



Discipline Information

The following dates are in (dd/mm/yyyy) format.

Code: RGO5861 - 1 Type: POS
Name: Lectures in Biology of Breast and Gynecological Cancer
Concentration area: Ginecologia e Obstetrícia (17145)

Approval dates:

CCP: 16/11/2016 CPG: 22/11/2016 CoPGr:

Activation date: 06/12/2016 Inactivation date:

Workload:

Total: 60 h Theory: 0 h Practice: 2 h Study: 1 h

Credits: 4 Duration: 20 weeks

87710 - Helio Humberto Angotti Carrara - 16/11/2016 until today
Professors: 370014 - Daniel Guimarães Tiezzi - 16/11/2016 until today
943106 - Francisco José Cândido dos Reis - 16/11/2016 until today

Objectives:

The main aim of this course is to provide students of Masters or PhD programmes at University of Sao Paulo with a strong background in cancer biology, ranging from basic biology through to translational aspects. Teaching involves seminars once a week, and online activities (Moodle Stoa – USP): video-lectures, articles and quizzes.

Rationale:

The knowledge of concepts of cancer biology is essential for students developing research in cancer field. Independently of type of study, the researcher needs knowledge about cancer epidemiology, carcinogenesis, tumor response to treatment, bases for multimodal treatment(surgery, chemotherapy, hormonal therapy, immunological therapy).

Content:

1. Tumor natural history, structure and nomenclature
2. Concepts in Cancer Epidemiology
3. Inherited susceptibility to cancer
4. Computational biology in cancer research
5. Mechanisms of metastasis
6. Oncogenes and tumor suppressors (signaling and pathways)
7. Transcription
8. In vivo models
9. Therapeutics and clinical trials
10. Image in cancer research and cancer treatment
11. Radiotherapy in the management of cancer
12. Functional breast cancer genomics: from basic biology to clinical application
13. Estrogen receptor and its role in transcription and breast cancer
14. Introduction to chemotherapy: role of Kaplan Meier curves in clinical cancer research
15. Clinical drug resistance in ovarian cancer
16. New approaches to the clinical management of cervical cancer
17. Surgical management of Breast Cancer: aspectos atuais
18. Surgical management of endometrial cancer: current knowledge
19. Surgical management of ovarian cancer: current knowledge
20. Surgical management of cervical cancer: current knowledge



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Bibliography:

- The Biology of Cancer", by Robert A. Weinberg, June 2006, (Garland Science Textbooks), 864pp.
- Comprehensive Molecular Portraits of Invasive Lobular Breast Cancer. Ciriello G, Gatz ML, Beck AH, Wilkerson MD, Rhee SK, Pastore A, Zhang H, McLellan M, Yau C, Kandoth C, Bowlby R, Shen H, Hayat S, Fieldhouse R, Lester SC, Tse GM, Factor RE, Collins LC, Allison KH, Chen YY, Jensen K, Johnson NB, Oesterreich S, Mills GB, Cherniack AD, Robertson G, Benz C, Sander C, Laird PW, Hoadley KA, King TA; TCGA Research Network, Perou CM. Cell. 2015 Oct 8;163(2):506-19. doi: 10.1016/j.cell.2015.09.033.
- The genomic and transcriptomic architecture of 2,000 breast tumours reveals novel subgroups. Curtis C, Shah SP, Chin SF, Turashvili G, Rueda OM, Dunning MJ, Speed D, Lynch AG, Samarajiwa S, Yuan Y, Gräf S, Ha G, Haffari G, Bashashati A, Russell R, McKinney S; METABRIC Group, Langerød A, Green A, Provenzano E, Wishart G, Pinder S, Watson P, Markowitz F, Murphy L, Ellis I, Purushotham A, Børresen-Dale AL, Brenton JD, Tavaré S, Caldas C, Aparicio S. Nature. 2012 Apr 18;486(7403):346-52. doi: 10.1038/nature10983.
- Comprehensive molecular portraits of human breast tumours. Cancer Genome Atlas Network. Nature. 2012 Oct 4;490(7418):61-70. doi: 10.1038/nature11412. Epub 2012 Sep 23.
- Cell and Molecular Biology: Concepts and Experiments [Hardcover] - Gerald Karp, 2009.
- The Biology of Cancer [Hardcover] - Robert A. Weinberg, 2006.
- Molecular Oncology of Breast Cancer [Hardcover] - Jeffrey S. Ross and Gabriel N. Hortobagyi, 2004.
- Rosen's Breast Pathology [Hardcover] - Paul Peter Rosen, 2008.
- The Breast: Comprehensive Management of Benign and Malignant Diseases [Hardcover] - Kirby I. Bland and Edward M. Copeland III, 2009.
- Kuerer's Breast Surgical Oncology [Hardcover] – Henry Mark Kuerer, , Ed. McGraw-Hill, 2010.
- Compêndio de Mastologia – Abordagem Multidisciplinar. Ricardo A. Boff, Alexandre C. de Carli, Henrique Brenelli, Fabrício P. Brenelli, Lourenço Z. Sauer, André B. Reiriz, Celso P. Coelho, Guilherme P. Coelho. 1a Edição, Editora Loligraf, Caxias do Sul, RS, 2015.
- Axillary Dissection vs No Axillary Dissection in Women With Invasive Breast Cancer and Sentinel Node Metastasis A Randomized Clinical Trial. Armando E. Giuliano, Kelly K. Hunt, Karla V. Ballman, Peter D. Beitsch, Pat W. Whitworth, Peter W. Blumencranz, A. Marilyn Leitch, Sukamal Saha, Linda M. McCall, Monica Morrow. JAMA. 2011;305(6):569-575.
- Axillary Lymph Node Dissection for Sentinel Lymph Node Micrometastases May Be Safely Omitted in Early-Stage Breast Cancer Patients: Long-Term Outcomes of a Prospective Study. Igor Langer, Ulrich Guller, Carsten T. Viehl, Holger Moch, Edward Wight, Felix Harder, Daniel Oertli and Markus Zuber. Ann Surg Oncol (2009) 16:3366–3374.
- Completion Axillary Lymph Node Dissection Not Required for Regional Control in Patients With Breast Cancer Who Have Micrometastases in a Sentinel Node. Sara Yegiyants, Lina M. Romero, Philip I. Haight, L. Andrew DiFronzo. Arch Surg. 2010;145(6):564-569.
- Completion Axillary Lymph Node Dissection Not Required for Regional Control in Patients With Breast Cancer Who Have Micrometastases in a Sentinel Node. Sara Yegiyants, Lina M. Romero, Philip I. Haight, L. Andrew DiFronzo. Arch Surg. 2010;145(6):564-569.
- Is axillary lymph node clearance required in node-positive breast cancer?
- Nigel J. Bundred, Nicola L. P. Barnes, Emiel Rutgers and Mila Donker.
- Nat. Rev. Clin. Oncol. 12, 55–61 (2015).

Type of Assessment:

SEE OBSERVATIONS

Note:

Assessment Criteria:

The assessment is based on the submission of quiz answers weekly. Each quiz is due by the end of the respective week and all answers have to be posted by the end of the course.

Grade A: all quiz answers posted on time.

Grade B: all quiz answers posted by the end of the course, but one activity delayed in relation to the week deadline.

Grade C: all quiz answers posted by the end of the course, but more than one activity delayed in relation to the week deadline.

Grade D: if any activity is not completed by the end of the course.