CHEM1103 - Chemistry of Food and Cooking

Credits:	4 (3/1/0)
Description:	Meets MnTC Goal Areas 2 and 3. This course introduces students to the chemistry of food and reactions or processes of cooking. Topics include the structures and properties of food components, the chemical reactions that occur in the preparation, processing and storage of food, and how these processes affect food safety, quality and sensory experiences. Intended for non-science major students, the course focuses on developing and demonstrating scientific literacy, quantitative analysis skills and critical thinking. This course includes a lab in which students explore science through food.
Prerequisites:	• Recommended that students have taken MATH0095 -Elementary algebra II, or equivalent, prior to taking this course.
Corequisites:	
Pre/Corequisites*:	
Competencies:	1. Explain the fundamental concepts of chemistry as they relate to food. 2. Demonstrate understanding of food components at a molecular level. 3. Evaluate solubility roles in food preparation, nutrient availability, solutions and dispersions. 4. Explore the properties of water and water activity in relation to food safety, stability and cooking methods. 5. Analyze the relationships of heat and temperature for methods of cooking food. 6. Demonstrate an understanding of pH and how it can affect food quality and preparation. 7. Conduct experiments using food and various cooking techniques. 8. Design experiments using food for children or adults. 9. Utilize measurements to characterize food and ingredients. 10. Interpret and analyze qualitative observations and quantitative results. 11. Effectively communicate lab procedures, observations and results.
MnTC goal areas:	2. Critical Thinking 3. Natural Sciences

**Can be taking as a Prerequisite or Corequisite.*

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