This course reviews fundamental concepts and current issues in how the brain controls movement, and the effects of dysfunction and disease. Topics will include walking, looking, reaching, writing, and complex skill coordination.

**Prerequisites:** AS/SC/KINE 3020.03 or permission of Course Director

**(Degree credit exclusion:** AS/SC/PHED 4500.03)

**Course Director:** Lauren Sergio  
1012F1 CSEB  
Mail box: 357 Bethune College  
736-2100, ext. 33641  
Office hours: By appointment.  
lsergio@yorku.ca

**Course website:** [http://www.yorku.ca/lsergio/courses.htm](http://www.yorku.ca/lsergio/courses.htm)  
Additional lecture material may become available during the semester. These notes can be downloaded as .pdf files from the course web site. An announcement will be made in the previous class if additional material is available.

**Lectures:** September 14th - December 9th  
T/R 1:00 - 2:30 pm, Calumet College Room 211

**Course reader:** Course notes and readings are available for download on the course website. There is not a required textbook.

**Course Evaluation:**  
Mid-term Exam October 8 25% (optional)  
Term Paper due December 8 25% (optional)  
Final Exam TBA 50%, 75% or 100%

- You will start out with a 100% final exam. There are two ways to reduce the percentage of the final: a) take the midterm and/or b) write a paper. There will not be a midterm make-up exam. IF YOU TAKE THE MIDTERM, IT WILL COUNT. That is, if the midterm is written, under no circumstance will the mark be ‘ignored’ and the percentage transferred to the final. Anyone not writing the midterm will have the final exam weighted at 75% if the paper is written, or 100% if the paper is not written. There is absolutely no option for submitting ‘extra’ work to increase a mark.

- The deadline for handing in the term paper is the day of the final class (Dec. 9). **There will be absolutely no extension beyond this date.** The essay outline should be one page maximum, and should list the topic that you have chosen, a rough summary of the sections that the essay will include, and at least two references.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 14</td>
<td>Introduction to the neural control of movement</td>
<td>&quot;Introduction to Motor Control&quot;. D. Rosenbaum, Chpt 1 (provided)</td>
</tr>
<tr>
<td>October 7</td>
<td>Reach and grasp, continued</td>
<td>&quot;The baby's brain&quot; (also available as SMIL video #6436)</td>
</tr>
<tr>
<td>October 19</td>
<td>MIDTERM EXAM</td>
<td></td>
</tr>
<tr>
<td>October 21</td>
<td>The secret life of the Brain: The Child’s Brain, SMIL Video #6437</td>
<td></td>
</tr>
<tr>
<td>October 26</td>
<td>Skill acquisition</td>
<td>Yarrow et al. (2009) &quot;Inside the brain of an elite athlete: the neural processes that support high achievement in sports&quot; Nat. Rev. Neurosci. 10:585-598.</td>
</tr>
<tr>
<td>November 9</td>
<td>The secret life of the Brain: The Aging Brain, SMIL Video #6440</td>
<td></td>
</tr>
<tr>
<td>November 25</td>
<td>Class cancelled (instructor away)</td>
<td></td>
</tr>
<tr>
<td>December 7</td>
<td>Finish lecture material</td>
<td></td>
</tr>
<tr>
<td>December 9</td>
<td>Q&amp;A</td>
<td>**** TERM PAPERS DUE ****</td>
</tr>
</tbody>
</table>
LIST OF POSSIBLE TOPICS FOR TERM PAPER

1. Any topic covered in the lectures
2. Any topic in the readings of the textbook, not covered in the lectures
3. Gender differences in skilled performance and visuospatial abilities
4. Effect of aging on motor performance
5. Motor (procedural) memory
6. Effects of stressors on performance
7. Handedness
8. Current research on spinal injury recovery
9. Current research on the role of any one of the following brain areas on voluntary movement, and the consequences of damage to the area: motor cortex, premotor cortex, basal ganglia, cerebellum, supplementary motor area, parietal cortex
10. Drugs (including alcohol, caffeine, and nicotine) and performance
11. Neural control of speech / neural basis of speech disorders

Any other topic is negotiable, but should be relevant to the brain and movement. The paper should be 10-15 pages, excluding references and figures. Use 1” margins with double spacing.

- The deadline for handing in the term paper is 5 P.M. the last lecture of the term. Late reports/assignments will be penalised (10% per day) without documentation.
- There will be absolutely no extension beyond this date.
- Papers may be submitted as
  a) a hard-copy printout, left in my mailbox (357 Bethune College)
  b) a Word or PDF e-mail. Papers submitted electronically must reach my account by 5 pm on the day of the final lecture. Allow time (2-3 hours) for server processing. Address: lsergio@yorku.ca
- The paper should comprise a general review of the area (from either a review article or a published book) and a discussion of current research on the topic, using at least two articles from peer-reviewed journals. At least two articles must be original research papers (i.e., not opinion or review pieces). You will be assessed on the thoroughness with which you have researched the topic, the organization of the paper, the cogency of your arguments, and your writing style.
- Follow the American Psychological Association reference system, and include an APA style abstract at the beginning of the paper.

References:
- References must be from ESTABLISHED sources such as books or peer-reviewed scientific journals. Uncredited internet sources are NOT acceptable (however online scientific journals are).
- Follow the guidelines established by the APA when citing internet sources, found at: http://www.apa.org/journals/webref.html
RE-EVALUATION POLICY

During the term:
Any requests for remarking of assignments or in-class tests must be received by the course instructor within 7 days of the item’s mark being posted, along with the “Evaluation item remark request” form, which can be found on the course website. Please note that your mark may be raised, lowered, or confirmed.

Re-appraisal of a final grade:
Any requests for re-appraisal of a final mark must be received by the course instructors within 7 days of the final grade posting, along with the “Evaluation item remark request” form, which can be found on the course website. Please note that your mark may be raised, lowered, or confirmed. If the result is still unsatisfactory, requests for a re-appraisal of the final grade for a completed course are the responsibility of the Undergraduate Director. You must submit in writing a formal request for a final grade reappraisal to the KINE undergraduate Office. The ‘Reappraisal of Final Grades’ form can be picked up at the KINE Undergraduate Office.

There is absolutely no option for submitting 'extra' work to increase a mark. This goes against the York academic integrity policy.

For further details: www.registrar.yorku.ca/policies/grade.htm

IMPORTANT GENERAL COURSE INFORMATION FOR STUDENTS

Academic Honesty and Integrity
York students are required to maintain high standards of academic integrity and are subject to the Senate Policy on Academic Honesty (http://www.yorku.ca/secretariat/legislation/senate/acadhone.htm). There is also an academic integrity website with complete information about academic honesty. Students are expected to review the materials on the Academic Integrity website (http://www.yorku.ca/academicintegrity).

Access/Disability
York provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. It is the student's responsibility to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Failure to make these arrangements may jeopardize your opportunity to receive academic accommodations.

Additional information is available at www.yorku.ca/disabilityservices or from disability service providers:

- Learning and Psychiatric Disabilities Programs - Counselling & Development Centre: 130 BSB, 416-736-5297, www.yorku.ca/cdc
**Religious Observance Accommodation**

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately.

Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at [http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf](http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf)

**Student Conduct**

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect and to refrain from actions disruptive to such a relationship. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. A statement of the policy and procedures involving disruptive and/or harassing behaviour by students in academic situations is available on the York website [http://www.yorku.ca/secretariat/legislation/senate/harass.htm](http://www.yorku.ca/secretariat/legislation/senate/harass.htm)

*Please note that this information is subject to periodic update. For the most current information, please go to the CCAS webpage (see Reports, Initiatives, Documents): [http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm](http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm).*