

MODULE DOCUMENTATION

Fundamentals of Food

Microbiology and Analysis

MANF07003

Elective

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Full Title	Fundamentals of Food Microbiology and Analysis		
Status	Uploaded to Banner	Start Term	2017
NFQ Level	07	ECTS Credits	05
Module Code	MANF07003	Duration	Semester - (13 Weeks)
Grading Mode		Department	Culinary Arts
Module Author	Francesco Noci		

Module Description

This module will provide the learner with introductory knowledge on microbiological status of food, the basic techniques for microbial evaluation of food samples and will illustrate a selected range of technologies available in the food sector for the quality assessment of food samples.

Learning Outcomes

On completion of this module the learner will/should be able to:

1. Apply basic microbiology techniques for solid and liquid food samples
2. Describe the different instrumental methods used in quality assessment
3. Explain the basic principles underlying the measurement of different properties in food products
4. Conduct selected experiments for qualitative and/or quantitative analysis
5. Describe the role of microorganisms in food related diseases and in food production

Indicative Syllabus

Microbiology of Food.

- (i) Food contamination and prevention
- (ii) Food spoilage, food poisoning and food-borne diseases
- (iii) Food storage /preservation.

Control of micro-organisms using physical chemical methods e.g.

- (i) Moist heat, thermal death times, D values, etc.
- (ii) Radiation, UV and their applications in industry
- (iii) Chemical preservatives.

Microbiological analyses of selected foods e.g. milk, meat, fish

- (i) Food sampling
- (ii) TVC
- (iii) Indicator organisms
- (iv) Yeasts / moulds.

Selected instrumental techniques used in food properties assessment (E.g.)

- i) Spectroscopy (visible, UV, atomic absorption)
- ii) Polarimetry and refractometry.
- iii) Chromatography
- iv) Textural analysis, Viscosity

Teaching and Learning Strategy

The teaching and learning strategy for this module consists of a combination of theory lectures, practical activities in a laboratory setting and case studies that can strengthen the understanding of the theoretical concepts

Assessment Strategy

Assessment strategy for this module will be based on an end of semester exam, supported by continuous assessment in the form of in class test and a group project

Repeat Assessment Strategies

Repeat examination consisting of both practical and theoretical elements

Indicative Coursework and Continuous Assessment:		100 %		
Form	Title	Percent	Week (Indicative)	Learning Outcomes
Practical Evaluation	Laboratory assessment	60 %	OnGoing	1,2,4
Assessment	in class test	40 %	OnGoing	2,3,5

Full Time Delivery Mode Average Weekly Workload:			3.00 Hours		
Type	Description	Location	Hours	Frequency	Weekly Avg
Lecture	Lecture	Laboratory	1	Weekly	1.00
Practical	Laboratory	Laboratory	2	Weekly	2.00

Recommended Reading Book List

(2014). *Food Analysis (Food Science Text Series)*. Springer.
ISBN 1441914773 ISBN-13 9781441914774

Adams, R., (2015). *Food Microbiology*. Royal Society of Chemistry.
ISBN 1849739609 ISBN-13 9781849739603

Programme Membership

GA_OCGSG_B07 202000 Bachelor of Arts in Culinary and Gastronomic Sciences
GA_OCGSG_H08 202000 Bachelor of Arts (Honours) in Culinary and Gastronomic Sciences