Course Title: Molecular Biomarkers of Mechanical Tendon Strain: From Literature Review to Thesis Defense

Instructor: Gabriel Ibarra-Mejia, M.D., Ph.D., MSErg

Students: Omar Cano

Course Description: This intensive course will guide the student through a rigorous journey, from presenting a literature review to defending a master's thesis. The focus will be on identifying molecular biomarkers of mechanical tendon strain.

Course Objectives:

1. Rapid development and defense of a research proposal.
2. Efficient execution of the research process.
4. Formulation of a robust research methodology.
5. Effective presentation and defense of the master's thesis.

Biweekly Breakdown:

Weeks 1-2: Literature Review Presentation and Feedback

- Activities: Present an exhaustive literature review focusing on existing knowledge of molecular biomarkers of mechanical tendon strain.

- Deliverables:
  a) Evidence of proficiency in the use of relevant software or tools for data analysis, e.g., SPSS, R, Python.
  b) Literature review presentation and document.

Weeks 3-4: Proposal Development

- Activities: Based on feedback from the literature review, develop a robust research proposal detailing research questions, objectives, and methodologies.

- Additional task: Begin identifying potential thesis committee members.

- Deliverable: Research proposal draft.

Weeks 5-6: Proposal Defense and Refinement
• Activities: Defend the proposal in front of peers or a temporary panel. Use feedback to refine the proposal and further identify the study's scope.
• Deliverable: Final research proposal ready for execution.

**Weeks 7-8: Finalize Thesis Committee and Initiate Research**
• Activities: Confirm the thesis committee members and initiate the experimental phase or data collection process as outlined in the proposal.
• Deliverable: List of confirmed committee members and a progress report on the experimental phase.

**Weeks 9-10: Continuation of Research**
• Activities: Continue with data collection and initial analysis.
• Deliverable: Progress report detailing preliminary findings and challenges encountered.

**Weeks 11-12: Data Analysis and Thesis Writing**
• Activities: Complete data analysis, commence thesis writing, focusing on the methods, results, and discussion sections.
• Deliverable: Draft sections of the master's thesis.

**Weeks 13-14: Finalize Thesis and Prepare for Defense**
• Activities: Conclude thesis writing, including the introduction, conclusions, and recommendations. Start preparing the defense presentation.
• Deliverable: Complete draft of the master's thesis.

**Final Week: Reflect and Prepare for Submission**
• Activities: Review and polish the thesis, ensure all requirements are met, and finalize the defense presentation.
• Deliverable: Final master's thesis manuscript ready for submission (due two weeks before the end of the semester).

**Important Dates:**
• **Two weeks before the semester ends (around 11/23/2023):** Submission of the master's thesis manuscript.
• **By December 7, 2023:** Thesis defense

**Resources:**
1. Primary texts available at UTEP Library
1. Q1 & Q2 journal publications
2. APA Publication Manual
3. PubMed, Web of Science, EBSCO & Science Direct
4. College librarian