COURSE OUTLINE

(1) GENERAL

MD-402 Research Project

SCHOOL	Medical		
ACADEMIC UNIT	Basic and Clinical Sciences		
LEVEL OF STUDIES	1st Cycle		
COURSE CODE	MD-402	**SEMESTER**	Year 4 / Semester 7 & 8 (Fall and Spring)
COURSE TITLE	Research Project		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
*The course is delivered longitudinally throughout the academic year. The weekly teaching hours refer to the average weekly teaching hours over the academic year.	1	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Core
PREREQUISITE COURSES:	None
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	English
IS THE COURSE OFFERED TO ERASMUS STUDENTS	
COURSE WEBSITE (URL)	

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

Learning outcomes for all students:

After completion of the course students should be able to:

- Access, analyse and evaluate published research papers.
- Develop and apply analytical and critical appraisal skills.
- Develop self-directed learning skills.
- Study, in depth, a topic of particular interest outside the core curriculum.
- Describe the ethical issues relevant to writing a research paper including integrity, copyright and citation.

- Demonstrate time management skills.
- Consider potential career paths.

<u>For students in Pathway A carrying out a Narrative Literature Review</u>:
After completion of the course students should be able to:

- Describe the aims and structure of a Narrative Literature Review.
- Discuss and critically appraise the literature.
- Write a Narrative Literature Review at the level of a publication in an academic journal.
- Describe how a Narrative Literature Review can support the development of research hypotheses and research proposals.

<u>For students in Pathway B carrying out a Research Project:</u>
After completion of the course students should be able to:

- Implement an original Research Project (typically clinical research, audit or service evaluation) incorporating collection of quantitative or qualitative data
- Collect data and analyse using suitable methods including simple descriptive statistics and graphs;
- Discuss and critically appraise the study results in relation to the literature, recognising any limitations of the collected data, and drawn conclusions meeting the study aims
- Design and produce a Research Poster suitable for display at a scientific conference that meets the published assessment criteria, written in plain English and accessible by a general professional audience including healthcare professionals, researchers and medical educationalists.
- Describe the ethical issues relevant to writing a research paper including integrity, copyright and citation.

AI & Digital Health

- Assess the role of digital tools and AI in enhancing literature search strategies and systematic reviews.
- Critically appraise AI-driven tools for identifying relevant studies and extracting data.
- Evaluate the accuracy and biases of AI algorithms in screening and selecting scientific papers.
- Discuss ethical considerations in the use of AI for literature appraisal, including transparency, reproducibility, and authorship credit.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

Knowledge

- Describe the role of epidemiology in evaluating the health of a population.
- Describe the utility of qualitative and quantitative methods in scientific research.
- Interpret common statistical methods used in medicine and in medical research.
- Critically appraise the research literature in terms of study design, results, analysis and conclusions.
- Discuss the role of doctors in contributing to the collection and analysis of patient data.

- Describe the principles of health informatics.

Competences

- Promote health and wellness through disease prevention and research.

(3) SYLLABUS

- Introduction to the course.
- The structure of the Narrative Literature Review.
- Development of a Research Strategy
- Carrying out a Literature Review.
- Critical appraisal of the literature.
- Writing a Narrative Literature Review.
- Carrying out an Original Research Project.
- Constructing a scientific poster.
- Presenting a scientific poster.

(4) TEACHING and LEARNING METHODS - EVALUATION

<table>
<tr><td>DELIVERY
Face-to-face, Distance learning, etc.</td><td>Face-to-face</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Use of ICT in teaching / Χρήση ΤΠΕ
Communication with students / Επικοινωνία με Φοιτητές</td></tr>
<tr><td>TEACHING METHODS
The manner and methods of teaching are described in detail.
Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</td><td><table><tr><th>Activity</th><th>Year Workload</th></tr><tr><td>Lectures/large-group teaching</td><td>6</td></tr><tr><td>Tutorials</td><td>6</td></tr><tr><td>Research project</td><td>120</td></tr><tr><td>Total</td><td>132</td></tr></table></td></tr>
<tr><td>STUDENT PERFORMANCE EVALUATION
Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</td><td>For students in Pathway A carrying out a Narrative Review: A 4000-word Narrative Literature Review article (100%) or
For students in Pathway B carrying out a Research Project: A Research Poster (100%).</td></tr>
</table>

(5) ATTACHED BIBLIOGRAPHY

PATHWAY A:

Background reading on non-communicable diseases

1. Noncommunicable diseases Factsheet. World Health Organisation. January 2015.
2. World Health Organization. Global Health Observatory (GHO): NCD mortality and morbidity. Available from: http://www.who.int/gho/ncd/mortality_morbidity/

Importance and guidelines for writing Narrative Review Articles (available on Moodle)

3. Ferrari, R. (2015) 'Writing narrative style literature reviews', *Medical Writing,* vol. 24, pp. 231-234.
4. Mayer, P. (2009) 'Guidelines for writing a review article.'
5. Pautasso, M. (2013) 'Ten simple rules for writing a literature review', *PLOS Computational Biology,* 9(7), pp. e100319.

Sample Narrative Review articles (available on Moodle)

6. Ford, A.C., Lacy, B.E. and Talley, N.J. (2017) 'Irritable bowel syndrome', *The New England Journal of Medicine,* 376(26), pp. 2566-2578.
7. Shah, R., Rosso, K. and Nathanson, S. D. (2014) 'Pathogenesis, prevention, diagnosis and treatment of breast cancer', *World Journal of Clinical Oncology,* 5(3) pp. 283-298.
8. De Benedictis, D. and Bush, A. (2017) 'Asthma in adolescence: is there any news?', *Pediatric Pulmonology,* 52, pp. 129-138.
9. Giordano, S. H. (2005) 'A review of the diagnosis and management of male breast cancer', *The Oncologist,* 10, pp. 471-479.
10. Randolph, C. (2013). 'Pediatric exercise-induced bronchoconstriction: contemporary developments in epidemiology, pathogenesis, presentation, diagnosis, and therapy', *Curr Allergy Asthma Rep*, 13, pp. 662-71.
11. Fan, L., Strasser-Weippl, K., Li, J., St Louis, J., Finkelstein, D., Yu, K., Chen, W., Shao, Z. and Goss, P. (2014). 'Breast Cancer in China', *The Lancet,* 15, pp. e279-e289.
12. Lin, Q-J., Yang, F., Jin, C., and Fu D-L. (2015) 'Current status and progress of pancreatic cancer in China', *World Journal of Gastroenterology,* 21(26) pp. 7988-8003.
13. Gallardo-Rincón D, Espinosa-Romero R, Muñoz WR, Mendoza-Martínez JR, del Villar-Álvarez S, Oñate-Ocaña L, Isla-Ortiz D, Márquez-Manríquez JP, Apodaca-Cruz A, Meneses-García A. (2016). 'Epidemiological overview, advances in diagnosis, prevention, treatment and management of epithelial ovarian cancer in Mexico.' *Salud Publica Mex* 58, pp. 302-308.

PATHWAY B:

Articles on creating Research Posters

1. Papanas N et al (2019). Creating a successful poster: 'Beauty is truth, truth beauty.' The International Journal of Lower Extremity Wounds 2019, Vol. 18(1) 6–9.
2. Bavdekar SB et al. (2017) Creating posters for effective scientific communication. Journal of The Association of Physicians of India 65, 82-88.
3. Gundogan, B., Koshy, K., Kurar L and Whitehurst, K. (2016) 'How to make an academic poster.' Ann Med Surg (London) 11, 69-71.
4. Research posters. A guide for creating, editing and presenting a successful research project. Accessible at https://guides.temple.edu/c.php?g=264815&p=1768809
5. Miller JE. Preparing and presenting effective research posters. (2007) Health Research and Educational Trust 311-327, DOI: 10.1111/j.1475-6773.2006.00588.x Accessible at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1955747/pdf/hesr0042-0311.pdf