TEACHING GUIDE

Subject:

Master's Final Project

Coordinador: Dr. Alejandro García Rudolph
agarciar@guttmann.com

Código UAB: 44139

Character: Mandatory

9 ECTS

2nd semester 2026-2027

Course objectives

The objective of this course is to demonstrate the integration of the skills acquired by the student during their training program. Students will develop an original work in the field of Neurorehabilitation, which will integrate the professional components with research, which will allow them to build new knowledge about the treatment and rehabilitation of people with neurological disabilities.

Teaching load

9 ECTS: equivalent to 225 hours of student work, of which about 2 hours will be face-to-face, 100 hours supervised and 123 autonomous.

Learning Outcomes (RA)

Knowledge:

At the end of the course, students will be able to:

- Demonstrate advanced knowledge of pathologies of the nervous system and the most current therapeutic techniques in the field of neurorehabilitation.
- Identify how a therapeutic proposal is structured and describe, according to the canons of scientific methodology, the improvements it can bring to the patient.

Skills:

At the end of the course, students will be able to:

- Develop a therapeutic programme for one or more specific pathologies, taking into account all the factors involved (levels of involvement, complications, social/personal factors, etc.).
- Defend the proposal for intervention before a qualified panel with audiovisual support.
- Distinguish the methodological bases necessary to develop research and innovation projects in neurorehabilitation.

Competences:

At the end of the course, students will be able to:

- Propose work protocols based on the contents of the scientific literature.
- Differentiate which information is useful, relevant or redundant during the search for information for project planning, training or treatment planning.
- Work in accordance with professional ethics and responsibility in the field of neurorehabilitation.

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Work plan

At the beginning of the course, it will be explained in detail what it consists of, the procedure for preparing the contents, the learning outcomes that are intended and the evaluation criteria. There will be seminars, tutorials, data compilation, and participation in the care and research activities linked to the study of the Master's Thesis.

1. In the first quarter of the academic year, a seminar on clinical research in Neurorehabilitation will be held, where the different study proposals that are being carried out at the Guttmann Institute will be presented and to which students can direct their interest to do the Master's Thesis (TFM).

2. Students will be able to receive specific guidance, in meetings on demand, during this first term, on the different alternatives for their Master's Thesis (TFM).

3. From the appointment of the expert tutor in the subject for the follow-up of the Master's Thesis that each student decides to develop, a series of individualized tutorials will be carried out (according to needs and evolution of the specific work). Tutorials can be both face-to-face and online. It is recommended to have a follow-up tutoring every month, although both the tutor and the student themselves can request interviews and tutoring meetings whenever they deem it necessary. The tutor will make a progress report after each tutorial.

Components of the Master's Final Project

The Master's Thesis will consist of three parts:

1) **Review of the function related to the clinical problem to be addressed (without neurological damage):**
   - Deadline to be specified at the beginning of the course
   - It will account for 20% of the Final Grade
   - The evaluation will be carried out jointly by the TFM Tutor and the Course Coordinator

2) **Review of the Neurological Problem Addressed**
   - Deadline to be specified at the beginning of the course
   - It will account for 20% of the Final Grade
   - The evaluation will be carried out jointly by the TFM Tutor and the Course Coordinator

3) **Final project:**
   a) **Research Project Proposal**
   b) **Clinical Program Proposal**
      - Deadline to be specified at the beginning of the course
      - It will account for 60% of the Final Grade
      - The evaluation will be carried out by a panel made up of three PhD professors from among the professors of the faculty

   a) **Research Project Proposal**
   b) **Clinical Program Proposal**

Guidance for the development of each component of the Master's Thesis

1. Review of the function related to the clinical problem to be addressed (without neurological damage):

Study of the anatomical and physiological foundations in neuroscience and physiology manuals.

General considerations:

- It is recommended to use concept map structuring tools (XMIND, or similar) to structure and sort the information, with links to references and articles in PDF or other formats.
- The student must submit a WORD document between 10 and 20 pages, excluding the bibliography, following the "Rules for the preparation and presentation of the Master's Final Project" that are detailed in a later point of this document.
- The student must send their tutor the concept map (if used) and the WORD document (date to be specified)
- The most important thing is that this first installment sufficiently explains the following aspects:
  - Relevant anatomy of the function: structures involved, organization, and necessary musculoskeletal and/or sensory elements.
  - Physiology and biomechanics of the function under normal conditions: how the function is performed, basic motor control and functional dynamics, without yet entering into pathology.

The assessment of this work will account for **20% of the Final Grade.**

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2. **Review of the neurological problem addressed**, which will include:
   2.1. Epidemiology
   2.2. Aetiology
   2.3. Pathophysiological mechanisms
   2.4. Main Diagnostic Strategies
   2.5. Rehabilitation treatments most used in the above alterations.

- It is recommended to use concept map structuring tools (XMIND, or similar) to structure and sort the information, with links to references and articles in PDF or other formats.
- The student must submit a WORD document between 10 and 20 pages, excluding the bibliography, following the "Rules for the preparation and presentation of the Master's Final Project" that are detailed in a later point of this document.
- The student must send their tutor the concept map (if used) and the WORD document (date to be specified).
- Within 10 days of submission, the student must present the current status of his/her work to the tutor in a PowerPoint presentation of no more than 10 minutes.

The assessment of this work will account for **20% of the Final Grade.**

3. **Final Project (60% of the Final Grade)**

There are two options to develop in the Master's Final Project:

a) Research Project Proposal:

1. Title
2. Summary
3. Background
4. Objectives
5. Hypothesis
6. Methodology
7. Expected outcomes
8. Critical appraisal and conclusions of the learning process
9. Bibliography
10. Annexes

b) Proposal of a clinical program (intervention protocol) to incorporate the selected intervention.

1. Title
2. Summary
3. Background
4. Objectives
5. Level of evidence of the proposal(s)

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6. Response Assessment Methodology and Instruments
7. Expected results and response or effectiveness criteria
8. Critical appraisal and conclusions of the learning process
9. Bibliography
10. Annexes

- The student must submit a WORD document of no more than 30 pages, excluding the bibliography and annexes, following the "Rules for the preparation and presentation of the Master's Final Project" that are detailed in a later point of this document.
- All proposals will be submitted to the Research and Innovation Committee for review of formal aspects.
- The student must send their tutor the concept map (if used) and the WORD document (Date to be specified)
- Within the indicated period, the student must defend the current state of their work before the panel, made up of three PhD professors, through a PowerPoint presentation of no more than 20 minutes.

- The tutor will not be part of the panel, which will be made up of 3 specialist doctors who will exclusively and independently evaluate the subject defended by the student. The tutor will exclusively evaluate the two review exercises, and it is necessary to pass both parts (the part evaluated by the tutor and the part evaluated by the board) independently.

Rules for the preparation and presentation of the Master's Thesis

- Papers must be submitted in WORD and PDF format
- All documents must contain:
  - Identification data: Name and edition of the Master's Degree, Title of the Master's Thesis, name of the author and tutor(s), date of delivery
  - Table of contents, which allows an assessment of the length and depth of the work.

  These two sheets are also excluded from the 30 pages that the work itself must have.
- Body of work.
  - It will be presented in WORD and PDF format, with Calibri font, 11 points, 1.15 line spacing.
  - It is recommended to use the editing resources of the WORD processor to facilitate the agile and light reading of the document.
  - It is also possible to attach information (duly indexed and formatted), beyond the recommended length in each exercise, which is clearly related to the work, but is not essential for its understanding, and which allows to illustrate the work carried out by the student, until reaching the final document.

- The final version in WORD and PDF will be sent via e-mail to docencia@guttmann.com, before the dates indicated.
- During the writing process, generative artificial intelligence technology may be used exclusively to improve the readability and language of the manuscript, as well as to generate illustrative figures of the procedures. It must be stated if this option has been used.

Evaluation

- The evaluation of the Master's Thesis will be carried out based on the matrix of rubrics that will be published on the Guttmann e-learning platform (Annex Document).
- As a whole, the progression in the performance of the work and the acquisition of innovation skills and attitudes will also be taken into account. For this reason, it will be considered mandatory to hold the meetings agreed with the tutor on a regular basis. The final versions of the submitted documents and preliminary presentations will be valued.
- For assignments 1 and 2, a binary evaluation (Pass/Fail) will be carried out, according to the tutor's criteria.
- The presentation and public defense of the Master's Thesis is an academic act of evaluation. The student will have a maximum of 20 minutes for the presentation and 10 minutes for questions/comments from the panel, in addition to the defense of the project by the students, during which they will have to prioritize those issues that they consider most relevant to their work and make a clear, precise and complete synthesis (justification, objectives, proposal, etc.).
- The call for the defence of the Master's Thesis will be made public in the academic calendar of the Master's Degree. There will be a call at the end of June/beginning of July.
  The days of presentation of the Projects are considered teaching days, therefore, they are mandatory for all students.
- If the Work is not presented, the subject will be listed as "not assessed". The grade of not assessable in the final evaluation report implies exhaustion of the rights inherent to the enrolment of the subject.
- The subject will be passed if a minimum grade of 5 points is obtained (scale 0-10).

Re-evaluation procedure and criteria

The re-evaluation is a process that will be implemented after the end of the period for the publication of the final grades.

- You will be entitled to a re-evaluation if you have obtained between 3.5 and 4.9 in the average grade of the subject.
- The test submitted to the re-evaluation process may not exceed 5.0 points (passed) in the final grade.

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Website of the subject

On the website of each subject, you will find information of interest for the follow-up of the study:

- Subject forum. Through this space you will be able to maintain contact with the teaching staff or among the students, to make suggestions, doubts, contributions, etc.
- News. It is the space from which news, notifications and announcements will be received.
- Programs: You can download the syllabus of the subject in PDF, where the classes, schedules and the teaching staff are indicated.
- Documentation: Here you will find information and bibliography of interest that some teachers want to send to students so that they can prepare their classes or so that they can consult for the subsequent study of the topics.
- Assessment of learning outcomes: In this space you will find all the necessary information and the deadlines for the assessment of the subject.

Satisfaction surveys

It is very important that students send to Teaching all comments, complaints and suggestions in relation to this subject.

There are two **anonymous** assessment questionnaires. They are short questionnaires, easy to fill out and very important for the coordination of the master's degree, since the opinion of the students will be of great help for the improvement of this subject in future editions.

- Assessment of the teaching staff. Through their mobile phone or e-mail, students will receive questionnaires on the satisfaction of the teaching action of the teachers who have participated in the subject.
  https://forms.gle/GLhnS7PdMJjaNi988

- Assessment of the subject. At the end of the course, students will be able to answer the questionnaire for the general assessment of the contents of the course.
  https://forms.gle/csQ7vsDqh3LetP8D7

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ANNEX:

TFM Assessment Rubric:

RÚBRICA PARA EVALUAR EL TRABAJO FINAL DE MÁSTER (AQU)						
CRITERIOS QUE SERAN EVALUADOS	Peso	Excelente (10-9)	Notable (8-7)	Aprobado (6-5)	Suspenso <5	Nota
Evaluación global del Trabajo		Coherencia perfecta y total claridad entre la exposición de objetivos, de los problemas y de la posterior utilidad de los resultados.	Significativa coherencia interna entre objetivos, planteamiento de los problemas y utilidad del trabajo.	Aceptable coherencia interna entre objetivos, innovación, originalidad y propuestas prácticas.	Indefinición de los objetivos, explicaciones poco coherentes, nula relevancia.	
		Uso riguroso del pensamiento crítico.	Argumentos alrededor del progreso, suficientemente aceptables. Explicación plausible de los argumentos éticos. Algunos resultados pueden ser aplicables a la práctica.	Aplicaciones prácticas poco realistas.	Insuficientes ideas para la puesta en práctica de los resultados del trabajo.	
		Originalidad e innovación muy aceptable y correlación positiva entre teoría y práctica.	Originalidad, innovación y propuestas aplicadas suficientemente aceptables.	Originalidad y propuestas innovadoras, correctas.	Escasa originalidad e innovación.	
Uso de las teorías		Convincente explicación de las teorías fundamentadoras. Integración perfecta de los fundamentos con los objetivos del trabajo. Clara exposición de los avances que se alcanzarían con la investigación. Clara implicación con la ética social y universitaria.	Teorías fundamentadoras expuestas con corrección. Esfuerzo remarcable por sintetizar teorías y objetivos.	Utilización correcta de las teorías sin que se acabe de ver su interrelación con los objetivos. Poca información alrededor del avance teórico que se alcanzaría con el trabajo completo. Media contribución al progreso de la ética investigadora y social.	Irregular exposición de los fundamentos teóricos. Confusionismo de ideas y falta de profundización en las teorías. No parece que el trabajo contribuye al progreso científico y del conocimiento. No se contempla la dimensión ética.	
Metodología de investigación		Total adecuación de la/s metodología/s en la temática propuesta. Instrumentos de investigación bien utilizados y perfectamente razonados y descritos. Impecable interpretación de datos y de resultados. Perfecta coherencia analítica y sintética entre la investigación y las conclusiones.	Notable adecuación entre métodos de investigación y temática propuesta Instrumentos y herramientas bien seleccionados. Interpretación razonada y justificada de los resultados. Conclusiones suficientemente coherentes con la metodología y los instrumentos.	Correcta conexión entre metodología e instrumentos. Admisible argumentación sobre los métodos utilizados. Datos obtenidos correctamente, pero no analizados exhaustivamente. Conclusiones correctas pero en algunos casos incompletos.	Escasa o nula adecuación entre la temática investigada y la metodología e instrumentos seleccionados. Recogida de datos insuficiente y a veces errónea. Interpretación de los daos parcial. Conclusiones pobres.	
Propuesta práctica		Total adecuación de los objetivos definidos en la propuesta hecha. Claridad y coherencia muy precisa en el diseño metodológico. Mecanismos de evaluación congruentes con el conjunto del trabajo.	Notable adecuación de los objetivos definidos en la propuesta hecha Claridad y coherencia precisa en el diseño metodológico. Mecanismos de evaluación adecuados al conjunto del trabajo.	Correcta adecuación de los objetivos definidos en la propuesta hecha. Claridad y coherencia en el diseño metodológico. Mecanismos de evaluación correctos.	Escasa o nula adecuación de los objetivos definidos en la propuesta hecha. Poca claridad y coherencia en el diseño metodológico. Mecanismos de evaluación inadecuados en la propuesta del trabajo.	
Reflexión crítica		Total adecuación de los objetivos con el conjunto del trabajo Diseño metodológico muy adecuado a la finalidad definida. Perfecta viabilidad de la propuesta. Herramientas de reflexión aplicadas con mucho cuidado y muy coherentes con la finalidad.	Notable adecuación de los objetivos con el conjunto del trabajo. Diseño metodológico adecuado a la finalidad definida. Viabilidad de la propuesta bastante definida. Herramientas de reflexión aplicadas con cuidad y coherentes con la finalidad.	Correcta adecuación de los objetivos con el conjunto del trabajo. Un diseño metodológico adecuado a la finalidad definida. Propuesta viable. Herramientas de reflexión coherentes y uso correcto.	Escasa o nula adecuación de los objetivos con el conjunto del trabajo. Diseño metodológico inadecuado con la finalidad definida. Propuesta inviable. Herramientas de reflexión erróneas	
Aspectos formales		Claridad, precisión y orden totalmente adecuados en la estructura del trabajo. Redacción muy correcta teniendo en cuenta las normativas gramaticales. Bibliografía totalmente adecuada y actualizada.	Claridad y orden en la estructura del trabajo. Redacción suficientemente correcta según las normativas gramaticales. Bibliografía adecuada y actualizada.	Estructura del trabajo y redacción aceptables. Bibliografía aceptable.	Imprecisión en la estructura del trabajo. Referencies y bibliografía nada actualizadas e inadecuadas. **Defensa**	
Defensa oral del Trabajo		Muy buena habilidad comunicativa, divulgativa y de debate. Excelente aportación teórica (argumentos, defensa de les ideas,...). Uso de las nuevas tecnologías muy ajustado a la necesidad de la exposición. Se ajusta perfectamente al tiempo asignado.	Buena habilidad comunicativa, divulgativa y de debate. Aceptable con respecto a la aportación teórica (argumentos, defensa de les ideas,...). Uso de las nuevas tecnologías ajustado a la necesidad de la exposición. Se ajusta bastante al tiempo asignado.	Correcta habilidad comunicativa, divulgativa y de debate. Uso escasamente pertinente de las nuevas tecnologías. Se ajusta medianamente al tiempo asignado.	Escasa habilidad comunicativa, divulgativa y de debate. Confusión en la argumentación conceptual y en la defensa de les ideas. Uso inadecuado de las nuevas tecnologías en el momento de exponer. Dificultades para ajustarse al tiempo asignado.	

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Coordination

For any aspect of the organization and syllabus of the subject, please contact:

Dr. Alejandro García-Rudolph
PhD in Artificial Intelligence.
Instituto Guttmann – UAB
Email: agarciar@guttmann.com

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RECOMMENDED BIBLIOGRAPHY

- Six things to do before writing your manuscript. Part 1
  - https://www.elsevier.com/connect/six-things-to-do-before-writing-your-manuscript
- 11 steps to structuring a science paper editors will take seriously. Part 2
  - https://www.elsevier.com/connect/11-steps-to-structuring-a-science-paper-editors-will-take-seriously
- Writing the first draft of your science paper — some dos and don'ts. Part 3
  - https://www.elsevier.com/connect/writing-a-science-paper-some-dos-and-donts
- How to make your article easy to review. Part 4
  - https://www.elsevier.com/authors-update/story/peer-review/how-to-make-your-article-easy-to-review-part-4
- English communication for scientists
  - https://www.nature.com/scitable/ebooks/english-communication-for-scientists-14053993/contents