Culinary Science (CULS) Courses

CULS2010 Introduction to Food Product Development
This course introduces students to the terminology and basic practices in product development labs, test kitchens and culinary centers in the food and beverage industry. Focus is on the product development process from concept through commercialization, and the role of the product developer throughout this process. This includes an introduction to market research and sensory testing techniques, unit operations in food and beverage processing and packaging, quality assurance/quality control, and food regulations and labeling. Student groups research current trends, the needs of a particular target market, and topics in food and beverage processing and packaging. This course includes lecture, student presentations, group work, guest lecturers and use of the internet to research relevant topics and technologies.
Prerequisite(s): Sophomore status.
Offered at Charlotte, Providence
3 Semester Credits

CULS2210 Food Science
This course emphasizes the scientific method and the chemical and physical changes that occur during preparation and processing of food products. The relationships between the chemistry of the major food components (carbohydrates, fats and proteins) and their functionality in food systems are examined. This course requires a laboratory research project that involves writing a research proposal, conducting primary and secondary research, conducting a consumer test, analyzing data, and writing a final laboratory report following the scientific method described in the course.
Prerequisite(s): Sophomore status.
Offered at Charlotte, Providence
3 Semester Credits

CULS3015 Food Ingredient Technology
This course provides an overview of major food ingredients and additives used in food product development. The various functionalities of these ingredients are investigated through the production and evaluation of various food products that align with consumer expectations. Students examine the legal definition of food ingredients and additives and outline the approval process for ingredients classified as such. Students apply Food and Drug Administration (FDA) laws and regulations when incorporating additives into food products.
Prerequisite(s): CHM1000, CHM1006, CULS2010.
Offered at Providence
3 Semester Credits

CULS3025 Food Processing
This course provides students the opportunity to identify the appropriate food processing methods and equipment utilized in the manufacturing of food products. Practices that are important in a food manufacturing facility are explored to determine how different processing methods and packaging can affect the safety and quality of food products.
Prerequisite(s): CULS2010, completion of all freshman culinary or baking labs.
Offered at Providence
3 Semester Credits

CULS4035 Food Product Design and Development
This capstone course applies the knowledge and skills acquired in major prerequisite courses. Students strengthen their laboratory skills working in teams, designing and developing a food product from concept through optimization. This course is taught within a kitchen that simulates the environment of a product development laboratory. Students complete sensory tests, accelerated shelf-life tests, competitive analyses and performance tests on products, as required. Students design and create product packaging labels that align with current food regulations. Additionally, students use spreadsheets to create formulas and generate costing information. At the completion of the course, students present their concepts, optimized products, packaging label and project reports to the university community.
Prerequisite(s): CULS2010, CULS3015, CULS3025.
Offered at Providence
3 Semester Credits