

Exam 1P

Course Title: **Inglés X**
Term: **25-3**
Instructor: **Marrón**
Exam Date: **05 Jun 2025**

General Instructions: Print your name in the upper right-hand corner of this paper. Read each item carefully. Be sure that you understand exactly what is being asked of you. Begin your answers on the backside of this paper if possible and add extra sheets of paper as needed. Be sure to write your name on any and all extra sheets of paper. Staple all exam papers together when you are finished.

Do not look at other student's exams. If you have a question or a request during the exam, raise your hand and the instructor will call on you.. Do not leave your desk without permission. If you finish early, raise your hand and the instructor will call on you.

This is a closed book exam. Attempt to answer all questions, even if you are uncertain. Whenever possible, provide answers in bullet list format with complete content. Tasks will be evaluated by sub-tasks. Three (3) points are available for each sub-task: Accuracy (1 pt), Completeness (1 pt), and Sufficiency (1 pt). Points will be awarded in 0.1 increments. Answer in English unless requested to do so otherwise.

Task 1 (6 pts)

Although Spanish and English are part of the Indo-European family of languages, and Chinese is a member of the Sino-Tibetan language group, all are rich and beautiful constructs for human communication.

1. Briefly highlight the major similarities and differences that you perceive as a student of these three languages.

Task 2 (9 pts)

Languages can be studied from many different perspectives. Konrod¹ provides a cursory overview from a standard linguistic perspective while Mackay² provides a systems modeling perspective.

1. From your perspective, is the reduction of language into linguistic elements (e.g., phonetics, morphology, semantics, grammar, etc.) helpful? Explain why or why not.

As mentioned in class, Zipf's Law and Dirichlet models are now standard components in machine learning (i.e., artificial intelligence). As far back as 2005 Yamamoto and Sadamitsu³ reported that, *Recently, 'generative text models' such as latent Dirichlet allocation (LDA) have attracted people in the neural network community. Using generative text models, the probability for a 'document' rather than simply 'sentences' can be computed. Probability computation in these models takes advantage of prior distribution of word rate variability garnered from large document collections. Generative models are statistically well defined and robust for parameter estimation and adaptation because they exploit (hierarchical) Bayesian frameworks...*

1 Kronrod, A. (2022). Language research in marketing. *Foundations and Trends® in Marketing*, 16(3), 308-421.

2 MacKay, D. J. (2003). *Information theory, inference and learning algorithms*. Cambridge University Press.

3 Yamamoto, M., & Sadamitsu, K. (2005). Dirichlet mixtures in text modeling. *CS Technical report CS-TR-05-1*.

2. What is meant by a generative text model?
3. What is the basis for the Bayesian probability computations used by Dirichlet models?

Task 3 (9 pts)

Steffen et. al.⁴ used a systems science approach to evaluate the possibility of a planetary threshold in the Earth System that possibly would be triggered by cascading failures of tipping point elements such as the Greenland Ice Sheet, the Amazon Rainforest, etc.

1. What is meant by the term, “planetary threshold”?
2. Briefly explain how the analogy of the Earth as a marble on a Chinese checkerboard is useful in describing where the Earth has been (Earth’s biogeophysical state during the glacial-interglacial cycles of the Quaternary Period), and where it may be headed (Hothouse Earth).
3. Already cited over 4000 times, this paper is a landmark not only for its systems analysis of climate change, but also for its bold statements calling for fundamental changes in human societies. Briefly describe these changes.

Task 4 (6 pts)

Advocates of academic writing persistently cling to the use of the third person point of view as a necessary and even obligatory stylistic element. And yet, as noted by Hyland and Jiang⁵, there may be a trend to a more relaxed “feel” in some published works,

Informality has become something of a contemporary mantra as, from the denim-clad offices of internet startups to the pages of business reports, we are encouraged to shed old constraints and relax conventions. This paper explores the perception that since informality has now invaded a large range of written and spoken domains of discourse, academic writing has also followed this trend.

After examining a corpus of 2.2 million words from the five top journals in four disciplines for ten key features (features regarded by applied linguists and style guide authors as representing informality), Hyland and Jiang report the following,

We found only a small increase in the use of 10 key features over the past 50 years....Our results show only a small increase in the use of these features, and that this is mainly accounted for by increases in the hard sciences rather than the social sciences.

1. Based on the findings of Hyland and Jiang given above, should we continue to embrace an academic style that uses the third person point of view? Why?
2. What are your thoughts on academic style? Do you think that informalities in written academic discourse lessen the genre’s authority? Do you enjoy writing in an academic style?

Task 5 (6 pts)

Writing concise and accurate summaries is no trivial task. Summarize the entire novel, "Charlotte's Web" in about one+ paragraph(s).

4 Steffen, Will, et al. "Trajectories of the Earth System in the Anthropocene." *Proceedings of the national academy of sciences* 115.33 (2018): 8252-8259.

5 Hyland, K., & Jiang, F. K. (2017). Is academic writing becoming more informal?. *English for specific purposes*, 45, 40-51.

Task 6 (3 pts)

Hang on to your hat, there's even more vocabulary to come!

1. Provide definitions in English and a Spanish translation for your five (5) memorized "science" vocabulary words.
2. Provide definitions in English and a Spanish translation for your five (5) memorized "literature" vocabulary words.