

Discipline MCP5841 
**Methods of Research in Coronary Artery Disease: Translational Approach From the
Basic Science to the Clinical Trials**

Concentration area: 5131

Creation: 12/02/2026

Activation: 20/02/2026

Credits: 2

Workload:

Theory (weekly)	Practice (weekly)	Study (weekly)	Duration	Total
6	10	14	1 weeks	30 hours

Professors:

Antonio de Padua Mansur
Luiz Antonio Machado Cesar
Roberto Rocha Corrêa Veiga Giraldez
José Carlos Nicolau

Objectives:

Develop the ability to formulate appropriate hypotheses for the design of investigative models, primarily clinical, or experimental, focused on Coronary Artery Disease (CAD). Improve critical thinking regarding publications in this field by discussing the details of the hypothesis, methodology, results, and conclusions.

Rationale:

Cardiovascular Diseases are the number one killer in adults throughout the Western world, leading to a huge direct and indirect costs to society. CAD, on the other hand, is the most prevalent among the Cardiovascular Diseases. It is the area, within medicine, that demands the greatest research resources in the following items, among others: pathophysiology, pathological anatomy, cost-effectiveness of strategies for early diagnosis and treatment, epidemiology, and medical, interventionist or surgery treatments. The accumulated knowledge is not enough to clarify fundamental points related to its etiology, pathophysiology and treatment, which makes continuous research in this field absolutely mandatory.

Content:

Although not mandatory, ideally students should be familiar with pathophysiology, diagnosis and treatment of CAD, which would facilitate him/her to follow the curriculum content, summarized in the sequence: 1- Critical analysis of the transposition of results from Basic Science to Clinical application; 2 - Proposition of new models of study in Basic Science from the questions arisen in clinical practice, with critical analysis of the current models; 3- Critical analysis of current methods of atherosclerosis research, such as analysis of endothelial function, atherosclerotic plaque anatomy visualized by standard and investigational diagnostic methods, and the evaluation of ischemia and its prognostic value in CAD; 4- Development of long-term strategies to study different aspects of CAD; 5. Critical analysis of current therapeutic strategies applied to CAD in its chronic and acute forms of presentation.

Type of Assessment:

Student's interest in the course overall, and their performance during the seminars.

Notes/Remarks:

Minimum number of students: 06

Maximum number of students: 20

Bibliography:

1. 2018 Fourth Universal Definition of Myocardial Infarction (www.acc.org).
2. 2018 Joint European consensus document on the management of antithrombotic therapy in atrial fibrillation patients presenting with acute coronary syndrome and/or undergoing percutaneous cardiovascular interventions: a joint consensus document of the European Heart Rhythm Association (EHRA), European Society of Cardiology Working Group on Thrombosis, European Association of Percutaneous Cardiovascular Interventions (EAPCI), and European Association of Acute Cardiac Care (ACCA) endorsed by the Heart Rhythm Society (HRS), Asia-Pacific Heart Rhythm Society (APHRS), Latin America Heart Rhythm Society (LAHRS), and Cardiac Arrhythmia Society of Southern Africa (CASSA) (www.escardio.org).
3. 2021 - Diretrizes da Sociedade Brasileira de Cardiologia sobre Angina Instável e Infarto do Miocárdio sem Supradesnível do Segmento ST (www.cardiol.br).
4. 2022 ACC/AHA Guidelines for Coronary Artery Revascularization (www.acc.org).
5. 2023 – Posicionamento sobre Doença Isquêmica do Coração – a Mulher no Centro do Cuidado (www.cardiol.br).
6. 2023 ACC/AHA Guidelines for the Management of Patients with Coronary Disease (www.acc.org).
7. 2023 ESC Guidelines for the Management of Acute Coronary Syndromes (www.escardio.org).
8. 2024 ESC Guidelines for the Management of Chronic Coronary Syndromes (www.escardio.org).
9. 2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients with Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines (www.acc.org).

Languages taught:

Portuguese

Class type:

Presencial