## **HESP 818C** — Seminar in Language Processing

Spring 2016: Special topics in language & cognitive processes

Who: Dr. Jared Novick (jnovick1@umd.edu, x51288)

What: http://elms.umd.edu/

Where: Jimenez 1224

When: Wednesdays, 2:00 - 4:30pm

Why: ("Coffice" hours, by appointment)

## **Course Description and Goals**

In this seminar, we will read and discuss theoretical and empirical papers that examine how nonlinguistic cognitive procedures interact with (and perhaps even shape) language processing. In some cases, we will examine the neurobiological systems that support this interplay. The overall goal of the course is to familiarize students with both historical and current theories, methodologies, trends, and debates on the general topic. As we survey the literature, we will consider a range of issues including but not limited to (i) domain-generality vs. domain-specificity, (ii) how broad-purpose cognitive skills like working memory and cognitive control affect production, parsing, and interpretation, and (iii) the influence of rich linguistic experience (e.g., bilingualism; differences in exposure) on cognition and language. Not only will we evaluate whether there is correlated variation in performance on linguistic and nonlinguistic tasks, in some cases we will also evaluate whether causal factors underlie these interactions. Although we will be primarily concerned with healthy adults—to get a sense of how normal cognitive and linguistic processes function—the models and data we will discuss necessarily have implications for the language abilities of special populations with underdeveloped or deficient cognitive abilities such as young children and neurological patients. Such populations will therefore also be considered to provide a more complete picture of how general-purpose cognitive skills and/or mechanisms impinge on language processing. I hope this will lead us to a better understanding of how studies of linguistic and nonlinguistic cognitive performance can be mutually informative, and, more generally, to a better understanding of language use.

#### **Course Requirements**

Students in this class will be expected to fulfill four requirements<sup>1</sup>:

- (1) Attendance and Participation. You are expected to attend all classes having already read the assigned papers. Your success in this seminar hinges on the scholarly analysis of the readings and participating in the weekly discussions, so please come prepared! Your active contribution is essential to your own learning and to your peers' ability to learn from you.
- (2) **Discussion points.** For each assigned paper, please bring questions and topics for discussion on something that struck you (e.g., interested you, confused you, inspired you, or made you want to learn more). These points/questions will serve as a basis for your contribution to the exchange each day.

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<sup>&</sup>lt;sup>1</sup> Auditors are expected to fulfill requirements (1), (2), and (3).

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- (3) **Presentations.** Each student will lead a "formal" discussion on some number of papers during the semester (I don't mean black tie formal here means you will be the official, designated presenter; everyone else will chime in informally throughout. Feel free to wear a tuxedo or gown, though.) Exactly how many papers you will present will depend on enrollment: we will determine these assignments during our introductory meeting. Students may work alone (presenting a single paper, or all the day's papers) or in pairs to present a group of related papers together. In these presentations, you should briefly summarize and then lead critical discussion on the article(s). Slides or handouts will likely be useful but are not required so long as your summary is clear and accessible. You will be leading this discussion, so please come with an agenda to guide the conversation and stimulate the exchange. Incorporating information from the background and optional readings I've recommended (see schedule) will likely enhance your presentation. The group discussion should also inform your presentation on-the-fly during the class meeting.
- (4) Final Paper. Please write a final paper on a topic related to material covered in the class (approx. 10-15 double-spaced pages due at the end of the semester). The paper can be either: (i) a research paper in which you critically review and synthesize the literature on a specific issue or (ii) a research proposal in which you motivate a narrow research question and propose an experiment or set of experiments to address that question. Ideally, this proposal can be developed into a study that you actually conduct later (with me or otherwise) I'm a big fan of class assignments that can have an important and practical outcome. In fact, I hope that some of the discussions during the term will include/inform new experimental ideas that we can execute in the lab. For this assignment, your topic can be an extension of something we covered in class or can be something that we did not specifically discuss as long as it is related to the overall topic of the course. Students are encouraged to explore topics that bridge their own research with some aspect(s) of the course. To inspire some degree of advance planning, you will give a short (20-30 min) presentation on your topic during our last meeting, when you can get (and give) feedback from (and to) your fellow students.

#### **Feedback and Course Evaluation**

I like hearing what is and isn't going well for you (perhaps I don't enjoy this latter part, actually, but it is certainly very important to me). During the term you may wish to comment on the seminar. Please feel free to talk to me about this in person or by email. Alternatively, you may submit your comments anonymously by cutting words out of magazines and pasting them into a ransom-note-style letter, which can be left in my mailbox in Lefrak 0101. Please don't wait until the end of the semester if you want your comments to impact your course experience.

In addition, I hope you will evaluate this course at the end of the term via the Maryland course evaluation platform at <a href="https://www.courseevalum.umd.edu">www.courseevalum.umd.edu</a>.

#### Schedule

Below is a tentative schedule of topics & papers we'll discuss. I'll post PDFs of the readings on the website (under Modules) along with any changes in the schedule or other announcements. **Background readings are helpful but not required, though presenters should incorporate them for context.** This schedule is subject to change. I.e., I promote democracy, so if there's a topic that isn't listed which you'd like to cover, we can substitute another topic if we all agree.

## Tentative Schedule of Readings<sup>2</sup>

#### Introduction

Jan 27. Background reading: This syllabus

## Warming up with classics: Working memory (WM) and its relation to language comprehension

Feb 3. Background reading: Baddeley (2003)

Miyake & Friedman (2012)

Empirical papers: Daneman & Carpenter (1980)

Just & Carpenter (1992)

Optional paper: Oberauer (2005)

## More hits: Language-specific WM or domain-general WM effects on comprehension?

Feb 10. Empirical papers: Waters & Caplan (1996)

MacDonald & Christiansen (2002)

Fedorenko et al. (2007)

Optional papers: Frazier & Fodor (1978)

Trueswell & Tanenhaus (1994)

## Exposure-based models: Language experience (not WM) affects processing & comprehension

Feb 17. Empirical papers: Farmer et al. (in press)

Wells et al. (2009) Rodd et al. (2016) Fine et al. (2013)

Optional papers: Farmer et al. (2012)

Long & Prat (2008)

#### More on memory: effects of retrieval interference or capacity limits on comprehension?

Feb 24. Background reading: Van Dyke & Johns (2012)

Empirical papers: Fedorenko et al. (2013)

Fedorenko et al. (2006) Van Dyke et al. (2014) Glaser et al. (2013)

Optional papers: Cowan (2010)

Wagers & Phillips (2014)

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<sup>&</sup>lt;sup>2</sup> Optional papers on the schedule <u>really are optional</u>, and are listed as a resource for those who are interested in supplemental readings.

## Attention and memory effects on language production

Mar 2. Background reading: Martin & Slevc (2014)

Empirical papers: Becic et al. (2010)

Martin, Yan, & Schnur (2014)

Nozari & Dell (2012)

Optional: Nozari & Thompson-Schill (2013)

Slevc (2011)

Geng et al. (2013)

## The hippocampus, memory deficits (amnesia), and referential communication

Mar 9. Background reading: Duff & Brown-Schmidt (2012)

Empirical papers: Rubin et al. (2011)

Kurczek et al. (2013)

Optional paper: Ryskin et al. (2015)

## NO CLASS, SPRING BREAK. HAVE FUN!

Mar 16. Optional paper: Wirtz et al. (2003). What to do on Spring Break?

Psychological Science, 14(5), 520-524.

## Cognitive control and sentence processing 1: theory, data, and different perspectives

Mar 23. Background reading: Novick et al. (2005)

Fedorenko (2014)

Empirical papers: January et al. (2009)

Novick et al. (2009)

Vuong & Martin (2015)

Fedorenko et al. (2012)

Optional papers: Rogalsky & Hickok (2011)

Botvinick et al. (2001) Thothathiri et al. (2012)

Ye & Zhou (2009)

## Cognitive control and sentence processing 2: a cause-and-effect relationship?

Mar 30. Background reading: Ullsperger et al. (2005)

Hussey & Novick (2012)

Empirical papers: Novick et al. (2014)

Kapnoula & McMurray (2016)

Hsu & Novick (in press)

Optional papers: Kan et al. (2013)

Hussey et al. (2015)

## Language and cognitive (control) processes in young typical and atypical children

Apr 6. Background reading: Trueswell et al. (1999)

Mazuka et al. (2009)

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Empirical papers: Woodard et al. (2016)

Hahn et al. (2015)

Optional papers: Minai et al. (2012)

Snedeker & Huang (in press) Khanna & Boland (2010)

# Language processing under effortful and attention-demanding circumstances (e.g., noisy channels)

Apr 13. Background paper: Allopenna et al. (1998)

Empirical papers: Vaden et al. (2013)

Gibson et al. (2013)

Ben-David et al. (2011)

Optional papers: Kuchinsky et al. (2016)

## Memory and cognitive control for assessing common ground during comprehension

Apr 20. Empirical papers: Brown-Schmidt (2009)

Horton & Gerrig (2016) Nilsen & Graham (2009)

Note: Horton and Gerrig isn't empirical

exactly, but I think it's an important

one that we should discuss.

#### Effects of bilingualism on cognition and language processing

Apr 27. Background reading: Bialystok et al. (2009)

Hilchey & Klein (2011)

Empirical papers: Teubner-Rhodes et al. (in press)

Paap & Liu (2014)

Pozzan & Trueswell (2015)

Optional papers: Christoffels et al. (2006)

Costa et al. (2009)

See also this issue in *Applied Psycholinguistics*:

http://journals.cambridge.org/action/displayIssue?jid=APS&volumeId=35&seriesId=0&issueId=05 &etoc=Y

## Present and discuss final paper topics

May 4.

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