Course Bulletin Listing/Subject Area	Psychology
Fiscal Unit/Academic Org	Psychology - D0766
College/Academic Group	Social And Behavioral Sciences
Level/Career	Graduate, Undergraduate
Course Number/Catalog	5616
Course Title	Models of Language
Transcript Abbreviation	MODELS OF LANGUAGE
Course Description	Focuses on critiquing psychological models of language. Phenomena examined include word recognition, lexical semantics, sentence processing, discourse processing and general verbal cognition.
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week, 7 Week, 4 Week (May Session), 12 Week (May + Summer)
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus, Lima, Mansfield, Marion, Newark

Prerequisites and Exclusions

Prerequisites/Corequisites	Permission of instructor
Exclusions	

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	42.0301
Subsidy Level	Doctoral Course
Intended Rank	Junior, Masters, Senior, Doctoral

Quarters to Semesters

Quarters to Semesters	New course
Give a rationale statement explaining the purpose of the new course	Psychology had previously offered a seminar titled "Models of Memory and Language. The addition of a new faculty member permits expansion of the two topics to receive expanded coverage each in a separate course. This course focuses on language.
Sought concurrence from the following Fiscal Units or College	

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- 1. Students will know and understand the main theories, concepts, and research findings in the psychological study of language.
- 2. Students will be able to modify and construct models of language.
- 3. Students will be able to critique formal psychological models of language.
- 4. Students will be confident and fluent in explaining psychological models and responding to questions about them.

Content Topic List

- Evaluating psychological models of language
- Spoken word recognition
- Visual word recognition
- Lexical Semantics
- Sentence Processing
- Discourse processing
- Verbal cognition

Attachments

- Psych 5616 Models of Language.pdf: Semester and quarter syllabi

(Syllabus. Owner: Vasey,Michael William)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Mazzanti,Denise M	11/08/2010 02:35 PM	Submitted for Approval
Approved	Petty,Richard Edward	11/08/2010 02:36 PM	Unit Approval
Pending Approval	Mumy,Gene Elwood Selby,Erin Faye Vanarsdale,Sonya Renee	11/08/2010 02:36 PM	College Approval

NEW

Current Course Number: ~~PSYCH 695.04~~ New Course Number: XXX

Course Name: Models of ~~Memory and~~ Language

~~Current Credit Hours: 5~~

~~Semester Credit Hours: 3~~

Instructor: Recently taught ~~by Dr. Dennis~~ (Psychology)

Offered: Typically offered every other year depending on faculty schedules.

Enrollment: 8-16 graduates

Course Changes for Semester Conversion

~~The original course meets twice a week for ten weeks with 2.5 hour classes; The semester course will meet twice a week for fourteen weeks, with 1.5 hour classes.~~

Additional Content:

We are proposing to split this course into "Models of Memory" which will be taught by Per Sederberg and "Models of Language" which will be taught by Simon Dennis. The content of the "Models of Language" has been expanded by increasing the number of models that we examine. Class participation is now a formal requirement and an option to do a model critique instead of a model construction project has been added for those students who prefer to avoid programming. Note also that this course has been taught under the 695.04 code, which has a broad course title. We would like this course to have its own more specific title.

25-word Summary (for the Catalog):
Focuses on critiquing and constructing psychological models of language. Phenomena examined include word recognition, lexical semantics, sentence processing, discourse processing and general verbal cognition.

NEW

Models of Language

Course Code:	PSYCHOLOGY XXX	Quarter:	XXXX
Time:	XXXX	Place:	XXXX
Call Number:	XXXX		
Instructor:	Dr. XXXX	Office:	XXXX
Phone:	XXXX	E-mail:	XXXX
Office Hrs:	XXXX; Other times by appointment.		

Required Text: There is no required text for this course.

Description

Understanding human language is nontrivial. Often insight can only be derived through the construction and appreciation of computational models that enforce consistency and reveal the impact of interacting principles. In this course, we will examine a series of models from the psychology of language literature in order to learn how to go about the task of constructing models and to become competent critics of modeling claims. We will cover models of spoken and visual word recognition, lexical semantics, sentence processing, discourse processing and general verbal cognition.

Objectives

By the end of this course, you should:

1. Know and understand the main theories, concepts, and research findings in the psychological study of language.
2. Be able to modify and construct models of language.
3. Be able to critique formal psychological models of language.
4. Be confident and fluent explaining psychological models and responding to questions about them.

Prerequisites

The course is designed for postgraduates. Some exposure to other content areas in psychology is useful but is not necessary. It will be helpful to have a basic competence in mathematical and computational methods including programming. However, there is an alternative assessment mechanism that will mean that programming is not essential.

NEW

Evaluation

There will be three major pieces of assessment:

1. In class participation (40%) - each satisfactory grade accumulates 2%.
2. Laboratories (30%)
3. Model Code and Tutorial (30%) or Model Comparison and Critique (30%)

Class Participation

Each class has a single reading that you should complete before that class. Each week, I will pick one student at random to lead the discussion. They will give a 10-15 minute overview of the paper and will be responsible for moderating the discussion. Each student will have two mulligans that they can use without prejudice if they do not want to lead the discussion for that week. In addition, each student will prepare three questions and we will work around the class considering questions until we finish or time runs out. Each student's participation will be graded as satisfactory or not for a given session. Each satisfactory score will accumulate 2% towards your class participation grade. Note all readings will appear on Carmen.

Laboratories

There will be five laboratory sessions in which you will be completing exercises related to some of the main models. You will need to submit the answers to these exercises each of which will be worth 6%.

Model Code and Tutorial

If you choose this project, you will be required to write a program that implements one of the models that we discuss in class. You then need to produce a 1000 word tutorial that:

1) Describes the model
2) Outlines the main phenomena to which the model has been applied
3) Provides a series of exercises that a novice could use your code to complete. These exercises should highlight the main properties of the model. They should be designed to take approximately one hour to complete.
4) A set of answers to the exercises.
5) Provides supporting references.

Note it is not necessary to produce a graphical user interface for this project – just a set of functions that implement the model.

Model Comparison and Critique

If you choose this project, you will be required to write a 6000 word paper that compares and contrasts two models that we discuss in class that address the same general phenomena. For each model, you should:

1) Describe the model
2) Outline why the model was created – that is what were the driving theoretical issue(s) that led to the development of the model

NEW

3) Outline the main phenomena to which the model has been applied

Then you will compare the models highlighting the strengths and weaknesses of each.

Submitting Assessment

All assessment should be submitted using the Carmen dropbox. If you don't know how to login to Carmen or are uncertain how to use the dropbox ask either after class or during my office hours.

Academic Misconduct

All students at the Ohio State University are bound by the Code of Student Conduct (see http://studentaffairs.osu.edu/pdfs/csc_12-31-07.pdf). Violations of the code in this class will be dealt with according to the procedures detailed in that code. Specifically, any alleged cases of misconduct will be referred to the Committee on Academic Misconduct. It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct.

Course Schedule

Week 1(1) Evaluating Models: Dennis and Kintsch (2007).
Week 1 (2) Spoken Word Recognition - Marslen Wilson (1984).
Week 2 (1) Spoken Word Recognition – McClelland and Elman (1986).
Week 2(2) Laboratory – the TRACE model
Week 3(1) Visual Word Recognition – Morton (1982).
Week 3 (2) Visual Word Recognition – Forster (1979).
Week 4 (1) Visual Word Recognition – McClelland and Rumelhart (1981).
Week 4 (2) Visual Word Recognition – Coltheart, Curtis, Atkins, and Haller (1993).
Week 5 (1) Visual Word Recognition – Seidenberg and McClelland (1989).
Week 5 (2) Visual Word Recognition – Kwantes and Mewhort (1999).
Week 6 (1) Visual Word Recognition – Norris (2006).
Week 6 (2) Laboratory - the Seidenberg and McClelland model
Week 7 (1) Lexical Semantics - Landauer and Dumais (1997).
Week 7 (2) Lexical Semantics - Griffiths, Steyvers and Tenenbaum (2007).
Week 8 (1) Lexical Semantics – Jones and Mewhort (2007).
Week 8 (2) Laboratory – Latent Semantic Analysis
Week 9 (1) Sentence Processing – Gibson and Pearlmutter (1998).
Week 9 (2) Sentence Processing – Gibson (1998).
Week 10 (1) Sentence Processing – Jurafsky (1996).
Week 10 (2) Sentence Processing - Lewis and Vasishth (2005).
Week 11 (1) Sentence Processing – Elman (1990).
Week 11 (2) Sentence Processing – Christiansen and Chater (1999).

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Week 12 (1) Sentence Processing – Tabor and Tanenhaus (1999).
Week 12 (2) Laboratory – the Simple recurrent Network
Week 13 (1) Discourse Processing - Kintsch (1988).
Week 13 (2) Discourse Processing – van den Broek (1990).
Week 14 (1) Verbal cognition - Dennis (2005).
Week 14 (2) Laboratory – the Syntagmatic Paradigmatic model

Disability Accommodation

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; http://www.ods.ohio-state.edu/.

Models of Human Memory and Language

Course Code:	PSYCH 695.04	Quarter:	WINTER, 2009
Time:	M 1:30 – 3:18	Place:	0115 PS
	W 1:30 – 3:18		0022 PS(Wednesday)
Credit Hours: 4		Call no:	18391-1
Instructor:	Dr. Simon Dennis	Office:	200E Lazenby Hall
Phone:	292-2229	E-mail:	simon.dennis@gmail.com
Office Hrs:	R 1:30-2:30; Other times by appointment.		

Required Text: There is no required text for this course. We will make some use of Human Memory by Neath and Surprenant. We will also use "How to Think Like a Computer Scientist: Learning with Python". 2nd Edition by Jeffrey Elkner, Allen B. Downey and Chris Meyers, 2008. The text is available free of change online at http://openbookproject.net/thinkCSpy/index.html.

Acknowledgment: We would like to thank Jeffrey Elkner, Allen B. Downey and Chris Meyers for the work that they have put into the production of the textbook.

Description

Understanding human memory and language is nontrivial. Often insight can only be derived through the construction and appreciation of computational models that enforce consistency and reveal the impact of interacting principles. In this course, we will examine a series of models from the memory and language literature in order to learn how to go about the task of constructing models and to become competent critics of modeling claims. From the memory literature, we will focus on chaining, ordinal and positional models of short term memory and on item and context noise models of long term memory. From the language literature, we will focus on models of syntax and semantics paying particular attention to corpus based approaches.

Objectives

By the end of this course, you should:

1. Know and understand the main theories, concepts, and research findings in the psychological study of memory and language
2. Be able to critique formal models of memory and language.
3. Be able to modify and construct models of memory and language.
4. Be able to prepare and deliver an oral presentation that outlines and critiques models or memory or language.

Prerequisites

The course is designed for postgraduates. Some exposure to other content areas in psychology is useful but is not necessary. It will be helpful to have a basic competence in mathematical and computational methods including introductory programming. However, in the second class of each week (on Wednesday) we will be in the computer laboratory where we will go through an introduction to programming in python.

Readings and References

In this class, I will distinguish between readings and references. Each class has a single reading that you should complete before that class. I will be presenting that material in class and will expect that you will be able to contribute to the discussion about that paper. Each class may have one or more references. References are papers that provide useful additional material. Some weeks a student will be assigned to present a reference. While it will be helpful if you have skimmed these papers, I will not expect that you will read them in detail. Note all readings and references will appear on Carmen.

Evaluation

There will be three major pieces of assessment:

1. Presentation (40%) Slides due the day of your presentation.
2. Model code (20%) Due Feb 23rd
3. Model tutorial (40%) Due Mar 9th

Presentations

Being capable of presenting your ideas competently and persuasively is a critical skill that you must acquire in order to be successful. In this class, students will be assigned to some of the reference papers. You will be expected to put together a 20 minute powerpoint presentation (15 minutes for the talk plus 5 minutes of discussion) on the paper – detailing the model that the paper presents and outlining the major empirical phenomena that the model is attempting to capture. Many of these papers are long and detailed, and so you will have to use your judgment to decide what are the really critical points that you should attempt to communicate.

The reference papers indicated with a * are appropriate for you to choose to present. Before the first class, take a look at these papers and see which you might like to focus on.

To help with your presentation, I have posted a powerpoint presentation that provides instruction on how to prepare a talk on Carmen. I have put the marking scheme that I will be using there, also. You will need to use the dropbox to send your slides to me before your presentation.

Modeling Project

You will be required to write a program that implements the model that you presented in your talk. You then need to present an 8 page tutorial that:

1) Outlines why the model was created
2) Describes the model
3) Outlines the main phenomena to which the model has been applied
4) Provides a series of exercises that a novice could use your code to complete. These exercises should highlight the main properties of the model including at least one simulation that appears in the original paper and one that does not. They should be designed to take approximately one hour to complete.
5) A set of answers to the exercises.
6) Provides supporting references.

DON'T PANIC. I realize that you may not have a substantial background in programming. The Wednesday sessions we will be working through how to program in python so that you can develop

these skills. I will also be available to provide help with the assignment during these sessions.

Note it is not necessary to produce a graphical user interface for this project – just a set of functions that implement the model. Using the python programming language, however, provides access to libraries of graphical display functions which you may find useful for summarizing simulation results.

Submitting Assessment

All assessment should be submitted using the Carmen dropbox. If you don't know how to login to Carmen or are uncertain how to use the dropbox ask either after class or during my office hours.

Academic Misconduct

Don't be naughty! Sexual, racial, religious or political harassment of any kind will not be tolerated. Anyone found cheating will receive a zero for that piece of assessment, as will anyone who assists them to cheat. All students at the Ohio State University are bound by the Code of Student Conduct (see http://studentaffairs.osu.edu/resource_csc.asp). Suspected violations of the code in this class will be dealt with according to the procedures detailed in that code. Specifically, any alleged cases of misconduct will be referred to the Committee on Academic Misconduct.

Disability Accommodation

If you need an accommodation based on the impact of a disability, you should contact me to arrange an appointment as soon as possible. At the appointment we can discuss the course format, anticipate your needs, and explore potential accommodations. I rely on the Office for Disability Services for assistance in verifying the need for accommodations and developing accommodations strategies. If you have not previously contacted the Office for Disability Services, I encourage you to do so.

Course Schedule

Jan 5 Evaluating theories and an introduction to formal models

Reading: Dennis, S. & Kintsch, W. (2007). Evaluating theories. In R. Sternberg, R. Roediger, & D. Halpern (Eds.) Critical thinking in psychology.

Reference: Neath, I. & Surprenant, A. (2003). Human memory. Thompson Wadsworth. Chapter 1.

Jan 7 The way of the program, variables, expressions and statements
Reading: Elkner, Downey & Meyers (2008) Chapters 1-2

Jan 12 Short Term Memory

Reading: Henson, R. N. A. (1998). Short-term memory for serial order: The start-end model. Cognitive Psychology, 36, 73-137.

*Reference: Lewandowsky, S., & Murdock, B. B. (1989). Memory for serial order. Psychological Review, 96, 25-57.

*Reference: Page, M., & Norris, D. (1998). The primacy model: A new model

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of immediate serial recall. Psychological Review, 105, 761-781 .

Jan 14 — Functions, conditionals and iteration
Reading: Elkner, Downey & Meyers (2008) Chapters 3-6

Jan 19 — Martin Luther King Holiday

Jan 21 — Strings, Lists and Dictionaries
Reading: Elkner, Downey & Meyers (2008) Chapters 7, 9, 12

Jan 26 — Long Term Memory: The Global Matching Models

Reading: Clark, S. E., & Gronlund, S. D. (1996). Global matching models of recognition memory: How the models match the data. Psychonomic Bulletin and Review, 3, 37-60.

*Reference: Murdock, B. B. (1982). A theory for the storage and retrieval of item and associative information. *Psychological Review, 89(6),* 609-626.

*Reference: Hintzman, D. L. (1984). Minerva 2: A simulation model of human memory. Behaviour Research Methods, Instruments, and Computers, 16 (2), 96-101.

*Reference: Humphreys, M. S., Bain, J. D., & Pike, R. (1989). Different ways to cue a coherent memory system: A theory for episodic, semantic and procedural tasks. *Psychological Review, 96(2),* 208-233.

Jan 28 — No class

Feb 2 — Long term Memory: Item versus Context Noise

Reading: Dennis, S. & Humphreys, M. S. (2001). A context noise model of episodic word recognition. Psychological Review, 108, 452-478.

*Reference: Shiffrin, R. M. & Steyvers, M. (1997). A model for recognition memory: REM - retrieving effectively from memory. Psychonomic Bulletin and Review, 4, 145.

Feb 4 — Modules and Files
Reading: Elkner, Downey & Meyers (2008) Chapters 10

Feb 9 — Lexical Semantics

Reading: Landauer, T. K., & Dumais, S. T.(1997). *A solution to plato*'s problem: the latent semantic analysis theory of acquisition, induction and representation of knowledge, Psychological Review, 104(2), 211-240.

Reference: Griffiths, T.L., Steyvers, M., & Tenenbaum, J.B.T. (2007). Topics in Semantic Representation. *Psychological Review*, 114(2), 211-244.

Feb 11 — Classes and Objects
Reading: Elkner, Downey & Meyers (2008) Chapters 13

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Feb 16	Sentence Processing: Symbolic Models
	Reading: Gibson, E. & Pearlmutter, N. (1998). Constraints on sentence comprehension. Trends in Cognitive Science, 2, 262-268.
	Reference: Gibson, E. (1998). Linguistic complexity: Locality of syntactic dependencies. Cognition, 68, 1-76.
	Reference: Jurafsky, Daniel. (1996a). A Probabilistic Model of Lexical and Syntactic Access and Disambiguation. *Cognitive Science* **20** 137-194.
Feb 18	Introduction to Matplotlib (http://matplotlib.sourceforge.net/index.html)
Feb 23	Sentence Processing: Connectionist Models
	Reading: Elman, J. L. (1990). Finding structure in time. Cognitive Science, 14, 179-211.
	Reference: Christiansen, M. H. & Chater, N. (1999). Toward a connectionist model of recursion in human linguistic performance, 23(2), 157-205.
	Reference: Tabor, W. and Tanenhaus, M. K. (1999). Dynamical models of sentence processing. *Cognitive Science*, 23(4):491-515.
	Assessment: Model code due
Feb 25	No class
Mar 2	Discourse Comprehension
	Reading: Kintsch, W., (1988). The Role of Knowledge in Discourse Comprehension: A Construction-Integration Model, Psychological Review, 95, 2, 163-182.
Mar 4	No class
Mar 9	Verbal Cognition
	Reading: Dennis, S. (2005). A Memory-based Theory of Verbal Cognition. Cognitive Science. 29(2). 145-193.
	Assessment: Model tutorial due
Mar 11	No class