Apply the basic processes of making reservations, ticketing, and developing travel itineraries.
 - C9.1 Interpret the costs and other travel considerations involved in creating itineraries to meet client needs, including types of travel, types of fares, basic fare codes, costs, penalty charges, and types of accommodations.



- C9.2 Evaluate important travel information, including insurance needs, vehicle rentals, passports, visas, and health documents, as well as how to plan specialty tour packages to fit client needs.
 - C9.3 Classify the characteristics and configurations of common air and rail carriers, cruise ships, and attractions, including the most frequently used codes and terminology for ports of travel.
 - C9.4 Understand the basic purpose, function, and operation of various travel systems and authorities, including the Airline Reporting Corporation, the Federal Aviation Administration, the major centralized reservation systems, and the Computerized Reservation System.
 - C9.5 Research the role and importance of online reservation services to marketing and profitability.
- C10.0 Explain the fundamental purpose and basic organizational structure of a variety of theme parks, attractions, and exhibitions.
- C10.1 Understand how the various internal departments of theme parks, attractions, or exhibitions interrelate and support each other.
 - C10.2 Understand the internal hierarchy and departmental relationships of theme parks, attractions, or exhibitions.
 - C10.3 Analyze the ways in which the purposes of various industries; entertainment, education, and community relations affect their financial structure.
 - C10.4 Compare the purposes, implications, and strategies of special promotions, such as season passes, multiple-day visits, retail items, and discount coupons.
- C11.0 Illustrate the fundamentals of planning events for a diverse clientele.
- C11.1 Explain the purposes and target audiences of various venues.
 - C11.2 Demonstrate the essential procedures for planning, promoting, publicizing, coordinating, and evaluating a program or event.
 - C11.3 Understand how to establish business relationships with a variety of locations, food suppliers, and other vendors.
 - C11.4 Demonstrate procedures for setting up facilities, equipment, and supplies.
 - C11.5 Develop schedules, registration tools, event materials, and programs.
 - C11.6 Plan special events (e.g., meetings, trade shows, fairs, conferences) based on specific themes, budgets, agendas, space and security needs, and itineraries.
- C12.0 Demonstrate an understanding of the value of recreation and the fundamentals of recreational facilities and services.
- C12.1 Recognize the variety of parklands, wilderness areas, and waterways available for recreation.
 - C12.2 Explain the outdoor recreational opportunities that promote physical and mental health.



- C12.3 Understand how the needs of various clients may be met through appropriate outdoor recreational activities, outdoor experiences, special tours, and environmentally responsible education.
- C12.4 Evaluate the requirements of outdoor recreational businesses, including benefits, risks, required skills, and costs.
- C12.5 Explore the departments, functions, and restrictions of public and private parks and recreational facilities and the outdoor recreational programs they offer.
- C12.6 Create a product describing the types of insurance, licenses, and permits needed for the operation and management of various popular outdoor activities.



Academic Alignment Matrix

HOSPITALITY, TOURISM, AND RECREATION		PATHWAYS		
		A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
ENGLISH LANGUAGE ARTS				
Language Standards – LS (Standard Area, Grade Level, Standard #)				
11-12.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0	
11-12.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0	
11-12.3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0	
11-12.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on <i>grades 11–12 reading and content</i> , choosing flexibly from a range of strategies.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0	
11-12.6. Acquire and accurately use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0	
Reading Standards for Informational Text – RSIT (Standard Area, Grade Level, Standard #)				
11-12.2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0	
11-12.3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0	

Academic Alignment Matrix

HOSPITALITY, TOURISM, AND RECREATION			
Reading Standards for Informational Text – RSIT (Standard Area, Grade Level, Standard #) (continued)			
PATHWAYS			
	A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
11-12.4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines <i>faction</i> in <i>Federalist</i> No. 10). (See grade 11/12 Language standards 4–6 on page 46 for additional expectations.)	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
Reading Standards for Literacy in Science and Technical Subjects – RLST (Standard Area, Grade Level, Standard #)			
11-12.1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes to any gaps or inconsistencies in the account.	A1.0, A4.0, A8.0, A9.0		
11-12.2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.	A2.0, A3.0, A4.0, A5.0, A8.0, A9.0	B2.0, B3.0, B5.0, B6.0, B7.0, B9.0, B10.0, B11.0, B12.0	C1.0, C4.0, C5.0, C6.0, C9.0
11-12.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.	A2.0, A3.0, A4.0, A5.0, A8.0, A9.0	B2.0, B3.0, B5.0, B6.0, B7.0, B9.0, B10.0, B11.0, B12.0	C1.0, C4.0, C5.0, C6.0, C9.0
11-12.5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0





Academic Alignment Matrix

		PATHWAYS		
		A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
HOSPITALITY, TOURISM, AND RECREATION				
Reading Standards for Literacy in Science and Technical Subjects – RLST (Standard Area, Grade Level, Standard #) (continued)				
11-12.8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.		A8.0, A9.0		
11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
Writing Standards – WS (Standard Area, Grade Level, Standard #)				
11-12.1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.3 Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.		A1.0, A2.0, A3.0, A5.0, A6.0, A7.0, A9.0, A10.0	B1.0, B3.0, B4.0, B5.0, B10.0, B12.0	C1.0, C2.0, C4.0, C5.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C3.0, C6.0, C8.0, C9.0



Academic Alignment Matrix

		PATHWAYS		
		A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
HOSPITALITY, TOURISM, AND RECREATION				
Writing Standards – WS (Standard Area, Grade Level, Standard #) <i>(continued)</i>				
11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.		A4.0, A5.0, A8.0, A9.0	B6.0, B7.0	C3.0, C6.0, C8.0, C9.0, C11.0
11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation including footnotes and endnotes.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0		
11-12.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.		A1.0, A2.0, A4.0, A5.0, A6.0, A8.0, A9.0, A10.0	B1.0, B4.0, B12.0	C1.0, C3.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects – WHSST (Standard Area, Grade Level, Standard #)				
11-12.1. Write arguments focused on discipline-specific content.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0



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HOSPITALITY, TOURISM, AND RECREATION			
	A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects – WHSST (Standard Area, Grade Level, Standard #) <i>(continued)</i>			
11-12.5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.	A4.0, A5.0, A8.0, A9.0	B6.0, B7.0	C3.0, C6.0, C8.0, C9.0, C11.0
11-12.8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0		
11-12.9. Draw evidence from informational texts to support analysis, reflection, and research.	A1.0, A2.0, A4.0, A5.0, A6.0, A8.0, A9.0	B1.0, B4.0, B12.0	C1.0, C3.0, C8.0, C9.0, C10.0, C11.0, C12.0
11-12.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
MATHEMATICS			
Algebra – A-SSE – Seeing Structure in Expressions			
<i>Interpret the structure of expressions</i>			
1. Interpret expressions that represent a quantity in terms of its context.			
a. Interpret parts of an expression, such as terms, factors, and coefficients.			
b. Interpret complicated expressions by viewing one or more of their parts as a single entity. <i>For example, interpret $P(1+r)^t$ as the product of P and a factor not depending on P.</i>	A4.0	B10.0, B11.0	

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<p style="text-align: center;">HOSPITALITY, TOURISM, AND RECREATION</p>	PATHWAYS		
	A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
<p>Algebra – A-CED – Creating Equations</p> <p><i>Create equations that describe numbers or relationships</i></p> <p>1. Create equations and inequalities in one variable including ones with absolute value and use them to solve problems in and out of context, including equations arising from linear functions.</p> <p>1.1 Judge the validity of an argument according to whether the properties of real numbers, exponents, and logarithms have been applied correctly at each step. (CA Standard Algebra II – 11.2)</p> <p>2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p> <p>3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</p> <p>4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R.</p>	A4.0	B5.0	C5.0
<p>Algebra – A-REI – Reasoning with Equations and Inequalities</p> <p><i>Understand solving equations as a process of reasoning and explain the reasoning</i></p> <p>1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.</p> <p>2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.</p> <p><i>Solve equations and inequalities in one variable</i></p> <p>3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.</p> <p>3.1 Solve equations and inequalities involving absolute value. (CA Standard Algebra I – 3.0 and CA Standard Algebra II – 1.0)</p>	A4.0	B5.0, B11.0, B12.0	C5.0
	A4.0	B4.0, B5.0, B6.0, B7.0	C5.0
	A4.0	B11.0	
	A4.0	B5.0	C4.0
	A4.0, A5.0	B4.0, B5.0, B6.0, B7.0, B9.0	C5.0, C6.0, C7.0, C9.0, C11.0, C12.0
		B10.0, B11.0, B12.0	





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	PATHWAYS		
	A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
HOSPITALITY, TOURISM, AND RECREATION			
Algebra – A-REI – Reasoning with Equations and Inequalities (<i>continued</i>)			
<i>Solve systems of equations</i>			
6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	B5.0		C4.0, C5.0
Functions – F-IF – Interpreting Functions			
4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.	A1.0, A4.0, A10.0	B1.0, B4.0, B5.0, B11.0, B12.0	C1.0, C4.0, C5.0, C8.0, C10.0
6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	A1.0, A4.0, A10.0	B1.0, B4.0, B5.0, 11.0, B12.0	C1.0, C4.0, C5.0, C8.0, C9.0, C10.0
Geometry – G-CO – Congruence			
<i>Make geometric constructions</i>			
12. Make formal geometric constructions with a variety of tools and methods (compass and straight-edge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.		B6.0, B7.0	
Geometry – G-MG – Modeling with Geometry			
<i>Apply geometric concepts in modeling situations</i>			
1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).		B6.0, B7.0	
2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	A5.0		
3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with topographic grid systems based on ratios).		B6.0, B7.0	

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Geometry – N–Q – Quantities			
<i>Reason quantitatively and use units to solve problems</i>			
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.	A5.0	B4.0	C1.0
2. Define appropriate quantities for the purpose of descriptive modeling.	A1.0	B1.0, B4.0	C1.0
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	A5.0	B4.0	
Statistics and Probability – S–IC – Making Inferences and Justifying Conclusions			
<i>Understand and evaluate random processes underlying statistical experiments</i>			
1. Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	A1.0, A5.0, A6.0, A9.0	B1.0, B4.0	C1.0
<i>Make inferences and justify conclusions from sample surveys, experiments, and observational studies</i>			
3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	A9.0	B4.0	C8.0
6. Evaluate reports based on data.	A1.0, A6.0, A9.0	B1.0	C1.0, C8.0, C9.0, C10.0
Statistics and Probability – S–ID – Interpreting Categorical and Quantitative Data			
<i>Summarize, represent, and interpret data on a single count or measurement variable</i>			
1. Represent data with plots on the real number line (dot plots, histograms, and box plots).	A8.0	B9.0	C4.0, C6.0
Statistics and Probability – S–CP – Conditional Probability and the Rules of Probability			
<i>Understand independence and conditional probability and use them to interpret data</i>			
4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.			C9.0





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	PATHWAYS		
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HOSPITALITY, TOURISM, AND RECREATION			
Statistics and Probability – S-CP – Conditional Probability and the Rules of Probability <i>(continued)</i>			
5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.	A4.0, A6.0		
Statistics and Probability – S-MD – Using Probability to Make Decisions			
<i>Use probability to evaluate outcomes of decisions</i>			
5. (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. a. Find the expected payoff for a game of chance. For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant. b. Evaluate and compare strategies on the basis of expected values. For example, compare a high deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.		B10.0, B11.0	C8.0, C9.0
Statistics and Probability – APPS – Advanced Placement Probability and Statistics			
10.0 Students know the definitions of the mean, median, and mode of distribution of data and can compute each of them in particular situations.	A1.0, A5.0, A6.0, A9.0, A10.0	B1.0, B11.0	C4.0, C8.0
SCIENCE			
Scientific and Engineering Practices – SEP			
1. Asking questions (for science) and defining problems (for engineering)	A8.0, A9.0		
2. Developing and using models	A8.0, A9.0		
3. Planning and carrying out investigations	A8.0, A9.0		
4. Analyzing and interpreting data	A8.0, A9.0		
5. Using mathematics and computational thinking	A8.0, A9.0		
6. Constructing explanations (for science) and designing solutions (for engineering)	A8.0, A9.0		
7. Engaging in argument from evidence	A8.0, A9.0		
8. Obtaining, evaluating, and communicating information	A8.0, A9.0		

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HOSPITALITY, TOURISM, AND RECREATION		PATHWAYS		
		A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
Crosscutting Concept – CC				
1. Patterns			B5.0, B6.0, B7.0	
3. Scale, proportion, and quantity		A8.0, A9.0	B6.0, B7.0	
6. Structure and function		A8.0, A9.0	B6.0, B7.0	
7. Stability and change		A8.0, A9.0	B6.0, B7.0	
Physical Sciences – PS				
PS1: Matter and Its Interactions				
PS1.A: Structure and Properties of Matter		A8.0, A9.0	B6.0, B7.0, B10.0	C5.0
PS1.B: Chemical Reactions		A4.0, A5.0, A8.0, A9.0	B3.0, B6.0, B7.0	
PS2: Motion and Stability: Forces and Interactions				
PS2.C: Stability and Instability in Physical Systems			B7.0	
PS3: Energy				
PS3.A: Definitions of Energy		A8.0		
PS3.B: Conservation of Energy and Energy Transfer		A3.0, A8.0		
PS3.C: Relationship Between Energy and Forces		A8.0		
PS3.D: Energy in Chemical Processes and Everyday Life		A1.0, A4.0, A5.0, A8.0	B1.0, B3.0, B9.0	
Life Sciences – LS				
LS1: From Molecules to Organisms: Structures and Processes				
LS1.A: Structure and Function		A1.0, A8.0, A9.0		
LS1.B: Growth and Development of Organisms		A3.0, A8.0, A9.0	B3.0, B6.0, B7.0	
LS1.D: Information Processing		A1.0, A2.0, A3.0, A4.0, A5.0, A6.0, A7.0, A8.0, A9.0, A10.0	B1.0, B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10.0, B11.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0
LS2: Ecosystems: Interactions, Energy, and Dynamics				
LS2.A: Interdependent Relationships in Ecosystems		A5.0		
LS3: Heredity: Inheritance and Variation of Traits				
LS3.B: Variation of Traits		A9.0		





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HOSPITALITY, TOURISM, AND RECREATION				
Earth and Space Sciences – ESS				
ESS3: Earth and Human Activity				
ESS3.A: Natural Resources				
ESS3.B: Natural Hazards	A3.0, A9.0	B2.0, B3.0, B11.0	C2.0, C8.0, C11.0	
ESS3.C: Human Impacts on Earth Systems				
ESS3.D: Global Climate Change				
HISTORY/SOCIAL SCIENCE				
Principles of American Democracy and Economics – AD				
12.3 Students evaluate and take and defend positions on what the fundamental values and principles of civil society are (i.e., the autonomous sphere of voluntary personal, social, and economic relations that are not part of government), their interdependence, and the meaning and importance of those values and principles for a free society.				
12.3.1. Explain how civil society provides opportunities for individuals to associate for social, cultural, religious, economic, and political purposes.	A2.0	B1.0, B8.0	C2.0, C8.0, C12.0	
Principles of Economics – PE				
12.1 Students understand common economic terms and concepts and economic reasoning.	A1.0	B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.1.1. Examine the causal relationship between scarcity and the need for choices.	A1.0	B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.1.2. Explain opportunity cost and marginal benefit and marginal cost.	A1.0	B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.2 Students analyze the elements of America's market economy in a global setting.	A1.0	B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.2.2. Discuss the effects of changes in supply and or demand on the relative scarcity, price, and quantity of particular products.	A1.0	B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.2.4. Explain how prices reflect the relative scarcity of goods and services and perform the allocative function in a market economy.		B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.2.5. Understand the process by which competition among buyers and sellers determines a market price.		B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.2.6. Describe the effect of price controls on buyers and sellers.		B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	



Academic Alignment Matrix

HOSPITALITY, TOURISM, AND RECREATION		PATHWAYS		
		A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
Principles of Economics – PE (continued)				
12.2.7. Analyze how domestic and international competition in a market economy affects goods and services produced and the quality, quantity, and price of those products.		B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.2.10. Discuss the economic principles that guide the location of agricultural production and industry and the spatial distribution of transportation and retail facilities.		B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.3 Students analyze the influence of the federal government on the American economy.				
12.3.1. Understand how the role of government in a market economy often includes providing for national defense, addressing environmental concerns, defining and enforcing property rights, attempting to make markets more competitive, and protecting consumers' rights.	A1.0, A10.0	B1.0, B11.0, B12.0	C1.0, C4.0, C8.0	
12.3.3. Describe the aims of government fiscal policies (taxation, borrowing, spending) and their influence on production, employment, and price levels.	A2.0			
12.4 Students analyze the elements of the U.S. labor market in a global setting.				
12.4.1. Understand the operations of the labor market, including the circumstances surrounding the establishment of principal American labor unions, procedures that unions use to gain benefits for their members, the effects of unionization, the minimum wage, and unemployment insurance.	A2.0	B2.0, B4.0, B5.0, B8.0, B9.0	C2.0, C3.0, C7.0	
12.4.2. Describe the current economy and labor market, including the types of goods and services produced, the types of skills workers need, the effects of rapid technological change, and the impact of international competition.	A1.0, A2.0, A10.0	B2.0, B4.0, B5.0, B8.0, B9.0	C1.0, C2.0, C3.0, C4.0, C7.0, C9.0, C11.0, C12.0	
12.4.3. Discuss wage differences among jobs and professions, using the laws of demand and supply and the concept of productivity.	A2.0	B2.0, B4.0, B5.0, B8.0, B9.0	C2.0	
12.4.4. Explain the effects of international mobility of capital and labor on the U.S. economy.	A2.0	B2.0, B3.0, B4.0, B5.0, B6.0, B7.0, B8.0, B9.0, B10	C2.0	
12.5 Students analyze the aggregate economic behavior of the U.S. economy.				
12.5.1. Distinguish between nominal and real data.	A3.0, A4.0			



Academic Alignment Matrix

HOSPITALITY, TOURISM, AND RECREATION	PATHWAYS		
	A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
Principles of Economics – PE <i>(continued)</i>			
12.6 Students analyze issues of international trade and explain how the U.S. economy affects, and is affected by, economic forces beyond the United States' borders.	B1.0		
12.6.3. Understand the changing role of international political borders and territorial sovereignty in a global economy.		C1.0	
12.6.4. Explain foreign exchange, the manner in which exchange rates are determined, and the effects of the dollar's gaining (or losing) value relative to other currencies.		C1.0	
U.S. History and Geography – US			
11.2 Students analyze the relationship among the rise of industrialization, large-scale rural-to-urban migration, and massive immigration from Southern and Eastern Europe.			
11.2.1. Know the effects of industrialization on living and working conditions, including the portrayal of working conditions and food safety in Upton Sinclair's <i>The Jungle</i>	A3.0, A8.0	B1.0, B2.0, B3.0, B6.0, B7.0	
11.2.2. Describe the changing landscape, including the growth of cities linked by industry and trade, and the development of cities divided according to race, ethnicity, and class.			C1.0
11.2.5. Describe the reciprocity between rights and obligations; that is, why enjoyment of one's rights entails respect for the rights of others.		B1.0	
11.2.6. Trace the economic development of the United States and its emergence as a major industrial power, including its gains from trade and the advantages of its physical geography.	A1.0		
11.5 Students analyze the major political, social, economic, technological, and cultural developments of the 1920s.			
11.5.7. Discuss the rise of mass production techniques, the growth of cities, the impact of new technologies (e.g., the automobile, electricity), and the resulting prosperity and effect on the American landscape.	A4.0	B1.0, B5.0, B12.0	C1.0, C4.0, C5.0, C6.0
11.6 Students analyze the different explanations for the Great Depression and how the New Deal fundamentally changed the role of the federal government.			
11.6.3 Discuss the human toll of the Depression, natural disasters, and unwise agricultural practices and their effects on the depopulation of rural regions and on political movements of the left and right, with particular attention to the Dust Bowl refugees and their social and economic impacts in California.	A4.0, A5.0, A6.0, A7.0	B1.0, B5.0, B11.0	C1.0, C8.0



Academic Alignment Matrix

	PATHWAYS		
	A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
U.S. History and Geography – US <i>(continued)</i>			
11.8 Students analyze the economic boom and social transformation of post-World War II America.			
11.8.1. Trace the growth of service sector, white collar, and professional sector jobs in business and government.	A1.0, A7.0	B4.0, B8.0, B12.0	C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C11.0
11.8.2 Describe the significance of Mexican immigration and its relationship to the agricultural economy, especially in California.	A2.0	B1.0, B4.0	C1.0, C2.0, C8.0
11.8.6. Discuss the diverse environmental regions of North America, their relationship to local economies, and the origins and prospects of environmental problems in those regions.	A1.0, A9.0	B1.0, B5.0	C1.0
11.8.7. Describe the effects on society and the economy of technological developments since 1945, including the computer revolution, changes in communication, advances in medicine, and improvements in agricultural Technology.	A8.0, A9.0, A10.0	B1.0, B9.0, B12.0	C1.0, C9.0
11.11 Students analyze the major social problems and domestic policy issues in contemporary American society.	A2.0, A6.0	B1.0	C1.0
11.11.3. Describe the changing roles of women in society as reflected in the entry of more women into the labor force and the changing family structure.	A2.0	B1.0	C1.0
11.11.5. Trace the impact of, need for, and controversies associated with environmental conservation, expansion of the national park system, and the development of environmental protection laws, with particular attention to the interaction between environmental protection advocates and property rights advocates.			C10.0, C12.0
11.11.6. Analyze the persistence of poverty and how different analyses of this issue influence welfare reform, health insurance reform, and other social policies.	A6.0		
11.11.7. Explain how the federal, state, and local governments have responded to demographic and social changes such as population shifts to the suburbs, racial concentrations in the cities, Frostbelt-to-Sunbelt migration, international migration, decline of family farms, increases in out-of-wedlock births, and drug abuse.	A1.0, A2.0, A6.0, A7.0	B1.0, B4.0	C8.0



Academic Alignment Matrix

	PATHWAYS		
	A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
HOSPITALITY, TOURISM, AND RECREATION			
World History, Culture, and Geography – WH			
10.3 Students analyze the effects of the Industrial Revolution in England, France, Germany, Japan, and the United States.			
10.3.2. Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).	A8.0	B1.0	
10.3.3. Describe the growth of population, rural to urban migration, and growth of cities associated with the Industrial Revolution.	A4.0		
10.3.4. Trace the evolution of work and labor, including the demise of the slave trade and the effects of immigration, mining and manufacturing, division of labor, and the union movement.	A2.9	B5.0	C2.0
10.3.5. Understand the connections among natural resources, entrepreneurship, labor, and capital in an industrial economy.	A1.0, A7.0	B1.0	C5.0
10.3.6. Analyze the emergence of capitalism as a dominant economic pattern and the responses to it, including Utopianism, Social Democracy, Socialism, and Communism.		B11.0, B12.0	C1.0
10.6 Students analyze the effects of the First World War.			
10.6.2. Describe the effects of the war and resulting peace treaties on population movement, the international economy, and shifts in the geographic and political borders of Europe and the Middle East.			C1.0, C3.0, C8.0, C9.0, C11.0
10.10 Students analyze instances of nation-building in the contemporary world in at least two of the following regions or countries: the Middle East, Africa, Mexico and other parts of Latin America, and China.			
10.10.1. Understand the challenges in the regions, including their geopolitical, cultural, military, and economic significance and the international relationships in which they are involved.			C1.0, C3.0, C4.0, C5.0, C7.0, C8.0, C9.0
10.10.2. Describe the recent history of the regions, including political divisions and systems, key leaders, religious issues, natural features, resources, and population patterns.			C1.0, C3.0, C4.0, C5.0, C7.0, C8.0, C9.0
10.10.3. Discuss the important trends in the regions today and whether they appear to serve the cause of individual freedom and democracy.			C1.0, C3.0, C4.0, C5.0, C7.0, C8.0, C9.0
10.11 Students analyze the integration of countries into the world economy and the information, technological, and communications revolutions (e.g., television, satellites, computers).	A1.0	B1.0	C1.0



Academic Alignment Matrix

	PATHWAYS		
	A. Food Science, Dietetics, and Nutrition	B. Food Service and Hospitality	C. Hospitality, Tourism, and Recreation
HOSPITALITY, TOURISM, AND RECREATION			
Chronological and Spatial Reasoning – CSR			
2. Students analyze how change happens at different rates at different times; understand that some aspects can change while others remain the same; and understand that change is complicated and affects not only technology and politics but also values and beliefs.	A8.0	B4.0	C1.0, C3.0
3. Students use a variety of maps and documents to interpret human movement, including major patterns of domestic and international migration, changing environmental preferences and settlement patterns, the frictions that develop between population groups and the diffusion of ideas, technological innovations, and goods.		B1.0	C1.0
4. Students relate current events to the physical and human characteristics of places and regions.		B1.0, B2.0	C10.0, C11.0, C12.0



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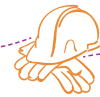
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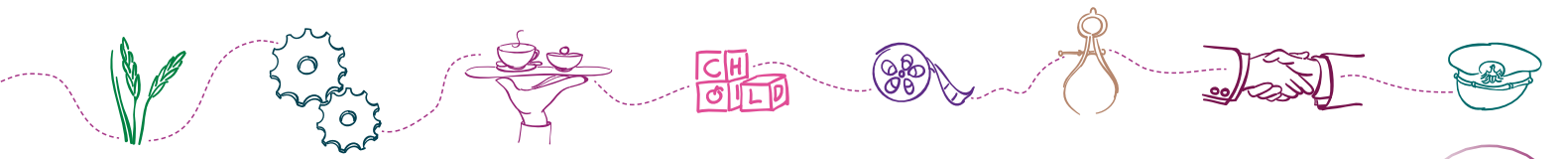
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