# COURSE OUTLINE

## (1) GENERAL

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>NATURAL SCIENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC UNIT</td>
<td>DEPARTMENT OF BIOLOGY</td>
</tr>
<tr>
<td>LEVEL OF STUDIES</td>
<td>UNDERGRADUATE</td>
</tr>
<tr>
<td>COURSE CODE</td>
<td>BIO_ΣΤΕ2</td>
</tr>
<tr>
<td>SEMESTER</td>
<td>6/8</td>
</tr>
</tbody>
</table>

**COURSE TITLE** CLINICAL CHEMISTRY

**INDEPENDENT TEACHING ACTIVITIES**

- Lectures and practical exercises 5 6

Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).

**COURSE TYPE** Scientific specialized background

**PREREQUISITE COURSES**

- Formally there are no prerequisites.
- However, knowledge of Human Physiology and Immunology are recommended

**LANGUAGE OF INSTRUCTION and EXAMINATIONS**

- Greek

**IS THE COURSE OFFERED TO ERASMUS STUDENTS**

**COURSE WEBSITE (URL)**

## (2) LEARNING OUTCOMES

**Learning outcomes**

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area
- Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B
- Guidelines for writing Learning Outcomes

The students will learn how basic clinical analyses (general blood tests, biochemical tests, immunological analyses etc) are performed in a Clinical Laboratory, and how they can check and give reliable results.
### General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

<table>
<thead>
<tr>
<th>General Competence</th>
<th>Syllabus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search for, analysis and synthesis of data and information, with the use of the necessary technology</td>
<td>Clinical Laboratory techniques, Anemia-General blood tests, Renal function tests, Myocardial infraction biochemical tests, Hypertension, Liver function tests, Glucose and lipid metabolism check, Thyroid function tests, Hormones, Viral infections, Laboratory aspects of cancer, Immunological disorders, Drag determination, Reliability of results, Clinical lab accreditation.</td>
</tr>
<tr>
<td>Adapting to new situations</td>
<td>Project planning and management</td>
</tr>
<tr>
<td>Decision-making</td>
<td>Respect for difference and multiculturalism</td>
</tr>
<tr>
<td>Working independently</td>
<td>Respect for the natural environment</td>
</tr>
<tr>
<td>Team work</td>
<td>Showing social, professional and ethical responsibility and sensitivity to gender issues</td>
</tr>
<tr>
<td>Working in an international environment</td>
<td>Criticism and self-criticism</td>
</tr>
<tr>
<td>Working in an interdisciplinary environment</td>
<td>Production of free, creative and inductive thinking</td>
</tr>
<tr>
<td>Production of new research ideas</td>
<td>Others...</td>
</tr>
</tbody>
</table>

Quest, analysis and synthesis of data and information, using necessary technologies. Final conclusion.

(3) SYLLABUS

Clinical Laboratory techniques, Anemia-General blood tests, Renal function tests, Myocardial infraction biochemical tests, Hypertension, Liver function tests, Glucose and lipid metabolism check, Thyroid function tests, Hormones, Viral infections, Laboratory aspects of cancer, Immunological disorders, Drag determination, Reliability of results, Clinical lab accreditation.
TEACHING and LEARNING METHODS - EVALUATION

**DELIVERY**
Face-to-face, Distance learning, etc.

Face to face lectures in classroom and lab

**USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY**
Use of ICT in teaching, laboratory education, communication with students

**TEACHING METHODS**
The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student’s study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS

<table>
<thead>
<tr>
<th>Activity</th>
<th>Semester workload</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>26</td>
</tr>
<tr>
<td>Lab practice</td>
<td>15</td>
</tr>
<tr>
<td>Tutorials</td>
<td>4</td>
</tr>
<tr>
<td>Educational visits</td>
<td>3</td>
</tr>
</tbody>
</table>

Course total 48

**STUDENT PERFORMANCE EVALUATION**
Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

Every lab exercise if followed by a test with questions of short answers and mathematical problems.
The average of these tests consists the 20% of the final degree.
The final examination of the course includes questions of judgement and table filling which combine analyses results and biological fluids.
The grade of the final test consists the 80% of the final rating, along with the 20% of the lab tests.
The evaluation criteria are mentioned at the eclass of the course.

**ATTACHED BIBLIOGRAPHY**

- Suggested bibliography:
  Skorilas A. Principals of Clinical Chemistry and Molecular Diagnostics. Symmetria Editions
  Kaplan A. Clinical Chemistry. Paschalidis Editions

- Related academic journals:
  Tietz Textbook of Clinical Chemistry and Molecular Diagnostics (TIETZ TEXTBOOK OF CLINICAL CHEMISTRY) Carl A. Burtis, Edward R. Ashwood, David E. Bruns