PEARLS BEAUTY INSTITUTE

PROFESSIONAL DIPLOMA IN

HAIRCARE FORMULATION SCIENCE



MODULE 1: HAIR SCIENCE & SCALP BIOLOGY

Module Overview

This module provides a comprehensive introduction to the science of hair and scalp health. Students will develop an understanding of hair anatomy, scalp biology, hair growth, hair characteristics, and common hair and scalp concerns. The module establishes the scientific foundation required for effective haircare formulation by exploring how hair structure, scalp condition, and hair behavior influence product selection, formulation decisions, and treatment approaches.

1.01 Introduction to Hair Science

Description: Develop an understanding of hair science and its importance in haircare formulation.

Core Learning Areas

- Fundamentals of Hair Science
- Haircare Industry Overview
- Relationship Between Hair Health and Product Performance
- Scientific Approach to Haircare Formulation
- Professional Haircare Principles

1.02 Hair Anatomy & Structure

Description: Explore the anatomy and structural composition of human hair.

Core Learning Areas

- Hair Shaft Structure
- Cuticle Layer
- Cortex Layer
- Medulla Layer

• Hair Composition

1.03 Scalp Biology & Function

Description: Develop an understanding of scalp biology and its role in healthy hair growth and maintenance.

Core Learning Areas

• Scalp Structure
• Sebaceous Glands
• Scalp Environment
• Scalp Functions
• Scalp Health Fundamentals

1.04 Hair Growth Cycle

Description: Understand the biological processes involved in hair growth and shedding.

Core Learning Areas

• Hair Growth Phases
• Growth Cycle Dynamics
• Hair Renewal Process
• Hair Shedding Fundamentals
• Growth Influencing Factors

1.05 Hair Types, Textures & Characteristics

Description: Learn how hair types and textures influence product selection and haircare practices.

Core Learning Areas

• Hair Typing Systems
• Hair Texture Classifications
• Hair Characteristics

• Curl Patterns
• Hair Diversity Considerations

1.06 Hair Porosity & Hair Density

Description: Understand the role of porosity and density in haircare formulation and product performance.

Core Learning Areas

• Hair Porosity
• Hair Density
• Moisture Retention
• Product Absorption
• Hair Assessment Considerations

1.07 Hair Moisture & Protein Balance

Description: Explore the relationship between moisture, protein, and overall hair health.

Core Learning Areas

• Hair Hydration Principles
• Protein Function in Haircare
• Moisture–Protein Balance
• Hair Elasticity
• Hair Strength Considerations

1.08 Common Hair Conditions

Description: Develop awareness of common hair concerns and their impact on haircare formulation.

Core Learning Areas

• Hair Breakage
• Hair Dryness
• Hair Fragility

• Hair Thinning Awareness
• Hair Damage Considerations

1.09 Common Scalp Conditions

Description: Explore common scalp concerns that influence product selection and treatment approaches.

Core Learning Areas

• Dry Scalp
• Oily Scalp
• Sensitive Scalp
• Dandruff Awareness
• Scalp Irritation Considerations

1.10 Hair Damage & Contributing Factors

Description: Understand the factors that contribute to hair damage and product performance challenges.

Core Learning Areas

• Mechanical Damage
• Thermal Damage
• Chemical Damage
• Environmental Stressors
• Damage Prevention Principles

1.11 Hair & Scalp Assessment Fundamentals

Description: Learn the principles of evaluating hair and scalp characteristics for informed product recommendations.

Core Learning Areas

• Hair Assessment Techniques
• Scalp Assessment Techniques
• Product Selection Considerations

• Client Consultation Fundamentals
• Professional Observation Skills

1.12 Haircare Routine Principles

Description: Develop an understanding of effective haircare practices and product application strategies.

Core Learning Areas

• Haircare Routine Fundamentals
• Cleansing Practices
• Conditioning Practices
• Scalp Care Principles
• Product Usage Consideration

MODULE 2: COSMETIC CHEMISTRY & HAIRCARE RAW MATERIAL SCIENCE

Module Overview

This module introduces students to the chemistry and functional role of ingredients used in haircare product formulation. Students will develop an understanding of raw material classification, ingredient functionality, formulation compatibility, and ingredient selection principles. The module provides the scientific foundation required for the development of effective shampoos, conditioners, treatments, styling products, and scalp care formulations.

2.01 Introduction to Cosmetic Chemistry

Description: Develop an understanding of cosmetic chemistry and its application in haircare formulation.

Core Learning Areas

- Fundamentals of Cosmetic Chemistry
- Cosmetic Ingredient Science
- Ingredient Functionality
- Haircare Product Composition
- Scientific Principles of Formulation

2.02 Classification of Haircare Ingredients

Description: Explore the major categories of ingredients used in haircare product formulation.

Core Learning Areas

- Functional Ingredient Categories
- Primary Ingredients
- Supporting Ingredients

• Performance-Based Ingredients
• Ingredient Selection Principles

2.03 Water & Solvent Systems

Description: Understand the role of water and solvents within haircare formulations.

Core Learning Areas

• Water Quality
• Solvent Systems
• Ingredient Solubility
• Formulation Stability
• Product Performance

2.04 Surfactants & Cleansing Agents

Description: Develop an understanding of cleansing ingredients and their role in shampoo and scalp care products.

Core Learning Areas

• Surfactant Classification
• Cleansing Mechanisms
• Foam Characteristics
• Mildness Considerations
• Product Performance

2.05 Conditioning Agents

Description: Explore ingredients responsible for conditioning, softness, manageability, and hair feel.

Core Learning Areas

• Conditioning Technologies
• Cationic Ingredients
• Detangling Agents
• Hair Feel Enhancement

• Conditioning Performance

2.06 Emollients, Oils & Butters

Description: Understand the role of oils, butters, and emollients in haircare formulations.

Core Learning Areas

• Carrier Oils
• Cosmetic Butters
• Emollient Technologies
• Hair Lubrication
• Moisture Retention Support

2.07 Humectants, Proteins & Functional Additives

Description: Learn how functional ingredients contribute to hair performance and product efficacy.

Core Learning Areas

• Humectant Technologies
• Protein Ingredients
• Functional Additives
• Hair Strength Support
• Product Enhancement

2.08 Silicones & Alternative Conditioning Technologies

Description: Explore the role of silicones and alternative conditioning systems in haircare products.

Core Learning Areas

• Silicone Technologies
• Film Formers
• Conditioning Alternatives
• Product Sensory Performance

• Hair Protection Systems

2.09 Botanical Ingredients & Natural Actives

Description: Develop an understanding of botanical ingredients commonly incorporated into haircare products.

Core Learning Areas

• Plant Oils
• Botanical Extracts
• Herbal Ingredients
• Natural Functional Ingredients
• Product Enhancement Strategies

2.10 Preservatives, Antioxidants & Fragrance Systems

Description: Understand the role of preservation and fragrance systems in maintaining product quality and consumer appeal.

Core Learning Areas

• Preservative Systems
• Antioxidant Technologies
• Fragrance Components
• Product Protection
• Product Stability

2.11 Ingredient Compatibility & Selection Principles

Description: Learn how ingredient interactions influence formulation performance and stability.

Core Learning Areas

• Ingredient Compatibility
• Ingredient Interactions

• Product Stability
• Formulation Planning
• Raw Material Selection

2.12 Reading Technical Documents & Ingredient Evaluation

Description: Develop the ability to interpret technical information and evaluate ingredient suitability.

Core Learning Areas

• Technical Data Sheets
• Material Safety Data Sheets
• Certificate of Analysis
• Supplier Documentation
• Ingredient Evaluation

MODULE 3: FORMULATION MATHEMATICS & MEASUREMENT SYSTEMS

Module Overview

This module introduces students to the mathematical principles, measurement systems, and documentation practices required for accurate haircare formulation. Students will develop the skills needed to calculate ingredient percentages, scale formulations, convert units, maintain formulation records, and perform production calculations essential for professional haircare product manufacturing.

3.01 Introduction to Formulation Mathematics

Description: Develop an understanding of the role of mathematics in cosmetic formulation and manufacturing.

Core Learning Areas

- Formulation Mathematics Fundamentals
- Mathematical Accuracy
- Formulation Calculations
- Manufacturing Precision
- Professional Formulation Practices

3.02 Percentage-Based Formulation Systems

Description: Learn how percentages are used to create and interpret cosmetic formulations.

Core Learning Areas

- Percentage Systems
- Formula Composition
- Ingredient Allocation
- Formula Interpretation

• Formulation Accuracy

3.03 Unit Systems & Measurement Principles

Description: Develop an understanding of measurement systems used in cosmetic formulation.

Core Learning Areas

• Metric Measurement Systems
• Weight Measurements
• Volume Measurements
• Measurement Accuracy
• Laboratory Measurement Principles

3.04 Unit Conversion Techniques

Description: Learn how to convert between units commonly used in cosmetic manufacturing.

Core Learning Areas

• Unit Conversions
• Weight Conversions
• Volume Conversions
• Measurement Calculations
• Manufacturing Applications

3.05 Batch Size Calculations

Description: Understand how formulations are adjusted for different production quantities.

Core Learning Areas

• Batch Calculations
• Small Batch Production
• Large Batch Production
• Formula Scaling

• Production Planning

3.06 Formula Scaling Principles

Description: Learn how to scale haircare formulations while maintaining product consistency.

Core Learning Areas

• Formula Scaling
• Scale-Up Fundamentals
• Production Accuracy
• Formula Adjustments
• Manufacturing Consistency

3.07 Yield & Production Calculations

Description: Develop an understanding of yield calculations and production efficiency.

Core Learning Areas

• Yield Calculations
• Production Efficiency
• Material Utilization
• Manufacturing Planning
• Production Records

3.08 Costing Fundamentals for Haircare Formulations

Description: Learn the principles of calculating formulation costs and production expenses.

Core Learning Areas

• Ingredient Costing
• Batch Costing
• Production Costs
• Cost Analysis

• Pricing Awareness

3.09 Formula Documentation Systems

Description: Understand the importance of accurate formulation records and documentation.

Core Learning Areas

• Formula Sheets
• Ingredient Records
• Formula Tracking
• Documentation Standards
• Record Management

3.10 Batch Manufacturing Records

Description: Develop an understanding of batch documentation used during production.

Core Learning Areas

• Batch Records
• Manufacturing Documentation
• Production Tracking
• Quality Records
• Traceability Principles

3.11 Formulation Journals & Development Records

Description: Learn how to maintain professional formulation journals and development logs.

Core Learning Areas

• Formulation Journals
• Development Records
• Formula Revisions
• Product Tracking

MODULE 4: HAIRCARE LABORATORY PRACTICE & GOOD MANUFACTURING PRACTICE (GMP)

Module Overview

This module introduces students to the professional laboratory environment and manufacturing practices required for haircare product formulation. Students will learn laboratory organization, equipment selection, safety procedures, sanitation protocols, Good Manufacturing Practice (GMP), quality control fundamentals, and production documentation systems. The module establishes the operational foundation necessary for safe, consistent, and professional haircare product manufacturing.

4.01 Introduction to Haircare Laboratory Practice

Description: Develop an understanding of laboratory operations and their importance in professional haircare formulation.

Core Learning Areas

- Laboratory Fundamentals
- Professional Formulation Environment
- Laboratory Organization
- Workflow Principles
- Manufacturing Readiness

4.02 Haircare Laboratory Setup & Design

Description: Learn the essential requirements for establishing an efficient formulation laboratory.

Core Learning Areas

- Laboratory Layout

• Workspace Organization
• Production Areas
• Storage Areas
• Laboratory Planning Principles

4.03 Laboratory Equipment & Formulation Tools

Description: Explore the equipment and tools used in haircare product formulation and manufacturing.

Core Learning Areas

• Measuring Equipment
• Mixing Equipment
• Heating Equipment
• Testing Equipment
• Production Tools

4.04 Laboratory Safety Principles

Description: Develop an understanding of safety procedures and risk management within the formulation laboratory.

Core Learning Areas

• Laboratory Safety
• Personal Protective Equipment
• Chemical Handling
• Hazard Awareness
• Emergency Procedures

4.05 Sanitation & Hygiene Standards

Description: Learn the sanitation and hygiene practices required to maintain a safe manufacturing environment.

Core Learning Areas

• Personal Hygiene

• Equipment Sanitation
• Workspace Hygiene
• Contamination Prevention
• Cleaning Procedures

4.06 Good Manufacturing Practice (GMP)

Description: Understand the principles of Good Manufacturing Practice and their application in cosmetic production.

Core Learning Areas

• GMP Fundamentals
• Manufacturing Standards
• Process Control
• Product Consistency
• Professional Compliance

4.07 Raw Material Handling & Storage

Description: Learn best practices for receiving, storing, and handling raw materials used in haircare formulations.

Core Learning Areas

• Raw Material Management
• Storage Conditions
• Material Identification
• Inventory Control
• Material Traceability

4.08 Production Workflow & Manufacturing Procedures

Description: Develop an understanding of the production workflow used in haircare manufacturing.

Core Learning Areas

- Production Planning
- Manufacturing Procedures
- Process Flow
- Batch Preparation
- Production Efficiency

4.09 Quality Control Fundamentals

Description: Explore the principles of quality control and product consistency in cosmetic manufacturing.

Core Learning Areas

- Quality Control Principles
- Product Inspection
- Product Consistency
- Process Monitoring
- Quality Documentation

4.10 Documentation & Record Keeping Systems

Description: Understand the importance of documentation within professional formulation and manufacturing environments.

Core Learning Areas

- Documentation Systems
- Record Management
- Production Records
- Quality Records
- Traceability Practices

4.11 Formulation Journals, Batch Records & Manufacturing Templates

Description: Learn how to maintain professional formulation records and manufacturing documentation.

Core Learning Areas

- Formulation Journals
- Batch Manufacturing Records
- Production Templates
- Formula Documentation
- Manufacturing Logs

4.12 Practical Laboratory & GMP Project

Description: Apply laboratory and GMP principles through practical documentation and manufacturing exercises.

Core Learning Areas

- Laboratory Setup Exercise
- Equipment Identification Exercise
- GMP Assessment Exercise
- Documentation Exercise
- Manufacturing Workflow Exercise

MODULE 5: CONDITIONING SYSTEMS & HAIR MASK FORMULATION

Module Overview

This module explores the science and formulation principles behind conditioning products and hair masks. Students will develop an understanding of conditioning technologies, cationic systems, moisturizing and protein treatments, hair repair formulations, and intensive conditioning products. The module focuses on creating products that improve manageability, softness, moisture retention, strength, and overall hair performance.

5.01 Introduction to Conditioning Science

Description: Develop an understanding of conditioning science and its role in haircare product performance.

Core Learning Areas

- Fundamentals of Conditioning
- Hair Conditioning Mechanisms
- Product Performance Principles
- Consumer Expectations
- Conditioning Technologies

5.02 Cationic Conditioning Systems

Description: Explore the role of cationic ingredients in conditioner formulation and hair care performance.

Core Learning Areas

- Cationic Ingredients
- Conditioning Mechanisms
- Hair Surface Interaction
- Detangling Performance
- Product Functionality

5.03 Rinse-Off Conditioner Formulation

Description: Learn the principles involved in formulating rinse-off conditioners for various hair types and conditions.

Core Learning Areas

- Rinse-Off Conditioner Systems
- Product Structure
- Conditioning Performance
- Hair Feel Enhancement
- Product Evaluation

5.04 Leave-In Conditioner Formulation

Description: Understand formulation approaches used in leave-in conditioning products.

Core Learning Areas

- Leave-In Systems
- Lightweight Conditioning • Moisture Retention Support
- Hair Manageability
- Product Performance

5.05 Deep Conditioning Systems

Description: Develop an understanding of intensive conditioning treatments designed to improve hair condition and performance.

Core Learning Areas

- Deep Conditioning Technologies
- Intensive Treatment Systems
- Hair Restoration Support
- Product Performance
- Treatment Considerations

5.06 Hair Mask Formulation Systems

Description: Explore the formulation principles behind hair masks and intensive treatment products.

Core Learning Areas

- Hair Mask Technologies
- Intensive Conditioning Systems
- Treatment Product Design
- Product Performance
- Consumer Experience

5.07 Protein-Based Conditioning Products

Description: Understand the role of protein ingredients in strengthening and conditioning formulations.

Core Learning Areas

- Protein Technologies
- Protein Treatment Systems
- Hair Strength Support
- Product Performance
- Formulation Considerations

5.08 Moisture-Based Conditioning Products

Description: Learn formulation strategies used in moisture-focused conditioners and treatment products.

Core Learning Areas

- Moisture Technologies
- Hydration Systems
- Moisture Retention
- Hair Softness Enhancement
- Product Performance

5.09 Repair & Strengthening Systems

Description: Explore conditioning approaches designed to support damaged and weakened hair.

Core Learning Areas

- Hair Repair Concepts
- Strengthening Systems
- Damage Management Principles
- Product Selection
- Product Performance

5.10 Conditioner & Hair Mask Troubleshooting

Description: Develop the ability to identify and resolve common formulation challenges associated with conditioning products.

Core Learning Areas

- Product Instability
- Texture Challenges
- Performance Issues
- Product Evaluation
- Troubleshooting Strategies

5.11 Comparative Product Analysis

Description: Analyze and evaluate different categories of conditioners and hair masks.

Core Learning Areas

- Product Comparison
- Product Assessment
- Performance Evaluation
- Consumer Experience

• Product Differentiation

5.12 Practical Conditioning & Hair Mask Formulation Projects

Description: Apply conditioning and treatment formulation principles through practical formulation exercises.

Core Learning Areas

• Rinse-Off Conditioner Project
• Leave-In Conditioner Project
• Deep Conditioner Project
• Hair Mask Project
• Treatment Product Project

MODULE 6: SHAMPOO & CLEANSING SYSTEMS

Module Overview

This module explores the science, formulation principles, and performance characteristics of hair cleansing products. Students will develop an understanding of surfactant systems, cleansing technologies, scalp care formulations, sulfate and sulfate-free shampoo systems, co-wash products, and specialized cleansing formulations. The module focuses on creating effective
cleansing products while maintaining scalp comfort, hair condition, and product performance.

6.01 Introduction to Hair Cleansing Science

Description: Develop an understanding of the science of hair cleansing and the role of shampoos in haircare routines.

Core Learning Areas

- Hair Cleansing Fundamentals
- Shampoo Functionality
- Scalp Cleansing Principles
- Consumer Expectations
- Product Performance

6.02 Surfactant Systems for Haircare Products

Description: Explore the role of surfactants in shampoo and cleansing formulations.

Core Learning Areas

- Surfactant Classification
- Primary Surfactants
- Secondary Surfactants

• Foam Enhancement
• Cleansing Performance

6.03 Sulfate-Based Shampoo Systems

Description: Understand the formulation principles behind traditional sulfate-based shampoos.

Core Learning Areas

• Sulfate Surfactants
• Cleansing Efficiency
• Foam Characteristics
• Product Structure
• Performance Evaluation

6.04 Sulfate-Free Shampoo Systems

Description: Learn formulation approaches for sulfate-free cleansing products.

Core Learning Areas

• Sulfate-Free Surfactants
• Mild Cleansing Systems
• Product Performance
• Consumer Preferences
• Formulation Considerations

6.05 Moisturizing Shampoo Formulation

Description: Develop an understanding of shampoos designed to cleanse while supporting moisture retention.

Core Learning Areas

• Moisturizing Technologies
• Conditioning Surfactant Systems
• Hair Softness Enhancement

• Product Performance
• Formulation Strategies

6.06 Clarifying Shampoo Systems

Description: Explore cleansing systems designed for deep cleansing and residue removal.

Core Learning Areas

• Clarifying Technologies
• Build-Up Removal
• Scalp Cleansing
• Product Performance
• Consumer Applications

6.07 Co-Wash & Conditioning Cleanser Systems

Description: Learn the formulation principles behind low-foam and conditioning cleansing products.

Core Learning Areas

• Co-Wash Technologies
• Conditioning Cleansers
• Mild Cleansing Systems
• Product Performance
• Consumer Experience

6.08 Scalp Care & Specialized Cleansing Products

Description: Understand formulation approaches used in scalp-focused cleansing products.

Core Learning Areas

• Scalp Care Systems
• Sensitive Scalp Products
• Oily Scalp Products

• Dry Scalp Products
• Product Selection Considerations

6.09 Anti-Dandruff Product Concepts

Description: Develop awareness of formulation approaches used in anti-dandruff and scalp-support products.

Core Learning Areas

• Dandruff Awareness
• Scalp Support Ingredients
• Product Positioning
• Product Performance
• Consumer Considerations

6.10 Shampoo Performance Evaluation & Troubleshooting

Description: Learn how to evaluate shampoo performance and resolve common formulation challenges.

Core Learning Areas

• Foam Performance Evaluation
• Viscosity Challenges
• Product Stability
• Cleansing Performance
• Troubleshooting Strategies

6.11 Comparative Shampoo Analysis

Description: Analyze and compare different shampoo systems and cleansing technologies.

Core Learning Areas

• Product Comparison

- Cleansing Performance Assessment
- Consumer Experience
- Product Differentiation
- Performance Evaluation

6.12 Practical Shampoo Formulation Projects

Description: Apply shampoo formulation principles through practical formulation exercises.

Core Learning Areas

- Sulfate-Based Shampoo Project
- Sulfate-Free Shampoo Project
- Moisturizing Shampoo Project
- Clarifying Shampoo Project
- Co-Wash Formulation Project

MODULE 7: HAIR OILS, SERUMS & SCALP TREATMENT SYSTEMS

Module Overview

This module explores the formulation principles, ingredient selection strategies, and performance characteristics of hair oils, hair serums, and scalp treatment products. Students will learn how to develop products that support scalp health, improve hair manageability, enhance shine, reduce breakage, and complement overall haircare routines. The module focuses on both traditional oil-based systems and modern serum technologies used in professional haircare products.

7.01 Introduction to Hair Oils & Scalp Treatment Products

Description: Develop an understanding of the role of oils, serums, and scalp treatments within professional haircare systems.

Core Learning Areas

- Hair Oil Fundamentals
- Scalp Treatment Concepts
- Product Categories
- Consumer Needs
- Product Performance Principles

7.02 Carrier Oils in Haircare Formulation

Description: Explore the characteristics and functions of carrier oils commonly used in haircare products.

Core Learning Areas

- Carrier Oil Classification
- Oil Properties

• Oil Selection Principles
• Hair Compatibility
• Product Performance

7.03 Functional Oils & Specialty Oils

Description: Learn how specialty oils are incorporated into haircare formulations to support product objectives.

Core Learning Areas

• Functional Oil Systems
• Specialty Oils
• Product Enhancement
• Oil Synergy
• Formulation Considerations

7.04 Scalp Oil Formulation Systems

Description: Understand formulation approaches used in scalp-focused oil products.

Core Learning Areas

• Scalp Oil Systems
• Scalp Comfort Support • Product Design
• Ingredient Selection
• Product Performance

7.05 Hair Conditioning Oil Systems

Description: Develop an understanding of oils designed to improve softness, manageability, and hair appearance.

Core Learning Areas

• Conditioning Oil Technologies
• Hair Softness Enhancement
• Shine Improvement

• Product Performance
• Consumer Experience

7.06 Hair Growth Support Product Concepts

Description: Explore formulation concepts commonly used in products marketed for scalp and hair support.

Core Learning Areas

• Hair Growth Support Concepts
• Scalp Environment Considerations
• Product Positioning
• Ingredient Selection
• Product Development Principles

7.07 Hair Repair & Strengthening Oil Systems

Description: Learn formulation approaches used in products designed to support damaged and weakened hair.

Core Learning Areas

• Repair Oil Systems
• Strengthening Concepts
• Hair Protection Strategies
• Product Performance
• Product Evaluation

7.08 Hair Serum Formulation Systems

Description: Understand the science and formulation principles behind hair serums.

Core Learning Areas

• Hair Serum Technologies
• Lightweight Conditioning
• Shine Enhancement

• Frizz Management
• Product Performance

7.09 Scalp Serum Formulation Systems

Description: Explore advanced scalp serum products and their formulation considerations.

Core Learning Areas

• Scalp Serum Technologies
• Product Design
• Active Ingredient Integration
• Product Performance
• Consumer Application

7.10 Hot Oil & Intensive Treatment Systems

Description: Develop an understanding of intensive oil treatments used within haircare routines.

Core Learning Areas

• Hot Oil Treatments
• Intensive Oil Systems
• Treatment Strategies
• Product Performance
• Consumer Application

7.11 Product Evaluation & Troubleshooting

Description: Learn how to assess product performance and resolve common formulation challenges.

Core Learning Areas

• Product Stability
• Product Appearance
• Product Performance

• Consumer Experience
• Troubleshooting Strategies

7.12 Practical Hair Oil & Serum Formulation Projects

Description: Apply formulation principles through practical oil and serum development exercises.

Core Learning Areas

• Hair Oil Project
• Scalp Oil Project
• Hair Serum Project
• Scalp Serum Project
• Intensive Treatment Project

MODULE 8: STYLING & FINISHING PRODUCT SYSTEMS

Module Overview

This module explores the formulation principles, ingredient technologies, and performance requirements of styling and finishing haircare products. Students will learn how to formulate products that provide hold, definition, moisture retention, curl enhancement, shine, frizz control, and style longevity. The module focuses on developing professional styling products that meet the needs of diverse hair types and styling preferences.

8.01 Introduction to Styling Product Science

Description: Develop an understanding of styling products and their role within modern haircare routines.

Core Learning Areas

- Styling Product Fundamentals
- Product Performance Principles
- Consumer Expectations
- Hair Styling Objectives
- Product Categories

8.02 Hair Cream Formulation Systems

Description: Learn the formulation principles behind hair creams used for moisture, softness, and styling support.

Core Learning Areas

- Hair Cream Technologies
- Moisture Retention
- Hair Softness Enhancement

• Product Performance
• Consumer Applications

8.03 Curl Cream Formulation Systems

Description: Explore formulation approaches used in curl-defining and curl-enhancing products.

Core Learning Areas

• Curl Enhancement Technologies
• Curl Definition Systems
• Moisture Support
• Frizz Control
• Product Performance

8.04 Hair Butter Formulation Systems

Description: Develop an understanding of rich styling and conditioning products formulated with butters and emollients.

Core Learning Areas

• Hair Butter Technologies
• Product Structure • Moisture Retention
• Hair Protection
• Product Performance

8.05 Styling Gel Formulation Systems

Description: Learn the science and formulation principles behind styling gels.

Core Learning Areas

• Gel Technologies
• Hold Mechanisms
• Product Structure
• Styling Performance

• Consumer Experience

8.06 Edge Control Formulation Systems

Description: Understand the formulation principles used in edge control and smoothing products.

Core Learning Areas

• Edge Control Technologies
• Hold Performance
• Product Structure
• Styling Durability
• Product Evaluation

8.07 Pomade & Hair Wax Systems

Description: Explore the formulation approaches used in pomades, waxes, and styling products designed for hold and texture.

Core Learning Areas

• Pomade Technologies
• Hair Wax Systems
• Texture Enhancement
• Styling Control
• Product Performance

8.08 Braid Spray & Moisturizing Styling Sprays

Description: Develop an understanding of lightweight styling sprays used for hydration and protective styling maintenance.

Core Learning Areas

• Spray Technologies
• Moisture Support
• Protective Style Care

• Product Performance
• Consumer Application

8.09 Curl Refresh & Finishing Products

Description: Learn formulation approaches used in finishing products designed to refresh and maintain hairstyles.

Core Learning Areas

• Curl Refresh Systems
• Finishing Product Technologies
• Frizz Reduction
• Shine Enhancement
• Product Performance

8.10 Styling Product Performance Evaluation

Description: Understand how styling products are evaluated for effectiveness and consumer satisfaction.

Core Learning Areas

• Hold Evaluation
• Product Performance Testing
• Consumer Experience
• Product Assessment
• Quality Considerations

8.11 Styling Product Troubleshooting

Description: Develop the ability to identify and resolve formulation challenges associated with styling products.

Core Learning Areas

• Product Instability
• Hold Challenges

• Texture Issues
• Product Performance Problems
• Troubleshooting Strategies

8.12 Practical Styling Product Formulation Projects

Description: Apply styling product formulation principles through practical development exercises.

Core Learning Areas

• Hair Cream Project
• Curl Cream Project
• Hair Butter Project
• Styling Gel Project
• Edge Control Project

MODULE 9: SPECIALIZED HAIRCARE FORMULATION SYSTEMS

Module Overview

This module explores advanced formulation approaches for specialized haircare needs and consumer groups. Students will learn how hair type, texture, condition, lifestyle, and treatment history influence product selection and formulation design. The module focuses on developing targeted haircare solutions that address the unique requirements of diverse haircare markets.

9.01 Introduction to Specialized Haircare Formulation

Description: Develop an understanding of specialized formulation strategies within the haircare industry.

Core Learning Areas

- Specialized Haircare Concepts
- Consumer Needs Analysis
- Haircare Market Segmentation
- Product Positioning
- Formulation Objectives

9.02 Curly & Coily Haircare Systems

Description: Explore formulation approaches designed for curly, coily, and textured hair types.

Core Learning Areas

- Curl Care Principles
- Moisture Retention Strategies
- Curl Definition Systems
- Frizz Management
- Product Selection Considerations

9.03 Natural Haircare Systems

Description: Learn formulation strategies used in products designed for natural hair maintenance and styling.

Core Learning Areas

- Natural Haircare Principles
- Moisture Management
- Product Layering Concepts
- Hair Protection Strategies
- Product Performance

9.04 Relaxed & Chemically Treated Hair Systems

Description: Understand formulation approaches for chemically processed hair.

Core Learning Areas

- Chemically Treated Hair Considerations
- Moisture Restoration
- Strengthening Systems
- Product Compatibility
- Hair Protection Strategies

9.05 Color-Treated Haircare Systems

Description: Explore formulation principles used in products designed for color-treated hair.

Core Learning Areas

- Color Care Fundamentals
- Color Retention Support
- Product Compatibility
- Product Performance
- Hair Protection

9.06 Children's Haircare Formulation Systems

Description: Develop an understanding of formulation considerations for children's haircare products.

Core Learning Areas

- Children's Haircare Needs
- Mild Formulation Principles
- Product Selection
- Safety Considerations
- Consumer Expectations

9.07 Men's Haircare Formulation Systems

Description: Explore formulation approaches used in men's haircare products.

Core Learning Areas

- Men's Haircare Categories
- Scalp Care Considerations
- Styling Product Preferences
- Product Performance
- Consumer Needs

9.08 Protective Style Care Systems

Description: Learn formulation approaches used to support protective hairstyles and long-term hair maintenance.

Core Learning Areas

- Protective Style Maintenance
- Moisture Support
- Scalp Care Strategies
- Product Selection

• Hair Protection Principles

9.09 Specialized Scalp Care Systems

Description: Develop an understanding of scalp-focused formulation approaches for various scalp conditions.

Core Learning Areas

• Scalp Care Technologies • Sensitive Scalp Support
• Oily Scalp Support
• Dry Scalp Support
• Product Performance

9.10 Product Selection & Routine Development

Description: Understand how specialized products are incorporated into effective haircare routines.

Core Learning Areas

• Product Layering
• Haircare Routines
• Consumer Recommendations
• Product Compatibility
• Routine Design

9.11 Comparative Product Analysis

Description: Evaluate specialized haircare products and formulation strategies.

Core Learning Areas

• Product Comparison
• Product Assessment
• Market Analysis
• Consumer Experience
• Product Performance

9.12 Specialized Haircare Formulation Projects

Description: Apply specialized formulation principles through practical formulation exercises.

Core Learning Areas

- Curly Hair Product Project
- Relaxed Hair Product Project
- Color-Treated Hair Project
- Children's Haircare Project
- Protective Style Care Project

MODULE 10: PRESERVATION, STABILITY TESTING & PRODUCT EVALUATION

Module Overview

This module introduces students to the principles of preservation, product stability, quality assessment, and performance evaluation in haircare formulation. Students will learn how to protect products from contamination, evaluate product stability, identify formulation failures, and maintain product quality throughout the product lifecycle. The module provides essential knowledge required for developing safe, stable, and commercially viable haircare products.

10.01 Introduction to Product Preservation

Description: Develop an understanding of preservation systems and their role in cosmetic product safety.

Core Learning Areas

- Preservation Fundamentals
- Product Protection Principles
- Microbial Contamination Awareness
- Product Safety
- Preservation Strategies

10.02 Preservative Systems for Haircare Products

Description: Learn how preservative systems are selected and incorporated into haircare formulations.

Core Learning Areas

- Preservative Technologies
- Preservative Selection

• Broad-Spectrum Protection
• Formulation Compatibility
• Product Safety Considerations

10.03 Factors Affecting Product Stability

Description: Explore the factors that influence the physical, chemical, and microbiological stability of haircare products.

Core Learning Areas

• Stability Fundamentals
• Environmental Influences
• Ingredient Interactions
• Product Degradation
• Product Performance

10.04 Physical Stability Assessment

Description: Understand how to evaluate the physical stability of haircare products.

Core Learning Areas

• Phase Separation
• Viscosity Changes
• Colour Changes
• Product Appearance
• Stability Indicators

10.05 pH Monitoring & Product Evaluation

Description: Learn the importance of pH monitoring in haircare formulation and product performance.

Core Learning Areas

• pH Fundamentals
• pH Measurement

• Product Compatibility
• Stability Considerations
• Product Performance

10.06 Accelerated Stability Testing

Description: Develop an understanding of accelerated stability testing methods used in product development.

Core Learning Areas

• Accelerated Testing Principles
• Temperature Studies
• Storage Studies
• Product Observation
• Stability Documentation

10.07 Product Performance Evaluation

Description: Learn how to assess the performance characteristics of haircare products.

Core Learning Areas

• Product Evaluation Techniques
• Conditioning Performance
• Cleansing Performance
• Styling Performance
• Consumer Experience

10.08 Product Defects & Formulation Failures

Description: Explore common formulation failures and methods used to identify their causes.

Core Learning Areas

• Product Instability
• Product Defects

• Formula Failures
• Root Cause Analysis
• Corrective Measures

10.09 Quality Control Testing Fundamentals

Description: Develop an understanding of quality control procedures used in cosmetic manufacturing.

Core Learning Areas

• Quality Control Principles
• Product Inspection
• Batch Consistency
• Quality Documentation
• Product Verification

10.10 Product Evaluation Documentation

Description: Learn how to document stability observations and product evaluation results.

Core Learning Areas

• Stability Records
• Evaluation Reports
• Observation Logs
• Quality Documentation
• Product Tracking

10.11 Stability & Product Evaluation Case Studies

Description: Analyze product stability challenges and evaluation procedures used in professional formulation.

Core Learning Areas

• Stability Assessment
• Product Analysis

- Failure Investigation
- Corrective Actions
- Professional Review

MODULE 11: PACKAGING, LABELING & REGULATORY AWARENESS

Module Overview

This module introduces students to the principles of packaging selection, product labeling, regulatory awareness, and professional product presentation in the haircare industry. Students will learn how packaging influences product performance, consumer experience, product protection, brand perception, and regulatory compliance. The module provides essential knowledge required for presenting haircare products professionally and preparing them for commercial distribution.

11.01 Introduction to Haircare Packaging Systems

Description: Develop an understanding of the role of packaging in haircare product development and commercialization.

Core Learning Areas

- Packaging Fundamentals
- Packaging Functions
- Product Protection
- Consumer Convenience
- Commercial Considerations

11.02 Packaging Materials & Packaging Selection

Description: Learn how packaging materials are selected based on product type and performance requirements.

Core Learning Areas

- Plastic Packaging Systems

• Glass Packaging Systems
• Packaging Compatibility
• Product Protection
• Packaging Selection Principles

11.03 Packaging for Shampoos & Cleansing Products

Description: Explore packaging considerations for liquid cleansing products.

Core Learning Areas

• Shampoo Packaging Systems
• Bottle Selection
• Closure Systems
• Consumer Usability
• Product Protection

11.04 Packaging for Conditioners & Hair Masks

Description: Understand packaging approaches used for conditioning and treatment products.

Core Learning Areas

• Jar Packaging Systems
• Tube Packaging Systems
• Product Accessibility • Packaging Performance
• Consumer Experience

11.05 Packaging for Oils, Serums & Scalp Treatments

Description: Learn packaging considerations associated with oil-based and serum-based haircare products.

Core Learning Areas

• Oil Packaging Systems

• Serum Packaging Systems
• Dropper Systems
• Pump Systems
• Product Preservation Support

11.06 Packaging for Styling Products

Description: Explore packaging options used for styling and finishing products.

Core Learning Areas

• Styling Product Packaging
• Gel Packaging Systems
• Edge Control Packaging
• Jar & Tube Systems
• Consumer Convenience

11.07 Cosmetic Labeling Fundamentals

Description: Develop an understanding of cosmetic labeling requirements and best practices.

Core Learning Areas

• Label Fundamentals
• Product Identity
• Product Information
• Label Structure
• Consumer Communication

11.08 INCI Nomenclature & Ingredient Declaration

Description: Learn how cosmetic ingredients are declared using internationally recognized naming systems.

Core Learning Areas

• INCI Nomenclature

• Ingredient Listings
• Ingredient Declaration Principles
• Label Compliance
• Product Transparency

11.09 Product Claims & Marketing Awareness

Description: Understand the principles of responsible product communication and claim development.

Core Learning Areas

• Product Claims Awareness
• Consumer Communication
• Product Positioning
• Ethical Marketing
• Regulatory Considerations

11.10 Global Cosmetic Regulatory Compliance & Market Access

Description:

Develop an understanding of international cosmetic regulations, compliance requirements, and market access principles for manufacturing, marketing, and selling cosmetic products across global markets.

Core Learning Areas

- Global Cosmetic Regulatory Framework
- Cosmetic Manufacturer Responsibilities

- International Product Registration & Notification Systems
- Cosmetic Labelling & Compliance Requirements
- Product Claims & Advertising Compliance
- Good Manufacturing Practice (GMP) Awareness
- Cosmetic Safety Documentation
- Market Access Requirements for Global Distribution
- Regulatory Authorities Overview (FDA, European Union, NAFDAC, Health Canada, UK, ASEAN & Australia)
- Compliance Best Practices for International Cosmetic Brands

11.12 Practical Packaging & Label Development Project

Description: Apply packaging and labeling principles through practical product presentation exercises.

Core Learning Areas

• Packaging Selection Project
• Label Development Exercise
• INCI Declaration Exercise
• Product Presentation Project
• Compliance Review Exercise