Blending Science and Culinary Arts in the Industry

R&D Culinary Training & Certification Process

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Culinology

- The historical approach to product development is changing
  - We’re moving from filling the new product “prescription”……..
  - To developing the culinary “cure” for a new product need
More Sophisticated Consumers

- Consumers define “trendy” as the use of exotic ingredients, provocative cooking techniques, regional trends, locally produced food and agricultural varieties.

- Cooking shows and cooking featured in film.

- Expect a continued trend toward a broader selection of bolder flavors and more interesting foods, combined with tried and true favorites.

- There is an unprecedented emphasis on visual presentation in an effort to make foods look their freshest and healthiest.
FLAVOR TRENDS

GROWING
- Nuevo Latino
- Pan Asian
- Mediterranean
- Americana
- Caribbean
- Authentic Mex

EMERGING
- Indian

MAINSTREAM
- Italian
- Chinese
- Mexican
Traditionally...

- Chef’s achieve flavor with ingredients and cooking techniques
- Ingredients
  - Preparation techniques
  - Cooking methods
  - The effect of serving temperature
Culinary Techniques Add Flavor Dimension

- Grilling
- Slow Roasting
- Sauté
- Braising
- Rotisserie
- Fire Roasted
- Broiling

- Poaching
- Simmering
- Steaming
- Searing
- Deep Frying
- Stir Frying
- Smoked
• **Mission Statement**
  “Defining the future of food through Culinology® and the development of its practitioners.”

• Culinology – the fusion of culinary arts and food technology in the food manufacturing environment.

• RCA was started in 1996 and has grown to approximately 2300 members.
RCA Certification Programs

• **Certified Research Chef**
  - For an individual with a culinary background that wishes to be more familiar with food science principles and practices.

• **Certified Culinary Scientist**
  - For an individual with a science background that wishes to posses knowledge, fundamentals, and practices from the culinary arts.
RCA Certification - Certified Research Chef

- **Education**
  - Group 1 - Bachelor Degree or Higher in Culinary Arts
  - Group 2 – Associate in Culinary Arts or B.S. in Culinology
  - Group 3 – Culinary Apprenticeship / Culinary Certificate / Culinary Diploma

- **Food Service Experience**
  - Group 1 – 1 year full-time cook (2,000 hours) in a commercial kitchen
  - Group 2 – 3 years full-time cook (2,000 hours yearly) in a commercial kitchen
  - Group 3 – 4 years full-time cook (2,000 hours yearly) in a commercial kitchen

- **R&D Experience** (if no commercial kitchen experience)
  - Group 1, 2, & 3 – 3 years full-time (2,000 hours yearly)

- Pass (80%) CRC Validation Exam (90% Food Science / 10% Culinary)
RCA Certification - Certified Culinary Scientist

- **Education**
  - Group 1 - B.S. Food Science or Related Degree
  - Group 2 - Associate Degree in Food Science or Related Degree
  - Group 3 – No Degree; 30 contact hours for Food Micro, Nutrition, & Chemistry

- **Food Science Experience**
  - Group 1 – 3 years in R&D (2,000 hours yearly)
  - Group 2 – 5 years in Product Development or Food Manufacturing
  - Group 3 – 8 years in Product Development or Food Manufacturing

- **Food Service Experience (No Food Science Experience)**
  - Groups 1, 2, & 3 (one of the following)
    - Pass ACF Certified Culinarian Practical Exam
    - 1 full year as a cook (2,000 hours)
    - 120 Contact Hours of RCACC defined hands on culinary course work

- Pass (80% or better) CCS Validation Exam (90% Culinary / 10% Science)
Education
Degree Programs in Culinology

- Cincinnati State & University of Cincinnati
- Cal Poly Pomona
- Clemson University
- Dominican University
- University of Nebraska Lincoln & Metromedia
- Community College
Food Science Courses for Chefs
Culinology 101 – A 4-Part Series

Meats and Proteins
Lipids
Carbohydrates
Food Additives
Gums and Emulsifiers
Regulations
Food Safety
Sensory

Food Processing
Product Development
Flavor Technology
Developing Food Systems
Benchtop Evaluation & Scale-Up Issues from Pilot to Production

Offered at Rutgers and Johnson & Wales
Culinary Arts for Food Technologists

Basic Culinary Arts

Stock and sauce-making
Knife handling
Sautéing, Frying, Roasting
Broiling, Grilling, Braising
Poaching
Cooking of Meat, Poultry, Vegetables, Grains and Starches

Offered at:
Culinary Institute of America
Johnson & Wales
Kendall College
University of Arkansas
Advanced soups and sauces
Garde Manger
Charcuterie
Bread-Baking
Menu development

Offered at:
Culinary Institute of America
Certified Staff in the Discovery Center

- Current Certified Research Chefs
  - Nigel Dawson
- 1 of 60 CRC's in the World
- Current Customers with CCR's on staff (Olive Garden, Popeye’s, Nestle, Burger King,
- Current Vendors with CCR's on staff (Kerry, Firmenich, Unilever, J.R. Simplot, Schreiber, Kraft, Red Arrow & McCormick)
**Certified Staff in the Discovery Center**

- **Current Certified Culinary Scientists**
  - 5 of 24 CCS’ in the World.
  - Current Customers with CCS’ on staff (Nestle & Burger King)
  - Current Vendors with CCS’ on staff (McCormick, Newly Weds, Dean, Wild Flavors)
  - 14 – currently taken all course work.

- 60 additional Food Technologists on staff are either taking hands-on culinary class work or taking the exams to finish certification currently. **When they finish their certifications, Tyson will have 3 times the number of CCS’ in our building than in the entire World.**