Microbiology and Safety for Cosmetology Careers

PEIMS Code: N1302540

Abbreviation: MICROS

Grade Level(s): 9-12

Award of Credit: 1.0

State Approved Innovative Course

- Districts must have local board approval to implement innovative courses.
- In accordance with Texas Administrative Code (TAC) §74.27, school districts must provide instruction in all essential knowledge and skills identified in this innovative course.
- Innovative courses may only satisfy elective credit toward graduation requirements.
- Please refer to TAC §74.13 for guidance on endorsements.

Course Description:

Students who enroll in Microbiology and Safety for Cosmetology Careers will receive instruction in the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, identification of microorganisms, drug resistant organisms, and emerging diseases. Additionally, students will explore and apply concepts as they apply to the safety and health of individuals pursuing a career in cosmetology services. This course also includes an opportunity for students to solve an in-depth analytical problem concerning occupational health and safety in cosmetology.

Essential Knowledge and Skills:

(a) General Requirements. Recommended for students in the 9-12 grades. A student shall be awarded one credit for successful completion of this course.

(b) Introduction.

(1) Career and technical education (CTE) instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Human Services Career Cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services

(3) Microbiology and Safety for Cosmetology Careers integrates academic, career, and technical knowledge and skills to provide job-specific training for employment in any cosmetology field. Analysis of career opportunities, knowledge and skills expectations, and development of workplace skills are included. Students who enroll in Microbiology and Safety for Cosmetology Careers will receive instruction in the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, identifying microorganisms, drug resistant organisms, and emerging diseases. Additionally, students will explore and apply concepts as they apply to the safety and health of individuals pursuing a career in any cosmetology field.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(c) Knowledge and Skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) demonstrate professionalism in how to dress appropriately, speak politely, and exhibit appropriate conduct for the profession and worksite;

(B) demonstrate trustworthiness by complying with an ethical course of action;

(C) comply with all applicable cosmetology rules, laws, and regulations;

(D) apply conflict management skills to avoid potential or perceived conflict;

(E) investigate employment and educational opportunities, including entrepreneurship;

(F) demonstrate effective oral and written communication skills with diverse individuals including coworkers, management, students, and customers;

(G) develop skill in handling multiple tasks simultaneously such as prioritizing tasks, managing workflow under pressure, and completion of work related activities in a timely manner;

(H) demonstrate personal ownership over the quantity and quality of individual performance and team assignment;

(I) employ leadership skills within a classroom or community setting to maintain positive relationships; and

(J) develop effective work ethics and practices.

(2) The student examines the role of pathogens in infectious disease. The student is expected to:

(A) describe the infectious disease cycle;

(B) discuss the body’s immune response and resistance to infection;

(C) compare and classify diseases caused by bacteria, fungi, viruses, protozoa, and other microorganisms;

(D) research drug-resistant microorganisms, including methicillin-resistant Staphylococcus aureus, vancomycin-resistant enterococci, and superbugs;

(E) determine the effects of anti-microbial agents; and

(F) evaluate the role of governing agencies in monitoring and establishing guidelines with regard to the spread of infectious diseases.

(3) The student characterizes the relationship between microorganisms, health, and wellness in the human body. The student is expected to:

(A) categorize the different types of microorganisms;

(B) research the chemical processes of microorganisms;

(C) characterize the factors required for microbial reproduction and growth; and

(D) summarize the historical development of microbiology as it relates to the safety and health of an individual.

(4) The student develops methods of protection for oneself, coworkers, potential clients, and other individuals as required for cosmetology occupations. The student is expected to:

(A) implement universal precautions in real or simulated workplace environments, such as wearing gloves, safety glasses, or masks when appropriate for the cosmetology professional or the client;
(B) explain the importance of decontamination as it relates to the work environment, equipment, and tools;
(C) characterize the differences between sanitation, disinfection, and sterilization;
(D) summarize how to safely handle and use disinfectant products;
(E) determine the effectiveness of a variety of cleaners, equipment, and disinfectants that are typically used in the cosmetology industry, such as an autoclave, ultraviolet sanitizer, and Environmental Protection Agency (EPA) registered disinfectants;
(F) identify when a biohazard bag is needed for disposing of waste;
(G) demonstrate the correct use of a biohazard bag;
(H) defend the safety standards implemented by employers and required by statutory agencies in order to provide a safe environment for employees and customers;
(I) research and develop a workplace safety policy for the cosmetology industry; and
(J) identify and examine examples of a breakdown in client protection and universal protection policies in the workplace.

(5) The student examines the rights and responsibilities of a potential employer or employee to identify, abate, and prevent potential occupational hazards. The student is expected to:
(A) explain workers' rights relating to the identity and properties of chemicals used at the workplace;
(B) compare the major differences between acute and chronic health effects;
(C) describe various ways to protect oneself from exposure to health hazards;
(D) describe hazards specifically associated with flammable and combustible liquids;
(E) research major material handling hazards, such as inhalation of solvents, skin contact with instruments or equipment, and skin absorption of liquids;
(F) evaluate the types of hazards that exist with unguarded and inadequately guarded machines and equipment;
(G) summarize employer requirements for providing a safety and health program that effectively reduces and prevents employee injury, illness, and fatality; and
(H) analyze activities that can lead to work-related musculoskeletal disorders (MSD) and repeated motion disorders (RMD) injury and illness and modify activities to prevent these disorders.

(6) The student applies academic, technical, and critical-thinking skills to identify and solve an occupational health and safety problem in a real or simulated workplace. The student is expected to:
(A) identify and evaluate an observed problem in the workplace;
(B) analyze alternative outcomes or possible solutions to the selected problem;
(C) predict and classify in terms of risk the possible consequences of various outcomes or solutions;
(D) develop an actual or simulated experiment to test the outcome or solution;
(E) adjust the conclusion based on the data collected from the experiment; and

(F) evaluate and choose the best course of action based on the findings and data collected from the experiment.

Recommended Resources and Materials:

Internet access
Bruce, S. (2015). *Milady Standard Cosmetology (13th ed.)* Independence, KY Cengage Learning.

Colbert, B. J., & Gonzalez, L. S. (2015). *Microbiology: Practical applications and infection prevention*. Independence, KY. Cengage Learning. Career Safe Online. (2016). OSHA 10 Hour General Industry. Retrieved from http://www.careersafeonline.com/.

Recommended Course Activities:

Microbiology and Safety for Cosmetology Careers includes the study of microbes, pathogens, and the body's ability to mount a defense against infection. The course will prepare the cosmetology student with the knowledge and skills that are necessary to be safe in the workplace and to protect themselves, their coworkers, and members of the public. This course includes an opportunity for students to solve an in-depth analytical problem concerning occupational health and safety in cosmetology

Suggested methods for evaluating student outcomes:

Digital testing and a comprehensive learning management system, such as Blackboard or Canvas, may be used. Formative and summative assessments using technology and other online applications accessed using a personal computer or smart device may also be used.

Teacher qualifications:

Trade and Industrial Education:

- Grades 6-12 with work approval in cosmetology as identified on the certificate
- Grades 8-12 with work approval in cosmetology as identified on the certificate
- Vocational Trades and Industry with work approval in cosmetology as identified on the certificate.

Additional information:

Cosmetology schools are required to obtain approval from TDLR before any and all cosmetology curriculum is offered by the cosmetology school. Cosmetology schools are also required to obtain prior approval before making any changes or revisions to approved cosmetology curriculum. Students may be provided with an opportunity to attain the Occupational Safety and Health Administration (OSHA) 10-hour safety training certification.