

THE UNIVERSITY OF BRITISH COLUMBIA
Department / Program: School of Human Kinetics
Year: 2006-07

Course title: Growth and motor development HKIN 284 (3), Section 002
Course schedule: M/W/F, 1-2 pm
Location: WOOD, Instructional Resource Centre, ROOM 5

Instructor: Dr Nicola Hodges

Office location: War Gym, top floor (room 30); Office Phone: 604 822 5895
Office hours: Fridays, 2:30 -3:30pm
E-mail address: nicola.hodges@ubc.ca

Teaching assistant: Erin Cressman

Office location: War Gym, basement (room 18)
Office hours: Mondays, 2-3pm (and Tuesday 3-4pm - until Jan 26th)
E-mail address: ekc@interchange.ubc.ca

Summary of course content:

Observation, measurement and critical evaluation of motor development in terms of theories and research evidence. Emphasis will be on the development of motor skills, with specific reference to the nervous and perceptual systems across the lifespan.

Format of the course: Students attend 3, 1 hour (50 min) lectures per week. Approx. 1 lecture each week (typically Friday) will be seminar/question-answer based with audio-visual resources. The seminar sessions will be used to expand on concepts/issues raised in the lectures and to examine more practical applications of these issues. These seminars will be instructor-led, however, you will be actively encouraged to responsibly participate (as in all classes). **WEB CT** will be used as a support medium for the course (see also note below). Please use the “discussion board” to pose questions and get feedback from others in the class. I will check these discussions and comment on relevant issues in the seminar class. I will also post sample questions each week (under study tools) which will help with preparation for the exams. The “study tools” folder on web CT will also contain helpful readings/resources for the class. These will not be required readings, but resources designed to aid with application and understanding.

The course will be subdivided into **6** sections:

1. **Weeks 1-4:** Introduction to motor development: Observation, measurement, definitions and understanding of theories /worldviews. These first few weeks will “set the scene” for examining motor development (i.e., nature/nurture) and developing a project proposal. We will use Newell’s *constraints-based* model of development as a backdrop for understanding throughout the course.

ch1-2, Haywood and Getchell (2005)

2. **Weeks 5-6:** Physical growth: We will cover topics on prenatal development (and early infancy), especially development of the nervous system. We will talk about the endocrine system, growth hormones, puberty (and growth curves) as well as implications of differential growth rates for sport development. We will also discuss handedness and cerebral specialization.

ch3-4 (for aging see Section 6), Haywood and Getchell (2005)

Week 7: Midterm Break

- Weeks 8-9:** Early infant motor behaviour, skill development. In this section we will discuss the development of reflexes, achievement of motor milestones and the development of locomotion. Midterm exam will be in WK 8 (WED 28th Feb).

ch5-7, Haywood and Getchell (2005)

- Weeks 10-11:** motor disorders & skill development group project presentations.

ch6-8, Haywood and Getchell (2005)

- Weeks 11-12:** Sensory system development: We will primarily focus on the development of the visual system as well as cross-modal sensory integration. We will examine biological motion perception and implications for imitation learning.

ch9-10, Haywood and Getchell (2005)

- Week 13-14:** Motor development across the lifespan: In this final section we will look at “skillful” performance and the impact of knowledge on motor/sports performance. We will then look at the “compensation” period and discuss the various intrinsic and environmental constraints which impact aging.

ch13, Haywood and Getchell (2005). Also ch4,14-16 (as it pertains to aging)

Learning outcomes and course objectives:

- Describe and demonstrate an understanding of various theoretical approaches to motor development across the lifespan.
- Know and understand the factors/variables which influence motor skill development. Describe ‘typical’ motor development.
- Demonstrate an awareness of how the predictions of the various theoretical approaches would impact on the observation, measurement and development of motor skills.
- Understand and be able to apply the knowledge of motor development.

Required text

Haywood, K.M., & Getchell, N. (2005). Life-span motor development (4th edition). Champaign, IL: Human Kinetics Publishers.

The old text book is not recommended for this course although there is considerable overlap across editions (only the 2001 edition). If you chose to use the old text book it is your responsibility to find the appropriate chapters & make yourself familiar with the content of the new text book.

Supplementary readings (additional references will be given in class)

- Haywood, K.M., & Getchell, N. (2001). Life-span motor development Champaign, IL: Human Kinetics Publishers. (all sections; see ch1-7; 9-12; 15).
- Gabbard, C. (2004). Lifelong motor development (4th edition). San Francisco, CA: Pearson Education. (all sections; see ch 1, 2, 5, 6, 8, 9, 11, 12).
- Thelen, E. & Smith, L. B. (1994). A dynamics systems approach to the development of cognition and action. Cambridge, MA: Bradford Books/MIT Press. (section 1,3, 5 & 6; ch1 & 4). Relevant to Sec. 3 & 4 (development of locomotion skills).
- Williams, A.M. & Hodges, N.J. (2004). Skill acquisition in sport: research theory and practice. London: Routledge (Taylor Francis). (Relevant to Sec 6; ch 14, 15,19).
- Haywood, K.M., & Getchell, N. (2001). Learning activities for life-span motor development (3rd ed). Champaign, IL: Human Kinetics Publishers. (section 1-4)

Note on readings/lecture notes/class attendance and lectures

You are expected to attend every class. The readings and lectures will both overlap and complement each other. The lectures are designed to expand and elaborate on the readings and the readings on the lectures, neither is a substitute for the other. Video resources will also be used and full references for these will be provided after the class. Written information contained in lecture notes will be made available before the class via Web CT. The lectures might depart from the notes on Web CT and there will be additional information conveyed in the class that does not appear in the lecture notes. It is YOUR responsibility to cross-check the notes with others if you miss a class. **If attendance drops notes will NOT be posted on Web CT.**

Course assignments, due dates and grading:

Learning objectives	Method	Marks (%)	Date	Sections
1,2,3	Exam, mid-term*	30	Wed 28th Feb –In class	Sections 1-2
2,3,4	Movement disorders' assignment	20	13th- 20th, March In class presentations. <u>Hand in March 24th</u>	All course material (esp. Sec 1 & 3)
1,2,3,4	Exam, final*	50	TBD	All course material

* exams will comprise multiple choice and short answer questions.

Course policies:

ASSESSMENT

- If you are unable to attend the midterm the final exam will be worth 80% of your final grade and the assignment 20%. All students must write the final exam. All students are strenuously encouraged to sit the midterm. During the midterm you will not be able to leave the class until the end of the exam.
- There must be both a poster presentation and an electronically submitted WORD document for marks to be obtained for the Movement Disorders' Assignment.

OTHER ISSUES

- Full attendance is expected at all lectures.
- Students whose attendance or performance is severely affected by medical, emotional or other disabilities, should consult with the instructor early in the term to discuss special arrangements. Supporting documentation from the Disability Resource Centre or physician must be submitted to Undergraduate Advising Office.
- Please let your instructor know in advance, preferably in the first week of class if there are any special learning requests or requirements
- Students who plan to be absent for varsity athletics, family obligations or other similar commitments, cannot assume they will be accommodated, and should discuss their commitments with the instructor before the withdrawal date.

- **An important note on Group work (Movement disorder's assignment):**

Groups tend to work best if one person CHAIRS the meeting. This person should volunteer and be approved by the group. The role of this person might be to organize and arrange meeting times, meeting place and discussion medium (e.g., in person, phone or email). During the meeting this person then helps to keep the discussions focused, constructive and productive and helps to ensure that the meetings run on time.

One person should also take minutes (provide a summary, see Appx. B) of each meeting (this can be a different person each week). At the end of each meeting always discuss dates and content for the next meeting so that the whole group can be prepared.

Remember that your group will comprise people of different skills and interests. Try and maximize people's strength, be fair and empathetic, engage the whole group in discussion and participate fully. There will be times when participation and individual contributions will seem unfair. However, you are all given the same mark for the final product (oral, poster and written) so help each other. Your effort will be rewarded in terms of what you learn (through your study and group interactions) and the final grade.

Movement disorders – group projects, HKIN 284

DATES and PROCEDURES

1. Registration of topic and group. **To be completed by Friday, January 26th:**
 - a. Decide on a population and an activity/skill and register both with the TA.
 - b. At least one person in your group must make an appointment to see the TA to get your **topic approved**. At this time you will also register the names of the people in your group (n=6 /group) and submit a group name. There will be a maximum of 4-5 groups per disorder & skill. So, if you have a topic that your group is particularly interested in pursuing, then you should register early.
 - c. **Signatures** of all 6 people are required to register a group (see registration sheet, Appx. A). However, you may nominate a spokesperson to take this information to the T.A. and register the topic and group. Therefore, only ONE registration sheet is required per group.
 - d. Your group is your support network for the course. USE THIS RESOURCE
2. Group meetings (**throughout the term**). To be scheduled and arranged as per group's schedule. I would recommend weekly meetings to determine content, delegate tasks, discuss the questions, watch videos, perform literature searches, read, visit people with movement disorders etc. This group time should also be a time of reflection and discussion on class lectures/readings. View your group as a general support network for this class. **DO THIS IMMEDIATELY. A record of meetings (see Appx. B - or something similar) must be submitted with your Poster (1 mark).**
3. Poster and oral presentation **To be presented week beginning Monday, 12th and ending Monday, 19th March:** Make a poster containing the information detailed below. **All** members of the group must be present for a **5 minute** oral presentation about their poster. Aim to make your poster interesting and clear for the reader. Use bullet points and pictures. The posters will be retained by the instructor but can be collected after final exams. The order of presentations will be determined in a random fashion. Only in special circumstances and with prior approval from the Instructor can the presentation date be changed. There will be time for 1 or 2 questions.

4. All the information contained in your poster must be submitted as a WORD document which must be e-mailed to the TA. **This is not additional work. All you need to do is submit a duplicate of the information in your poster. To be submitted by Friday 23rd March.** The information contained in the WORD document will be made available to the rest of the class to aid with revision. Marks will be awarded based on the poster/oral presentation only, although these marks will only be obtained on receipt of the WORD document.

Sample populations

You should try and chose a population or disorder where the motor (perceptual-motor) problem is the **major** problem. Please chose a disorder and an associated age range (think about reasons for chosing both). Some examples are listed below, do not feel confined by these choices and please chose a population that is of interest to your group:

- Parkinsons (elderly/adults); Developmental coordination disorder (children); Autism/attentional deficit disorder (children); Sensory impaired individuals (blind, vestibular patients); Down syndrome; Stroke; person with prosthesis. Spina bifida multiple sclerosis; Cerebral palsy; Muscular dystrophy; Huntingdon’s Disease; ALS

Sample activity

You also need to choose a motor skill activity that can be evaluated with respect to your population of choice. Examples of these activities can be found in Ch6-8 Haywood and Getchell (2005). You will need to compare and evaluate your chosen population with respect to these “norms” and in view of the various constraints acting on the person (age, stage of illness, primary and secondary motor/neurological symptoms). You will need to consider how a behavioural intervention could change performance on this skill and how this would be assessed (see points 1-10 below).

POSTER & ORAL PRESENTATION: Aim to make your poster readable, clear and succinct. Often it is harder to write less than more. However, the amount of information should reflect sensitivity and discrimination of material, not a lack of work, effort or search. There are no strict guidelines with respect to size. However, if you would like ideas go and see the posters in the basement of the WMG (you are not expected to make printed and laminated, expensive posters...I will also bring some examples to class). Individual marks can be lost if you are not present for group presentation, if you do not submit the WORD document, or minutes (Appx. B), on time. You will have 5 minutes to stand by your poster and summarize the information for the class (this can be one person or the whole group...BUT all must be present). **FOCUS PRIMARILY ON SECTION II FOR THE ORAL.** Presentation marks will be awarded for both the poster and oral presentation based on 5 criteria: (i) clarity; (ii) relevance and succinctness; (iii) information/content; (iv) presentation enthusiasm, layout, novelty; (v) organization.

TOTAL = 5% of total course grade (total of 10 marks)

POSTER CONTENT:

All this information has to be contained in the poster so chose your words carefully and use the marks as guidelines. Give appropriate reference(s) in the text.

Section I (points 1-3): define your population/disorder using the headings as guidelines.

1. Symptoms: Focus primarily on the **sensory-motor** problems. However, if there are other problems which could impact performance on your chosen skill/activity then you may need to give more details. Give appropriate reference(s) in the text (a web page address is not a reference...you may use a web page to help you find a “peer-reviewed” reference). In this section you will need to consider (and detail) the various individual constraints (both functional and structural) which are symptomatic of this population in general or your chosen sample in particular (i.e., age, severity, onset of disease, subset etc) (3 marks).
2. Cause/Aetiology: Focus on the **sensory-motor** problems & relate the symptoms to their hypothesized cause. Give appropriate reference(s) in the text. The cause might be unknown and there may be many opinions. Try to summarize the most common /accepted. Diagrams may help. In this section you will need to consider whether these causes are individual, environmental and/or both (3 marks).
3. Diagnosis/Prognosis and Behavioural treatments: Focus on the **sensory-motor** problems. Give appropriate references. How is this disorder typically diagnosed? What assessment tools are typically used (do not just list without some explanation as to why or what these tests supposedly measure). How reliable are these? How is this disorder typically treated (focus on the behavioural treatments and interventions) (3 marks)?
4. Reference section: Provide a reference section on the poster. This can be in small font. You might want to use a number system in the text referring to the list of references at the end of the poster. **References are important.** You must always appropriately cite /acknowledge other people’s work. If you quote directly from a source then you must also give page numbers and put the text in quotes. Whilst it is OK to reference and pull some material from web sites, these should not be your main source of information. Remember, information on the web is generally not peer-reviewed. **Make sure that you have at least two peer-reviewed academic journals as references (2 marks).**

(Points 1-4 are worth 11 marks)

Section II (points 5-9): In this section you will consider yourself a movement specialist who is required to (i) observe & assess, (ii) compare to a control group and (iii) examine the effect of a treatment intervention on a small sample of your chosen population performing a motor activity (see ch 6-8 Haywood & Getchell). You will receive marks based on the following criteria:

5. Detail your chosen activity with respect to the demographics (characteristics) of your chosen age-range and population. What are some of the constraints (task, environmental and individual) which will impact the level of achievement/performance on your chosen activity? (3 marks)
6. Defining performance features. How will this activity differ across your chosen population sample and an age-matched control group (think about the various age-related developmental constraints and typical behaviours as well as the disorder-related constraints)? (3 marks). You might find it helpful to integrate points 5 & 6.

7. Improving performance: As a movement specialist, how can you bring about improvements on this skill? Think about various task/environmental constraints that could be implemented to facilitate performance. A behavioural intervention (perhaps in addition to a drug treatment) is preferred. Think about duration and practical aspects of an intervention (3 marks)
8. Assessment: How will you score performance to enable you to assess the level of proficiency on this skill across people and as a function of your intervention? Think about quantitative and qualitative assessment criteria. Use the book & other references to help (3 marks).

(Points 5-8 are worth 12 marks)

9. Summary: Assume that you were able to conduct an experiment where you compared 8 people with your chosen disorder with 8 age-matched controls on your chosen activity. Write a BRIEF summary of your study...who you studied, why, what they did, what you found and what this means (rather like an abstract that appears on a peer-reviewed journal article. These summaries are usually 100-150 wds). (3 marks)
10. Pose two multiple choice or short answer exam questions. Do **not** give the answer(s) on the poster, only when you hand in the WORD document. If suitable, a selection of these questions will appear on the final exam. Please make the questions specific to both your chosen population and activity (3 marks)

(Points 9 & 10 are worth 6 marks)

TOTAL pts 1-10 = 15 % of total course grade (total = 29 marks – 1 additional mark will be awarded for submission of group minutes – see Appx. B)

Appendix A: Motor development disorder registration sheet
 course: Motor development, HKIN 284

Movement disorder: _____

Motor Skill: _____

Date: _____

Group name (that you will remember): _____

NAMES: PLEASE PRINT			
	Last name	First name	student number:
1			
2			
3			
4			
5			
6			
SIGNATURES			
1			
2			
3			
4			
5			
6			

* By signing this paper you are agreeing to work cooperatively with your peers to complete the assignment to the best of your abilities. Any disagreements must be sorted out within the group. Your group will be your support network for this class.

