

PLANO DE ENSINO			
<b>CURSO</b>	Medicina		
<b>NÚCLEO DE FORMAÇÃO</b>	NÚCLEO DE FORMAÇÃO ESPECÍFICA EM MEDICINA DIAGNÓSTICA		
<b>DISCIPLINA</b>	Translational Medicine: From the Bench To The Bedside		
<b>CODICRED</b>	93144-02		
<b>CARGA HORÁRIA</b>	30h/a		
<b>PROFESSOR</b>	Denise Cantarelli Machado	<b>E-MAIL</b>	dcm@pucrs.br
<b>VALIDADE</b>	2024/1		

#### OBJETIVOS:

The main objective of the course is to demonstrate how new technologies have made it possible to take the discoveries of pre-clinical research to clinical application, which has brought solutions to overcome human diseases. It will show how resources, knowledge and techniques have led to improvements in prevention, diagnosis and therapy. Guest lecturers will present real-life situations with examples of clinical applicability, emphasizing the health benefits and the need for this knowledge to train the professional of the future.

#### EMENTA:

Translational Medicine is an innovative branch of medical research that has rapidly moved from laboratory research to clinical applications. Knowledge of different areas of medicine and the biological sciences, from the structure and behavior of molecules to cell physiology, is at the forefront of translational medicine aimed at improving strategies for the prevention, detection and treatment of diseases. The course "Translational Medicine: from Basic to Clinical Research" will provide an immersion in the field of experimental research, emphasizing its close connection with medical practice.

#### METODOLOGIA:

CRONOGRAMA		
<b>AULAS TEÓRICAS</b>		
<b>DIA:</b> 5ª feira		
<b>HORÁRIO:</b> 14hs às 15h30min.		
<b>LOCAL:</b> TECNOPUC – Auditório Bill Hewlett - David Packard, Prédio 97A sala 101*.		
DATA	CONTEÚDO	PROFESSOR
29/02/2024	Introduction and definitions (Cap. 1)	Denise Cantarelli
07/03/2024	Problems, challenges in translational medicine (Cap.2)	Denise Cantarelli
14/03/2024*	Identification and validation of therapeutic targets (Chap. 3) – Sala 402 P12 A	Denise Cantarelli

21/03/2024	The potential of "omics" (Chap. 4) - Pitch	Denise Cantarelli
<b>28/03/2024</b>	<b>Semana Santa - Feriado Escolar</b>	
04/04/2024	Cell therapy (Chap. 5) - Pitch	Denise Cantarelli
11/04/2024	Translational pharmacogenetics (Chap. 6) - Pitch	Denise Cantarelli
18/04/2024	Biobanks (Chap. 7) - Pitch	Denise Cantarelli
25/04/2024	Pre-clinical studies with animal models (Chap. 8) - Pitch	Denise Cantarelli
02/05/2024	Biomarkers: classes, scoring, and prediction (Chap. 12) – Pitch (pg. 161)	Denise Cantarelli
09/05/2024	AI and machine learning applied to genetic analysis (Chap. 13 + 27) Pitch	Denise Cantarelli/Fernando Xavier
16/05/2024	Translational Medicine in Cardiology (Chap. 14) - Pitch	Denise Cantarelli/Luiz C. Bodanese
23/05/2024	Translational Medicine in Neurology (Chap. 11) - Pitch	Denise Cantarelli/Giordani Passos
<b>30/05/2024</b>	<b>Corpus Christi – Feriado Municipal</b>	
06/06/2024	Translational Medicine in Psychiatry and Oncology (Chap. 15+24, 16) - Pitch	Lucas Spanenberger/André Fay
13/06/2024	Immunobiologicals in translational medicine (Chap. 25) - Pitch	Denise Cantarelli
20/06/2024	Translational medicine in gerontology (Chap. 30) - Pitch	Denise Cantarelli
27/06/2024	Substitution activity	Denise Cantarelli

**\* - Exceptionally, on March 12<sup>th</sup>, classes will be held in Building 12 A, room 402.**

**AVALIAÇÃO DA GRADUAÇÃO: de 29/04 a 11/05/2024.**

**PROCEDIMENTOS E CRITÉRIOS DE AVALIAÇÃO**

**G1:** presentation of topics in the form of an individual pitch (5 minutes), with four (4 students) presentations per class.

**Substitute exam:** presentation of a specific topic in the form of a pitch (5 minutes).

**Content assessment:** FINAL NOTE = G1 or SE

Evaluation of presentations (PITCH= 7 minutes): Presentations will be individual with different themes/topics. Each student will have 5 minutes to give their presentation. At the beginning of the lesson, the students who will be presenting will hand in one question each. One student will be drawn (by roll call number) to answer the question (5

students/class). The students presenting will receive a mark for their presentation and the students drawn by lot will also receive a mark for the accuracy of their answer.

The assessment will be as follows:

- A. Presentation score + score received for the answer to the question drawn.
- B. Class participation and attendance

Final Mark: A+B

## **BIBLIOGRAFIA:**

### **BÁSICA:**

- Wehling, M., ed. (2021). Principles of Translational Science in Medicine: From Bench to Bedside, 3<sup>rd</sup> ed., Academic Press, Oxford.
- Salgia, R., Kulkarni, P. eds. (2023). Integrating Clinical and Translational Research Networks—Building Team Medicine - Series 2. MDPI, Basel.
- National Academy of Medicine, National Academy of Science and the Royal Society, eds (2021). Heritable Human Genome Editing. Washington, D.C: National Academies Press, Washington DC.

### **COMPLEMENTAR:**

- Cooper, L., Mittendorf, E., Moyes, J.; Prabhakaran, S. eds. (2018). Immunotherapy in translational cancer research. John Wiley & Sons, Inc. Hoboken, NJ.
- Satulli, G. ed. (2023). Translational Aspects of Cardiovascular Biology: From Bench to Bedside. MDPI, Basel.
- Bekaert, S. J. S., Debucquoy, A., T'Joens, V., Dollé, L. G., Linsen, L., eds. (2020). Biobanks as Essential Tools for Translational Research: The Belgian Landscape. Frontiers Media AS, Lousane.
- Rai, M., Patel, M., Patel, R., eds. (2022). Nanotechnology in Medicine: Toxicity and safety. John Wiley & Sons Ltd., Oxford.
- Veenstra, T. & Yates, J. eds. (2019). Proteomics for Biological Discovery, 2<sup>nd</sup> ed. John Wiley & Sons, Inc., Newark.

## **INFORMAÇÕES IMPORTANTES: REGULAMENTO E PÁGINA DA ESCOLA DE MEDICINA**

- <http://www.pucrs.br/medicina/informacoes-academicas/#informacoes-importantes>