

KIN 3517: Neuromotor Control of Human Movement
Kinesiology, Louisiana State University – Baton Rouge
(Fall 2002)

Classroom: 108 HP Long Fieldhouse
Meeting schedule: T, TH—1:40-3:00pm
Credit: 3 hours
Prerequisite: KIN 2500 Human Anatomy
or equivalent

Instructor: Dr. J.M. Hondzinski
Office: 53 HP Long Fieldhouse
Phone: 578-9144
Office Hours: T, TH—3:00-4:30pm
E-mail: jhondz1@lsu.edu

*****Turn off cell phones/beepers when entering the classroom*****

Required Text: Leonard, CT. The Neuroscience of Human Movement. St. Louis: Mosby, Inc., 1998.
***Readings are posted on Blackboard

Course goals: The course goals are for students to learn about, to acquire a better understanding of and to gain an appreciation for the neural aspects of human movement. Exams and a project, which include a service-learning component, will be used to ascertain whether students meet these goals. Topics will include: neuroanatomy, voluntary and involuntary motor control and neural aspects of motor learning.

The purpose of the service-learning project is for students to research, plan and present a fact-and-activity session regarding nervous system control/protection and to disseminate this information to local school children. The project is designed for the students to better assimilate the course information; to better prepare for their chosen careers; and to acquire a sense of the importance of community involvement. For the local school children, this dissemination of knowledge can broaden their understanding of neural function, which is needed for better performance on standardized state exams.

Grading procedures: Final class grade will be comprised of:

Quiz 1:	Sept. 12 (TH)	in class	}	40% (2 worth 10% and 1 worth 20% in the students' favor)
Quiz 2:	Oct 3 (TH)	in class		
Quiz 3:	Nov 7 (TH)	in class		
Project:	see attached			30%
<u>Final:</u>	<u>Dec 14 (SAT)</u>	<u>7:30-9:30 am</u>		<u>30%</u>
Total:				100%

Percentages will be based on a point total that reflects the maximum score achieved by a student on a particular assignment or exam. For example, if an exam is given a point total of 100 points & the highest score on the exam is 95, then all students will receive a “new” point total based on 95 points. Thus a student receiving a 76 would actually have a “B” on the exam because $76/95 = 80\%$.

Grades will be determined using a standard scale, based on a curve for each item:

87-100%	A
77-86%	B
67-76%	C
57-66%	D
< 57%	no course credit

General: Students are in class to expand their knowledge base and are encouraged to ask me questions during the lecture. (During the class discussion between and/or among students is discouraged, because

it will most likely distract those around you.) If I cannot answer a question in class, email the question to me or write it on a piece of paper and give it to me. I will try to have the answer by the next class.

Timeline of important dates regarding course:

Important Dates	Activities	Due Dates
September 12 th	Quiz 1 Pre-assessment organization	
September 19 th		Register neural project
October 3 rd	Quiz 2	
October 8 th		Project description/influences
October 22 nd , 24 th	In-class presentation	Activity description
October 29 th	Prepare group presentation	Journal entry #1— of in-class presentation Journal entry #2—of group pre-assessment
November 7 th	Quiz 3	
November 11-20 th		Presentations to 4 th -6 th graders, in schools
November 12 th		Journal entry #3—of in-class re-assessment
November 21 st	Organize follow-up visit. (service-learning component)	
November 26 th		Journal entry #4—of group presentation
December 2 nd -6 th		Follow-up outreach presentations
December 9 th		Journal entry #5—of follow-up presentation and final examination of outreach is due.
December 14 th	FINAL EXAM 7:30-9:30 am	

SERVICE-LEARNING PROJECTS

Project Objectives: are for students to

- I. describe neural processes and create activities that describe these processes,
- II. identify neural-related topics on which the children will be tested, and
- III. disseminate information regarding nervous system function, including the information on which the children will be tested.
- IV. critically evaluate the effectiveness and importance of this and similar outreach experiences.

The service-learning project will be divided into two parts involving INDIVIDUAL and GROUP efforts.

INDIVIDUAL Effort (objective I):

You are to become an “expert” on a single neural process of your choosing. More specifically, you should verify that you fully understand the chosen neural process. This includes obtaining and presenting background information on the chosen topic and applying this information by creating an activity that gives others insight to this process.

GROUP Effort (objectives II and III):

Each group of 2-3 students will give 2 presentations to a 4th, 5th or 6th grade class on some aspects of the nervous system (that is directed by the LA state curriculum requirements). The first presentation will include a short introduction on brain function, spinal cord control and/or synaptic transmission and involve activities (with no strict time limit) that help explain certain neural processes in the human body. The second will be a follow-up visit based on evaluations by the teacher and children.

Project—INDIVIDUAL Effort

Specifics:

- 1—Choose and register a neural process with me—each student must choose a different process (example processes listed on blackboard).
 - 2—Write a short description of the process in your own words (feel free to use figures or diagrams). Attach a copy of the scientific reference used for this (on this copy, highlight the information used in description or definition)
 - 3—List at least 2 items that influence your process and state how they influence the chosen process. Attach a copy of the scientific reference used for this (on this copy, highlight the information used in description or definition)
 - Reference all material, including figures using the “author date” style:
 - 1 author use (author, date)
 - 2 authors (author and author, date)
 - >2 authors (1st author et al., date)
 - Bibliography—use the class book style—see end of each chapter (Leonard, 1998)
 - 3—Think of an activity in which people could participate, that would help them better understand your chosen neural process. Example activities can be found:
 - Brain Power Web site:** <http://faculty.washington.edu/chudler/baw2001.html>
Neuroscience Experiments and activities
 - Dana Alliance for Brain Initiatives:** <http://www.dan.org>
BrainyKids outline → Lesson plans and activities → Neuroscienc lab and class activities → Click here to begin
 - Society for Neuroscience:** <http://www.sfn.org>
programs → neuroscience literacy → special CNL reports → hands-on ...
 - 4—Write a ½ page description of the activity (use figure or diagram if needed). Include the supplies needed, the age and number of participants and an accurate activity description
 - 5—Be prepared to present your activity in class, using classmates as participants. Time to present will be 2 minutes or less (Note: time limit may increase to 3 minutes for those who choose a process not previously discussed in class.)
 - *You are responsible for your own supplies, but I may be able to help you obtain (borrow) supplies for the presentation. Requests must be made well (1 week) in advance.
- ***I would strongly suggest practicing the activity with peers/friends/family***
prior to the in-class presentation.**
- 6—Write in a journal—assess your presentation (<1 typed page). **See journal evaluation criteria.**
 - 7—Write in a journal—assess your presentation after reviewing evaluations by myself & classmates (<1 typed page). **See journal evaluation criteria.**

Journal evaluation criteria—Assessments and reflection on the experience should be based on your perceptions, which should be based on reasoning and/or evidence rather than personal beliefs. For example, describe the action, situation or response that led to your perception and/or influenced your assessment in the first place.

Include:

1. *Reflection on the experience*
 - a. Do you think that you better understand the presented material because of this experience? Why or why not?
 - b. What made you comfortable or uncomfortable when presenting? Why?
 - c. What events help prepare you for this experience (i.e. writing the background report, a class lecture, a class activity, etc.) How did this event (these events) assist you?
 - d. In regards to your ability to present the activity, what pleased or frustrated you? Why?
 - e. In regards to the students' understanding of your presentation, what pleased or frustrated you? Why?
2. *Analysis of the experience and reflection*
 - a. What would you change about your presentation? Why?
 - b. Describe positive and/or negative impact(s) that you feel you had on your audience. Give evidence to support these perceptions.
3. *Additional reflection*—please feel free to assess & reflect on any items not already mentioned.

Project—GROUP Effort:

Specifics:

The service-learning outreach includes a **pre-assessment**, an hour **presentation** and a **follow-up** visit.

Group Pre-assessment: to gain insight into the children's current knowledgebase and to identify gaps in the current neural-related curriculum.

- 1—Identify all individuals in your group.
- 2—Exchange contact information (email and phone numbers). If someone in your group is not here today, email him/her on blackboard.
- 3—Using a copy of the science (human movement section) teaching materials, develop a set of questions that will be posed to the children to pre-assess their knowledgebase directly.
- 4—Have your assigned teacher review the questions and make suggestions.
- 5—Pre-assess the grade school students using the revised questions from #4.
- 6—Write in journal—pre-assessment (<1 page).

Evaluation criteria: Similar to Journal evaluation criteria, but answer these questions.

Include:

1. *Description of the experience*
 - a. Do you think the contact with the teacher was helpful in writing the pre-assessment questions? Why or why not?
 - b. In regards to the teacher's comments, what pleased or frustrated you? Why?
 - c. In regards to the students' understanding of the questions, what pleased or frustrated you? Why?
2. *Analysis of the experience and reflection*
 - a. What would you change about your question preparation? Why?
 - b. What would you change about question presentation? Why?

- c. Describe positive and/or negative impact(s) that you feel the pre-assessment had on the children. Give evidence to support these perceptions.

Project—GROUP Effort (cont):

Group Presentation: prepare the presentation and evaluation forms

- 1—Based on the children’s pre-assessment answers (for example, the most incorrect answers), choose the neural curriculum and activities in which the children will participate. Not all of you can use your class presentations. Keep in mind that you only have one hour. For each activity identify:
 - a. the number of participants
 - b. the length of time needed to complete the activity
 - c. what background information is needed to explain the neural process
 - d. the time and equipment needed to explain the neural process
 - e. have EXTRA activities ready just in case you run short on time.
- 2—Organize the order of presentation.
 - A. Determine “who will do what.” Please use something similar to the following order:
 - i. Introduce yourselves as college students from LSU. Tell the students your names (you may want to wear name tags)
 - ii. Tell the children why you are here: “to help them better understand the role of certain parts of the nervous system.”
 - iii. Give an overview of the nervous system: (i.e.: have a picture of the brain, spinal cord and/or peripheral nerves. You may want to have a drawing of the brain with different parts labeled for seeing, moving, hearing etc. You may want to talk about how there are millions of “neurons” (nerve cells) that make up the nervous system and that they transfer information via “synapses” or show them the parts of a neuron. Limit the amount of new terms that you introduce.)
 - iv. Have students participate in the activities and explain the neural control.
 - i. Try to have at least one activity in which ALL students can participate, even if they have to take turns.
 - ii. Simplify your explanations.
 - v. Thank them for their attention. You may want to leave time for additional questions. I would suggest having them ask questions regarding the activities as you go.
 - B. Make an outline of the organization stating each person’s roll. Remember you do not have additional time to set-up each activity, so the activity includes set-up and clean-up.

Members in Group: Dustin, Robin, Jessica

School: _____

Teacher: _____

<u>Minutes</u>	<u>activity</u>	<u>speaker</u>
1-3	General set-up and introduction	Jessica
4-10	CNS background	Dustin, Robin (Jessica will set-up)
11-22	“name the activity”	Jessica (Dustin will set-up)
23-36	“name the activity”	Dustin (Robin will set-up)
37-50	“name the activity”	Robin (Wayne will set-up)
51-57	“questions if time allows”	Dustin, Robin, Jessica
58-60	Evaluations	Dustin, Robin, Jessica

- 3—You will be evaluated by the teacher, the children and each other. As a class, we will create evaluation sheets for these assessments. I have 3 basic assessment forms: 1 for the teacher, 1 for the children and 1 for each of you. Review each and be prepared to add/subtract items for each.
- 4—Present prepared fact-and-activity session to children. Evaluate your classmates in your group.

5—Write in a journal—group presentation (<1 typed page). **Include group outline and see journal evaluation criteria.**

Project—GROUP Effort (cont):

Follow-up visit: After receiving evaluations (teacher, children and peer) organized a follow-up presentation according to the interests/goals stated in the evaluations by the teacher and children.

- 1—Develop a set of post-assessment questions based on the material that you presented to the children. Be prepared to answer children’s questions posed on their evaluations. Include activities that will help better explain your answers. To do this effectively, follow steps 1-3 in the presentation section.
- 2—Present prepared follow-up presentation to children. Evaluate your classmates in your group.
- 3—Write in journal—follow-up presentation (<1.5 typed pages). **Include group outline, see journal evaluation criteria and also identify:**
 1. what you would differently next time.
 2. what you wish you had known earlier.
 3. changes in your attitude due to the group effort experience.
 4. possible benefits for similar outreach.

PROJECT GRADES (30% of total grade):

50% Individual effort

34% Process description and influences

Evaluation criteria:

- 1—The description is accurate and “to the point” (concise work will receive the most points)
- 2—Material is referenced; Copies of references are included and highlighted appropriately (see above)—use the information, do not copy it (plagiarized work will receive no credit).
- 3—Grammar and organization

33% In-class presentation

Evaluation criteria:

- 1—Adhering to the time limit
- 2—Organization of activity
- 3—Clarity of presentation

33% ½ page activity description

Evaluation criteria:

- 1—List supplies needed, age of the participants and accurately describe the activity
- 2—The activity “matches” (helps people understand) the chosen neural process
- 3—The uniqueness of activity (original activities will be rewarded with the most points)
- 4—Grammar, organization and ½ page limit

50% Group effort

50% evaluations

Evaluation criteria:

- 1—by classroom the teacher
- 2—2nd peer evaluation (i.e. #2 below)

50% journals (personal assessment and reflection)

Evaluation criteria: See the “journal evaluation criteria” above and the “evaluation criteria” for pre-assessment and follow-up visit.

LSU STUDENT EVALUATION (by teacher)

LSU Students: _____

School: _____ Teacher: _____

Grade taught (circle one): 4th 4-5th 6th

Rate the students' performance on a scale of 1 to 5 in each of the areas listed.

5 = Superior 4 = Very Satisfactory 3 = Satisfactory 2 = Less than Satisfactory 1 = Unsatisfactory

CRITERIA	5	4	3	2	1	COMMENTS
ATTENDANCE						
Were the student's punctual?						
SKILLS						
Were the students helpful as instructors?						
Were the students organized?						
WORKING RELATIONS						
Did the students cooperate with you?						
Did the students cooperate with the children?						
PERSONAL CHARACTERISTICS						
Did the students demonstrate resourcefulness?						
Did the students demonstrate initiative during service?						
Did the students demonstrate thoughtfulness of judgment?						
Did the students work with enthusiasm and a positive outlook?						
Did the students demonstrate patience?						
SUMMARY EVALUATION (please provide any additional comments)						

Teacher's Signature

Date

Time

Please mail to: Dr. Jan Hondzinski, Dept. of Kinesiology, 112 Long Fieldhouse, Baton Rouge, LA 70803. **Stamped envelop provided.** If you have any questions, contact: Jan Hondzinski at 578-9144.

LSU STUDENT EVALUATION (by grade school student)

LSU student names: _____

School name: _____ Date: _____

What is your grade level (circle one): 4th 5th 6th

List one thing about the nervous system that you learned today from the LSU students.

Write one question about the nervous system for the LSU students to answer next visit.

LSU STUDENT EVALUATION (by classmates #1)

Student being evaluated: _____

Course: KIN 3517 Instructor: Dr. Jan Hondzinski

Comment on the students' performance in each of the areas listed.

CRITERIA	COMMENTS
SKILLS	
Was this classmate helpful as an instructor?	
Was this classmate organized?	
WORKING RELATIONS	
Did this classmate cooperate with you?	
Did this classmate cooperate with the children?	
PERSONAL CHARACTERISTICS	
Did this classmate demonstrate resourcefulness?	
Did this classmate demonstrate initiative during service?	
Did this classmate demonstrate thoughtfulness of judgment?	
Did this classmate work with enthusiasm and a positive outlook?	
Did this classmate demonstrate patience?	
SUMMARY EVALUATION (please provide any additional comments)	

Name of student evaluator

Date

LSU STUDENT EVALUATION (by classmates #2)

Student being evaluated: _____

Course: KIN 3517 Instructor: Dr. Jan Hondzinski

Rate the students' performance on a scale of 1 to 5 in each of the areas listed.

5 = Superior 4 = Very Satisfactory 3 = Satisfactory 2 = Less than Satisfactory 1 = Unsatisfactory

CRITERIA	5	4	3	2	1	COMMENTS
SKILLS						
Was this classmate helpful as an instructor?						
Was this classmate organized?						
WORKING RELATIONS						
Did this classmate cooperate with you?						
Did this classmate cooperate with the children?						
PERSONAL CHARACTERISTICS						
Did this classmate demonstrate resourcefulness?						
Did this classmate demonstrate initiative during service?						
Did this classmate demonstrate thoughtfulness of judgment?						
Did this classmate work with enthusiasm and a positive outlook?						
Did this classmate demonstrate patience?						
SUMMARY EVALUATION (please provide any additional comments)						

Name of student evaluator

Date

signature of student evaluator

Instructions to students for the day of presentations:

Arrive at least 15 minutes early.

Upon arrival:

- Go to the office.
- Sign-in as visitors
- Get an escort to the appropriate classroom

In the classroom:

- Give the teacher the LSU student evaluation form and envelop
- Present
- Give grade school children evaluation forms
- Collect grade school evaluation forms

After presentation:

- Sign-out of office

After leaving:

- Evaluate each other as predetermined
- Write in journal as required

Turn in (to me):

- Your evaluations of each other
- The student (child) evaluations
- Journal