



APICIUS – INTERNATIONAL SCHOOL OF HOSPITALITY

SCHOOL OF FOOD AND WINE STUDIES
DEPARTMENT OF CULINARY ARTS
COURSE TITLE: NUTRITIONAL COOKING
COURSE CODE: FWCANC450
3 semester credits

1. DESCRIPTION

Starting from the previously acquired knowledge of macro and micro nutrients, this course will provide students with the tools to analyze and develop a wide variety of nutritionally balanced meals on a seasonal basis.

Students will learn the fundamentals of metabolism and digestion and apply previously acquired cooking methods in order to preserve nutrients, and the possible applications of a wide variety of ingredients to create satisfying dishes while still respecting nutritional concepts.

Emphasis will be placed on the analysis of special dietary requirements either depending on dietary special needs or ethical choices. Raw foodism, vegetarian, and vegan diet as well as the possible alternatives to guarantee a balanced nutrient intake will be thoroughly covered. The course will give students the tools to design meals on a seasonal basis following the principles of healthy cooking.

This course includes experiential learning hours with our Community Engagement Member Institutions (CEMI).

2. OBJECTIVES

The goal of the course is to develop students' knowledge of the nutritional concepts when applied to the creation of healthy balanced meals.

Through the understanding of food composition and applying new and previously learned cooking methods, students will be able to plan nutritionally balanced and healthy menus and to critically evaluate the too often confusing and contradictory dietary advice of western society.

Upon successful completion of the course students will:

Identify the dietary benefits of the single categories of nutrients

Apply dedicated cooking methods in order to preserve the quality of nutrients, flavor, texture and appeal

Understand the advantages of a nutritionally balanced diet for a healthy living

Create nutritionally balanced meals depending on specific dietary requirements

Identify sources of monounsaturated and polyunsaturated fats

Understand what is cholesterol and what food to use to keep blood cholesterol under control

Shift the emphasis on plates toward grains, legumes, vegetables and fruits as the "center of the plate"

Select foods that help to achieve the nutritional goals and guidelines

Learn a variety of seasoning and flavoring techniques to help reduce reliance on salt and fats

Understand how to build a balanced diet in vegetarian and vegan regimens

Create gourmet vegetarian menus

Create gluten free menus

3. REQUIREMENTS

Three semesters of culinary arts or dietetics/nutrition coursework and Cooking Light: Contemporary Techniques for Healthy Living, or equivalent

4. METHOD

This course consists of lectures, class discussions, projects, and site visits within the local community. Mediums for instruction used will include, but are not limited to, interactive and hands-on activities which challenge thought processes, academic texts and studies, videos, slides, guided problem solving, and experiential and/or field learning activities where applicable.

5. TEXTBOOK – FURTHER READINGS – RESOURCES

TEXTBOOK:

Karen Drummond, Lisa Brefere - Nutrition for foodservice and culinary professionals – Wiley

The Textbooks are pre-ordered and available at: Paperback Exchange in Via delle Oche 4r or laFeltrinelli Via dei Cerretani 40R. Textbooks may also be available for purchase online or in e-book format.

The textbook is mandatory for successful completion of the course.

Where applicable, additional materials, handouts and/or notes will be provided by the instructor.

FURTHER READINGS

Fats and fatty acids in human nutrition: Report of an expert consultation – FAO - 2008

The Art of Nutritional Cooking - M. Baskette, J.Painter - 3rd Edition - Prentice Hall Editions

Wellness Foods A to Z: An Indispensable Guide for Health-Conscious Food Lovers - Sheldon Margen - The University of California, Berkeley Wellness Letter

Encyclopedia of Healing Foods – Michael T. Murray, Joseph and Lara Pizzorno - ATRIA Books

What to Eat - Marion Nestle - North Point Press

Techniques of Healthy Cooking - Wiley

The Oxford Companion to Italian Food - Gillian Riley - Oxford University Press

On food and cooking - Harold McGee - Hodder & Stoughton

The Mediterranean Diet Cookbook - N.H. Jenkins A.Trichopoulou - Bantam Books New York

The science of cooking - Peter Barham - Springer

The New Making of a Cook : The Art, Techniques and Science of Good Cooking - Kamman

LIBRARIES IN FLORENCE

The FUA-AUF library is located in Corso Tintori 21. Please consult the posted schedules for official opening times. Also note that the library is for consultation only and it is not possible to borrow materials. The library is equipped with a scanner and internet access so that you may save or email a digital copy of the pages needed.

Students may also utilize additional libraries and research centers within the local community:

BIBLIOTECA PALAGIO DI PARTE GUELFA

Located in Piazzetta di Parte Guelfa between Piazza della Repubblica and Ponte Vecchio. Please consult the library website for hours of operation: http://www.biblioteche.comune.fi.it/biblioteca_palagio_di_parte_guelfa/

BIBLIOTECA DELLE OBLATE

Located in via dell'Oriuolo 26. Please consult the library website for hours of operation: www.bibliotecadelleoblate.it

THE HAROLD ACTON LIBRARY AT THE BRITISH INSTITUTE OF FLORENCE

Located in Lungarno Guicciardini 9. Please consult the library website for hours of operation. This library requires a fee-based student membership. For information: www.britishinstitute.it/en

6. FIELD LEARNING

Please consult your Official Registration for any mandatory field learning dates. Field Learning Activities cited in Official Registrations are an integral part of the course and also include an assignment that counts towards your final grade, details will be provided on the first day of class.

7. COURSE MATERIALS

Professional Cooking courses

(NOTE: STUDENTS MUST ALSO ADHERE TO KITCHEN RULES OUTLINED IN THE GANZO/FEDORA BOOKLET)

Professional cooking classes

1. All students are strictly required to attend class wearing a clean uniform: the jacket provided by the institution, black pants, apron (color depending on the CA level), safety footwear, a white Chef's hat, and a set of knives. Students with long hair should tie hair back before wearing the hat. Students are not allowed to wear rings, earrings or any other visible piercings, bracelets, watches, and nail polish during lab hours. Students who are not dressed properly will not be allowed in class.
2. All students must attend class fully prepared and on time. Late students will not be accepted.

3. Carefully wash hands at the beginning of each class, before food is handled.
4. During professional cooking classes only small food tastings are allowed as the main purpose of these courses is to develop technical skills. Students are not allowed to take food out of the kitchen.
5. Students are also required to participate in a polite and responsible way. Students are not allowed to sit on the working stations. Students who disturb lessons or are disrespectful to the instructor or the other students will be asked to leave the class. Serious infractions will be evaluated by the Academic Office.
6. Cooking classes will include various tasks which all students must carry out. Classes will include all different types of recipes and students are expected to actively participate in all lessons regardless of personal likes or dislikes.
7. Each student is responsible for washing all utensils used during class and keeping the working station clean and tidy, with all the utensils as listed in the station inventory. Two students at a time will tidy up the kitchen common areas during each class.
8. Students are responsible for kitchen utensils and maintenance of the equipment. The cost of a) any missing utensil b) damages due to student carelessness will be shared by all students.
9. No visits are allowed in class at any time.
10. The use of cellular phones is not allowed within the school building.

Should students wish to store materials or equipment, lockers are available with a deposit (given back after returning the key).

8. COURSE FEES

Course fees cover course-related field learning activities, visits, and support the instructor's teaching methodologies. Book costs are not included in the course fee. The exact amount will be communicated by the instructor on the first day of class.

9. EVALUATION – GRADING SYSTEM

10% Attendance

30% Class Participation and Assignments

20% Midterm Exam, Field Learning project (if applicable), Special/Research Project (if applicable), Practical Performance (if applicable)

20% Final Exam

20% Paper/Project

A = 93-100 %, A- = 90-92%, B+ = 87-89%, B = 83-86%, B- = 80-82%, C+ = 77-79%, C = 73-76%, C- = 70-72%, D = 60-69%, F = 0-59%, W = Official Withdrawal, W/F = Failure to withdraw by the designated date.

10. ATTENDANCE – PARTICIPATION

Academic integrity and mutual respect between instructor and student are central to the FUA-AUF

academic policy and reflected in the attendance regulations. Student presence is mandatory and counts toward the final grade.

An absence as per the FUA-AUF Academic Catalog is equivalent to 3 academic hours.

On the second absence the attendance and participation grade will be impacted. Please note that missing certain field learning activities may count for more than one absence.

On the third absence the instructor may lower the final grade by one letter grade. (Example: Final grade average of 93% or A will become a B).

The fourth absence constitutes automatic failure of the course. Students with excessive absences will be asked to withdraw with a W (if before the deadline) or leave the course with a WF.

LATE ARRIVAL AND EARLY DEPARTURE

Arriving late or departing early from class is not acceptable. Two late arrivals or early departures or a combination will result in an unexcused absence. Travel is not an exceptional circumstance.

TRAVEL (OR DELAYS DUE TO TRAVEL) IS NEVER AN EXCUSE FOR ABSENCE FROM CLASS.

It is always the student's responsibility to know how many absences he or she has in a course. If in doubt, speak with your instructor!

Participation: Satisfactory participation will be the result of contributing to class discussions by putting forth insightful and constructive questions, comments and observations. Overall effort, cooperation during group work, proper care of work space and tools, responsible behavior, and completion of assignments will be assessed. All of the above criteria also apply to Field Learning and site visits.

11. EXAMS – PAPERS – PROJECTS

Assignments

Students are asked to manage the kitchen with responsible behavior and abide by the HACCP guidelines and the rules included in the Fedora/Ganzo Booklet regarding kitchen management.

Students are asked to collaborate in the purchasing, storing, and issuing of the ingredients necessary to provide the service related to the course activities and to manage the parties according to the teacher's indications.

Class participation and assignments account for the 30% of the final course grade.

Final Paper/Project

Format, guidelines and due dates will be available on the course website.

Material for research will be available in the FUA-AUF Library in Corso Tintori 21.

The Final Project accounts for 20% of the course grade.

The **Final** exam accounts for 20% of the final course grade and it consists of a written and a practical test. For exam time and date consult the course addendum. **The time and date of the exam cannot be changed for any reason.**

Format: the written exam is divided into three sections:

- Part I: 10 Multiple choice questions. Each correct answer is worth 2 points, for a total of 20 points.
- Part II: 6 short-answer questions. Each correct and complete answer (concise explanations, main

ideas, key words, names, etc.) is worth 10 points, for a total 60 points.

- Part III: 1 essay question

The practical test will be decided by the Chef instructor. See information on the course addendum.

The Final Exam is cumulative.

12. LESSONS

The below list of topics does not indicate a sequence.

Introduction to the course

Review of modern basic nutritional concepts and their application - “Macro and Micro” nutrients

Readings: The Art of Nutritional Cooking - M. Baskette, J.Painter- pp.21-24, 39-40

Dietary Fibre

The role of fibers in human digestion: structure, sources and digestion of fibres – Health effects of dietary fibre – Daily intake - Combining fibre-rich foods for a healthy diet

Benefits of eating whole foods VS refined foods

Survey of foods rich in fibre - Survey of foods glycemic index

Whole flour and alternative cereals: benefits for health & suggestions for the use

Balancing a diet with an emphasis on dietary fibre

TEXT BOOK – pp.16-20, 78-85, 92-96

Suggested readings:

The Art of Nutritional Cooking - M. Baskette, J.Painter- pp.56-67

Protein sources: complementary proteins

Structure, sources, and digestion of proteins – Functional and nutritional properties of proteins

Survey of foods containing proteins: proteins quality

Definition of complementary proteins – Protein combinations: dos and don'ts

Balancing a diet with an emphasis on proteins: how to combine nutrients to create balanced one-course meal dishes

Ingredients: Quinoa and amaranth

Nutritional facts and culinary applications

TEXT BOOK – pp.144-152

Suggested readings:

The Art of Nutritional Cooking - M. Baskette, J.Painter – pp.69-79

Lipids - Fats, oils and relatives

NOTE: Part of this topic is included in the Cooking Light course syllabus as an essential part for the course treatise

Classification of lipids – Lipids structure: Fatty acids

Dietary differences: monounsaturated, polyunsaturated and saturated fatty acids

Effects of different fatty acids on metabolism - Survey of lipids content in food

Balancing a diet with an emphasis on lipids

Omega 3 and Omega 6 Fatty Acids

Antioxidant properties - Sources and suggested intake

Essential fatty acids: LA & ALA

Cooking and eating healthy: Omega3/Omega6 ratio

Cholesterol

Definition and purposes for human body

Difference between blood and dietary cholesterol: LDL and HDL

Survey of foods that help keeping a low blood cholesterol level

TEXT BOOK – pp.114-132

Suggested readings:

The Art of Nutritional Cooking - M. Baskette, J.Painter – pp.89-95

Fats and fatty acids in human nutrition: Report of an expert consultation – FAO – 2008 Ch.3

Vitamins and minerals

Review of the importance of micronutrients for health - Survey of vitamins and minerals sources
Vitamins and mineral functional properties

How to preserve vitamins and minerals when cooking

Balancing a diet with an emphasis on micronutrients

Raw foodism

Definition of raw food diet - Reasons for the choice - History of the development of raw foodism -
Advantages and disadvantages

Suitable non-cooking techniques to guarantee variety and digestibility in a raw food diet

Oily Seeds

Nutritional profile and raw seeds application: culinary and nutritional purposes

Readings: The Art of Nutritional Cooking - M. Baskette, J.Painter Ch.6-7

Flavorings in healthful cooking

Enhancing dining pleasure with flavorful ingredients

The use of flavorful ingredients is fundamental to increase dining pleasure in low-fat or fat-free diets

NOTE: Part of this topic is included in the Cooking Light course syllabus as an essential part for the course treatise

Wines, Spirits and Beer

Flavoring with wines, spirits and beer

Effects of alcohol on human metabolism – Cooking with alcohol: suggestions and tips

Readings: The Art of Nutritional Cooking - M. Baskette, J.Painter - pp. 301-304

See additional material on the course website

Herbs and Spices

Herbs and spices application for culinary purposes – Terpens and phenols in herbs and spices: antioxidant and antibacterial properties

TEXT BOOK – pp.234-245

Suggested readings:

The Art of Nutritional Cooking - M. Baskette, J.Painter - pp. 305-312

www.mdpi.com/1422-0067/15/10/19183/pdf

https://www.researchgate.net/publication/30387048_Health_benefits_of_herbs_and_spices_Public_Health

https://www.researchgate.net/publication/282353976_The_Value_of_Spices_Uses_Nutritional_and_Health_Benefits

Nuts, Aromatic Vegetables, Mushrooms

Survey of nutrients in nuts and seeds – Culinary applications

How to use aromatic vegetables for a tasty and healthy meal

Mushroom application for nutritional balance and flavor complexity

The Art of Nutritional Cooking - M. Baskette, J.Painter – pp.233-241

Suggested readings:

www.fao.org/3/a-v8929e.pdf

https://www.cnpp.usda.gov/sites/default/files/nutrition_insights_uploads/Insight23.pdf

Special dietary requirements

Food allergy VS Food intolerance

Definition and differences – Common allergens and allergies diffusion

Common sources of intolerances

European regulations on the provision of food information to consumers

Safety recommendations for food service professionals

Suitable culinary alternatives for most common restrictions

Suggested readings:

<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32011R1169>

Celiac Disease

Definition of celiac disease or “gluten sensitive enteropathy”

Suitable ingredients in a gluten free diet – Culinary alternatives

Ingredients: Millet, Chestnut

Nutritional facts and culinary applications

See additional material on the course website

Plant food-based diet: vegetarianism

Survey of different plant-based diets: distinctions and characteristics

Lacto & Lacto-Ovo Vegetarian / Fruitarian / Pescatarian / Vegan

The reasons for an ethical choice

Nutrients deficiency: analysis of nutritional deficiencies in vegetarian diets

Balancing a diet: a dedicated approach for each type of vegetarian diet

TEXT BOOK – pp. 161-164, 354-356

Suggested readings:

The Art of Nutritional Cooking - M. Baskette, J.Painter – pp.258-265

<https://vegetariannutrition.net/docs/Protein-Vegetarian-Nutrition.pdf>

Focus on: Vegan diet

Balancing a vegan diet: suggestions for a complete nutrients intake when choosing a vegan diet

The radical approach of “natural pastry”

Iron, vitamin D, Calcium and B vitamins deficiency in a vegan diet.

TEXT BOOK – pp.161-164, 354-356

Alternative sources of nutrients

Seaweeds

Nutritional facets of seaweeds: proteins, soluble fibre, vitamin D – Suitable application in the kitchen

<http://www.berkeleywellness.com/healthy-eating/food/article/6-things-know-about-seaweed>

https://www.researchgate.net/publication/305474158_A_REVIEW_ON_NUTRITIONAL_FACETS_OF_SEAWEEDS

Chia seeds

Modern superfood: omega 3 (ALA), calcium, fibre, proteins

Handling chia seeds for both raw and cooked applications

https://www.researchgate.net/publication/316994147_Chia_seeds_products_an_overview

<https://www.hsph.harvard.edu/nutritionsource/food-features/chia-seeds/>

Iron sources

Heme & non-Heme Iron: food combinations for a better iron absorption

Focus on Vitamin C

Survey of non-heme iron sources: focus on dried apricots, almonds, lentils, brown rice

<https://hemochromatosishelp.com/heme-iron-vs-non-heme-iron/>

https://www.mja.com.au/system/files/issues/196_10_040612_supplement/sau11494_fm.pdf

Learning Outcomes

Learn to apply nutritional principles to professional recipe development

Create nutritionally balanced meals according to a variety of requirements

Learn where nutrients can be found amongst the ingredients available in the market

Identify foods rich in fibre

Understand the purpose of dietary fibre

Learn the use of whole flours to produce pasta: focus on texture and flavor

Gain confidence in alternative grain application

Identify all sources of proteins

Understand the features of complementary proteins

Learn how to balance nutrients in a one course meal

Understand the importance of reducing fat amount in cooking

Learn how to cook with low fat and still preserve flavors

Understand the importance of oily seeds for a healthful diet and omega 3/6 fatty acids

Learn how to cook food and preserve micronutrients

Understand what factors affect micronutrient intake

Understand the reasons of raw foodism supporters analyze them in the light of consolidated scientific knowledge

Learn the positive influence that raw food consumption can have on the body but in same time understand the possible risks

Learn how to enhance flavors with wines and beer

Identify the issues connected to alcohol consumption

Understand how herbs and spices can increase food pleasure and have beneficial effects

Understand how to substitute ingredients for special dietary needs

Learn to use smoking techniques to increase flavor but not calories and fat intake

Learn to use “alternative” ingredients to widen flavors range

Understand the concept of vegetarianism and how to guarantee nutritional balance

Understand veganism - Learn how to guarantee a proper nutrients intake in vegan diet

Gain confidence in cooking with seaweed

Apply modern superfoods to balance nutrient deficiency