

Implementation date
Fall 2010

PROGRAM CONCENTRATION:
CAREER PATHWAY:
COURSE TITLE:

Healthcare Science
Personal Care Services
Science of Advanced Skincare

Course Description: This course will enhance the students skills in the skincare\personal care field Students will be introduced to the different career opportunities working with plastic surgeons, dermatologists, medical spas, salons and internal medicine physicians. A solid foundation of the skin and how it functions is covered. Medical terminology will be used to aid the students in working with medical professionals and their clients. Students are required to meet both national and intrastate professional guidelines as designated by applicable regulatory agencies, including, the Occupational Health and Safety Administration (OSHA) and Center of Disease Control (CDC). Mastery of these standards through project based learning, technical skills practice, and leadership development activities will be the focus of this course. This advanced skincare course will provide students with a competitive edge for either entry into the healthcare\skincare marketplace and\or the post-secondary institution of their choice to continue their education and training. This course is considered broad based with high impact and is a prerequisite for all esthetician\ medical skincare courses.

Anatomy and Physiology of the Skin

Students will understand how physiology and histology are directly linked to facials and treatments of the skin. Students will study the functions of the skin and the roles of collagen and elastin. Aging of skin and how to slow the nature process will be explored.

HS-SAC-1. Students will be able to understand the physiology and histology of the skin. A better understanding of the skin and its functions increases the professionalism of the esthetician\cosmetologist. This unit will cover the layers of the skin, functions, the role of collagen and elastin, melanocytes, aging and how the skin is affected by free radicals. Students will understand how to protect the skin from harsh environments and aging.

- a. Define the functions of the skin
- b. Describe the layers of the skin
- c. Compare and contrast the role of collagen and elastin in the skin
- d. Discriminate between how melanocytes affect skin color and their activity
- e. Explain the glands of the skin
- f. Diagram the causes of intrinsic and extrinsic aging
- g. Describe free radicals and how they affect the skin

Academic Standard (s):

SCSh1. Students will evaluate the importance of curiosity, honesty, openness and skepticism in science.

Implementation date

Fall 2010

- a. Exhibit the above traits in their own scientific activities.
- b. Recognize that different explanations often can be given for the same evidence.

SAP1. Students will analyze anatomical structures in relationship to their physiological functions.

- a. Apply terminology when explaining the orientation of body parts and regions.
- b. Investigate the interdependence of the various body systems to each other and to the body as a whole.
- c. Describe how structure and functions are related in terms of cell and tissue types.

Chemistry

Students will understand chemistry and the how matter changes from one state to another. This unit will cover pure substances and physical mixtures, solutions, suspensions, emulsions, pH scale, and oxidation-reduction reactions.

HS-SAC-2. Students will be able to understand Chemistry. The student will have knowledge of matter and its structures. Chemistry explains the properties of skincare products and ingredients. Selecting the correct products for the client and understanding why they work on the skin is the basics of chemistry.

- a. Define organic and inorganic chemistry.
- b. Explain the structure of matter.
- c. Compare and contrast solutions, suspensions, and emulsions.
- d. Demonstrate how to measure products with a pH scale, pencil or paper.
- e. Describe how alkaline, acid and the pH scale aids in proper selection.

Academic Standard(s)

SC7 Students will characterize the properties that describe solutions and the nature of acids and bases.

- a. Explain the process of dissolving in terms of solute/solvent interactions:
Observe factors that affect the rate at which a solute dissolves in a specific solvent
- b. Compare, contrast, and evaluate the nature of acids and bases:
pH
Acid-Base neutralization

Active Ingredients and Product Selection

Implementation date

Fall 2010

Students will distinguish between active ingredients in products and proper selection. This unit will assist students in understanding FDA regulations, MSDS reports and how to select the proper products for clients during skincare treatments.

HS-SAC-3. Students will be able to have a better knowledge of skincare ingredients. Educating the client about correct product selection for their particular skin type and condition is important to improve the overall health of the skin. This class will focus on the importance of FDA regulations regarding cosmetic claims and product safety.

- a. Define active ingredients in products.
- b. Explain the importance of FDA regulations.
- c. Select products for use during facials.
- d. Describe the function of MSDS reports.
- e. Recommend homecare products for different skin types.

Academic Standard (s):

SPS6 Students will investigate the properties of solutions.

- a. Describe solutions in terms of:
solute/solvent
conductivity
concentration
- b. Observe factors affecting the rate a solute dissolves in a specific solvent.
- c. Demonstrate that solubility is related to temperature by constructing a solubility curve.
- d. Compare and contrast the components and properties of acids and bases.
- e. Determine whether common household substances are acidic, basic, or neutral.

Diseases and Disorders of the Skin

Students will understand diseases and disorders of the skin. The students will learn when to decline a service due to signs of infections or possible contagious diseases. Disorders of the skin will be covered, along with possible treatments. Skin cancers, their causes and ways to reduce risk will be explored.

HS-SAC-4. Students will be able to recognize diseases and disorders of the skin. Client and technician safety will be of at most concern. The students will have a thorough understanding and working knowledge of skin diseases and disorders. Students will learn how to make informed decisions about which clients are candidates for skincare services and which clients need to be referred to a physician for further diagnosis and treatment. The students will only perform services on intact skin and nails.

Implementation date

Fall 2010

- a. Describe skin diseases and disorders of the skin.
- b. Define skin lesions.
- c. Recognize contagious diseases needing referral to a physician.
- d. Distinguish between the three basic skin cancers.
- e. Define acne grades 1-111.
- f. Explain cystic acne.

Academic Standard(s):

SAP4 Students will analyze the physical, chemical, and biological properties of process systems as these relate to transportation, absorption and excretion. This includes the cardiovascular, respiratory, digestive, excretory and immune systems.

- d. Examine various conditions that change normal body functions (e.g. tissue rejection, allergies, injury, diseases and disorders) and how the body responds.
- e. Describe the effects of aging on body systems.

Basic Facials

Students will perform advanced facial treatments. Students will aid in improving the overall health and appearance of the skin. Client consultations, including medical history, contraindications, and client's areas of concern will be addressed. Exfoliation and extractions will be performed. Students will follow protocols for facials, sanitation and safety.

HS-SAC-5. Students will be able to perform a basic facial treatment. A facial treatment improves the overall health and appearance of the skin. The client will notice improvements to their skin's texture and tone while experiencing relaxation.

- a. Review client's medical history.
- b. Complete intake forms and informed consents.
- c. Follow-up on any contraindications.
- d. Select products needed and used during the facial.
- e. Perform facial protocols.
- f. Demonstrate sanitation and safety procedures at all times.
- g. Demonstrate exfoliation techniques (mechanical and chemical).
- h. Perform extractions using proper methods.
- i. Recommend homecare products.

Academic Standard(s):

SCSh3. Students will identify and investigate problems scientifically.

- a. Suggest reasonable hypotheses for identified problems.
- b. Develop procedures for solving scientific problems.

Implementation date

Fall 2010

- c. Collect, organize and record appropriate data.
- d. Graphically compare and analyze data points and/or summary statistics.
- e. Develop reasonable conclusions based on data collected.
- f. Evaluate whether conclusions are reasonable by reviewing the process and checking against other available information.

Facial Massage

Students will increase their skill level in the five basic massage movements used in facials. Understanding of their benefits will be covered.

HS-SAC-6. Students will be able to perform a facial massage. Massage is the first form of medicine. The five basic massage movements are utilized, including Effleurage, Petrissage, Vibration, Friction and Tapotement. Students will use massage movements to stimulate and relax the muscles.

- a. Explain the benefits of massage.
- b. Describe possible contraindications.
- c. Define the muscles of the face and neck
- d. Perform massage techniques and proper application.

Academic Standard(s):

SCSh8. Students will understand important features of the process of scientific inquiry.

Students will apply the following to inquiry based learning practices:

- a. Scientific investigators control the conditions of their experiments in order to produce valuable data.
- d. The merit of a new theory is judged by how well scientific data are explained by the new theory.

Facial Preparations

HS-SAC-7. Students will be able to set up a treatment room to perform a facial treatment. Students will perform their work in a clean, safe work environment. The students will understand the importance of the client's experience in the spa and how it is dictated by preparation, work ethic and the skill of the technician.

- a. Demonstrate proper treatment room preparation & setup.
- b. Choose the correct equipment needed for the facial treatment.
- c. Select proper products needed.
- d. Setup facial supplies and disposables.
- e. Perform services using sanitation procedures and disinfection of implements.

Implementation date
Fall 2010

Academic Standard (s):

SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.

- a. Follow correct procedures for use of scientific apparatuses.
- b. Demonstrate appropriate technique in all laboratory situations.
- c. Follow correct protocol for identifying and reporting safety problems and violations.

Electricity of Skincare

Students will increase their knowledge on electricity in skincare and how to perform services using safety precautions. Students will study types of electric current, electrical measurements, and safety devices.

HS-SAC-8. Students will be able to explain different electrical currents, electrical measurements and safety devices. The students will understand the importance of safety when working with electrical currents and facial machines.

- a. Define different types of electrical currents.
- b. Describe electrical measurements and safety devices.
- c. Demonstrate proper use of facial equipment.
- d. Explain benefits of electrical current on the skin.

Academic Standard(s):

SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.

- a. Develop and use systematic procedures for recording and organizing information.
- c. Use technology to develop, test, and revise experimental or mathematical models.

SPS10 Students will investigate the properties of electricity and magnetism.

- b. Explain the flow of electrons in terms of
 - alternating and direct current.
 - the relationship among voltage, resistance and current.
 - simple series and parallel circuits.

Facial Equipment

Students will demonstrate proper use of facial equipment, while using safety precautions. Students will determine any contraindications that may need addressed. State regulations will be enforced.

Implementation date

Fall 2010

HS-SAC-9. Students will be able incorporate facial machines into their facial treatments. Safety precautions, contraindications and state regulations will be adhered to at all times.

- a. Explain the benefits of electrical current to the skin.
- b. List electrical machines used in the facial room.
- c. Describe possible contraindications.
- d. Demonstrate machine safety at all times.

Academic Standard(s):

SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.

- a. Follow correct procedures for use of scientific apparatuses.
- b. Demonstrate appropriate technique in all laboratory situations.
- c. Follow correct protocol for identifying and reporting safety problems and violations.

SPS10 Students will investigate the properties of electricity and magnetism.

- c. Investigate applications of magnetism and/or its relationship to the movement of electrical charge as it relates to:
 - electromagnets
 - simple motors

Microdermabrasion

Students will learn the latest technology in microdermabrasion treatments. Students will discover how the skin is treated with crystals to improve the skin and appearance. Career exploration will cover different types of employment options for the students.

HS-SAC-10. Students will be able to understand the benefits of microdermabrasion. Students will understand the theory of microdermabrasion and how it has become a standard piece of equipment for all spas, med spas and salons. Immediate and long term benefits to the skin will be covered. This non abrasive treatment is progressive rather than aggressive in improving the client's skin condition.

- a. Explain equipment overview.
- b. Describe the history of microdermabrasion.
- c. Define the different types of crystals used in microdermabrasion.
- d. Describe the benefits and results of the facial treatments.

Implementation date

Fall 2010

- e. Construct a list of contraindications.
- f. Define safety, sanitation and universal precautions defined.
- g. Record client medical history.
- h. Complete intake forms and informed consent.
- i. Prepare client for facial.
- j. Describe treatment protocol performed.
- k. Explain post care/home care.

Academic Standard(s):

SCSh8. Students will understand important features of the process of scientific inquiry.

Students will apply the following to inquiry based learning practices:

- a. Scientific investigators control the conditions of their experiments in order to produce valuable data.
- b. Scientific researchers are expected to critically assess the quality of data including possible sources of bias in the investigation’s hypotheses, observations, data analyses, and interpretations.

List of suggested books and reference material:

- a. Milady Standard ESTHETICS Fundamentals.
- b. Salon Fundamentals: Pivot-Point International.
- c. Microdermabrasion “The Professionals Guide” (DVD)
- d. Maximizing Medical Microdermabrasion (Book)

Reading Across the Curriculum

Reading Standard Comment

After the elementary years, students engage in reading for learning. This process sweeps across all disciplinary domains, extending even to the area of personal they experience text in all genres and modes of discourse. In the study of various disciplines of learning (language arts, mathematics, science, social studies), students must learn through reading the communities of discourse of each of those disciplines. Each subject has its own specific vocabulary, and for students to excel in all subjects, they must learn the specific vocabulary of those subject areas in context.

Beginning with the middle grades years, students begin to self-select reading materials based on personal interests established through classroom learning. Students become curious about science, mathematics, history, and literature as they form contexts for those subjects related to their personal and classroom experiences. As students explore academic areas through

Implementation date
Fall 2010

reading, they develop favorite subjects and become confident in their verbal discourse about those subjects.

Reading across curriculum content develops both academic and personal interests in students. As students read, they develop both content and contextual vocabulary. They also build good habits for reading, researching, and learning. The Reading Across the Curriculum standard focuses on the academic and personal skills students acquire as they read in all areas of learning.

Students will enhance reading in all curriculum areas by:

- a. Reading in all curriculum areas
 - Read a minimum of 25 grade-level appropriate books per year from a variety of subject disciplines and participate in discussions related to curricular learning in all areas.
 - Read both informational and fictional texts in a variety of genres and modes of discourse.
 - Read technical texts related to various subject areas.
- b. Discussing books
 - Discuss messages and themes from books in all subject areas.
 - Respond to a variety of texts in multiple modes of discourse.
 - Relate messages and themes from one subject area to messages and themes in another area.
 - Evaluate the merit of texts in every subject discipline.
 - Examine author's purpose in writing.
 - Recognize the features of disciplinary texts.
- c. Building vocabulary knowledge
 - Demonstrate an understanding of contextual vocabulary in various subjects.
 - Use content vocabulary in writing and speaking.
 - Explore understanding of new words found in subject area texts.
- d. Establishing context
 - Explore life experiences related to subject area content.
 - Discuss in both writing and speaking how certain words are subject area related.
 - Determine strategies for finding content and contextual meaning for unknown words.

CTAE Foundation Skills

Implementation date

Fall 2010

The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards.

The CTAE Foundation Skills are aligned to the foundation of the U. S. Department of Education's 16 Career Clusters. Endorsed by the National Career Technical Education Foundation (NCTEF) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), the foundation skills were developed from an analysis of all pathways in the sixteen occupational areas. These standards were identified and validated by a national advisory group of employers, secondary and postsecondary educators, labor associations, and other stakeholders. The Knowledge and Skills provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy.

CTAE-FS-1 Technical Skills: Learners achieve technical content skills necessary to pursue the full range of careers for all pathways in the program concentration.

CTAE-FS-2 Academic Foundations: Learners achieve state academic standards at or above grade level.

CTAE-FS-3 Communications: Learners use various communication skills in expressing and interpreting information.

CTAE-FS-4 Problem Solving and Critical Thinking: Learners define and solve problems, and use problem-solving and improvement methods and tools.

CTAE-FS-5 Information Technology Applications: Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

CTAE-FS-6 Systems: Learners understand a variety of organizational structures and functions.

CTAE-FS-7 Safety, Health and Environment: Learners employ safety, health and environmental management systems in corporations and comprehend their importance to

Implementation date
Fall 2010

organizational performance and regulatory compliance.

CTAE-FS-8 Leadership and Teamwork: Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

CTAE-FS-9 Ethics and Legal Responsibilities: Learners commit to work ethics, behavior, and legal responsibilities in the workplace.

CTAE-FS-10 Career Development: Learners plan and manage academic-career plans and employment relations.

CTAE-FS-11 Entrepreneurship: Learners demonstrate understanding of concepts, processes, and behaviors associated with successful entrepreneurial performance.