




5.00 credits

45.0 h

Q1


**This learning unit is not open to incoming exchange students!**

|                             |   |
|-----------------------------|---|
| Teacher(s)                  | Fisette Paul ;Marichal Xavier ;Marotta Massimo ;  |
| Language :                  | French  |
| Place of the course         | Bruxelles Saint-Louis   |
| Prerequisites               | <i>The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.</i>  |
| Learning outcomes           | <p><b>At the end of this learning unit, the student is able to :</b></p> <p>The course helps students to understand technological basics in the fields of telecommunications, materials and chemical industry processes as well as mechanics and common mechanisms. This training should allow them to understand the specific scientific language and to collaborate and dialogue with specialists in these fields. This course also aims to make possible the realization of a project at master's level.</p>   |
| Evaluation methods          | <p>The assessment is divided in 3 written parts (telecom, mechanics, materials science and industrial production). Final note = average of 3 parts.</p> <p>Possibility of changing the mode of assessment according to the health situation.</p>  |
| Teaching methods            | <p>Course notes to support the presentation, copies of transparencies, articles for further reading (various languages) and references of books are made available to students.</p> <p>An expert speaker from a field is occasionally invited.</p> <p>Students may be offered tours of factories.</p> <p>For the theme A. Telecommunications:</p> <p>As a first step, simple and intuitive examples are presented - using transparencies or directly on the board - to introduce students to the mathematical and technical concepts common to most multimedia tools.</p> <p>We then explain how these fundamental principles are implemented in concrete and sometimes complex applications.</p> <p>For theme B. Chemical industrial production and materials science</p> <p>Ex-cathedra teaching, film, company visits.</p> <p>For theme C. Mechanics and Mechanism</p> <p>Ex-cathedra presentations and Q &amp; A sessions</p> |
| Content                     | <p>The course is divided into three parts covering three main themes.</p> <p>The first theme introduces students to multimedia technologies, including imaging and communication techniques using computer networks.</p> <p>The second theme defines the basic concepts and tools in materials science and processes and highlights the major steps leading from the raw materials to the finished materials; special emphasis is placed on the relationships between synthesis processes, structure and properties of the resulting materials.</p> <p>The third theme provides training in kinematics and dynamics of mechanical systems, and gives an introduction to the static applied to beam-type elements. It also introduces the study of the most common transmissions, for example those encountered in automobiles.</p>  |
| Bibliography                | La bibliographie spécifique sera détaillée dans les notes relatives aux différentes parties.  |
| Faculty or entity in charge | ESPB  |

| <b>Programmes containing this learning unit (UE)</b>      |                         |         |                           |   |
|---|-------------------------|---------|---------------------------|---|
| Program title   | Acronym                 | Credits | Prerequisite              | Learning outcomes   |
| Bachelor : Business Engineering                           | <a href="#">INGB1BA</a> | 5       | <a href="#">BINGE1242</a> |  |
| Bachelor : Business Engineering<br>(French-English)       | <a href="#">INAB1BA</a> | 5       | <a href="#">BINGE1242</a> |  |
| Bachelor : Business Engineering<br>(French-Dutch-English) | <a href="#">INTB1BA</a> | 5       | <a href="#">BINGE1242</a> |  |