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**Required Texts:**

De Haan, M., & Johnson, M. H. (Eds.) (2003). *The Cognitive Neuroscience of Development*.  
 Series: Studies in Developmental Psychology. New York: Psychology Press.

ISBN: 1-84169-214-X

Nelson, C. A., de Haan, M., & Thomas, K. M. (2006). *Neuroscience of Cognitive Development: The Role of Experience and the Developing Brain*. Hoboken, NJ: Wiley.

ISBN: 0-471-74586-3

**Course Description:** Examines the neurological development of cognitive skills from birth through adolescence with emphasis on memory, attention, perception, language, and problem solving skills. Discusses major theories and experimental findings related to brain development and how it forms a foundation for thought. The relationship between biological changes and cognitive abilities will be explored as will the influence of neurological and physiological impairments. The course will be taught as a discussion-based seminar, with a focus on class participation rather than exams, reaction papers, and a culminating term paper. Recommended prerequisites: Psyc 125 and/or Psyc 357, Psyc 121, CogS 111.

**Course Objectives:** Upon completion of the course, students should:

- have a general understanding of the domains of cognitive development
- understand how memory, attention, and thinking are influenced by biology
- understand the relationship between neurological and cognitive impairments
- have improved personal development in several areas
  - enhanced understanding of how people's thinking and understanding is influenced by a variety of forces
  - improved critical thinking skills and communication skills in both speaking and writing

**COURSE REQUIREMENTS**

**Class Participation:** Given that a majority of the course will focus on group discussions of the topic of interest, attendance at every class is critical for your mastery of the material. Your presence in class, though, is not sufficient – you must contribute to the class discussions as well. Active participation in each discussion will aid you not only for your class participation grade (20% of the final grade) but also in your mastery of the course material.

**Brain Day:** One of the best ways to learn information is to teach it to someone else. As a class project, you will help develop a means of teaching junior-high/middle school students about how the brain works and develops. Each student's contributions to the planning will be graded independently and will be worth 10% of your final grade.

**Blackboard Discussions:** In addition to your contributions to in class discussions, you will also need to participate in online discussions of the week's readings via blackboard. This will provide an opportunity for students to discuss the readings prior to the class and also for you to continue discussions that were started during class, but about which you still had questions or comments. As with the class discussions, active participation in these discussions will form a portion of your grade for the course (20% of the final grade), but will serve primarily to help you learn the material.

**Reaction papers:** Throughout the semester, each student will need to write 4 (four) reaction papers that address a topic of interest to the student. These topics can be from the chapter that we read for the week or from an issue that arose during the class's discussion of the chapter. Each reaction paper should be 3-5 pages in length (double-spaced). It should *briefly* describe the content of the chapter and/or the essence of the issue, and then should include your thoughts on what the chapter means (or why the issue is important, or why this issue impacts cognitive neuroscience or psychology). This can include how you see that topic fitting with other chapters that we've read in the class, how you see it fitting with concepts you've learned in other classes, or questions that you have about the topic in general. It can include questions about the validity of the findings reported in the chapter, or ideas about how this chapter makes you question concepts that you had learned in the past (whether in classes or in "normal" life). **You do not need any additional references for the reaction papers.** (You are welcome to use them, but they will not influence your grade.) Reaction papers are due by the beginning of class **the week after we discuss the chapter or issue.** You can turn in the papers either as a hard copy or via e-mail. Reaction papers are graded pass/fail. For up to 2 reaction papers, you can re-write the paper (if you receive a failing grade) to attempt to earn a passing grade. Each reaction paper is worth 5% of your final grade. (total = 20% of final grade)

**Term Paper:** Each student must choose one topic from the course to explore in greater detail. While the papers are not due until later in the semester, the paper topics must be given to us, ***in writing***, no later than September 29<sup>th</sup>. Once we approve your topic, you will be required to write one 12-15 page paper. The paper must be written using **APA formatting for a literature review.** For this paper, you will need to go beyond what was covered in the textbook and class and find a minimum of **10 (ten)** references for this paper. Six of the 10 references must be **primary sources:** this means primarily academic journal articles. If you would like to use something other than an academic journal article (as one of those six), we **strongly** recommend asking us first. The remaining four references must be academic sources, but secondary sources would also be acceptable. (Note: most textbooks qualify merely as tertiary sources, and would not be seen as acceptable for any of the 10.) In addition to the 10 required sources, students may incorporate as many additional sources as they desire. (These additional sources should be academic sources, but could include tertiary ones).

On **November 3<sup>rd</sup>**, you must submit an annotated bibliography of your paper, along with *hard copies* (see below) of all 10 of your references. This will provide your instructors with the opportunity to assess if your references meet the criteria above as well as to provide suggestions about additional sources that may be critical to your topic that are not yet included in your bibliography. (that is, it lets us check that you are picking the 10 **BEST** references, and not just the 10 “easiest to obtain and read” references). You must list each reference in APA format and provide some notes/summary of the reference. These notes can be a bulleted list or in paragraph form – whatever works best for you. But, it needs to be apparent that you have already at *least* skimmed the article in preparation of writing your final paper. The annotated bibliography will be worth 5% of your final grade. The completed paper will be due no later than **December 8<sup>th</sup>, at the end of class**, and must be accompanied by hard copies of all references. The term paper will be worth 25% of your grade (total for annotated bibliography + term paper = 30% of grade).

**All reaction papers, the annotated bibliography, and the term paper must be uploaded to Turnitin.com.**

**Course ID # is 2353862 and neuro is the password.**

**Authorized aid on papers:** Acknowledge as a footnote *all* aid and outside assistance you obtain in preparing written assignments. You may freely obtain help from the **Writing Center** (located in the Excel Center in front of the Library). You may ask **other students** to read your paper and make *verbal* suggestions for improvement, **but they may not provide any written help**. Provide a footnote to the title of your paper acknowledging any aid received. You may (and should routinely) run your word-processor’s “Spelling and Grammar” check without foot note acknowledgement.

**Citation System:** *Failure to correctly cite and properly reference others’ work can be construed as plagiarism.* You must use APA reference-style for your citations. Guides to the APA system can be found in *Hodges’ Harbrace Handbook* or in the *APA Publication manual* (both are available at the library). You can also often find useful information on citations/formatting of papers at <http://owl.english.purdue.edu>.

**Hard Copies:** You must provide us with hard copies of every reference that you cite in your paper. Hard copies can be in one of two forms. Physical paper copies of any articles or book chapters (aka photocopies and/or print-outs) or PDF files that have been saved onto a CD-ROM count. You cannot e-mail us the articles/chapters as an attachment or send us links to your sources. You must physically provide each of the sources. (note: all PDF files can be saved to the same CD-ROM) You must have a minimum of 10 references, and their hard copies. However, if you choose to use more than 10 references, then you must provide more than 10 hard copies. I.e., EVERY reference you use must be provided.

### **Grade Calculation:**

Brain Day (10%) + Class participation (20%) + Blackboard discussions (20%)  
+ Reaction papers (20%) + Annotated Bibliography (5%) + Term Paper (25%) = **Course Grade**

### **Course Grades:**

93–100	A	90-92.9	A-	87-89.9	B+	83 – 86	B	80-82.9	B-
77-79.9	C+	73–76.9	C	70-72.9	C-	67-69.9	D+	60-66.9	D

**WITHDRAWAL POLICIES** A course may be dropped without a designated grade during the first two weeks of a term of the regular academic year. From the third to the eleventh weeks, a grade of "W" is assigned. After the eleventh week, a grade of "F" is assigned. Discontinuance of attendance does not automatically constitute a withdrawal. Students failing to file a proper drop/add form by the appropriate deadline must complete classes for which they are registered or received a grade of "F". Withdrawal from a course after the deadline requires petition to and approval of the Admissions and Standards Committee and/or the Vice President of Academic Affairs.

**INCOMPLETE GRADE POLICY** All coursework is to be completed within the semester it is attempted. The grade report of "I" will be given only when justified by personal crisis or legitimate sickness; otherwise, the missing scores will be entered as zeroes. As outlined in the catalog, the following circumstances must exist as well for the receipt of an "I": (1) the student's other work in the course would earn a passing grade, and (2) the outstanding task can be completed without further class attendance. A request for an "I" must be presented in writing by either you or the Dean of Students. If granted, an "Incomplete Grade Contract" will then be drawn up and signed by both the instructor and the student. The catalog continues:

Outstanding course work normally should be completed within six weeks of the class ending, but the instructor may allow up to one year from the end of the term for which the "I" grade is granted. It is the student's responsibility to have this deficiency removed within the contractually agreed upon time or within one year, whichever is less. If no grade change has been submitted by the instructor after the maximum one-year grace period, the registrar is authorized to change all grades of "I" to "F".

**ACCOMODATIONS FOR STUDENTS WITH DISABILITIES** It is the policy of the University of Evansville to make reasonable accommodations for students with properly documented disabilities. Written notification to faculty from the Office of Counseling and Health Education is required for any academic accommodations. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with me and allow two weeks notice. Otherwise, it is not guaranteed that the accommodation can be received on a timely basis. If you have questions about services for students with disabilities or procedures for requesting services, you may contact the Office of Counseling and Health Education at 488-2663.

**ACADEMIC HONOR CODE** University of Evansville Academic Honor Code. "I understand that any work which I submit for course credit will imply that I have adhered to the Academic Honor Code: I will neither give nor receive unauthorized aid nor will I tolerate an environment which condones the use of unauthorized aid." Failure to adhere to this code will result in receiving an "F" for the course.

**Tentative Course Calendar: Changes in this schedule may be necessary and you will be notified if such a situation should arise.**

**NHT = Nelson, deHaan, & Thomas book; HJ = deHaan & Johnson book**

<b>Date</b>	<b>Topic</b>	<b>Chapter</b>
8/27	Introduction to course Why should Developmental Psychologists be interested in the brain?	NHT Introduction
9/1	Mechanisms and theories of brain development	HJ Ch 1
9/3	Brain development and neural plasticity	NHT Ch 1
9/8	Neural plasticity	NHT Ch 2
9/10	Methods of cognitive neuroscience	NHT Ch 3
9/15	Methods for imaging the developing brain	HJ Ch 2
9/17	Neurobiological models of normal and abnormal visual development	HJ Ch 3
9/22	The development of object recognition	NHT Ch 8
9/24	The development of visual attention and the brain	HJ Ch 4
9/29	The development of attention <b>Topics for your term paper are due today</b>	NHT Ch 11
10/1	A cognitive neuroscience perspective on early memory development	HJ Ch 5
10/6	The development of declarative (or explicit) memory	NHT Ch 5
10/8	The development of nondeclarative (or implicit) memory	NHT Ch 6
<b>10/13</b>	<b>Fall Break</b>	
10/15	Neural substrate of speech and language development	HJ Ch 6
10/20	The development of speech and language	NHT Ch 4
10/22	The neural and functional development of human prefrontal cortex	HJ Ch 7
10/27	The development of higher cognitive (executive) functions	NHT Ch 10
10/29	The development of spatial cognition	NHT Ch 7

CogS 498

Seminar in Philosophy, Neuroscience, and Psychology:  
Neuroscience of Cognitive Development

Class: MW 12:00-12:50

Spring 2008

11/3	The development of social cognition <b>Annotated Bibliographies are due today</b>	NHT Ch 9
11/5	Emotion, cognition, and the hypothalamic-pituitary-adrenocortical axis: A developmental perspective	HJ Ch 8
11/10	Neuroendocrinology: Cognitive effects of sex hormones	HJ Ch 9
11/12	Developmental disorders of genetic origin	HJ Ch 10
11/17	Developmental disorders of genetic origin	HJ Ch 10
11/19	Journal article presentations	
11/24	Journal article presentations	
11/26	<b>Thanksgiving break</b>	
12/1	Brain day	
12/3	Brain day (con't)	
12/8	The future of developmental cognitive neuroscience <b>Final papers are due today!</b>	NHT Ch 12
12/10	<b>Reading/Study day</b>	