

Degree Project

Code: 102990
ECTS Credits: 12

Degree	Type	Year	Semester
2500892 Physiotherapy	OB	4	0

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Other comments on languages

The Final Degree Project could be written in Catalan, Spanish or English.

Teachers

Jordi Cuartero Archs
Bernat Planas Pascual
Sandra Torrell Vallespin
Anna Victoria Lozano
César Diaz Torne
Iván Castellvi Barranco

Prerequisites

- Completion of at least two thirds of the total credits of the degree program
- Completion of the core subject Scientific Methodology and Biostatistics
- Sufficient comprehension of written English to read and discuss articles in scientific journals

Objectives and Contextualisation

- Formulate a problem or research question identifying the different components of the statement.
- Carry out a bibliographic review on the scientific evidence that exists about the chosen research problem.
- Formulate the hypothesis and the research objectives.
- Justify the usefulness and applicability of the results of the investigation.
- Specify the ideal methodology to achieve the research objectives.
- Consider eventual ethical conflicts.
- Prepare a work plan with a schedule that guarantees that the research project is feasible over time.
- Express ideas fluently, coherently and correctly, both orally and in writing, using inclusive and non-sexist language.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Clearly and effectively communicate orally and in writing with all users of the healthcare system, and with other professionals.
- Constantly renew one's professional knowledge, competences and skills.
- Display a strategic and flexible attitude to learning.
- Display critical reasoning skills.
- Express ideas fluently, coherently and correctly, both orally and in writing.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Manage information systems.
- Organise and plan.
- Participate in drawing up physiotherapy protocols on the basis of scientific evidence, and promote professional activities that facilitate physiotherapy research.
- Show initiative and an entrepreneurial spirit.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Analyse physiotherapy methods, protocols and treatments and ensure they keep pace with new developments in science.
3. Analyse the indicators of sustainability of academic and professional activities in the areas of knowledge, integrating social, economic and environmental dimensions.
4. Communicate using language that is not sexist.
5. Consider how gender stereotypes and roles impinge on the exercise of the profession.
6. Critically analyse the principles, values and procedures that govern the exercise of the profession.
7. Develop independent learning strategies to ensure the continuity of the learning process.
8. Display a strategic and flexible attitude to learning.
9. Display critical reasoning skills.
10. Display familiarity with new developments in physiotherapy techniques and tools.
11. Establish lines of research in the field of the profession's competences.
12. Explain the explicit or implicit code of practice of one's own area of knowledge.
13. Express ideas fluently, coherently and correctly, both orally and in writing.
14. Identify situations in which a change or improvement is needed.
15. Identify the principal forms of sex- or gender-based inequality present in society.
16. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
17. Manage information systems.
18. Organise and plan.
19. Present a research paper before a specialist audience.
20. Propose new methods or well-founded alternative solutions.
21. Propose new ways to measure success or failure when implementing innovative proposals or ideas.
22. Propose projects and actions in accordance with the principles of ethical responsibility and respect for fundamental rights, diversity and democratic values.
23. Propose projects and actions that incorporate the gender perspective.
24. Propose viable projects and actions to boost social, economic and environmental benefits.
25. Propose ways to evaluate projects and actions for improving sustainability.
26. Show initiative and an entrepreneurial spirit.
27. Weigh up the impact of any long- or short-term difficulty, harm or discrimination that could be caused to certain persons or groups by the actions or projects.
28. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.

29. Write the paper in accordance with scientific methodology.

Content

Students, working either individually or in groups, will elaborate a Final Degree Project providing scientific evidence on knowledge gaps of Physiotherapy. The following sections (adapted from recommendations for interventional trials [Standard Protocol Items, SPIRIT]) should be included. Modifications can be accepted when the study design is other than clinical trial.

0. Title

1. Abstract in two languages (Catalan or Spanish, and English) with 4-6 keywords

2. Introduction

2.1. Background and Rationale

2.2. Hypotheses and Objectives

2.3. Trial design

3. Methods

3.1. Participants, interventions, and outcome variables:

- Study setting
- Eligibility criteria
- Interventions
- Outcome variables
- Participant timeline
- Sample size estimation
- Recruitment

3.2. Assignment of interventions (for controlled trials):

- Allocation
- Blinding (masking)

3.3. Data collection, management, and analysis:

- Data collection methods
- Data management
- Statistical methods

3.4. Monitoring

- Data monitoring
- Harms
- Auditing

4. Ethics and dissemination:
 - 4.1. Research ethics approval
 - 4.2. Protocol amendments
 - 4.3. Consent or assent
 - 4.4. Confidentiality
 - 4.5. Declaration of interest
 - 4.6. Access to data
 - 4.7. Ancillary and post-trial care
 - 4.8. Dissemination policy
5. Limitations and control of eventual biases
6. Clinical applicability of the research
7. References
8. Appendices:
 - 8.1. Informed consent
 - 8.2. Working plan and research timeline
 - 8.3. Budget
 - 8.4. Protocol of the physical therapy intervention
 - 8.5. Others (optional)

Methodology

General information

- Students will develop their Final Degree Projects with the guidance of a supervisor, working either individually or in reduced groups.
- Given the self-directed nature and goals of this course, specific seminars will be convened according to students' needs and interests.

Development of the course

a) Research areas

The project should deal with interventions, techniques, technologies or other specific content acquired during the degree program. There are three key research areas in which the project may take place:

- Musculoskeletal system: diseases, sport injuries, exercise physiology
- Nervous system: neurologic disease, peripheral neuropathies
- Cardiac and pulmonary rehabilitation
- Other research areas such as urinary incontinence, lymphoedema, aging, or chronicity, among others, can also be considered.

Some final project proposals may be linked to service learning projects (ApS). These social commitment projects allow the student to train through participation in a project aimed at resolving a real need in a community and thus improving the living conditions of people or the quality of the environment (for more information <http://pagines.uab.cat/aps>).

During the month of September, professors of the Department will facilitate their proposals of areas of interest in physical therapy research. Students will have to submit an application indicating the order of preference of all the proposals (in the case of groups, the student with the highest grade within the group will submit the application).

b) Assignment of supervisors

Each student is assigned a supervisor from among the research professors who will guide the students through the process of drawing up the project proposal, particularly advising on content and methodological issues. The assignment will be done automatically according to students' preferences and the academic record. A co-supervisor may be named when additional guidance on specific issues of the project is required.

c) Supervision follow-up

- Face-to-face or telematics tutoring sessions are mandatory. The supervisor and the student will agree the form in which tutorial sessions will be undertaken according to the type of project, complexity of the research, and individual needs (sport and/or exchange programs).
- Students will meet with their supervisors, individually or in their groups, at least 3 times on scheduled dates. In the case of groups, tutoring sessions can not be longer than two hours.
- The tutor and the students will agree on the dates of tutoring between the dates proposed in the calendar of the subject.
- Students are required to submit 3 written documents with the content specified for each of them. The tutor will continuously evaluate the work done by the student in 2 reports. The student will submit a preliminary draft of the deliveries to the tutor with sufficient time for it to be reviewed and returned. The number of tutorials / corrections of the drafts will depend on the learning needs of the student. On the scheduled dates, the student will make the final delivery, which will be the one that is evaluated.
- The student may request an appointment with the corresponding supervisor or make informal consultations by e-mail.

d) Oral presentation:

During the first week of June the students will present and defend their work orally before a tribunal formed by professors.

e) Final documentation to be delivered:

- A final report of the work (Final Project): one single file (pdf) will be attached in the delivery section of the Moodle before 23:59 h of May 31st.
- Presentation file in Powerpoint or pdf formats.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Theory (TE)	9	0.36	
Type: Supervised			

Tutorials	81	3.24	29, 13, 18, 19, 9, 26, 8
Type: Autonomous			
Drawing-up of student-specific works / Scientific reading / Relevant reports	188	7.52	2, 10, 7, 11, 13, 17, 18, 19, 9

Assessment

According to current norms, the qualification of the Final Degree Project is individual, even if it has been developed as a group project; the evaluation will culminate with the defence of the project in front of an academic committee. Final qualification will be calculated as follows: 50% from the written project, 30% from the presentation and discussion in front of the committee, and 20% from the supervisor report.

In the evaluation of the presentation, the following aspects are taken into account: the design of the audiovisual material, the exhibition, the verbal and non-verbal language and the comprehension. In the rubric of evaluation of the oral presentation, the weight of each of these aspects is detailed. The maximum time of the oral presentation should not exceed 15 minutes. The committee will control the duration and will terminate the presentation if this time is exceeded.

The final grade will be the weighted average of the continuous evaluation and the presentation, with the following weights:

- Supervisor reports: 20%
 - First report: 10%
 - Second report: 10%
- Final Project: 50%
- Presentation and oral defense (in front of an academic committee): 30%

Conditions to calculate the final grade

- That the score of the first evaluation report is equal to or greater than 5. If a lower score is obtained, the student will have 15 days to review and modify their work and re-submit the first instalment to be evaluated. In this case, the grade cannot be higher than 5 (PASS).
- Considering that the first criterion is fulfilled, the other condition is that the score of the second report is equal to or greater than 5. In the case of a lower score, the student will not be able to make the oral presentation and his or her grade will be DISCONTINUED.

Example:

- Final project (50%): 7 points
- Oral presentation (30%): 8 points
- Supervisor reports (20%):
 - First report (10%): 6 points
 - Second report (20%): 9 points

Final score:

$$7 \cdot 0,5 + 8 \cdot 0,3 + 6 \cdot 0,1 + 9 \cdot 0,1 = 1,8 + 1,4 + 1,8 + 2,4 = 7,4 \text{ (NOTABLE)}$$

Definition of not evaluable

It will be considered NOT EVALUABLE the student that does not present the first delivery or that the grade of this first delivery is less than 5.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Qualification of activities of a practical nature (final project defence in front of an academic committee + supervisor report)	50%	2	0.08	6, 3, 10, 29, 12, 13, 16, 19, 25, 22, 24, 9, 26, 8, 27
Qualification of the written project	50%	20	0.8	6, 3, 2, 1, 4, 10, 7, 29, 11, 12, 13, 17, 16, 15, 14, 18, 28, 19, 25, 20, 21, 22, 23, 24, 5, 27

Bibliography

1. Chan A-W, Tetzlaff JM, Gøtzsche PC, Altman DG, Mann H, Berlin JA, et al. SPIRIT 2013 explanation and elaboration: guidance for protocols of clinical trials. *BMJ*. 2013 Jan; 346:e7586.
2. Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: the PRIMA Statement. *PLoS Medicine*. 2009 Jul; 6(7): e1000097.
3. Urrutia G, Bonfill X. Declaración PRISMA: Una propuesta para mejorar la publicación de revisiones sistemáticas y metaanálisis. *Med Clin*, 2010; 135(11): 507-511.
4. Turner L, Shamseer L, Altman DG, Weeks L, Peters J, Kober T, et al. Consolidated standards of reporting trials (CONSORT) and the completeness of reporting of randomised controlled trials (RCTs) published in medical journals. *Cochrane Database Syst Rev*. 2012; 11(11).
5. Boutron I, Altman DG, Moher D, Schulz KF, Ravaud P; CONSORT NPT Group. CONSORT Statement for Randomized Trials of Nonpharmacologic Treatments: A 2017 Update and a CONSORT Extension for Nonpharmacological Trial Abstracts. *Ann Intern Med*. 2017 Jun 20. doi: 10.7326/M17-0046.
6. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Lancet*. 2007; 370(9596):1453-7.
7. Bossuyt PM, Reitsma JB, Bruns DE, et al. STARD 2015: An updated list of essential items for reporting diagnostic accuracy studies. *Clin Chem*. 2015; 61:1446-1452.

Software

Reference Management: Mendeley, Endnote, Reference Manager

Database and Statistics: Excel, SPSS, R, Stata