

**Guidelines for Supervisors and Students**  
**PNB 4D06/4DD6/4D09**  
**Thesis Courses**

Revised February 2015

**Contact:**

Course Instructor  
Dr. Karin Humphreys  
PC/410  
ext. 23011  
[krh@mcmaster.ca](mailto:krh@mcmaster.ca)

Course Coordinator  
Sally Presutti  
PC/102  
ext. 23026  
[pthesis@mcmaster.ca](mailto:pthesis@mcmaster.ca)

The primary purpose of the thesis is to provide each student with an intensive apprenticeship in psychological research. In the process of collaborating with faculty, students are expected to acquire and/or sharpen the skills required for conducting and presenting research. These skills include library research, writing, public speaking, designing experiments, as well as collecting, analyzing, and interpreting data. The PNB thesis includes exposure to all of these aspects of research. Only potentially publishable, hands-on research qualifies for a thesis and therefore, library projects do not qualify. The skills acquired during the thesis year are useful tools for life, regardless of the career path each student chooses.

The Department of Psychology, Neuroscience & Behaviour now offers three thesis courses - PNB 4D09, PNB 4D06, and PNB 4DD6.

PNB 4D06 requires:

1. a GPA of at least 8.0
2. a supervisor who is either an internal faculty member in the Department of Psychology, Neuroscience & Behaviour or an approved external supervisor.
3. Optional participation in the PNB Undergraduate Poster Session to be held towards the end of March or early April.

PNB 4D09 requires:

1. a GPA of at least 8.5
2. a supervisor who is either an internal faculty member in the Department of Psychology, Neuroscience & Behaviour or an approved external supervisor.
3. mandatory participation in the PNB Undergraduate Poster Session to be held towards the end of March or early April.
4. 3 units of additional work, which can be taken in Term 1 or Term 2. The term requiring the additional work will often be determined by the type of research involved and should be worked out in advance between the student and supervisor.

PNB 4DD6 requires:

1. registration in Bio/Psych
2. a GPA of at least 8.5
3. a supervisor who is either an internal faculty member in the Department of Psychology, Neuroscience & Behaviour or an approved external supervisor.
4. Optional participation in the PNB Undergraduate Poster Session to be held towards the end of March or early April.

## **SUPERVISION**

The student and supervisor should come to a clear understanding as early as possible as to the supervisor's expectations regarding the student's responsibilities, the time commitment involved for the student, etc. Regular meetings (usually weekly) should be scheduled so that the student is able to obtain continuous guidance, feedback, and support from the supervisor. Although it is primarily the responsibility of the student to meet the specified deadlines, the supervisor should provide a degree of supervision that would allow the student to complete the thesis research on schedule.

Although it is not possible to give an exact figure for the time required for a successful thesis, the students in PNB 4D06/4DD6 should plan on spending, on average, about 10 hours per week on the thesis. Students in PNB 4D09 should plan on spending, on average, about 10 hours per week in one term, and about 15 hours per week in the other term. The research project will determine in which term the additional hours occur. The workload likely will vary considerably over the course of the academic year.

Very occasionally, there may be some disagreements between student and supervisor concerning the thesis work. For example, a student may think that he/she is not getting sufficient access to the supervisor to deal with questions concerning data collection or the preparation of the thesis document, or the supervisor may think that the student is not fulfilling his/her obligations with respect to the research. It is important that the student and/or supervisor bring such disagreements to the attention of the Course Instructor or Course Coordinator as soon as possible. It is too late to deal with such problems when it is almost time for submission of the completed thesis document.

## **CLASS PARTICIPATION**

In addition to completing the thesis, students in all three courses (4D06, 4DD6, and 4D09) are expected to attend and actively participate in all scheduled class meetings and activities. Students in PNB 4D09 will also be required to present their final results at the PNB Undergraduate Poster Session at the end of March or early April. Students in PNB 4D06/4DD6 will be encouraged to present but will not be required to do so.

Class meetings will take place weekly in the first term, and as needed during the second term. Students will learn about a range of topics related to psychology research (including ethics and scientific writing), and will give oral presentations about their planned research to class members.

## **UNDERGRADUATE PROVINCIAL THESIS CONFERENCE**

Each year, students from all over Ontario gather at the Ontario Psychology Undergraduate Thesis Conference held the end of April or the beginning of May at an Ontario University. Abstracts for the Provincial conference are due in March. Details will be provided in class. All thesis students are encouraged to present a talk on their thesis research at this conference. The department will provide a small stipend to each student who is presenting research at the meeting to help defray travelling expenses.

## **WHMIS TRAINING**

**All students working with ANIMALS or CHEMICALS must submit a copy of certification for WHMIS CORE training to the Course Coordinator before beginning their thesis research and no later than September 30<sup>th</sup>.**

## **ANIMAL CARE APPROVAL**

All students conducting research involving animal subjects must complete the appropriate animal care course before beginning their thesis research and no later than September 30<sup>th</sup>. **It is the responsibility of the thesis supervisor to email the Course Coordinator by September 30<sup>th</sup> that the animal care course has been completed.**

## **HUMAN ETHICS APPROVAL**

The Tri-Council Policy Statement, "Ethical Conduct for Research Involving Humans," describes the policies of the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC). This current policy took effect September 1, 1999. In order for McMaster University to comply with this policy, The Psychology Student Research Ethics Committee (PSREC) was established September 15, 1999 to review research conducted by undergraduate students when: (1) the research is conducted as part of an undergraduate course offered by the Department of Psychology, Neuroscience & Behaviour, and (2) the research is not part of a faculty member's research program already approved by any other Ethics Board (e.g., McMaster University Research Ethics Board -MREB). Undergraduate research for a PNB course that is supervised by individuals outside the Department of Psychology, Neuroscience & Behaviour shall be reviewed by the Departmental Committee unless it is subject to review by the MREB or by another Ethics

Board in compliance with the Tri-Council Policy. Research requiring review includes not only experimental protocols, but also research involving naturalistic observation, questionnaires, interviews, and secondary use of data that are not in the public domain. For further information regarding human ethics policies and resources, visit: <http://www.mcmaster.ca/ors/ethics/>

An application form and instructions for departmental review may be obtained from the Psychology Student Ethics Committee website at: [http://www.mcmaster.ca/ors/ethics/info\\_srec\\_psrec.htm](http://www.mcmaster.ca/ors/ethics/info_srec_psrec.htm)

Please submit all applications to the SREC secretary, Michael J. Wilson [ethicsoffice@mcmaster.ca](mailto:ethicsoffice@mcmaster.ca). Applications will then be sent to the appropriate committee for review. Research may not begin until the Departmental or University Research Ethics Board (if the application has been referred there) has given its approval. The application will be approved only for the academic year in which it is made. If the project will continue in a subsequent year without any change, the applicant needs to request renewal of the approval.

### **PRE-PLACEMENT IMMUNIZATION FORM**

If your thesis or laboratory study research will be conducted in a hospital setting (e.g., Chedoke, St. Joseph's Hospital, McMaster Medical Centre etc.), you are required by Ontario law to complete a Pre-placement Immunization Form prior to any research collection. This is a medical history of your immunizations (e.g., Rubella, Red Measles, Hepatitis B, Diphtheria). If your immunizations are not up to date, you will be required to obtain these vaccinations, which may result in multiple doctor appointments and possible fees (if they are not covered by medical insurance).

### **THESIS SUBMISSION AND DEADLINE**

1. A copy of the thesis must be emailed, in one PDF file, to the PNB at [pthesis\(a\)mcmaster.ca](mailto:pthesis(a)mcmaster.ca) and to the supervisor **no later than Wed. April 17, 2013, at 5 pm. If this file is not received by the deadline, a grade of F will be recorded for 4D06,4DD6, or4D09.**

Extensions of the deadline are rarely granted. If the supervisor thinks an extension is warranted, he/she can request that the student obtain a "Request for Incomplete" form from the course coordinator. This form is completed and signed by the student, the supervisor, and the Chair of the Department of Psychology, Neuroscience & Behaviour. This form must be returned to the student's Faculty Office, and a copy must be sent to the Associate Dean of Science, if the student is not registered in the Faculty of Science. However, please remember that an incomplete grade on the thesis likely will delay graduation.

### **FORMAT**

#### ***TYPESCRIPT***

The thesis should be prepared in a 12 pt font. The entire thesis must be in the same font. Textual material must be double-spaced; footnotes and long quotations can be single-spaced.

#### ***MARGINS AND INDENTATIONS***

The first line of each paragraph and of each footnote should be indented 1/2 inch (1.25 cm). Margins should be 1 inch (2.5 cm). These margins apply to all material (e.g., text, tables, figures, computer print-outs).

## **PAGINATION**

Number all pages except the title page, on which the number (i) is implied but not given. Use lower-case Roman numerals (ii, iii, iv, etc.) for the remaining pages of the preliminaries (see below), and Arabic numerals (1, 23, 56, etc.) for the thesis proper. Centre the pagination at the bottom of each page.

## **SEQUENCE OF PARTS**

A thesis normally comprises the following parts, arranged in the following order:

**a. Preliminaries:** Start each section on a new page.

Title Page (see Sample)

Descriptive Note (see Sample)

Degree to be awarded and year of degree; university name and location; thesis title; full name of author (followed by previously conferred degrees); full name of supervisor; number of pages. To be numbered ii.

Abstract

An abstract of about 200 - 600 words describes the major emphasis of the thesis, the major results and their contribution to knowledge. To be numbered iii.

Acknowledgements

An expression of thanks for assistance given by the supervisor and by others involved in the thesis research. It is also appropriate to acknowledge family and friends who provided emotional support and friendship. To be numbered in lower case Roman numerals.

Table of Contents

A list of the major divisions in the thesis, indicating their page numbers. Table

Captions

A list of the titles of the tables, indicating the page number of each table. Figure

Captions

A list of the titles of the figures, indicating the page number of each figure.

**b. Text - Levels of Headings**

The actual sections will vary from project to project. A common format is as follows. The latest edition of the Publication Manual of the American Psychological Association (APA), which is available in the library or online <http://www.apastyle.org>. provides greater detail. Changes since 2001 are available at: <http://www.aug.edu/elcse/2010APAGuidelineChanaes>. Pdf. The following format is acceptable for four levels of headings. Note that APA now accepts only Times New Roman font.

## **INTRODUCTION**

(Level 1 - Centred, all letters are Uppercase, bold. Text begins on next line, indented.)

### **Experiment 1**

(Level 2 - Centred, first letter of each important word is Uppercase, bold. Text begins on next line, indented.)

## **Method**

(Level 3 - Flush left, first letter of each important word is Uppercase, bold. Text begins on next line, indented.)

Participants. (Level 4 - Indented, first letter of each important word is Uppercase, bold. Heading ends with a period and paragraph continues on immediately after heading.)

**Apparatus.**

**Procedure.**

**Results and Discussion**

**Summary and Conclusions**

## **Experiment 2**

### **Method**

**Participants.**

**Apparatus.**

**Procedure.**

**Results and Discussion**

**Summary and Conclusions**

## **GENERAL DISCUSSION**

### c. **Figures and Figure Captions**

Each figure is on a separate page with the figure caption for that figure single-spaced on the top of the same page. Captions should be in the same font as the thesis. Each figure with its caption should be inserted into the text immediately after the figure is first mentioned. So, if Figure 1 is first mentioned on Page 12, then page 13 would be the figure with a single-spaced caption and page 14 would carry on with the text from page 12. Repeat the process for each figure and follow the same format for all figures. Note that if more than one figure is mentioned on the same page for the first time, more than one figure will be inserted before the text carries on.

### d. **Tables**

Each table is to be on a separate page, with its title single-spaced at the top of the same page as the table. This page should be inserted into the text immediately after the table is first mentioned. So, if Table 1 is first mentioned on Page 20, then page 21 would be the table with its title at the top, and page 22 would carry on with the text from page 20.

### e. **Reference List**

Use the format described in the APA Manual (6<sup>th</sup> Ed., 2010). The following are examples of the most usual types of references. Note the italics and punctuation.

#### Journal Article

Lewis, T. L., & Maurer, D. (2005). Multiple sensitive periods in human visual development: Evidence from visually deprived children. *Developmental Psychobiology*, 46, 163 -183.

#### Book

Maurer, D., & Maurer, C. (1988). *The World of the Newborn*. New York: Basic Books,

#### Edited Book

Gibbon, J., & Allan, L. G. (Eds.). (1984). *Timing and time perception*. New York, NY: Annals of the New York Academy of Sciences.

#### Book Chapter

Maurer, D., & Lewis, T.L. (2001). Visual acuity and spatial contrast sensitivity: Normal development and underlying mechanisms. In C. A. Nelson & M. Luciana (Eds.). *The handbook of developmental cognitive neuroscience* (pp. 237 - 251). Boston, MA: MIT Press.

#### Technical Report

Mondloch, C.J., Lewis, T.L., Maurer, D., & Levin, A.V. (1998). The effects of visual experience on face preferences during infancy. *Developmental Cognitive Neuroscience Technical Report*, No.98.4.

#### Published Abstract

Lewis, T.L., Chang, D.H.F., Murphy, K.M., Maurer, D., & Jones, D.G. (2006). [Abstract]. Orientation discrimination in noise: 7-year-olds are noisier than adults. *Journal of*

Vision, 6(6), 380a.

Paper at a Meeting with no published abstract

Lewis, T.L., Ellemberg, D., Maurer, D. (2003, June). *Seeing beyond acuity*. Paper presented at the annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science, Hamilton, ON.

Thesis

Lewis, T.L. (1980). *The development of nasal field detection in young infants*. Unpublished doctoral dissertation, McMaster University, Hamilton. ON.

Online Periodicals

Method for citing online periodicals depends on whether or not there is a digital object identifier (DOI). Details for citing online periodicals with and without DOIs are available at: <http://www.aug.edu/elcse/2Q1QAPAGuidelineChanges.pdf>

**f. Appendices**

Appendices include raw data, computer printouts, instructions to subjects, or whatever the supervisor deems appropriate. They are often archival in nature.

**Sample Title Page**

GREATER NOISE INTERFERENCE WITH ORIENTATION SENSITIVITY  
IN 7-YEAR-OLDS VERSUS ADULTS  
(note: All Capital Letters)

BY  
DORITA HUE FUNG CHANG  
(note: All Capital Letters)

A Thesis  
Submitted to the Department of Psychology, Neuroscience & Behaviour  
in Partial Fulfillment of the Requirements  
for the Degree Honours Bachelor of Science

McMaster University  
April, 2006

## **Sample Descriptive Note**

HONOURS BACHELOR OF SCIENCE (2006) MCMASTER  
UNIVERSITY Hamilton, Ontario

TITLE: Greater noise interference with orientation sensitivity in 7-year-olds versus adults

AUTHOR: Dorita H.F. Chang

SUPERVISORS: Dr. Terri L. Lewis and Dr. David G. Jones

NUMBER OF PAGES: vii, 85