Special Meeting

Killingly Board of Education
Curriculum Committee Meeting
Wednesday, March 15, 2023
5:00 p.m.
Central Office – 79 Westfield Ave.

1. **Call to Order & Roll Call**

2. **Public Comment**

3. **Review and Possible Approval of November 10, 2022 Curriculum Committee Meeting Minutes**

4. **Review of 3 AG-ED Courses**
   - AG 2 Food Science and Biotechnology
   - Principles of Food Science
   - Sustainable Food Production

5. **Updates on Illustrative Math and overall math program**

6. **Update on K-3 reading program and assessment mandate**

7. **Adjourn**

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Thursday, November 10, 2022
5:00 p.m.
Central Office – 79 Westfield Ave.

1. CALL TO ORDER & ROLL CALL

The meeting was called to order at 7:04 pm.
Curriculum Committee Members in attendance were Jennifer Hegedus, Kelly Martin, and Norm Ferron. Also in attendance were Superintendent Robert Angeli and Asst. Superintendent Sue Nash-Ditzel. Absent was Chris Viens.

2. PUBLIC COMMENT

There were no public comments.

3. REVIEW AND POSSIBLE APPROVAL OF JULY 7, 2022 CURRICULUM COMMITTEE MEETING MINUTES

Kelly Martin made a motion to approve the minutes of the July 7, 2022 Curriculum Committee Meeting. Norm Ferron seconded the motion. The minutes were unanimously approved.

4. UPDATE ON OUR NEW MATH PROGRAM

5. UPDATE ON CURRICULUM WORK FROM THE SUMMER AND CURRICULUM LAUNCHPAD

Sue Nash gave presentation on the curriculum work that has been done.

6. UPDATE ON COGNITIVE ENGAGEMENT AND TASK DESIGN

7. UPDATE ON STATE READING MANDATES

8. BLACK AND LATINO STUDIES COURSE

- **HOW MANY STUDENTS ENROLLED**
- **SUMMARY OF HOW COURSE IS PROGRESSING**

Question was asked if the curriculum could be supplemented.

9. ADJOURN

Kelly Martin made a motion to adjourn the meeting at 5:48 pm. Norm seconded the motion and the meeting was unanimously adjourned.

Course Title: Ag 2 Food Science and Biotechnology

Credits Awarded: 1 Credit

Prerequisite: Agricultural Education 1

Killingly Agricultural Education Program

Course Description: This is the introductory course in the Food Science and Biotechnology Career Pathway. Students will be introduced to the food science and biotechnology industries. An emphasis will be placed on the connection between human health, animal health, and environmental health, and how they influence food science and biotechnology technologies. Students will explore topics related to food science and biotechnology including: food safety and handling, food labeling and marketing, biotechnology used in research, and DNA biotechnology.

Overview of Units:

- Unit 1- The Science of Living Things
    - Agriscience Defined
    - Scientific Inquiry
    - Applying Scientific Inquiry to Agricultural Problems

- Unit 2 - Better Living through Agriscience
    - Our Shared Living Environment
    - Agriscience Impact on Life
    - One Health Concept
    - Research and Technology in Agriscience

- Unit 3 - Food Science
    - The Food Industry
    - Food Safety and Handling
    - Nutritional Science
    - Food Labeling
    - Food Additives
    - Enzymes in the Food Industry

- Unit 4 - Biotechnology
    - The Biotechnology Industry
    - Bioethics
    - Genetically Modified Organisms
    - Genes and genomes
    - Medical biotechnology
    - DNA Fingerprinting and Forensics

- Unit 5 - Career Options in Agriscience
    - Agriscience and Its Major Divisions
    - Career Research and Planning
    - Selecting the Right Career for Me

- Unit 6 - Leadership Development in Agriscience
    - Parliamentary Procedure
    - Formal and Informal Public Speaking
    - Working in Groups
    - FFA Opportunities & Achieving the Chapter Degree

Resources:

1. *Food Science: The Biochemistry of Food and Nutrition*, Kay Yockey Mehas, Sharon Lesley Rogers
2. *Food Science: The Biochemistry of Food and Nutrition*- lab manual, Kay Yockey Mehas, Sharon Lesley Rogers
3. *Agriscience: Fundamentals and Applications*, 4th edition, L. Devere Burton and Elmer L. Cooper
4. *Introduction to Biotechnology*, 3rd edition, William Thieman and Michael Palladino.

Course Title: Principles of Food Science

Credits Awarded: 1.5 Credit

Prerequisite: Ag 2 Food Science and Biotechnology

Killingly Agricultural Education Program

Course Description: This course is designed to immerse students in the food science industry. Students will explore topics related to the science of food production starting with a foundation in safe food handling for the prevention of food borne illness and food chemistry as a foundation for understanding nutrition. In depth units on dairy foods and meat science are included. Students will participate in class activities and lab experiments that allow them to develop specific technical skills employers look for within the food science career pathway. This is one of two advanced courses in the Food Science and Biotechnology Career Pathway.

Overview of Units:

- Unit 1- Introduction to Food Science
    - Defining Food Science
    - Agricultural Food Chain
    - Career Exploration in the Food Industry

- Unit 2- Food Safety and Handling
    - Cleaning and Sanitizing Methods
    - Common Contaminants
    - Foodborne Illnesses
    - Determining Food Quality

- Unit 3- Food Chemistry and Additives
    - Chemical Makeup of Food
    - Physical Properties of Food
    - Common Food Additives
    - Use of Sugar in Foods and Sugar Substitutes

- Unit 4- Food Labeling and Marketing
    - Food Labeling Laws
    - How to Read a Food Label
    - Consumer Perception of Agriculture
    - Food Product Design and Marketing

- Unit 5- Food Law
    - Roles of Regulatory Agencies
    - Current Food Laws
    - Food Insecurity and Food Deserts

- Unit 6- Dairy Science and Products
    - Overview of the American Dairy Industry
    - Dairy Cattle Breed ID
    - Processing Milk
    - Types of Cheese and Production Methods
    - Dairy-free Products

- Unit 7- Meat Science and Products
    - Overview of the American Meat Industry
    - Livestock Breed ID (Cattle, Sheep, Swine)
    - Slaughter Process and Regulations
    - Meat Products; Butcher Cuts and Other Meat Products
    - Meat Substitutes

- Unit 8- Food Preservation
    - History of Food Preservation
    - Preservation Methods (fermentation, freezing, irradiation, and packaging)

- Unit 9- Food Allergies and Dietary Restrictions
    - Human Evolution and Food Allergies
    - Digestive Disorders
    - Medical and Dietary Food Supplements

- Unit 10- Food Businesses
    - The Basics of Starting a Business
    - Overview of the American Restaurant Industry
    - Food Markets & Grocery Stores

Resources:

1. *Food Science: The Biochemistry of Food and Nutrition,* Kay Yockey Mehas, Sharon Lesley Rogers
2. *Food Science: The Biochemistry of Food and Nutrition*- lab manual, Kay Yockey Mehas, Sharon Lesley Rogers
3. *Principles of Food Science.* 4th Edition. Janet Ward and Larry Ward.
4. National FFA Organization- educator resources, ffa.org
5. USDA, Economic Research Service, ers.usda.gov

Course Title: Sustainable Food Production

Credits Awarded: .5 Credit

Killingly Agricultural Education Program

Course Description: This course is designed for students to explore how food production has evolved over time and current research on sustainable agricultural practices. Units place an emphasis on how food production practices influence our environment and society. Students will be able to participate in class activities and field trips that explore different sustainable agricultural practices and efforts, as well as engage in meaningful class discussions that center around future agricultural technologies. This course is offered to supplement the Food Science, Animal Science and Environmental Science career pathways.

Overview of Units:

- Unit 1- Farm Production Systems
    - Evolution of Agriculture
    - Types of Agricultural Production Systems
    - Sustainability and Minimizing Our Impact

- Unit 2- Biotechnology in Agriculture
    - Introduction to Biotechnology
    - Improving Plant and Animal production
    - Waste Management

- Unit 3- Water and Soil Conservation
    - Water as a Nutrient
    - Aquatic Food Chains and Webs
    - Relationship between Land and Water
    - Conserving Water and Water Quality
    - Soil Erosion and Conservation

- Unit 4- Soil and Hydroponics Management
    - Soil Classification and Characteristics
    - Plant Growth Requirements
    - Hydroponic systems

- Unit 5- Crop Science
    - Field Crops
    - Vegetable production
    - Fruit and Nut production

- Unit 6- Aquaculture
    - Overview of the Aquaculture Industry
    - Aquaculture Production as Sustainable Agriculture

- Unit 7 - Sustainable Food Production
    - Animal Agriculture & the Environment
    - Evaluating Production Methods
    - Consumer Values and Consumer Choice

Resources:

1. *The Complete Illustrated Guide to Farming* (2014), Samantha Johnson and Philip Hasheider
2. *Agriscience: Fundamentals and Applications*, 4th edition, L. Devere Burton and Elmer L. Cooper