

## COURSE/MODULE DESCRIPTION (SYLLABUS)

1.	Course:  <b>Cancer Biology</b>
2.	Language of instruction:  <b>English</b>
3.	Faculty:  <b>Faculty of Biotechnology</b>
4.	Course code:  <b>29-BT-S2-E3-CB</b>
5.	Course/module type ( <i>mandatory or elective</i> ):  <b>mandatory</b>
6.	Programme:  <b>Medical Biotechnology</b>
7.	Study cycle:  <b>2nd cycle</b>
8.	Year:  <b>2nd</b>
9.	Semester ( <i>autumn or spring</i> ):  <b>autumn</b>
10.	Form of tuition and number of hours:  <b>Lecture, 15h</b>
11.	Name, Surname, academic title:  <b>Ewa MARCINKOWSKA, Professor</b>
12.	Initial requirements (knowledge, skills, social competences) regarding the course/module and its completion:  <b>knowledge of cell biology</b>
13.	Objectives:  <b>To gain the knowledge about origin of cancer cells, about factors that enhance cancerogenesis, and about the molecular bases of anticancer therapies. Molecular features of cancer cells, and features of cancer environment will be explained. Some history of cancer research will be presented, as well as elements of cancer epidemiology.</b>
14.	Content:  <b>Causes of cancerogenesis. Cancer genetics and epigenetics. Oncogenes. Tumor suppressor genes. Multi-step cancerogenesis. Cross-talk between cancer and cancer environment in the organism. Cancer immunology. Anti-cancer therapies. Cancer epidemiology and diagnostics.</b>

15.	<p>Learning outcomes:</p> <p>Student:</p> <ul style="list-style-type: none"> <li>• provides qualitative and quantitative descriptions of complex biological phenomena and processes;</li> <li>• consistently applies and disseminates the principle of strict interpretation of biological phenomena and biochemical processes in research and practical activities which are based on empirical data;</li> <li>• possess advanced knowledge of medical and biological sciences, namely biomedicine and molecular biology;</li> <li>• possess knowledge of the current issues prevailing in scientific literature</li> <li>• efficiently makes use of scientific literature in the field of biomedicine and biotechnology; reads professional literature in English;</li> <li>• understands the need for a systematic review of professional literature in order to broaden and deepen his or her knowledge.</li> </ul>	<p>Outcome symbols:</p> <p>K_W01, K_W02, K_W03, K_W05</p> <p>K_U02</p> <p>K_K05</p>										
16.	<p>Recommended literature:</p> <ul style="list-style-type: none"> <li>• Robert A. Weinberg ‘<b>The Biology of Cancer</b>’, Garland Science.</li> <li>• Actual scientific literature in case of new discoveries that have not been covered by Weinberg’s textbook.</li> </ul>											
17.	<p>Methods of verification of the assumed learning outcomes:</p> <ul style="list-style-type: none"> <li>• <b>written exam</b> (1,5 h)</li> </ul>											
18.	<p>Conditions of earning credits:</p> <ul style="list-style-type: none"> <li>• <b>positive outcome of an exam</b></li> </ul>											
19.	<p>Student’s workload:</p> <table border="1" data-bbox="207 1512 1412 1991"> <thead> <tr> <th data-bbox="207 1512 1062 1610">Activity</th> <th data-bbox="1062 1512 1412 1610">Number of hours for the activity</th> </tr> </thead> <tbody> <tr> <td data-bbox="207 1610 1062 1720"> <p>Hours of instruction (as stipulated in study programme):</p> <ul style="list-style-type: none"> <li>• lecture</li> </ul> </td> <td data-bbox="1062 1610 1412 1720">15 h</td> </tr> <tr> <td data-bbox="207 1720 1062 1883"> <p>Student’s own work:</p> <ul style="list-style-type: none"> <li>• preparations before lectures,</li> <li>• reading of relevant literature,</li> <li>• preparations before final exam.</li> </ul> </td> <td data-bbox="1062 1720 1412 1883">15 h</td> </tr> <tr> <td data-bbox="207 1883 1062 1937">Total number of hours:</td> <td data-bbox="1062 1883 1412 1937"><b>30 h</b></td> </tr> <tr> <td data-bbox="207 1937 1062 1991">Number of ECTS:</td> <td data-bbox="1062 1937 1412 1991"><b>2 ECTS</b></td> </tr> </tbody> </table>		Activity	Number of hours for the activity	<p>Hours of instruction (as stipulated in study programme):</p> <ul style="list-style-type: none"> <li>• lecture</li> </ul>	15 h	<p>Student’s own work:</p> <ul style="list-style-type: none"> <li>• preparations before lectures,</li> <li>• reading of relevant literature,</li> <li>• preparations before final exam.</li> </ul>	15 h	Total number of hours:	<b>30 h</b>	Number of ECTS:	<b>2 ECTS</b>
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