

Proposal 76-21

(Voting Units: Academic)

A PROPOSAL TO ESTABLISH A
CONCENTRATION IN COGNITIVE PSYCHOLOGY
within the degree
BACHELOR OF SCIENCE IN PSYCHOLOGY
(Department of Cognitive and Learning Sciences)

1) Date: March 8, 2021

2) Contact:

Kedmon Hungwe, Professor, Cognitive & Learning Sciences (khungwe@mtu.edu); Kelly Steelman, Associate Professor & Interim Department Chair, Cognitive & Learning Sciences (steelman@mtu.edu)

3) Interdisciplinary Program Approval – Not Applicable

4) General Description and Program Characteristics

- a) The Department of Cognitive and Learning Sciences at Michigan Technological University proposes Cognitive Psychology as a new concentration of the BS in Psychology degree program. The concentration is one of three that are being introduced to enhance the quality of the program and in response to a program review conducted by faculty. The goal is to provide tailorable but constrained coursework foci for students. The changes leverage existing faculty and resources in Psychology to create a contemporary and robust program of study that will provide Psychology majors with a competitive edge when entering the professional work environment or in preparation for advanced studies at the graduate level.
- b) This is one of three proposed concentrations being introduced in separate proposals. The concentrations add to coursework options for students *and do not replace the existing Bachelor in Science in Psychology program*.
- c) Coursework in the Cognitive Psychology concentration focuses on brain, perception, attention, memory, thinking and decision making with additional courses in the application of cognitive theory to work (e.g., industrial/organizational psychology), social media, and design (e.g., human centered design, cognitive task analysis). The learning outcomes associated with the concentrations are [defined by the American Psychological Association for undergraduate programs in Psychology](#).

5) Title of Program

Bachelor of Science in Psychology with a Concentration in Cognitive Psychology

6) Rationale

The program in Psychology at Michigan Technological University was first introduced as a minor in 2000. The BS degree in Psychology followed, with approval in 2004. The program offers a great deal of flexibility, both in terms of coursework and career options. The Department seeks to serve undergraduates with a diverse set of goals by providing concentrations that give students an additional identity within psychology if they choose.

Current priorities have focused on recruiting strategies for Psychology majors, increasing program visibility through targeted advertising and recruitment of students, and reviewing course offerings for alignment with guidelines of the American Psychological Association, as well as trends in students' professional interests. Creating concentrations will enhance the department's ability to meet these priorities. Some students seek to prepare themselves for graduate or professional school, others plan to apply for jobs in industry, and yet others see coursework in Psychology as interesting and valuable intellectually, but do not base their future vocational plans upon it. The Department seeks to more clearly articulate the available options by formally defining concentrations as an additional option to the current course of study. In choosing a concentration, students take a required set of core courses, leading to a more focused study of a subarea of Psychology that includes advanced coursework in the specialized area of interest.

7) Related Programs

The creation of the areas of concentrations in Psychology has been informed by two main sources: (1) definitions of specializations outlined by the American Psychological Association; and (2) Psychology programs from a range of universities including Northern Michigan University, Harvard University, University of Colorado, Boulder, University of Michigan, and the University of Virginia.

8) Student Enrollment

As of Spring 2021, there were 52 majors enrolled in Psychology (+12 from Fall 2020), and 54 Minors (+4 from Fall 2020). Table 1 indicates the enrollments in Psychology courses for the period Fall 2015 through Fall 2020.

Table 1: Enrollment trends (All courses) Fall 2015 - Fall 2020

	F15	S16	F16	S17	F17	S18	F18	S19	F19	S20	F20
Student count	400	447	433	558	362	502	438	458	374	440	370
Course count	9	11	10	13	8	11	10	11	11	11	10

The department has introduced enhanced strategies for student recruitment with positive results. As of 01/25/2021 there were 183 applications, and 143 admits (+83% over 2020).

Eight faculty (6 full-time T/TT faculty, 1 split appointment T/TT faculty, 1 lecturer) currently support a psychology major (N= 52), a psychology minor (N= 54), graduate programs in Applied Cognitive Science and Human Factors (N=26), and courses on the general education list. The proposed concentration does not require new faculty lines.

9) Curriculum Design

Table 2 indicates the current requirements for the Bachelor of Science degree in Psychology. The concentration in Cognitive Psychology will comprise 18 credits of Psychology electives drawn from the 21 Psychology electives in the current program.

Table 2: Requirements for the Bachelor of Science in Psychology

Major Requirements (68 credits)		Credits
1.	Required Psychology Courses	29
2.	Psychology Electives	21
3.	Computing Requirement	3
4.	STEM Requirement	15
Free Electives (30 credits)**		
General Education Requirement (24 credits)		
1.	Core	12
2.	HASS	12
Total		122

**The number of free electives will be reduced to 28 via the binder process.

Concentration in Cognitive Psychology (Minimum =18 credits selected as indicated in tables 3 and 4)

Table 3: Maximum of 6 credits at 2000-level	
PSY 2110 Educational Psychology	3 credits
⁺⁺ HF 2000 Intro to Engineering Psychology	3 credits
PSY2080 Special Topics in Psychology	3 credits with dept approval

⁺⁺Course will be included in the Human Factors program to be submitted by the department

Table 4: Minimum of 12 credits at 3000 level and above	
PSY 3700 Industrial Org Psychology	3 credits
PSY3040 History/Systems of Psychology	3 credits
PSY 3800 Environmental Psychology	3 credits
PSY 3850 Human Factors Psychology	3 credits
PSY 4080 Topics in Psychology	3 credits with dept approval
PSY 4750 Judgment and Decision Making	3 credits
PSY 4010 Learning & Memory	3 credits
PSY 4340 Culture & Cognition	3 credits
PSY 4015 Foundations in Cognitive Task Analysis	3 credits
PSY 4160 Sensation and Perception	3 credits

10) New Courses

HF 2000 Intro to Engineering Psychology

This course will examine the capabilities and limitations of human perception and cognition and the application of theories and principles of human performance to design.

Text: to be determined. Open source materials

11) Schedule

Students will be able to schedule coursework to complete the degree program on a 4-year course of study. The proposed schedule is indicated in the appendix.

12) Library/Other Resources

No additional library resources required.

13) Needed Equipment

There are no additional equipment needs required to implement this concentration.

14) Program Costs

No additional costs are required to implement this concentration.

15) Accreditation Requirements

The curriculum changes align with the American Psychological Association goals for the undergraduate degree in Psychology.

16) Planned Implementation

Fall, 2021

Appendix 1: Bachelor of Science in Psychology

The suggested plan with concentrations will be available to students entering in the Academic Year 2021-2022.

Fall Year 1		Spring Year 1	
PSY2000 Introduction to Psychology	3	PSY2800 Critical Thinking	3
PSY 2501 Intro to the Psychology Major	1	PSY 2300 Developmental Psychology	3
UN 1015 Composition	3	UN1025 Global Issues	3
BL 2010/2011 - Anat/Phys	4	HASS Humanities & Fine Arts	3
MA 1030 and MA 1031 or MA 1032 or higher	4-6	Free Elective (variable credit)	
Total	15-17	Total	variable
Fall Year 2		Spring Year 2	
PSY 3030 Abnormal Psychology	3	PSY 2720 Statistics	4
PSY Concentration Course	3	PSY 3720 Social Psychology	3
Gen Ed Core Critical & Creative Thinking	3	PSY Concentration Course	3
HASS Communication/Composition	3	Computing Elective	3
Free Elective	3	Free Elective (variable credit)	
Total	15	Total	variable
Fall Year 3		Spring Year 3	
PSY 3000 Research Methods and Stats	3	PSY 3001 Research Methods and Stats	3
PSY 4010 Cognitive Psychology	3	PSY 4500 Senior Seminar	1
PSY Concentration Course	3	PSY 3060 Brain and Behavior	3
Free Elective (variable credit)	3	PSY Concentration Course	3
Gen Ed Core Soc Resp. & Ethical Reasoning	3	HASS Social & Behavioral Sciences	3
		Free Elective (variable credit)	
Total	variable	Total	variable
Fall Year 4		Spring Year 4	
PSY Concentration Course	3	PSY Concentration Course	3
PSY Elective	3*	Free Elective (variable credit)	
HASS (any)	3	Free Elective (variable credit)	
STEM non-Biological Science	3	Free Elective (variable credit)	
Free Elective (variable credit)		Free Elective (variable credit)	
Total	variable	Total	variable

Total PSY Concentration = 18 credits.

Total free electives = 30 credits as in Table 2, or as amended through binder process.

*May be taken as variable and/or repeated credit.



— Course Add Proposal —
PLEASE COMPLETE THIS FORM IN **RED**

A guide for completing this form is located at <http://www.mtu.edu/registrar/faculty-staff/course-proposal/>

1) Course Information

Is this a **half-semester course proposal**? Yes No

NOTE: All half-semester courses must follow rules set in Faculty Senate Proposal 4-00. See Senate website for details:
<http://www.sas.it.mtu.edu/usenate/propose/03/10-03.htm>

Course Prefix/Number (i.e. MEEM 2110): HF 2000

Course Title (abbreviated; used on transcript - Up to 30 characters including spaces)

Intro to Engineering Psych

Alternative Title for Catalog (Up to 100 characters including spaces)

Introduction to Engineering Psychology and Human Performance

2) Credits

Number of credits assigned to this course 3

OR

Range of credits if variable to (Number of credits to be taken in a given semester)

3) Schedule

Contact Hours per Week (Lec & Rec: 1 credit = 1 contact hour; Lab: 1 credit = 1-3 contact hours. (i.e. a 3-credit course may be 2 contact hours of lecture or recitation and up to 3 contact hours of lab OR 1 contact hour of lecture or recitation and up to 6 contact hours of lab))

3

Lecture

Recitation

Lab

OR

Research Course? Yes No

OR

Special Topics Course? Yes No

4) Additional Credits

May students receive **additional credits** by taking and passing this course more than once?

No

- Yes, for a maximum of _____ credits. (*Must be a multiple of the course credits, i.e. Research or Special Topics*)
- Yes, for an unlimited number of credits. (*i.e. Music, Varsity sports, etc.*)

5) **Pass/Fail**

Will this course be offered as a **pass/fail option ONLY?** (*grade of S or E*) Yes No

6) **Cross/Dual Listed Course**

Cross Listed: Is there an identical course offered in a different subject? Yes No
If yes, what is the other subject and course number? _____

Dual Listed: Is there a course offered at a different level? Yes No
If yes, what is the other course number? _____

7) **Equivalent Course:** Does this course replace a dropped course with no change in course content for degree requirements, prerequisites, and repeating purposes? Yes No

If yes, what is the subject and course number of the dropped course? _____

8) Corequisites and Prerequisites

Corequisites are courses that are **REQUIRED to be taken at the SAME TIME** as this course (courses **MUST** be offered during the same term):

Required corequisite course(s): _____ _____

Prerequisites are courses that are **REQUIRED to be taken PRIOR** to enrollment in this course. **Select appropriate box and use parentheses where needed.**

Required prerequisite course(s): 1 _____ <input type="checkbox"/> And <input type="checkbox"/> Or 2 _____ <input type="checkbox"/> And <input type="checkbox"/> Or 3 _____ <input type="checkbox"/> And <input type="checkbox"/> Or 4 _____ <input type="checkbox"/> And <input type="checkbox"/> Or 5 _____ <input type="checkbox"/> And <input type="checkbox"/> Or 6 _____

A **concurrent prerequisite** is a defined prerequisite course (from list above) that **MAY** be taken **EITHER** simultaneously in the same semester **OR** in a prior semester. Indicate below applicable courses.

Concurrent prerequisite course(s): _____ _____ _____

9) Catalog Course Description

The traditional catalog style description for a course is limited to **350 characters including spaces**. If course is proposed as a half-semester course, please include that information in the description. **Please refer to the Course Proposal Guide for examples and suggestions on developing a course description.**

This class will examine the capabilities and limitations of human perception and cognition and the application of theories and principles of human performance to design.

10) Registration Restrictions

- If permission is **always required** for registration purposes (a student cannot enter the course without department or instructor signature), please select the appropriate permission.

Do not select unless EVERY STUDENT must get "SIGNED INTO" the class.

Department **OR** Instructor

- Students who register for this course may be restricted by their **College/School OR** their **Major**. Please indicate if any college or major restrictions should be applied to this course. If there are no restrictions please indicate in the check box provided.

No College/School Restrictions

No Major Restrictions

Colleges/Schools who MAY NOT enroll (EXCLUDE)

-OR-
Colleges/Schools who MAY enroll (INCLUDE)

Majors that MAY NOT enroll (EXCLUDE)

-OR-
Majors that MAY enroll (INCLUDE)

-- Restrictions continued on next page --

- A restriction may also be placed on **Class Standing** (freshman, sophomore, junior, senior, graduate). Please indicate if any class restrictions should be applied to this course. If there are no restrictions please indicate in the check box provided.

No Class Restrictions

Class of students who MAY NOT enroll (EXCLUDE) <hr style="width: 50%; margin: 0 auto;"/> -OR- Class of students who MAY enroll (INCLUDE) <hr style="width: 50%; margin: 0 auto;"/>

11) Semester(s) Offered

Fall Spring Summer *(Check all that apply)*

OR On Demand

If offered in a specific semester, will the course be offered only in alternate years? Yes No
 If yes, what will be the starting academic year? (i.e. 2014-15 or 2015-16) _____

12) General Education

Is this course being proposed for General Education? Yes No

Proposal forms are available at: <http://www.mtu.edu/registrar/faculty-staff/course-proposal/>.

13) Course Computing Lab and Expendables Fees

DO NOT RECORD FEE INFORMATION HERE. Submit new course fee information on the New Course Fees Form available at: <http://www.mtu.edu/registrar/faculty-staff/course-proposal/>.

14) Course Learning Objectives (Required)

Upon successful completion of this course, students will be able to:

- describe theories and principles of human perception and cognition.
- explain how mental workload, stress, and individual differences contribute to human performance.
- cite real-world examples of how engineering psychology is applied to the design of information and displays.
- evaluate case studies, identifying sources of human error and opportunities for applying psychology to design.
- reflect upon how principles of engineering psychology can be applied in their own field of study and future career.

15) Degree Programs which this course will affect

List the degrees, minors, and certificates in which this course will be required or used as an elective: ***

Degree Program(s):
<u>Human Factors (required)</u>
<u>Psychology (elective)</u>

*** Be sure to adjust the appropriate degree audits in sections 7 and 8 in your department's binder.

16) Course Rationale *(Required)*

<p>This is a foundational course in human performance. For students in the HF program, this will serve as an alternative to PSY 2000 as a prerequisite for later classes. We will update the prerequisite lists for other courses in next year's binder process.</p>
--

17) Faculty Contact

Faculty proposing this course *(please print)*: Name Kelly Steelman

Email steelman@mtu.edu

**DID YOU USE RED INK TO COMPLETE THIS FORM?
IF NOT, PLEASE HIGHLIGHT YOUR ANSWERS SO NOTHING IS MISSED IN PROCESSING.**