Ling 571 Computational Corpus Linguistics

San Diego State University
Schedule #5999
Fall 2023
TTh 9:30am–10:45am
NE-085

Advances in technology have revolutionized the way linguists approach their data. Using computers, extremely large bodies of text ("corpora") can be collected and analyzed at a level of detail that only a decade ago would have been unthinkable. Sources like the British National Corpus, the Corpus of Historical American English, and Google Books collection allow us access to language use across an unprecedented range of time and space. For anyone studying human communication or culture, the accelerating growth of the World Wide Web and other natural language resources have made techniques for dealing with very large texts more important than ever.

Through a combination of lectures, demonstrations, and hands-on exercises, this course will give students an introduction to the skills necessary for computer-aided text manipulation. Students will learn to search text databases using on-line tools, to write Python programs to manipulate large natural language corpora, to apply quantitative linguistic measures to existing texts, and to formulate, carry out, and describe their own corpus-based linguistic research projects.

This class has no pre-requisites.

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Office hours: TTh 1:00–2:00 or by appointment
Real office: SHW 244
Zoom office: SDSU.zoom.us/j/81450093766

Student Learning Outcomes

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

• Articulate the principles of good corpus design

• Analyze patterns of word use in a corpus using concordancing tools

- Implement quantitative corpus analyses in Python

- Evaluate linguistic hypotheses on the basis of corpus data

- Apply corpus-based techniques to social media texts

Course Materials

You need to acquire two required textbooks for this course:

- Vaclav Brezina. 2018. *Statistics in Corpus Linguistics: A Practical Guide*. Cambridge University Press.

- Danielle Barth and Stefan Schnell. 2022. *Understanding Corpus Linguistics*. Routledge.

These should be available from the campus bookstore (or the usual other places) and you should do you best to get them.

Other readings will be distributed via Canvas:

- Catherine Anderson, Ai Taniguchi, Bronwyn Bjorkman, Derek Denis, and Nathan Sanders. 2021. *Essentials of Linguistics* (2nd edition). McMaster University.

- Steven Bird, Ewan Klein, and Edward Loper. 2009. *Natural Language Processing with Python*. O'Reilly Press. www.nltk.org/book

- Allen B. Downey. 2016. *Think Python: How to Think Like a Computer Scientist* (2nd edition). Green Tea Press. greenteapress.com/wp/think-python-2e

- Patrick Hanks. 2013. *Lexical Analysis: Norms and Exploitations*. MIT Press.

- Anatol Stefanowitsch. 2020. *Corpus Linguistics: A Guide to the Methodology*. Language Science Press. langsci-press.org/catalog/book/148

- Martin Wynne (ed.). 2005. *Developing Linguistic Corpora: A Guide to Good Practice*. Oxbow Books. users.ox.ac.uk/~martinw/dlc/index.htm

All other course information, additional readings, assignments, slides, etc. will be available on Canvas.

Course Design

Course grades will be based on regular homeworks, a take-home mid-term project, and a final project:

- Homeworks (30%)

- Midterm project (30%)

- Final project (40%)

Tentative due date for the midterm is October 27 and for the final is December 15.

Schedule

Intro	Wynne, ch. 1; Barth & Schnell, ch. 1, 2
Word meanings	Hanks, ch. 1; Barth & Schnell, ch. 3, 4
Frequency	Brezina, ch. 1, 2; Barth & Schnell, ch. 5
Keywords and collocations	Stefanowitsch, ch. 7; Brezina, ch. 3; Barth & Schnell, ch. 9
Python	Bird, ch. 1, 2; Downey
Corpus representation	Bird, ch. 3; Wynne, ch. 3, 4
Annotation	Wynne, ch. 2; Barth & Schnell, ch. 7
Lexical dispersion	
Lexical diversity	
Lexicogrammar	Brezina, ch. 4; Stefanowitsch, ch. 8
Social media	Bird, ch. 5, 11