

**SYLLABUS**

<b>Program</b>	Medicine
<b>TRACK</b>	Surgery
<b>COURSE</b>	Introduction to Academic Research
<b>CODE AND CREDITS</b>	33249-02
<b>HOURS</b>	30
<b>TERM:</b>	Starting in 2019/1

**OBJECTIVES:** At the end of the course, students will:

1. Be provided with the basic insights into the structure, development and interpretation of scientific studies;
2. Empower medical students to develop a research project;
3. Be equipped to find data and references on technical issues in basic and clinical research;
4. Develop research at both the basic, translational, and clinical levels;
5. Be introduced to the various lines of research under development at PUCRS and connect to researchers, mentors, and other students;
6. Develop a specific research project under specific mentoring. In this sense, they will have the chance to engage with research groups at the School of Medicine.

**COURSE DESCRIPTION:**

This course will address the following topics: Introduction to basic, translational and clinical research concepts and their relationships; Development of new research projects, creation of research groups and their maintenance; Introduction to research environments, including the laboratories, project development till the publication of its findings. Technical and methodological procedures for the planning, execution, analysis and interpretation of medical research.

**METHODOLOGY:**

This 2-credit course blends theory and practical work. Classes run every week. In the initial classes, faculty will address theories to prepare students for practical activities. As part of their practical work, students will present research projects to be developed in small groups of under the supervision of the faculty team. Students will carry out a comprehensive research project within the research programs from medical school. The research project mentors will follow a pre-defined plan developed by the University's scientific committee. Students will submit their projects to be evaluating by faculty according to a pre-defined schedule. At different moments in the course, faculty and students will discuss the fundamentals of research. Advisors will be in charge of the research object and for dividing students in groups. The research project should be delivered to professor in the last class. Students will have the chance to improve and review aspects of the project throughout the semester.

**THEORY ACTIVITIES:**

- Introduction of the course, instructions and organization of study groups;
- Submission of research projects to the Scientific Committee and Ethics Committee: step by step.
- Research Project Designs;

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- Critical interpretation of Scientific Articles;
- Exploring the Resources of Literature Search Platforms;
- Using Animal Models in Research;
- Concepts in Clinical Pathology;
- Translational Research Tools;
- Bioethics in Research;
- Basic Concepts of Epidemiology and Biostatistics;
- Molecular Biology;
- Genetic Sequencing: Historical aspects and next generation sequencing;
- Presentation of Scientific Data;
- Presentation of Projects (students and mentors)

### **BIBLIOGRAPHY:**

#### **• BASIC:**

1. FREIRE-MAIA, N. VERDADES DA CIÊNCIA E OUTRAS VERDADES. SÃO PAULO: EDITORA UNESP, 2008.
2. HULLEY, S. B.; CUMMINGS, S. R.; BROWNER, W. S.; GRADY, D. G.; NEWMAN, T. B. DELINEANDO A PESQUISA CLÍNICA: UMA ABORDAGEM EPIDEMIOLÓGICA. PORTO ALEGRE: ARTMED, 2008.
3. ALVES R. FILOSOFIA DA CIÊNCIA: INTRODUÇÃO AO JOGO E AS SUAS REGRAS. SÃO PAULO: LOYOLA, 2008.

#### **• COMPLEMENTARY:**

1. GOTTSCHALL, C. A. M. DO MITO AO PENSAMENTO CIENTÍFICO: A BUSCA DA REALIDADE, DE TALES A EINSTEIN. SÃO PAULO: ATHENEU, 2004.
2. SCOLARI, JULIANA, SILVA, JEFFERSON LUIS BRAGA DA. TRAUMA DA MÃO. RIO DE JANEIRO: REVINTER, 2003.
3. SCHUSTER, D. P.; POWERS, W. J. TRANSLATIONAL AND EXPERIMENTAL RESEARCH. PHILADELPHIA: LIPPINCOTT, 2005.
4. MÉLEGA, JOSÉ MARCOS. CIRURGIA PLÁSTICA - OS PRINCÍPIOS E A ATUALIDADE, ISBN: 9788527716482, GUANABARA KOOGAN, 2011.
5. SALKIND, N. J. STATISTICS FOR PEOPLE WHO (THINK THEY) HATE STATISTICS. NEW YORK: SAGE PUBLICATIONS, 2004.

#### **• OTHER SOURCES:**

1. [WWW.PUCRS.BR/MEDICINA](http://WWW.PUCRS.BR/MEDICINA)
2. SPECIFIC BIBLIOGRAPHY WILL BE MADE AVAILABLE BY THE ADVISOR TEACHER ACCORDING TO THE RESEARCH PROJECT TO BE DEVELOPED.

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