

EMCL course plan 2006-2007

1st term: Groningen and Milano-Bicocca

2nd term: Groningen and Joensuu

3rd term: Potsdam

Course descriptions

1st term: Groningen

Theoretical Linguistics: Syntax

Jan-Wouter Zwart and Jan Koster

Literature

A. Radford, *Syntax: a minimalist introduction* (Cambridge University Press, 1997)

Method: Introduction to formal syntax discussing both basic analytic tools and key elements of the minimalist approach to syntax of generative grammar. Students read designated material and hand in assignments for credit.

Examination: Credit based on participation and written assignments.

Theoretical Linguistics: Semantics

Petra Hendriks

Course material: John I. Saeed, *Semantics*. Blackwell, Malden MA, Second Edition 2003. ISBN 0-631-22693-1.

Schedule:

<i>Date</i>	<i>Topic</i>	<i>Chapter</i>
Sept. 5	What is Semantics?	Chapter 1
Sept. 12	Meaning, Thought, and Reality	Chapter 2
Sept. 19	Word Meaning	Chapter 3
Sept. 26	Sentence Meaning and Truth	Chapter 4
Oct. 3	Events and Situations	Chapter 5
Oct. 10	Thematic Roles	Chapter 6
Oct. 17	Context	Chapter 7
Oct. 24	Reading week, no class	-
Oct. 31	Inference	Chapter 7
Nov. 7	Meaning Components	Chapter 9
Nov. 14	Formal Semantics	Chapter 10
Nov. 21	Monotonicity	Chapter 10
Nov. 28	Cognitive Semantics	Chapter 11

Dec. 5	Question & Answer Session	-
Dec. 12	Written Exam (essay questions)	-

Statistics & Methodology (September / October 2006)

Wilbert Heeringa

Lab leader: Wybo Wiersma.

Goal: learn intelligent use of inferential statistics in linguistics.

Book:

David S. Moore & George P. McCabe: Introduction to the Practice of Statistics, Fifth edition (available at Athena's, Oude Kijk in 't Jatstraat / Scholtens Wristers, Guldenstraat)

Materials: this syllabus. If the overhead sheets used in the course are different from the ones printed in this syllable, they are available at:

<http://www.let.rug.nl/~heeringa/statistics>

The laboratory exercises can also be found at this website.

Policies:

1. Lab assignments *required*, attendance strongly recommended. *No* consultation for those not attending.
2. Lab assignments: six. In general, you have one week to complete. Lab assignments are *required*. Points deducted for late assignments (after one week: half of the points, after two weeks: no points). All lab reports on stat. tests should summarize problem (and hypothesis), specify what test is used, what test result indicates about hypothesis, show (minimal) SPSS results. Unedited spss.log files *not* acceptable. Reports should be 1-2 pages long.
3. Grades based on LABS (25%), and final theoretical exam (75%)

Experimental Linguistics for Clinical Linguists

L. Stowe

Goal: The foci of this course are 1) learning about some of the basis research methods and results of experimental research into language comprehension and production, 2) learning to be critical about interpreting the results of experiments, and 3) learning to plan an experiment on the basis of existing research results.

Website: Various materials will be made available on www.nestor.rug.nl. In that course you will find the first reading as well as (later) the powerpoints for the lectures and for the class presentations given by the other students (see below). I will probably have to log you pm as users by hand, so I will need a list of your names

Organization: The first part of the course will consist of lectures on six areas of experimental linguistics which will summarize some of the results, as well as showing the types of experimental methods and research designs used to produce these results. It is expected that the students will have read the readings beforehand (with the exception of the reading for today).

Week	Date	Topic and Preparatory Reading (Read before class!)
Wk 8	Oct 30	Introduction to Experimental Linguistics and Some Initial Data Read: Stowe and Kaan syllabus Chap 1 (see Nestor)
	Nov. 3	Word Recognition Read: Harley, T.A. 1995. Chapter 6. <i>The Psychology of Language: From Data to Theory</i> . Hove, UK: Erlbaum, Taylor and Francis.
Wk 9	Nov. 6	More on Word Recognition Read: Harley, T.A. 1995. Chapter 8. <i>The Psychology of Language: From Data to Theory</i> . Hove, UK: Erlbaum, Taylor and Francis.
	Nov. 10	Word Recognition and Ambiguity Read: Simpson, G.B. 1994. Context and the processing of ambiguous words (Chapter 10). In M.A. Gernsbacher (Ed.), <i>Handbook of Psycholinguistics</i> . San Diego: Academic Press
Wk 10	Nov 13	Syntactic Processing Read: Frazier, L. 1987. Sentence processing: A tutorial review. In M. Coltheart (Ed.), <i>Attention and Performance 12: The Psychology of Reading</i> . Hove, UK: Erlbaum Associates
	Nov. 17	Syntactic Processing and Ambiguity Resolution Read: Stowe, L.A. 1992. Verb information in sentence processing. In D. Gilbers and S. Looyenga, eds., <i>Language and Cognition 2: Yearbook of the research group for linguistic theory and knowledge representation of the University of Groningen</i> . Groningen: Rijksuniversiteit Groningen.
Wk 11	Nov. 20	Semantic Processing in Sentence and Discourse Context Read: Garrod, S.C., and Sanford, A.J. 1994. Resolving sentences in a discourse context (Chapter 20). In M.A. Gernsbacher (Ed.), <i>Handbook of Psycholinguistics</i> . San Diego: Academic Press
	Nov. 24	More on Discourse Processing No reading
Wk 12	Nov. 27	Language Production: Sounds and Words Read: Dell, G.S. 1995. Speaking and misspeaking. In L.R. Gleitman and M. Liberman (Eds.), <i>An Invitation to Cognitive Science: Language (vol. 1)</i> . 2 nd Ed. Cambridge, MA: MIT Press
	Dec. 1	Language Production: Words and Sentences Read: Bock, K., & Levelt, W. 1994. Language production: Grammatical encoding. In: Gernsbacher, M.A. (Ed). <i>Handbook of psycholinguistics</i> . (pp. 945-984). San Diego, CA, US: Academic Press, Inc
Wk 13	Dec. 4	No class: Preparation Time
	Dec. 8	Student Presentations
Wk 14	Dec. 11	Student Presentations

Assessment: The course grade is based on the presentation and on a written assignment.

Class Presentations (40%):

In the last two classes of the course, individual students will present articles on various areas of experimental research. The presentations are to be done using powerpoint and will be made available to me for grading and feedback. Guidelines can be found below. The details of this part of the course will be worked out depending on the number of students taking part.

Written assignment (60%):

In the fifth week of classes, each student should submit a plan for their written assignments in which they sketch a topic, and make a preliminary literature list. In the report, they should summarize a set of research results in a particular area of experimental linguistics; this should be within one of the general areas discussed in class lectures and presentations. The student should then propose an extension of the research by proposing a further experiment to follow up on this issue. This may concern a population with language disturbances or normals or an extension of the research with normals. The proposal of an should include attention to what additional knowledge will be gained by the experiment, what possible answers there are to that issue, the method (subjects, materials, method with which data will be collected, conditions to be statistically compared) and how potential outcomes of the experiment will answer the original question.

Student Presentations: Articles which can be chosen for presentation

Word Recognition

Seidenberg, M.S., Waters, G.S., Barnes, M.A., & Tanenhaus, M.K. 1984. When does irregular spelling or pronunciation influence word recognition? *Journal of Verbal Learning and Verbal Behavior*, 23(3): 383-404.

Shelton, J.R., and Martin, R.C. 1992. How semantic is automatic semantic priming? *Journal of Experimental Psychology: Learning, Memory and Cognition* 18: 1191-1210.

Syntactic Processing

MacDonald, M.C., Just, M.A., Carpenter, P.A. Working memory constraints on the processing of syntactic ambiguity. *Cognitive Psychology* 24:56-98.

Trueswell, J., & Kim, A. 1998. How to Prune a Garden Path by Nipping It in the Bud: Fast Priming of Verb Argument Structure. *Journal of Memory and Language*, 39, 102–123.

Sentence and Discourse Comprehension

Long, D.L., Oppy, B.J., and Seely, M.R. 1994. Individual differences in the time course of inferential processing. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 20: 1456-1470.

van Berkum, J.J.A., Brown, C.M., & Hagoort, P. (1999). Early referential context effects in sentence processing: Evidence from event-related brain potentials. *Journal of Memory and Language*, 41, 147-182.

Language Production

Haskell, T.R., & MacDonald, M.C. 2003. Conflicting cues and competition in subject-verb agreement. *Journal of Memory and Language* 48(4), 760-778.

Thornton, R., & MacDonald, M.C. 2003. Plausibility and grammatical agreement. *Journal-of-Memory-and-Language*, 48(4): 740-759.

Guidelines for presentations

A critical presentation of the research presented in the assigned article. See also guide to critical reading on nestor.

Introduction:

- Background on the issue being addressed by the experimenters
- Links to literature presented during lectures
- The hypotheses that the experimenters discuss
- The predictions about the outcome of the experiment which are made on the basis of each hypothesis

Methods:

- The materials used in the experiment, including conditions and how constructed, matched, etc
- The experimental technique used in the experiment and particularly why this technique is expected to demonstrate differences between the conditions
- Any other relevant details about the procedure
- The subjects who participated

Results

- Any data preparations done before analysis of the data
- The statistical design used in looking the results
- The results in numerical terms and in terms of statistical significance

Discussion

- Back to the hypotheses and whether these results support one of them
- Critical comments on clarity or lack thereof in the presentation of the experiment in the article

Use the above as a checklist to determine if the presentation is complete.

Format:

- The presentation itself should be in powerpoint. You may be able to copy tables and figures from the electronic version of the article, but for tables and graphs, making new versions may be more legible.
- Keep content of a single slide limited so that it is easily readable
- Use the note pages (to be found under View or Beeld in powerpoint) to plan what you will say about each slide and how you will go from one section of the presentation to the next (transitions). The lecturer who gives you feedback will use this for a good lot of the feedback and it must be included.

Note: Those who are not presenting on a given week are responsible for familiarizing themselves with the content of the articles and for participating in discussion of the presentation and will be graded on that.

Guidelines for Final Essays

Basically the goal of this assignment is to learn how to use existing literature to plan future research. Each student is expected to hand in a proposal/plan for the essay in the last week of classes; this is to consist of a definition of the issue(s) to be discussed and a proposed reading list (at least three research articles), with an outline of the structure to be used. The proposal does not need to be long. This means that you need to spend some time looking at literature databases to identify articles on the topic you choose and choosing some which form a relatively coherent set, addressing *one* aspect (*not all!*) of the topic that you choose. Remember that the articles should contain experiments, discussions of the issues are not enough. I assume that you will probably go into one of the studies presented briefly during class in more detail, but I also expect that no more than one of the studies was discussed in class or in your research proposal. It is probable, but not necessary, that you will go further with the sort of research which was in the article you presented in class.

The report itself is expected to summarize the most important aspects of each article (i.e. you can omit some experiments, as long as the overall point is clear); it should be clear what the authors meant to find out, how they carried out the research, what the results were and the conclusions they drew. When looking at the articles for presentation and for this report, note the introductions; these should provide samples of how the people summarize the less important and more important literature in their research area. Although you will be expected to be somewhat more detailed, as the point of this course is really getting into how experimental evidence for a psycholinguistic theory is gathered and evaluated. An important goal of the report is thus to further to summarize the similarities and differences in the findings of the authors, what each study adds to the others, and the overall conclusion and the possible limitations of that conclusion. Be critical: not all articles, even published articles are equally good. A good deal of the focus of the discussion should be on how people argue for an against a particular viewpoint, including the logic of the experiments in relationship to the issue, as well as going into some detail about the experimental methods. You may want to go back to the powerpoint on analyzing an experiment.

Inconsistencies between the various researchers give the most obvious starting point for planning your own follow-up experiment, or differences that may be expected from a language with a different structure. The proposal of an should include attention to what additional knowledge will be gained by the experiment, what possible answers there are to that issue, the method (subjects, materials, method with which data will be collected, conditions to be statistically compared) and how potential outcomes of the experiment will answer the original question.

The essay is due on **Jan 15**, by email is fine, but do ask for a reply indicating that it has been received, since emails have been known to go astray. No extension is possible without extremely extenuating circumstances. It should be approximately **10 pages** long, and in font no smaller than 12 point, please, for the sake of my poor old eyes. It is possible to revise for a better grade (but you have to do more than make the exact revisions which I suggest).

Developmental language disorders I

Gerard Bol

During this course we will examine methodological and theoretical topics with respect to research on Developmental Language Disorders (DLD): causes of language disorders, classification of disorders (subtypes), DLD in relation to other problems in children, etc. Depending on the amount of students, they have to present one or two articles from the list

below. A PowerPoint presentation is not obligatory, but recommended. In order to have a proper discussion on the topics of the articles, all students are supposed to read the literature in advance of each meeting.

Assessment: written exam
ECTS-credits: 2

Introduction Aphasiology

Roelien Bastiaanse

Literature:

R. Bastiaanse & S. Edwards *Aphasia*. Cambridge University Press.

This book is in the process of being written. The chapters will be handed to the students week by week.

Methods:

This series of lectures will all be given by the teacher and two guest lecturers, so no oral presentations are given by the students. The students are supposed to prepare the classes by reading the chapter.

Examination:

A multiple choice exam

1st term: University of Milano-Bicocca

Statistics and research methodology (5 ECTS)

Cristiano Vezzoni

Course Outline: The course focuses on basic statistics applied to experimental, clinical and observational data in linguistic research. The main concepts related to data analysis and theory of tests are presented, as well as some methods for description and data analysis. The descriptive part includes: measures of centrality and dispersion, contingency tables and way of presenting entire distributions (density estimates and histograms). The analytical part includes: linear regression, analysis of variance, analysis of contingency tables, including chi-square tests.

Section 1 – Main concepts and descriptive statistics

- variables: type of variables;
- models: dependent and independent variables;
- experimental, clinical, and observational data;
- measures of central tendency and dispersion;
- density estimates, histograms, and other presentations of distributions;
- research questions, data and analyses.

Section 2 – Continuous dependent variables

- representation of two continuous variables: scatter plots;
- simple linear regression: assumptions, evaluation, tests;

- dummy variables as independent variables and analysis of variance;
- confronting models;
- notes on logistic regression.

Section 3 – Categorical variables

- contingency tables;
- chi-square tests of hypotheses;
- small samples and non-parametric tests;
- notes on loglinear analysis.

Literature

Lewis-Beck M (1980) *Applied regression. An introduction*. Newbury Park: Sage.

Weisberg HF (1992) *Central tendency and variability*. Newbury Park: Sage.

Wilkinson L (2004) *Cognitive Science and Graphic Design*. In Systat 11 Graphics (2004), Systat Software Inc.

Burton D (2000) *Research Training for Social Scientists*. Newbury Park: Sage. Chapter 26: Inferential statistics.

Miles J and Shevlin M (2001) *Applying regression and Correlation*. London: Sage. Chapter 3: Categorical independent variables.

Norušić MJ (2004) *SPSS 12.0 – Guide to Data Analysis*. SPSS Publications Chapter 15: One-way analysis of variance.

Paolillo JC (2002) *Analysing Linguistic Variation*. Stanford: CSLI Publications. Chapter 1: What is variationist analysis. Chapter 5: Analyzing contingency tables.

To cover and integrate the topics of the course the students can refer to any introductory book on statistics and data analysis. An example:

Moore DS and McCabe GP (2005) *Introduction to the practice of statistics*. (Fifth ed.) NY: Freeman e CO.

As far as SPSS is concerned, the students can refer to the manuals available at the library. As a reference guide, a satisfactory textbook is:

Fields A (2005) *Discovering statistics using SPSS*. London: Sage.

Examination: Credit based on participation to theoretical classes and practical sessions, written assignments and oral discussion of the main contents of the course.

Neurolinguistics and Clinical Aphasiology (3 ECTS)

Janet Slotow

Course outline:

This course will include

- an introduction to aphasia
- classification

- symptomatology and models of language processing as they relate to
 - Phonology
 - Lexicon and semantics
 - Morphology and syntax
 - Discourse
 in people with aphasia.

Recommended texts:

There is no prescribed texts but these are highly recommended reference books. The first one provides a sound theoretical perspective while the second book is a useful clinical reference.

Caplan, D (1999). *Language: Structure, Processing and Disorders*. MIT Press; Massachusetts. ISBN 0-262-53138-0

Whitworth, A., Webster, J. & Howard, D. (2005) *A cognitive neuropsychological approach to Assessment and Intervention in Aphasia: A clinician's guide*. Psychology Press, East Sussex. ISBN 1-84169-345-6.

A relevant reading pack and articles will be provided for the course.

Examination:

There will be a written exam at the end of the course. In addition there may be small class assignments set.

Theoretical Linguistics (5 ECTS)

Francesca Foppolo & Carlo Geraci

Course outline: Introduction to formal linguistics discussing both basic analytic tools and key elements of phonology, morphology, syntax and semantics within the generative framework.

The course provides:

- Introduction to phonetics, phonology, and morphology.
- Syllable structure, prosodic word and morphological word,
- X-bar theory, syntactic movement, binding theory and some preliminary notions of minimalism in syntax;
- Introduction to entailment, presupposition and implicature, a detailed analysis of scalar implicature.

Students read designated material and hand in assignments for credit.

Literature

Akmajian A, Demers RA, Farmer AK and Harnish RM (1994). *Linguistics: An Introduction to Language and Communication*. Chapters 1-6.

Hauser MD, Chomsky N, Fitch WT (2002). *The Faculty of Language: What Is It, Who Has It, and How Did It Evolve?*, Science, Vol. 298 (1569-1579).

Lebeaux D (1998) *Where does the binding theory apply?* NECL.

Chierchia G and McConnell Ginet S (2000). Meaning and Grammar. MIT Press, chapter 1

Horn L (2004). *Implicature*. In: “The handbook of Pragmatics”, L. Horn and G. Ward (eds.), Blackwell, pages 3-28

Examination: Credit based on participation, written assignments and tests.

Psycholinguistics and language acquisition (3 ECTS)

Francesca Foppolo

Literature

Harley T (2001) “The psychology of Language. From data to theory”, 2nd edition, Psychology Press. (Chapters 1 & 9)

Guasti MT (2002) “LanguageAcquisition. The growth of Grammar”. MIT Press. (Chapters 1 & 8)

Course Outline: the course will be divided into two parts. Part I: introduction to current theories of sentence processing and different parsing models in coping with structural ambiguities; description of the methodology used in experimental research in the field. Part II: acquisition. Introduction to different models of acquisition; the notion of Universal Grammar; the acquisition of the Binding Principles. Students read designated material and hand in assignments for credit.

Examination: Credit based on participation, written assignments and tests.

Foundations of Neurosciences (3 ECTS, optional course)

Eraldo Paulesu

Course Outline: Introduction to neural cells anatomy, biochemistry and physiology. Structure and organization of the central nervous system. Anatomy and physiology of the motor system and of the visual system. Introduction to functional imaging as a tool for exploring the neural bases of cognitive functions with references to the domains of normal reading and dyslexia.

Literature

Bear MF, Connors BW and Paradiso MA (2006). Neuroscience: Exploring the brain (selected chapters). Lippincott, Williams and Wilkins, Publisher.

Examination: Credit based on participation, multiple choice tests and short essays.

Italian for foreigners (90 hours, no credits assigned)

Course Outline: two kinds of courses (beginner and intermediate) were available to the EMCL students, depending on their previous proficiency in Italian. The aim of the courses is to provide the basic knowledge of spoken and written Italian. Classes take place daily during

the first month and twice a week for the rest of the term. The hours of lessons include a linguistic-grammatical phase and a dialogue-conversation phase.

Examination: Students had to attend and participate at classes. No evaluation has been provided for the course.

2nd term: Groningen

Developmental Language Disorders II

Gerard Bol

Exam: Essay (of about 20 pages A4) on the topics below, in which a discussion of the literature, the findings of the research and a discussion of the implications of the results.

General:

In seven weeks we will look at two (methodological) issues that are important in the literature of the study of Developmental Language Disorders (DLD), namely

1. the comparison of the calculation of the Mean Length of Utterance in morphemes and in words (MLUm versus MLUw)
2. the use of the Type Token Ratio (TTR) and the alternative measure D.

The students have to look for data to research in CHILDES (Child Language Data Exchange System). Preferably the data have to come from children with language problems and if possible coming from the same linguistic background as the student. If those prerequisites cannot be fulfilled, normally developing English or Dutch children are preferred.

All students have to make the analyses on 2 children, preferably one child with language disorders and one typically developing child. Of each child, 100 analysable utterances will be taken from CHILDES in order to make the analysis. Working in student pairs is allowed, if not recommended.

Crosslinguistic studies to aphasia

R. Bastiaanse

Background

Since aphasia is a language disorders and since languages differ, the phenomena in which aphasia presents itself differ too. In this class, grammatical disorders are central. During the first three meetings, the main theories on sentence production (with the emphasis on the verb) will be discussed. The rest of the course will be focused on disorders of verb and sentence production in various languages, mainly those spoken by the participating students.

The literature on grammatical disorders in various languages will be addressed and some issues that might yield interesting aspects in different languages will be 'translated' to experiments or will be analyzed in the spontaneous speech. Each student chooses a language that s/he will study. Much time will be spent on developing experiments. Each student has to set up a relevant experiment, based on a proper hypothesis.

On the Monday meetings (and the first 2 Wednesdays) the literature will be discussed. On the 3rd, 4th and 5th Monday, guest lectures will be given by PhD-students (who are former EMCL-

students) on their research to Italian, Turkish and Russian respectively. This will show you how you can set up an experiment in your own language. From week 4 on, the Mondays will be filled with oral presentations of the students. The students have to find literature on grammatical disorders in aphasia in their own language, or a language they are interested in. The Wednesdays will be filled with discussing the experiments.

Many spontaneous speech samples can be found in the sourcebook of Menn & Obler, which is in the library. In some of the papers, spontaneous speech samples are included.

At the end of term, each student will have an experiment. S/he will have to test healthy speakers with these materials. This can be done in Potsdam. Each student has to write an essay, in which the theory, the motivation for the experiment, the experiment and the data of healthy speakers should be included. Writing starts during the course and can be finished in Potsdam. Ample instructions will be given.

If students decide to write their MA-thesis on this experiment, they should start to contact people in their home country to get access to aphasic patients.

Schedule

Week 1: Introduction (1)

06-02 Introduction, schedule for oral presentations

08-02 Bastiaanse & Thompson, 2003; Bastiaanse & Van Zonneveld, 2004

Week 2 Introduction (2)

13-02 Friedmann (2000); Burchert et al. (2005). Give title of paper for presentations

15-02 Bastiaanse et al. (2003); Bastiaanse & van Zonenveld (2005)

Week 3 Italian

20-02 Guest lecture Eleonora Rossi on Italian; 2 student presentations

23-02 Choose topic for experiments

Week 4 Turkish

27-02 Guest lecture of Tuba Duman Yarbay on Turkish; 2 student presentations

29-02 No class

Week 5 Russian

06-03 Guest lecture of Maria Trofimova on Russian (Ruigendijk & Bastiaanse, 2002); 2 students presentations

08-03 Discuss experiments

Week 6 Other languages

13-03 4 student presentations

15-03 Discuss experiments

Week 7 Other languages

20-03 4 student presentations

22-03 Discuss experiments

Week 8 Other languages

27-03 4 student presentations

28-03 Discuss experiments

Language Processing and Neuro-Imaging

Laurie Stowe

Goals and Content

In this class different kind of neuro-imaging studies will be discussed. We will look at four different techniques: Positron Emission Tomography (PET), Event Related Potentials (ERP) and functional Magnetic Resonance Imaging (fMRI). For each technique, an introduction will be given about the technical details: what it is, how it works and what the advantages and disadvantages are. After making acquaintance with the techniques, literature will be discussed.

Literature will be selected on a number of issues which have sparked a certain amount of debate. A group of MA students will lead the discussion on a given research theme.

We have invited a couple of guest lecturers; our colleagues within the School for Behavioral and Cognitive Neurosciences.

Examination

Based on 1 research presentation and on an experimental proposal. The experimental proposal will be further worked out in an essay.

NB: Presence in all classes is compulsory.

Topics to be covered (Plus some tentative readings)

It is expected that *before* the class with which it is shown on the schedule all students have read articles marked with an asterisk.

For the research themes, it is too much to expect that everyone reads all the articles. However, each student should read AT LEAST ONE of the articles in detail, in order to be ready to join in discussion of them, and they should have made at least superficial acquaintance with the other articles when there are several.

Introduction and Organization

Basics of Neuroanatomy and of Neuroimaging

Introduction to PET

*Rugg, M.D. (1999) Functional neuroimaging in cognitive neuroscience. In Brown, C.M. & Hagoort, P. (eds.) *The Neurocognition of Language*. Oxford, Oxford University Press, pp. 15-36.

Introduction fMRI

*Binder, J.R. & Rao, S.M. (1994) Human brain mapping with functional Magnetic Resonance Imaging. In Kertesz (ed.) *Localization and Neuroimaging in Neuropsychology*. San Diego, Academic Press

Using MRIcro

Introduction ERP and MEG

*Coles, M.G.H., and Rugg, M.D. 1995. Event-related brain potentials: An introduction. In: Rugg, Michael D. (Ed); Coles, Michael G. H. (Ed). (1995). *Electrophysiology of mind: Event-related brain potentials and cognition*. Oxford psychology series, No. 25. (pp. 1-26). New York, NY, US: Oxford University Press.

Site visits to the Neuroimaging Center: To be arranged

Constructing a Model of Language in the Brain: Overviews

Stowe, L.A., Haverkort, M., Zwarts, F. In press. Rethinking the neurological basis of Language. To appear in *Lingua*.

Friederici, A.D. 2002. Towards a neural basis of auditory sentence processing. *Trends in Cognitive Sciences* 6: 78-84.

Poeppl, D., Marantz, A. 2000. Cognitive neuroscience of speech processing. In Marantz, A. et al (Eds). *Image, language, brain: Papers from the first mind articulation project symposium*. (pp. 29-50). Cambridge, MA, US: The MIT Press.

Theme 1: Cognitive Specificity of Semantics

*Vandenberghe, R., Price, C., Wise, R., Josephs, O., and Frackowiak, R.S.J. 1996. Functional anatomy of a common semantic system for words and pictures. *Nature*, 383: 254-256.

Theme 2: Specificity of ERP Responses to Syntactic Manipulations

Theme 3: Phonological Categorization and its Nature

*Phillips, C., Pellathy, T., Marantz, A., Yellin, E., Wexler, K., Poeppel, D., McGinnis, M., and Roberts, T. 2000. Auditory cortex accesses phonological categories: An MEG mismatch study. *Journal of Cognitive Neuroscience*, 12(6), 1038-1055.

Theme 4: Function of the Left Inferior Frontal Lobe

*Gelfand, J.R. and S.Y. Bookheimer. 2003. Dissociating neural mechanisms of temporal sequencing and processing phonemes. *Neuron* 38 (5). 831-42

Theme 5: Right Hemisphere and Language

Theme 6: Working Memory in Sentence Processing

2nd term: Joensuu

Speech development in autistic children

A combination of lectures and comprehensive field activities with the focus on development of verbal behavior within Pivotal Response Training.

Acoustic speech analysis

Hands-on course to get acquainted with looking for and measuring the acoustic parameters related to phonetic and linguistic events.

Methods in speech corpora

The planning, recording, structuring, annotating and evaluating of digital speech corpora will be discussed on the background of modern database theory, structured markup languages, annotation schemes and measuring and evaluating tools. In parallel, the students will get ample opportunity to both work on existing corpora and sample and structure speech data of their own, with an optional focus on clinical applications.

Speech synthesis

This course will provide the participants with an introduction to the different speech synthesis methodologies (articulatory, acoustic, concatenative) and enable them to implement and use modules of synthesis systems. During the final part of the course, synthesis applications, especially in the field of clinical phonetics, will be discussed and made part of students' term projects.

Automatic speech recognition

Fundamental methods used for ASR will be discussed and demonstrated with practical exercises. Application examples, also from speech pathology, will be analyzed.

Acoustic assessment of speech disorders

- * Neurological aspects of dysarthria,
- * Clinical classification of dysarthria,
- * An overview of acoustic studies of dysarthria,
- * Intelligibility measures of dysarthric speech,
- * Acoustic studies of speech intelligibility of dysarthric speech,
- * Implications for the rehabilitation of dysarthric speech.

3rd term: Potsdam

Cognitive neuropsychological approaches to reading and spelling

R. De Bleser

Grading conditions:

3 assignments add up for the total grade: Written midterm exam, oral presentation, homework

Commentary: The first part of this seminar gives a survey of models of reading and writing and discusses a variety of neurolinguistic impairments affecting written language processing (acquired dyslexias and dysgraphias). There will be special emphasis on cross-linguistic research and on issues of model-oriented treatment. The second part of this seminar will present studies on developmental dyslexias and dysgraphias.

Literature:

Following are suggestions for preparatory reading. The list of obligatory readings will be distributed during the first meeting.

Suggestions for preparatory reading for cognitive neuropsychological approaches to reading and spelling

Acquired dyslexia

Patterson, K. 1981 British Journal of Psychology (Old, but very clear overview of acquired dyslexias)

Right-hemisphere reading:

Brain-imaging:

Coltheart, M.(2000). Deep dyslexia is right hemisphere reading. *Brain & Language*, 71, 299-309

Coltheart, M. (1987). Deep dyslexia: A right hemisphere hypothesis. In M. Coltheart, K. Patterson, J.C. Marshall (Eds.) *Deep dyslexia*. London: Routledge & Kegan Paul.

Japanese kana and kanji:

Sasanuma, (1987) In M. Coltheart , K. Patterson & J.C. Marshall (Eds.) *Deep dyslexia*. London: Routledge & Kegan Paul.

Split-brain studies :

Zaidel E. & Peters. A. M. 1981 *Brain and Language*, 14, 205-234.

Acquired dysgraphia:

Phonological dysgraphia: Shallice, T. *Brain* 1981, 104, 413-429

Surface dysgraphia: Beauvois & Derouesné 1981, *Brain*, 104, 21-50.

Interaction of routes in spelling

Campbell, R. 1983 *Brain and Language*, 19, 153-178.

Dixon & Kaminska *European Journal of Cognitive Psychology* 1994.

Introduction to psycholinguistics

Shravan Vasisht

This master's level course will cover the major theories and empirical results in sentence comprehension and production through readings of the primary literature. Students will be guided through the current literature in these areas, and along the way they will be introduced to different experimental methodologies. Every week students will be required to submit a short (one page) summary of each article to be discussed, and will be expected to participate actively in class discussion. The summaries should demonstrate that the articles were read critically and with understanding. There will be opportunities for laboratory research, if there is interest.

Assessment and Rehabilitation of acquired language disorders

Part I: Stadie; Part II: N.N.

The purpose of this course is to provide the requisite knowledge for understanding selected assessment and treatment procedures for language impairments associated with focal lesions to the left hemisphere.

Specifically, students will learn the nature and treatment of aphasia, interpreted on the basis of information-processing models, and within the hypothesis-testing approach.

Students will learn by studying assigned readings, through lectures. In addition students will present individually specific treatment approaches for aphasia.

Morphology: Lexical representation and morpho-syntactic impairments

F. Burchert

The aim of the first part of this Master's level course is to give a survey and discuss models of lexical representation on the basis of evidence from processing data of polymorphemic words in normal speakers. In addition, morphological impairments in aphasia will be discussed in relation to what they tell us about lexical representation. The second part of this seminar will present and discuss studies on syntactic impairments in aphasia both in comprehension and production.

An obligatory reading list will be provided at the beginning of the seminar.

Examination: written midterm exam + oral presentation

Language Acquisition

B. Höhle

The class covers recent research on different topics of first language acquisition with a special focus on the first two years of life. Empirical findings as well as theoretical perspectives on the acquisition of phonological, lexical and syntactic knowledge will be presented. The relevance of crosslinguistic studies for the theory of language acquisition will be discussed.

Examination: Oral Presentation, Written Exam

Clinical Neurology and Rehabilitation for Clinical Linguists

S. Bamborschke

This course will be held in the Brandenburg clinic in Bernau.

Guest speaker seminar: Topics in Neurocognition of language

F. Burchert, R. De Bleser

Invited speakers will present their research work and cover a variety of issues related to neurocognition of language. A list of speakers will be distributed at the beginning of the seminar. A one day site visit to the Max-Planck institute in Leipzig will be organized by Prof. A. Friederici.