



## **Hospitality, Tourism, and Recreation Industry Sector**

### *Career Pathways*

- ◆ Food Science, Dietetics, and Nutrition
- ◆ Food Service and Hospitality
- ◆ Hospitality, Tourism, and Recreation



# Hospitality, Tourism, and Recreation Industry Sector

The Hospitality, Tourism, and Recreation sector provides students with the academic and technical preparation to pursue high-demand and high-skill 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 foundation standards include core, 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 and project- and work-based instruction as well as internship, community classroom, work experience, apprenticeship, and cooperative career technical education. Standards included in the Hospitality, Tourism, and Recreation sector are designed to prepare students for technical training, postsecondary education, and entry to a career.

## FOUNDATION STANDARDS

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### 1.0 Academics

Students understand the academic content required for entry into postsecondary education and employment in the Hospitality, Tourism, and Recreation sector.

*(The standards listed below retain in parentheses the numbering as specified in the mathematics, science, and history–social science content standards adopted by the State Board of Education.)*

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#### 1.1 Mathematics

Specific applications of Number Sense standards (grade seven):

- (1.1) Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10) with approximate numbers using scientific notation.
- (1.2) Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.

- (1.3) Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.
- (1.4) Differentiate between rational and irrational numbers.
- (1.5) Know that every rational number is either a terminating or a repeating decimal and be able to convert terminating decimals into reduced fractions.
- (1.6) Calculate the percentage of increases and decreases of a quantity.
- (1.7) Solve problems that involve discounts, markups, commissions, and profit and compute simple and compound interest.
- (2.1) Understand negative whole-number exponents. Multiply and divide expressions involving exponents with a common base.
- (2.2) Add and subtract fractions by using factoring to find common denominators.
- (2.3) Multiply, divide, and simplify rational numbers by using exponent rules.
- (2.4) Use the inverse relationship between raising to a power and extracting the root of a perfect square integer; for an integer that is not square, determine without a calculator the two integers between which its square root lies and explain why.
- (2.5) Understand the meaning of the absolute value of a number; interpret the absolute value as the distance of the number from zero on a number line; and determine the absolute value of real numbers.

Specific applications of Mathematical Reasoning standards (grade seven):

- (1.1) Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.
- (2.1) Use estimation to verify the reasonableness of calculated results.
- (2.2) Apply strategies and results from simpler problems to more complex problems.
- (2.3) Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.
- (2.4) Make and test conjectures by using both inductive and deductive reasoning.
- (2.5) Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
- (2.6) Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
- (2.7) Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.
- (2.8) Make precise calculations and check the validity of the results from the context of the problem.
- (3.1) Evaluate the reasonableness of the solution in the context of the original situation.
- (3.2) Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.
- (3.3) Develop generalizations of the results obtained and the strategies used and apply them to new problem situations.

Specific applications of Algebra I standards (grades eight through twelve):

- (1.1) Students use properties of numbers to demonstrate whether assertions are true or false.
- (13.0) Students add, subtract, multiply, and divide rational expressions and functions. Students solve both computationally and conceptually challenging problems by using these techniques.
- (24.1) Students explain the difference between inductive and deductive reasoning and identify and provide examples of each.
- (24.2) Students identify the hypothesis and conclusion in logical deduction.
- (24.3) Students use counterexamples to show that an assertion is false and recognize that a single counterexample is sufficient to refute an assertion.

Specific applications of Geometry standards (grades eight through twelve):

- (8.0) Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.

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## 1.2 Science

Specific applications of Chemistry standards (grades nine through twelve):

- (1.a) Students know how to relate the position of an element in the periodic table to its atomic number and atomic mass.
- (1.b) Students know how to use the periodic table to identify metals, semimetals, nonmetals, and halogens.
- (1.c) Students know how to use the periodic table to identify alkali metals, alkaline earth metals and transition metals, trends in ionization energy, electronegativity, and the relative sizes of ions and atoms.
- (1.d) Students know how to use the periodic table to determine the number of electrons available for bonding.
- (1.e) Students know the nucleus of the atom is much smaller than the atom yet contains most of its mass.
- (1.f) Students know how to use the periodic table to identify the lanthanide, actinide, and transactinide elements and know that the transuranium elements were synthesized and identified in laboratory experiments through the use of nuclear accelerators.
- (1.g) Students know how to relate the position of an element in the periodic table to its quantum electron configuration and to its reactivity with other elements in the table.
- (1.h) Students know the experimental basis for Thomson's discovery of the electron, Rutherford's nuclear atom, Millikan's oil drop experiment, and Einstein's explanation of the photoelectric effect.
- (1.i) Students know the experimental basis for the development of the quantum theory of atomic structure and the historical importance of the Bohr model of the atom.

- (1.j) Students know that spectral lines are the result of transitions of electrons between energy levels and that these lines correspond to photons with a frequency related to the energy spacing between levels by using Planck's relationship ( $E = hv$ ).
- (2.a) Students know atoms combine to form molecules by sharing electrons to form covalent or metallic bonds or by exchanging electrons to form ionic bonds.
- (2.b) Students know chemical bonds between atoms in molecules such as  $H_2$ ,  $CH_4$ ,  $NH_3$ ,  $H_2CCH_2$ ,  $N_2$ ,  $Cl_2$ , and many large biological molecules are covalent.
- (2.c) Students know salt crystals, such as  $NaCl$ , are repeating patterns of positive and negative ions held together by electrostatic attraction.
- (2.d) Students know the atoms and molecules in liquids move in a random pattern relative to one another because the intermolecular forces are too weak to hold the atoms or molecules in a solid form.
- (2.e) Students know how to draw Lewis dot structures.
- (2.f) Students know how to predict the shape of simple molecules and their polarity from Lewis dot structures.
- (2.g) Students know how electronegativity and ionization energy relate to bond formulation.
- (2.h) Students know how to identify solids and liquids held together by van der Waals forces or hydrogen bonding and relate these forces to volatility and boiling/melting point temperatures.
- (5.a) Students know the observable properties of acids, bases, and salt solutions.
- (5.b) Students know acids are hydrogen-ion-donating and bases are hydrogen-ion-accepting substances.
- (5.c) Students know strong acids and bases fully dissociate and weak acids and bases partially dissociate.
- (5.d) Students know how to use the pH scale to characterize acid and base solutions.
- (5.e) Students know the Arrhenius, Brønsted-Lowry, and Lewis acid-base definitions.
- (5.f) Students know how to calculate pH from the hydrogen-ion concentration.
- (5.g) Students know buffers stabilize pH in acid-base reactions.
- (10.a) Students know large molecules (polymers), such as proteins, nucleic acids, and starch, are formed by repetitive combinations of simple subunits.
- (10.b) Students know the bonding characteristics of carbon that result in the formation of a large variety of structures ranging from simple hydrocarbons to complex polymers and biological molecules.
- (10.c) Students know amino acids are the building blocks of proteins.
- (10.d) Students know the system for naming the ten simplest linear hydrocarbons and isomers that contain single bonds, simple hydrocarbons with double and triple bonds, and simple molecules that contain a benzene ring.
- (10.e) Students know how to identify the functional groups that form the basis of alcohols, ketones, ethers, amines, esters, aldehydes, and organic acids.
- (10.f) Students know the R-group structure of amino acids and know how they combine to form the polypeptide backbone structure of proteins.

Specific applications of Investigation and Experimentation standards (grades nine through twelve):

- (1.a) Select and use appropriate tools and technology (such as computer-linked probes, spreadsheets, and graphing calculators) to perform tests, collect data, analyze relationships, and display data.
- (1.d) Formulate explanations by using logic and evidence.
- (1.m) Investigate a science-based societal issue by researching the literature, analyzing data, and communicating the findings. Examples of issues include irradiation of food, cloning of animals by somatic cell nuclear transfer, choice of energy sources, and land and water use decisions in California.

### 1.3 *History–Social Science*

Specific applications of Chronological and Spatial Thinking standards (grades nine through twelve):

- (1) Students compare the present with the past, evaluating the consequences of past events and decisions and determining the lessons that were learned.
- (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.

Specific applications of Historical Interpretation standards (grades nine through twelve):

- (1) Students show the connections, causal and otherwise, between particular historical events and larger social, economic, and political trends and developments.

Specific applications of World History, Culture, and Geography: The Modern World standards (grade ten):

- (10.11) Students analyze the integration of countries into the world economy and the information, technological, and communications revolutions (e.g., television, satellites, computers).

Specific applications of United States History and Geography: Continuity and Change in the Twentieth Century standards (grade eleven):

- (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.
  - (11.8.2) Describe the significance of Mexican immigration and its relationship to the agricultural economy, especially in California.
  - (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.
  - (11.8.8) Discuss forms of popular culture, with emphasis on their origins and geographic diffusion (e.g., jazz and other forms of popular music, professional sports, architectural and artistic styles).

Specific applications of Principles of Economics standards (grade twelve):

- (12.1) Students understand common economic terms and concepts and economic reasoning.
  - (12.1.1) Examine the causal relationship between scarcity and the need for choices.
  - (12.1.2) Explain opportunity cost and marginal benefit and marginal cost.
  - (12.1.3) Identify the difference between monetary and nonmonetary incentives and how changes in incentives cause changes in behavior.
- (12.2) Students analyze the elements of America's market economy in a global setting.
  - (12.2.1) Understand the relationship of the concept of incentives to the law of supply and the relationship of the concept of incentives and substitutes to the law of demand.
  - (12.2.2) Discuss the effects of changes in supply and/or demand on the relative scarcity, price, and quantity of particular products.
  - (12.2.3) Explain the roles of property rights, competition, and profit in a market economy.
  - (12.2.4) Explain how prices reflect the relative scarcity of goods and services and perform the allocative function in a market economy.
  - (12.2.5) Understand the process by which competition among buyers and sellers determines a market price.
  - (12.2.6) Describe the effect of price controls on buyers and sellers.
  - (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.
  - (12.2.8) Explain the role of profit as the incentive to entrepreneurs in a market economy.
- (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.
  - (12.3.3) Describe the aims of government fiscal policies (taxation, borrowing, spending) and their influence on production, employment, and price levels.
- (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.
  - (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.
  - (12.4.3) Discuss wage differences among jobs and professions, using the laws of demand and supply and the concept of productivity.

- (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's borders.
- (12.6.1) Identify the gains in consumption and production efficiency from trade, with emphasis on the main products and changing geographic patterns of twentieth-century trade among countries in the Western Hemisphere.
- (12.6.3) Understand the changing role of international political borders and territorial sovereignty in a global economy.
- (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.

## 2.0 Communications

Students understand the principles of effective oral, written, and multimedia communication in a variety of formats and contexts.

*(The standards listed below retain in parentheses the numbering as specified in the English-language arts content standards adopted by the State Board of Education.)*

### 2.1 Reading

Specific applications of Reading Comprehension standards (grades nine and ten):

- (2.1) Analyze the structure and format of functional workplace documents, including the graphics and headers, and explain how authors use the features to achieve their purposes.
- (2.2) Prepare a bibliography of reference materials for a report using a variety of consumer, workplace, and public documents.
- (2.3) Generate relevant questions about readings on issues that can be researched.
- (2.5) Extend ideas presented in primary or secondary sources through original analysis, evaluation, and elaboration.
- (2.7) Critique the logic of functional documents by examining the sequence of information and procedures in anticipation of possible reader misunderstandings.

Specific applications of Reading Comprehension standards (grades eleven and twelve):

- (2.3) Verify and clarify facts presented in other types of expository texts by using a variety of consumer, workplace, and public documents.

### 2.2 Writing

Specific applications of Writing Strategies and Applications standards (grades nine and ten):

- (1.3) Use clear research questions and suitable research methods (e.g., library, electronic media, personal interview) to elicit and present evidence from primary and secondary sources.
- (1.4) Develop the main ideas within the body of the composition through supporting evidence (e.g., scenarios, commonly held beliefs, hypotheses, definitions).

- (1.5) Synthesize information from multiple sources and identify complexities and discrepancies in the information and the different perspectives found in each medium (e.g., almanacs, microfiche, news sources, in-depth field studies, speeches, journals, technical documents).
- (2.3) Write expository compositions, including analytical essays and research reports:
  - a. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives.
  - b. Convey information and ideas from primary and secondary sources accurately and coherently.
  - c. Make distinctions between the relative value and significance of specific data, facts, and ideas.
  - d. Include visual aids by employing appropriate technology to organize and record information on charts, maps, and graphs.
  - e. Anticipate and address readers' potential misunderstandings, biases, and expectations.
  - f. Use technical terms and notations accurately.
- (2.5) Write business letters:
  - a. Provide clear and purposeful information and address the intended audience appropriately.
  - b. Use appropriate vocabulary, tone, and style to take into account the nature of the relationship with, and the knowledge and interests of, the recipients.
  - c. Highlight central ideas or images.
  - d. Follow a conventional style with page formats, fonts, and spacing that contribute to the documents' readability and impact.
- (2.6) Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting):
  - a. Report information and convey ideas logically and correctly.
  - b. Offer detailed and accurate specifications.
  - c. Include scenarios, definitions, and examples to aid comprehension (e.g., troubleshooting guide).
  - d. Anticipate readers' problems, mistakes, and misunderstandings.

Specific applications of Writing Strategies and Applications standards (grades eleven and twelve):

- (1.5) Use language in natural, fresh, and vivid ways to establish a specific tone.
- (1.6) Develop presentations by using clear research questions and creative and critical research strategies (e.g., field studies, oral histories, interviews, experiments, electronic sources).
- (2.5) Write job applications and résumés:
  - a. Provide clear and purposeful information and address the intended audience appropriately.
  - b. Use varied levels, patterns, and types of language to achieve intended effects and aid comprehension.

- c. Modify the tone to fit the purpose and audience.
- d. Follow the conventional style for that type of document (e.g., résumé, memorandum) and use page formats, fonts, and spacing that contribute to the readability and impact of the document.

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### 2.3 *Listening and Speaking*

Specific applications of Speaking Applications standards (grades nine and ten):

(2.2) Deliver expository presentations:

- a. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives.
- b. Convey information and ideas from primary and secondary sources accurately and coherently.
- c. Make distinctions between the relative value and significance of specific data, facts, and ideas.
- d. Include visual aids by employing appropriate technology to organize and display information on charts, maps, and graphs.
- e. Anticipate and address the listener's potential misunderstandings, biases, and expectations.
- f. Use technical terms and notations accurately.

Specific applications of Speaking Applications standards (grades eleven and twelve):

(2.4) Deliver multimedia presentations:

- a. Combine text, images, and sound by incorporating information from a wide range of media, including films, newspapers, magazines, CD-ROMs, online information, television, videos, and electronic media-generated images.
- b. Select an appropriate medium for each element of the presentation.
- c. Use the selected media skillfully, editing appropriately and monitoring for quality.
- d. Test the audience's response and revise the presentation accordingly.

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2.4 Understand the importance of effective nonverbal, oral, and written communication skills in getting and keeping a job.

2.5 Use appropriate vocabulary and the specialized terminology of the industry.

2.6 Understand verbal and nonverbal communication and respond appropriately.

2.7 Understand trends and new information by reading and interpreting the professional literature of the professions within a selected career pathway.

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## 3.0 Career Planning and Management

Students understand how to make effective decisions, use career information, and manage personal career plans:

- 3.1 Know the personal qualifications, interests, aptitudes, knowledge, and skills necessary to succeed in careers.

- 3.2 Understand the scope of career opportunities and know the requirements for education, training, and licensure.
  - 3.3 Develop a career plan that is designed to reflect career interests, pathways, and postsecondary options.
  - 3.4 Understand the role and function of professional organizations, industry associations, and organized labor in a productive society.
  - 3.5 Understand the past, present, and future trends that affect careers, such as technological developments and societal trends, and the resulting need for lifelong learning.
  - 3.6 Know important strategies for self-promotion in the hiring process, such as job applications, résumé writing, interviewing skills, and preparation of a portfolio.
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## 4.0 Technology

Students know how to use contemporary and emerging technological resources in diverse and changing personal, community, and workplace environments:

- 4.1 Understand past, present, and future technological advances as they relate to a chosen pathway.
  - 4.2 Understand the use of technological resources to gain access to, manipulate, and produce information, products, and services.
  - 4.3 Understand the influence of current and emerging technology on selected segments of the economy.
  - 4.4 Use appropriate technology in the chosen career pathway.
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## 5.0 Problem Solving and Critical Thinking

Students understand how to create alternative solutions by using critical and creative thinking skills, such as logical reasoning, analytical thinking, and problem-solving techniques:

- 5.1 Apply appropriate problem-solving strategies and critical thinking skills to work-related issues and tasks.
  - 5.2 Understand the systematic problem-solving models that incorporate input, process, outcome, and feedback components.
  - 5.3 Use critical thinking skills to make informed decisions and solve problems.
  - 5.4 Apply decision-making skills to achieve balance in the multiple roles of personal, home, work, and community life.
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## 6.0 Health and Safety

Students understand health and safety policies, procedures, regulations, and practices, including the use of equipment and handling of hazardous materials:

- 6.1 Know the policies, procedures, and regulations regarding health and safety in the workplace, including employers' and employees' responsibilities.
- 6.2 Understand critical elements of health and safety practices related to storing, cleaning, and maintaining tools, equipment, and supplies.

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## 7.0 Responsibility and Flexibility

Students know the behaviors associated with the demonstration of responsibility and flexibility in personal, workplace, and community settings:

- 7.1 Understand the qualities and behaviors that constitute a positive and professional work demeanor.
- 7.2 Understand the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.
- 7.2 Understand the need to adapt to varied roles and responsibilities.
- 7.4 Understand that individual actions can affect the larger community.

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## 8.0 Ethics and Legal Responsibilities

Students understand professional, ethical, and legal behavior consistent with applicable laws, regulations, and organizational norms:

- 8.1 Know the major local, district, state, and federal regulatory agencies and entities that affect the industry and how they enforce laws and regulations.
- 8.2 Understand the concept and application of ethical and legal behavior consistent with workplace standards.
- 8.3 Understand the role of personal integrity and ethical behavior in the workplace.

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## 9.0 Leadership and Teamwork

Students understand effective leadership styles, key concepts of group dynamics, team and individual decision making, the benefits of workforce diversity, and conflict resolution:

- 9.1 Understand the characteristics and benefits of teamwork, leadership, and citizenship in the school, community, and workplace settings.
- 9.2 Understand the ways in which preprofessional associations, such as FHA-HERO, and competitive career development activities enhance academic skills, promote career choices, and contribute to employability.
- 9.3 Understand how to organize and structure work individually and in teams for effective performance and the attainment of goals.
- 9.4 Know multiple approaches to conflict resolution and their appropriateness for a variety of situations in the workplace.
- 9.5 Understand how to interact with others in ways that demonstrate respect for individual and cultural differences and for the attitudes and feelings of others.

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## 10.0 Technical Knowledge and Skills (Consumer and Family Studies)

Students understand the essential knowledge and skills common to all pathways in the Hospitality, Tourism, and Recreation sector:

- 10.1 Understand the principles of nutrition and their relationship to good health through the life cycle.
- 10.2 Understand the basic principles of food safety and sanitation and the proper techniques for preparing and serving food.
- 10.3 Understand the principles of food purchasing, food preparation, and meal management in a variety of settings.
- 10.4 Understand commonly accepted food customs as well as table setting, meal service, and etiquette practices of the United States and other cultures.
- 10.5 Understand the aspects of science related to food preparation, product development, and nutrition.
- 10.6 Understand food production, processing, and distribution methods and the relationship of those techniques to consumer food supply and nutrition.
- 10.7 Understand how to select, safely use, and efficiently care for facilities and equipment related to food product development, food preparation, dining, lodging, tourism, and recreation.
- 10.8 Assess the individual, family, and workplace factors that influence decisions related to health, leisure, and recreation at each stage of the life cycle.
- 10.9 Understand how individuals apply strategies that enable them to manage personal and work responsibilities to enhance productivity in the workplace.
- 10.10 Understand how knowledge, skills, attitudes, and behaviors learned in consumer and family studies can be transferred to advanced training and education or careers in the hospitality, tourism, and recreation industry.

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## 11.0 Demonstration and Application

Students demonstrate and apply the concepts contained in the foundation and pathway standards.

## PATHWAY STANDARDS

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### 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.

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*A1.0 Students understand 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 Evaluate the contributions of the various segments of the industry to local, state, national, and international economies.
  - A1.2 Understand the requirements and standards for employees in the industry, including education, training, licensures, and certifications.
  - A1.3 Distinguish core elements of the food science, dietetics, and nutrition industry from the supporting industries and regulatory agencies.
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*A2.0 Students understand important workforce and organizational management concepts:*

- A2.1 Know how to find information on the primary business procedures for food science, dietetics, and nutrition organizations.
  - A2.2 Know important management strategies for planning, decision making, shared responsibility, and negotiations.
  - A2.3 Understand the differences and importance of the main elements in day-to-day operational procedures at various types of food-related facilities.
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*A3.0 Students know the primary standards and regulations for safe food handling and sanitation practices:*

- A3.1 Know industry-recommended standards for personal grooming and hygiene.
  - A3.2 Understand 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 Understand procedures for preventing the spread of food-borne pathogens and illness.
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*A4.0 Students understand the relationship of basic nutritional principles and concepts to the physical and emotional well-being of individuals:*

- A4.1 Understand the anatomical structure and functions of the digestive system, including the biochemical processes involved in digestion, absorption, metabolism, and energy balance.

- A4.2 Analyze appropriate nutrient intake, diet, and energy expenditure for individuals of different ages and with different dietary and health needs.
- A4.3 Understand the relationship of emotional, psychological, and physiological needs to food intake and natural hunger cues.
- A4.4 Understand the concept of recommended diets for different dietary and health needs.

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*A5.0 Students understand the correlation of food and fitness to wellness:*

- A5.1 Know how research-based, recognized dietary guidelines relate to nutrition, fitness, and overall wellness.
- A5.2 Understand 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 Understand nutrient density as it relates to food quality and dietary choices for individual nutrition, fitness, and wellness goals.
- A5.5 Understand how social and cultural norms and barriers relate to the implementation of nutrition, fitness, and wellness changes.

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*A6.0 Students understand the basics of community collaborative opportunities and methods of outreach in the field of nutrition, fitness, and wellness:*

- A6.1 Know the available community services, agencies, and outreach programs that provide nutrition, fitness, and wellness information and services.
- A6.2 Know the differences in services and outreach methods of community organizations that provide nutrition, fitness, and wellness information and services.
- A6.3 Understand the influence of cultural health-related practices and food preferences on the nutrition, fitness, and wellness of individuals.

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*A7.0 Students understand the basic principles of managing and operating food service outreach programs:*

- A7.1 Know the types of community-based and institutional programs that provide food and nutrition outreach services.
- A7.2 Understand the factors that affect the management and operation of a food service outreach program.
- A7.3 Understand the training needs of an effective food service outreach staff.

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*A8.0 Students understand the basic principles of chemistry and physics related to changes in foods and food products during preparation, processing, and preservation:*

- A8.1 Understand important chemical and physical changes that occur during food preparation.
- A8.2 Know terminology, methods, and equipment used in the food science and technology industry.

- A8.3 Practice safe laboratory and equipment use and maintenance procedures.
- A8.4 Conduct scientific experiments using the scientific method.
- A8.5 Document experiments and maintain laboratory records.

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*A9.0 Students understand the basic principles of research and development, food analysis, and sensory evaluation in the field of food science and technology:*

- A9.1 Analyze research on food trends, value-added processing, genetic engineering, and irradiation.
- A9.2 Understand quality control, assurance standards, and the procedures for each used in research and development.
- A9.3 Prepare and test formulas for developing new food products.
- A9.4 Test food products by using controls, variables, and random sampling.
- A9.5 Understand the purpose, importance, and basic procedures of sensory evaluation experiments.

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*A10.0 Students understand the fundamental concepts of marketing and public relations used in the dissemination of information about food science, dietetics, and nutrition:*

- A10.1 Know the differences between public relations, advertising, and provision of accurate information to consumers.
- A10.2 Analyze the psychological affects of market branding, subliminal messages, and advertising on consumer choices.
- A10.3 Understand the influence of consumer trends and expectations on product development and marketing.
- A10.4 Understand the use of technical reports in preparing and disseminating information.
- A10.5 Understand the methods and importance of communicating accurate information to consumers about nutrition, food safety, and food products.

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## 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 and service, nutrition, food service management, and customer service.

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*B1.0 Students understand major aspects of the food service and hospitality industry and the role of the industry in local, state, national, and global economies:*

- B1.1 Know how the various segments of the industry contribute to local, state, national, and international economies.
  - B1.2 Analyze the advantages and disadvantages of the working conditions and of various careers in the food service and hospitality industry.
  - B1.3 Understand the relationship between industry trends and local, state, national, and international economic trends.
  - B1.4 Distinguish core elements of the food service and hospitality industry from various supporting industries.
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*B2.0 Students understand the basics of safe work habits, security, and emergency procedures required in food service and hospitality establishments:*

- B2.1 Understand the basic procedures for the safety of employees and guests, including the procedures for emergency situations.
  - B2.2 Understand the role of the California Occupational Safety and Health Administration in regulating practices in the food service and hospitality industry.
  - B2.3 Know the causes, prevention, and treatment of common accidents and the reporting procedures involved.
  - B2.4 Know the purpose of and information in material safety data sheets.
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*B3.0 Students understand the basic principles of sanitation and safe food handling:*

- B3.1 Understand basic local, state, and federal sanitation regulations as they pertain to food production and service.
- B3.2 Know the standards of personal grooming and hygiene required by local, state, and federal health and safety codes.
- B3.3 Understand safe and sanitary procedures in all food handling, including food receiving, storage, production, service, and cleanup.
- B3.4 Know types of food contamination, the potential causes, including cross-contamination, and methods of prevention.
- B3.5 Know the essential principles of Hazard Analysis Critical Control Points, including the use of flowcharts.
- B3.6 Understand the purpose of and process for required certification (e.g., ServSafe).

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*B4.0 Students understand the basics of food service and hospitality management:*

- B4.1 Analyze the relationship of effective management and business procedures to important outcomes, such as profitability, productivity, workplace atmosphere, consumer and guest satisfaction, and business growth.
- B4.2 Understand and interpret business plans.
- B4.3 Understand the differences in goals and organizational management of various food service businesses.
- B4.4 Understand the importance of specific human resource practices and procedures that address workplace diversity, harassment, personal safety, and discrimination.
- B4.5 Know the responsibilities of management, such as ensuring safe work practices and conditions and complying with important laws and regulations that affect employment (e.g., wage and hour laws, tenant status, and accommodation of minors).

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*B5.0 Students understand the basics of systems operations and the importance of maintaining facilities, equipment, tools, and supplies:*

- B5.1 Understand how various departments in a food service facility contribute to the economic success of a business.
- B5.2 Know the procedures for maintaining inventories; ordering food, equipment, and supplies; and storing and restocking supplies.
- B5.3 Prioritize tasks and plan work schedules based on budget and personnel.
- B5.4 Understand the relationship between facilities management and profit and loss, including the costs of breakage, theft, supplies use, and decisions for repairs or replacement.
- B5.5 Know 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.
- B5.6 Understand the procedures for cleaning, maintaining, and repairing facilities and equipment and the importance of preventive maintenance.

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*B6.0 Students understand and apply the basics of food preparation in professional and institutional kitchens:*

- B6.1 Know the qualities and properties of food items and ingredients used in food preparation.
- B6.2 Use, maintain, and store the tools, utensils, equipment, and appliances appropriate for preparing a variety of food items.
- B6.3 Know the principle of *mise en place*, including the placement and order of use of ingredients, tools, and supplies.
- B6.4 Prepare food by using the correct techniques and procedures specified in recipes and formulas.
- B6.5 Use plating techniques, including accurate portioning and aesthetic presentation skills.

- B6.6 Plan and follow a food production schedule, including timing and prioritizing of tasks and activities.

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*B7.0 Students understand and apply the basics of baking, pastry, and dessert preparation in professional and institutional kitchens:*

- B7.1 Know the qualities and properties of food items and ingredients used for baked goods, pastries, and desserts.
- B7.2 Use, maintain, and store the tools, utensils, equipment, and appliances appropriate for preparing, serving, and storing baked goods, pastries, and desserts.
- B7.3 Know the principle of *mise en place*, including the placement and order of use of the ingredients, tools, and supplies needed to produce baked goods, pastries, and desserts.
- B7.4 Produce baked goods, pastries, and desserts by using correct techniques, procedures, and various finishing techniques.

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*B8.0 Students understand and apply the knowledge and skills essential for effective customer service:*

- B8.1 Understand the importance of customer service to the success of the food service establishment.
- B8.2 Understand the concept of exceptional customer service and know ways of anticipating the needs and desires of customers to exceed their expectations.
- B8.3 Know 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 and generationally diverse customers.
- B8.5 Interact with customers in a positive, responsive, and professional manner.

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*B9.0 Students understand and apply the basic procedures and skills needed for food and beverage service:*

- B9.1 Understand the concept of *mise en place* in relation to food and beverage service.
- B9.2 Understand 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.
- B9.3 Use safe, efficient, and proper procedures for setting, serving, maintaining, and bussing tables.
- B9.4 Use proper techniques for customer service, including greeting, seating, presenting and explaining menu items, and taking customer orders.
- B9.5 Use appropriate, effective, and efficient techniques for writing food and beverage orders, relaying orders to the kitchen, coordinating and assembling food orders, preparing and presenting checks to customers, and processing payments.

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*B10.0 Students understand and apply basic nutritional concepts in meal planning and food preparation:*

- B10.1 Understand 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 Understand the process for creating nutritious, creative, and profitable menus in accord with availability and demand.

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*B11.0 Students understand and apply the basic processes of costing and cost analysis in food and beverage production and service:*

- B11.1 Understand the importance and structure of standardized systems, such as the Uniform System of Accounts for Restaurants.
- B11.2 Know the components of a profit-and-loss statement.
- B11.3 Understand the importance of the menu as the primary source of revenue generation and cost control.
- B11.4 Calculate recipe costs and pricing per portion and compare the cost per cover to the theoretical cost.
- B11.5 Understand the customer's perception of value and its relationship to profit and loss.

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*B12.0 Students understand the fundamentals of successful sales and marketing methods:*

- B12.1 Understand basic marketing principles for maximizing revenue based on supply and demand.
- B12.2 Know the major market segments of the industry and understand how marketing principles and procedures can be applied to target audiences.
- B12.3 Understand the various types of entrepreneurial opportunities in the food service industry.
- B12.4 Analyze marketing strategies, including promotional selling and upgrading, and their effect on profits.
- B12.5 Know methods to develop and maintain long-term customer relations.

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## 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.

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*C1.0 Students understand the major aspects of the hospitality, tourism, and recreation industry and the industry's role in local, state, national, and global economies:*

- C1.1 Understand the basic career paths in the industry in relation to personal aptitudes and abilities.
  - C1.2 Analyze the economic impact on and contributions of key segments of the industry to local, state, national, and international economies.
  - C1.3 Analyze the working conditions of various careers in the hospitality, tourism and recreation industry.
  - C1.4 Understand the relationship between industry trends and local, state, national, and international economic trends.
  - C1.5 Distinguish core elements of the hospitality, tourism, and recreation industry from those of various supporting industries.
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*C2.0 Students understand the basic elements of workforce and organizational management, including the roles and responsibilities of effective management and employees in the industry:*

- C2.1 Analyze the relationship of management techniques and appropriate business procedures (e.g., spreadsheets for payroll and inventories, tools for budgeting, recordkeeping, correspondence) to important outcomes (e.g., profitability, productivity, positive work environment, consumer and client satisfaction, business growth, business plans).
- C2.2 Understand how the mission and goals of a business affect operations in the hospitality, tourism, and recreation industry.
- C2.3 Know common safety, security, and emergency policies and procedures used in the hospitality, tourism, and recreation industry to protect guests, visitors, and employees (e.g., safe work practices and conditions, confidentiality of customer information, control of keys, infectious disease control, first-aid procedures, emergency training).
- C2.4 Assess the impact of the main laws and regulations (e.g., 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) that affect accommodations and practices.
- C2.5 Understand the importance of specific human resource practices and procedures that address workplace diversity, harassment, personal safety, and discrimination.

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*C3.0 Students understand and apply the knowledge and skills essential for effective guest services in the hospitality, tourism, and recreation industry sector:*

- C3.1 Understand the importance of guest services to the success of the industry.
- C3.2 Understand the concept of exceptional guest service.
- C3.3 Anticipate the needs, desires, and interests of guests in order to exceed their expectations.
- C3.4 Know 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.
- C3.6 Interact with guests in a positive, responsive, and professional manner.

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*C4.0 Students understand successful sales and marketing methods:*

- C4.1 Understand basic marketing principles for maximizing revenue based on supply and demand.
- C4.2 Analyze marketing strategies, including promotional selling and upgrading, and their effect on profits.
- C4.3 Know the major market segments of the hospitality, tourism, and recreation industry.
- C4.4 Analyze the way in which basic marketing principles and procedures can be applied to targeting an audience.
- C4.5 Understand ways of developing and maintaining long-term guest relationships.

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*C5.0 Students understand the basics of systems operations and the importance of maintaining facilities, equipment, tools, and supplies:*

- C5.1 Understand how essential departments in a hospitality, tourism, and recreation business contribute to economic success.
- C5.2 Know 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.
- C5.3 Understand the procedures for cleaning, maintaining, and repairing facilities and equipment and the importance of preventive maintenance.
- C5.4 Know procedures for maintaining inventories, requisitioning equipment and tools, and storing and restocking supplies.
- 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 the relationship between facilities management and profit and loss, including the costs of breakage, theft, supplies use, and decisions for repairs or replacement.

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- C6.0 Students understand and apply procedures for common types of financial transactions:*
- C6.1 Understand procedures for handling cash transactions, such as balancing cash, handling cash control, converting currency, and identifying counterfeit currency.
  - C6.2 Understand the procedures for handling noncash transactions (e.g., credit cards, debit cards, ATM cards, money orders, personal checks, coupons, discounts, online transactions).
  - C6.3 Handle all financial transactions in an accurate, professional, and ethical manner.
  - C6.4 Know the impact of identity theft on the hospitality, tourism, and recreation industry.
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- C7.0 Students understand the essential aspects of the lodging industry:*
- C7.1 Distinguish between the segments of the lodging industry, such as motels, resorts, all-suites, extended-stay hotels, convention hotels, boutique hotels, and bed-and-breakfast facilities.
  - C7.2 Understand the internal hierarchy and departmental interrelationships of lodging establishments.
  - C7.3 Understand the required duties of various positions, including those of front desk and other service providers, in relation to the functions of the business (e.g., checking guests in and out, greeting, assessing needs, delivering services, and closing the transaction).
  - C7.4 Know the types of food service offered at various lodging facilities.
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- C8.0 Students understand 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, politics, and the economy affect world travel and tourism.
  - C8.2 Understand the types of basic information that international travelers need (e.g., physical geography, time zones, International Date Line, rights and responsibilities, laws, and customs).
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- C9.0 Students understand the basic processes of making reservations, ticketing, and developing travel itineraries:*
- C9.1 Know 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.
  - C9.2 Understand 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.
  - C9.3 Understand 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.

- C9.4 Understand the basic purpose, function, and operation of various travel systems and authorities, including the Airline Reporting Corporation, the Federal Aviation Authority, the major centralized reservation systems, and the Computerized Reservation System.

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*C10.0 Students understand the fundamental purpose and basic organizational structure of a variety of theme parks, attractions, and exhibitions:*

- C10.1 Analyze the ways in which the purposes of various properties (e.g., entertainment, education, and community relations) affect their financial structure.
- C10.2 Understand the internal hierarchy and departmental relationships of theme parks, attractions, or exhibitions.
- C10.3 Understand how the various internal departments of theme parks, attractions, or exhibitions interrelate and support each other.
- C10.4 Know the purposes, implications, and strategies of special promotions, such as season passes, multiple-day visits, retail items, and discount coupons.

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*C11.0 Students understand and apply the fundamentals of planning events for a diverse clientele:*

- C11.1 Understand the purposes and target audiences of various venues.
- C11.2 Plan special events (e.g., meetings, trade shows, fairs, conferences) based on specific themes, budgets, agendas, space and security needs, and itineraries.
- C11.3 Know how to establish business relationships with a variety of locations, food suppliers, and other vendors.
- C11.4 Develop schedules, registration tools, event materials, and programs.
- C11.5 Know procedures for setting up facilities, equipment, and supplies for a meeting.
- C11.6 Know the essential procedures for planning, promoting, publicizing, coordinating, and evaluating a program or event.

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*C12.0 Students understand the value of recreation and the fundamentals of recreational facilities and services:*

- C12.1 Know the outdoor recreational opportunities that promote physical and mental health.
- C12.2 Understand and evaluate the requirements of outdoor recreational businesses, including benefits, risks, required skills, and costs.
- C12.3 Know the variety of parklands, wilderness areas, and waterways available for recreation.
- C12.4 Understand the departments, functions, and restrictions of public and private parks and recreational facilities and the outdoor recreational programs they offer.
- C12.5 Understand how the needs of various clients may be met through appropriate outdoor recreational activities, outdoor experiences, special tours, and environmentally responsible education.
- C12.6 Know the types of insurance, licenses, and permits needed for the operation and management of various popular outdoor activities.