

| General Information   |   |
|-----------------------|---|
| Academic subject      | Food safety (I.C. Food Safety, Nutrition and Nutrition Education) |
| Degree course         | Bachelor programme: Food Science and Technology                   |
| ECTS credits          | 6 ECTS  |
| Compulsory attendance | No  |
| Teaching language     | Italian   |

| Subject teacher | Name Surname           | Mail address   | SSD    |
|-----------------|------------------------|--|--------|
|                 | <b>Fabio Minervini</b> | <a href="mailto:fabio.minervini@uniba.it">fabio.minervini@uniba.it</a> | AGR/16 |

| ECTS credits details      |  |
|---------------------------|--|
| Basic teaching activities | 4.5 ECTS Lectures   1.5 ECTS Laboratory or field classes |

| Class schedule |   |
|----------------|---|
| Period         | II semester   |
| Course year    | Third   |
| Type of class  | Lectures<br>Practical classes with, if necessary, projection of educational videos<br>Practical classes consisting in the discussion of cases-study |

| Time management          |     |
|--------------------------|-----|
| Hours                    | 150 |
| In-class study hours     | 57  |
| Out-of-class study hours | 93  |

| Academic calendar |                                  |
|-------------------|----------------------------------|
| Class begins      | February 24 <sup>th</sup> , 2020 |
| Class ends        | June 12 <sup>th</sup> , 2020     |

| Syllabus                   |  |
|----------------------------|--|
| Prerequisites/requirements | Knowledge of basic microbiology and microbiology applied to food and beverages   |
| Expected learning outcomes | <p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ Knowledge about distribution, prevalence and environmental adaptation of the main food-borne pathogenic microorganisms</li> </ul> <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ To prevent food-borne diseases</li> </ul> <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> <li>○ To acquire information needed for actions aiming to improve food salubrity</li> </ul> <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ Ability to describe general and eco-physiological traits, contamination pathways and modes of prevention of the main food-borne pathogenic microorganisms</li> </ul> <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> <li>○ Ability to improve knowledge for solving food salubrity issues, from production to consumption</li> </ul> <p>The expected learning outcomes, in terms of both knowledge and skills, are provided in Annex A of the Academic Regulations of the Degree in Food Science and Technology (expressed through the European Descriptors of the qualification)</p> |
| Contents                   | <ul style="list-style-type: none"> <li>• Classification of food borne diseases</li> <li>• Microbiological risk analysis of food</li> <li>• Methods for controlling over pathogenic microorganisms: use of modified atmosphere packaging, use of high pressure</li> </ul>   |

|                     |   |
|---------------------|---|
|                     | <p>treatments and of other innovative methods</p> <ul style="list-style-type: none"> <li>• Distribution, prevalence, and environmental adaptation of the main microorganisms responsible for food borne diseases</li> <li>• Detection of pathogenic microorganisms and/or their metabolites in food items</li> <li>• In-depth study about microbiological issues of food of vegetable and animal origin</li> </ul>  |
| Course program      |   |
| Reference books     | <p>Notes from lectures and laboratory classes. Presentations (in pdf) provided by the teacher.</p> <p>Additional readings</p> <ol style="list-style-type: none"> <li>1. Madigan, M.T., J.M. Martinko and J. Parker. Brock – Biology of Microorganisms. 8.a ed. London: Prentice &amp; Hall International. 1997.</li> <li>2. Jay, J.M., M.J. Loessner, D.A. Golden. Modern Food Microbiology. 7th ed. Springer Science+Business Media, LLC. 2005.</li> <li>3. ICMSF. Microorganisms in foods 6 – Microbial Ecology of Food Commodities. 2.a ed. New York: Kluwer Academic/Plenum Publishers. 2005.</li> </ol>  |
| Notes               |   |
| Teaching methods    | <p>Lectures will be presented through PC assisted tools (Powerpoint) and slide projector. Projection of educational videos and practical classes (ranging from a total of 5 to 10 hours) consisting in the discussion of cases-study are also included as supplementary teaching method. Powerpoint presentations, in pdf format, will be shared with students through a mailing list. A dedicated mailing list will be created for interaction with students.</p>  |
| Evaluation methods  | <p>The exam consists of an oral dissertation on the topics developed during the theoretical and theoretical-practical lectures in the classroom and in the laboratory/production plants, as reported in the Academic Regulations for the Bachelor Degree in Food Science and Technology (article 9) and in the study plan (Annex A).</p> <p>Students attending at the lectures may have a middle-term preliminary exam, consisting of a written test, relative to the first part of the program, which will concur to the final evaluation and will be considered valid for a year.</p> <p>The evaluation of the preparation of the student occurs on the basis of established criteria, as detailed in Annex B of the Academic Regulations for the Bachelor Degree in Food Science and Technology.</p> <p>Non-Italian students may be examined in English language, according to the aforesaid procedures.</p> |
| Evaluation criteria | <p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ To describe distribution, prevalence and environmental adaptation of the main food-born pathogenic microorganisms</li> </ul> <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ To describe how a food technologist may act in a prevention programme of food-born diseases</li> </ul> <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> <li>○ To describe how to act for improving food salubrity</li> </ul> <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ To describe general and eco-physiological traits, contamination pathways and modes of prevention of the main food-born pathogenic microorganisms</li> </ul>  |

|                 |  |
|-----------------|--|
|                 | <i>Capacities to continue learning</i> <ul style="list-style-type: none"><li>○ To describe the means for targeting personal knowledges for solving new food salubrity issues</li></ul> |
| Receiving times | the teacher is available from Monday to Friday (8:00 am – 6:00 pm) only by appointment   |