

**Course Outline Template- 2<sup>nd</sup> semester- 1439/1440**

Form A: Theoretical Course Course Information		
Course Number: BCH 466	Sections:	
Faculty Responsible for Developing This Course Outline		
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Course Type	Core Course	Compulsory <b>Elective</b>
<b>(1) purpose for this course</b>		
The goal of this course is to focus on the molecular basis of cancer by understanding the nature of the cancer cell and provide the student with a functional background in the cellular physiology, genetics, and metabolism associated with cancer development. Students will be able to apply concepts of cancer biology to data analysis based questions.		
<b>(2) Course Learning Outcomes: Students will be able to:</b>		
<ol style="list-style-type: none"> <li>1. Describe the six hallmarks of cancer.</li> <li>2. Role of oncogenes and tumor suppressor genes in tumor formation and invasiveness.</li> <li>3. The integration of basic scientific knowledge into treatment protocols.</li> <li>4. To contribute to a student-centered interactive learning environment.</li> </ol>		
<b>(3) Course Assessment Methods:</b>		
<ul style="list-style-type: none"> <li>- 25% of exam questions must be provided from each staff involve in teaching</li> <li>- Faculty member is required to announce 40 out of 60 of student degree before the official date of withdrawn courses which is on <b>14<sup>th</sup> of Rajab 1440/ 21-3-2019</b></li> </ul>		
Assessment Method	Weight	Aligned Course Learning Outcomes
Student-led lectures	10	A topic from the text not already covered. Students will divide the material, and each will present a portion of that material as an individual presentation.
Class participation, quizzes and homework	10	Critical thinking skills related cancer development and treatment
2 continuous exams	20 each	Understanding of the cellular and molecular basis of cancer
Final Exam	40	



<b>(4) Topics to be Covered</b>		
<b>Week</b>	<b>Topics</b>	<b>Reference</b>
<b>6-1-2019</b>	Introduction to the course Time line of cancer research	Landmarks In Cancer Research 1907-2017
<b>13-1-2019</b>	The Nature of Cancer- Hallmarks of Cancer	Chapter-1
<b>20-1-2019</b>	DNA structure and stability: mutations vs repair	Chapter-2
<b>27-1-2019</b>	Regulation of gene expression Growth factor signaling and oncogenes	Chapter-3/-4
<b>3-2-2019</b>	The cell cycle	Chapter-5
<b>10-2-2019</b>	<b>1<sup>st</sup> Mid-term exam</b>	
<b>17-2-2019</b>	Growth Inhibition and Tumor Suppressor Genes p53 and Apoptosis	Chapter-6/-7
<b>24-2-2019</b>	Stem cells and differentiation Metastasis	Chapter-8/-9
<b>3-3-2019</b>	Student's presentation	
<b>10-3-2019</b>	The immune system, infections, and inflammation	Chapter-10
<b>17-3-2019</b>	Nutrients, hormones, and gene interactions	Chapter-11
<b>21-3-2019</b>	Cancer cell Metabolism	Chapter-12
<b>24-3-2019</b>	<b>2<sup>nd</sup> Mid-term exam</b>	
<b>31-3-2019</b>	Cancer in the future: focus on cancer vaccines and technology	Chapter-13
<b>7-4-2019</b>	Review session	



**(5) References:**

- Molecular Biology of Cancer: Mechanisms, Targets, and Therapeutics. Lauren Pecorino 4<sup>th</sup> edition, 2016.
- Other readings as assigned

**(6) Date of Reviewing examination results with students**

- 1 <sup>st</sup> continuous exam	10-02-2019
- 2 <sup>nd</sup> continuous exam	24-03-2019

**Approved on 31/12/18**