The University Senate of Michigan Technological University

PROPOSAL 4-04

(Voting Units: Academic Departments)

BS PROGRAM IN PSYCHOLOGY

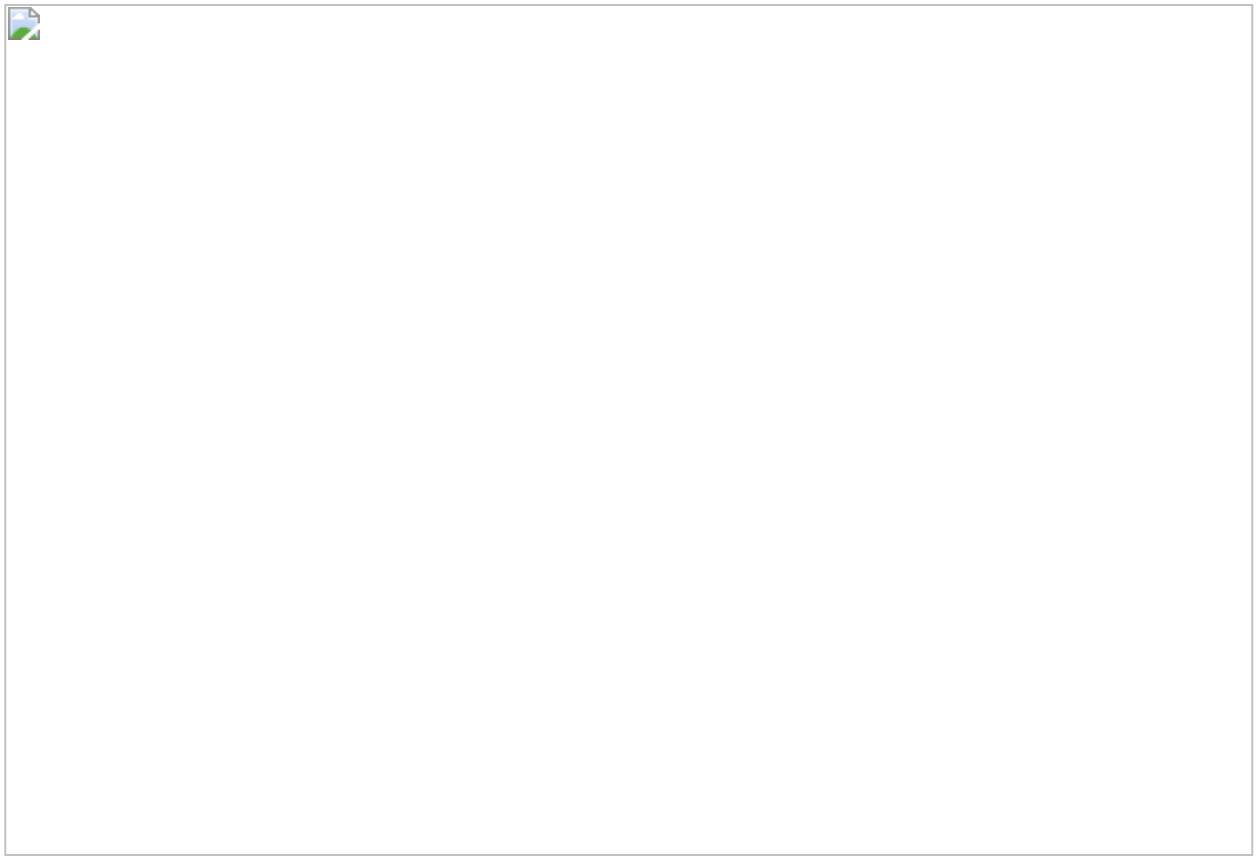
The Senate approves the program as described below.

A. Executive Summary

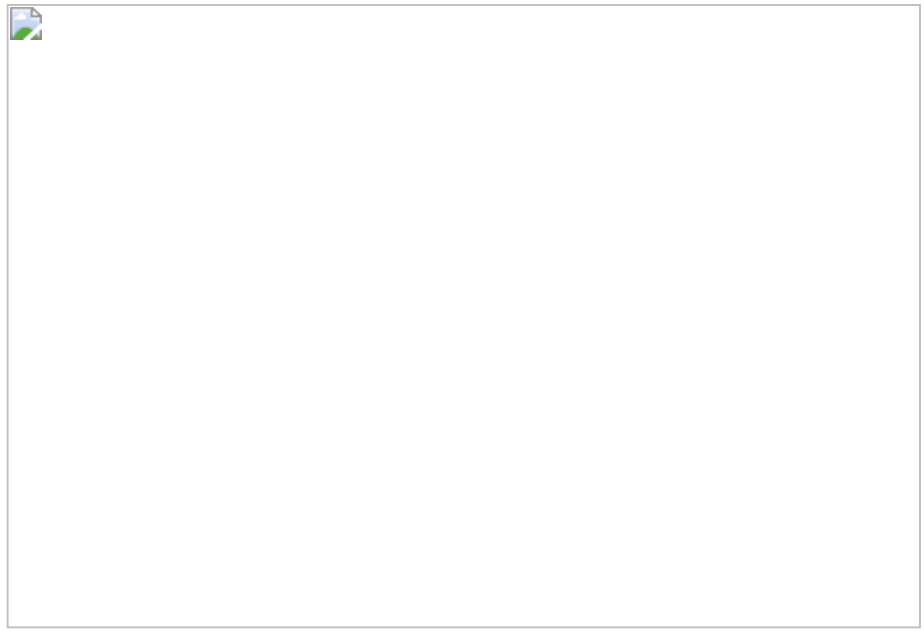
This proposal is a formal request that Michigan Technological University offer a Bachelor of Science degree in Psychology. A program in Psychology will draw on strong US undergraduate demand (currently 75,000 degrees awarded per year; comparable to engineering, business and life sciences); will help MTU meet diversity goals (75% of psychology graduates nationally are women) and will allow MTU to enhance revenue rather than cutting costs to improve financial stability. Adding this major will increase the university's recruiting potential and will improve retention by offering students an important alternative to transferring to another school. MTU offers far fewer choices of majors than any other public university in the state. A psychology major will improve MTU's competitiveness with other state institutions. Beyond the State of Michigan, all but one of MTU's Benchmark Universities also offer bachelors degree programs in Psychology. A psychology program will foster synergies in teaching and research with existing MTU strengths such as Engineering (Human Factors), Business (Industrial/Organizational Psychology) and Environmental and Life Sciences (biopsychology). A program in Psychology will complement the strength of MTU's current specialties by promoting a focus on the "builders and users" of the tools and products of science and engineering.

B. The need for a program in Psychology:
Psychology on a National Level:

Nationally, more than 74,000 students were awarded Bachelors degrees in Psychology in 1999-2000 (US Department of Education, National Center of Education Statistics). Figure 1 demonstrates how the field of psychology compares with core MTU strengths by examining the percent of all conferred Bachelors degrees in the United States across several majors currently offered at MTU. Importantly, 6% of all Bachelors degrees in 1999-2000 were in the field of psychology, accounting for a larger percentage than any of the other degree areas. Some predict the field of psychology will see even more popularity in the near future, as the recent traumas suffered through the hands of terrorism, war, natural disasters, and technological disasters focus even more attention on human-welfare related issues (American Psychological Association).



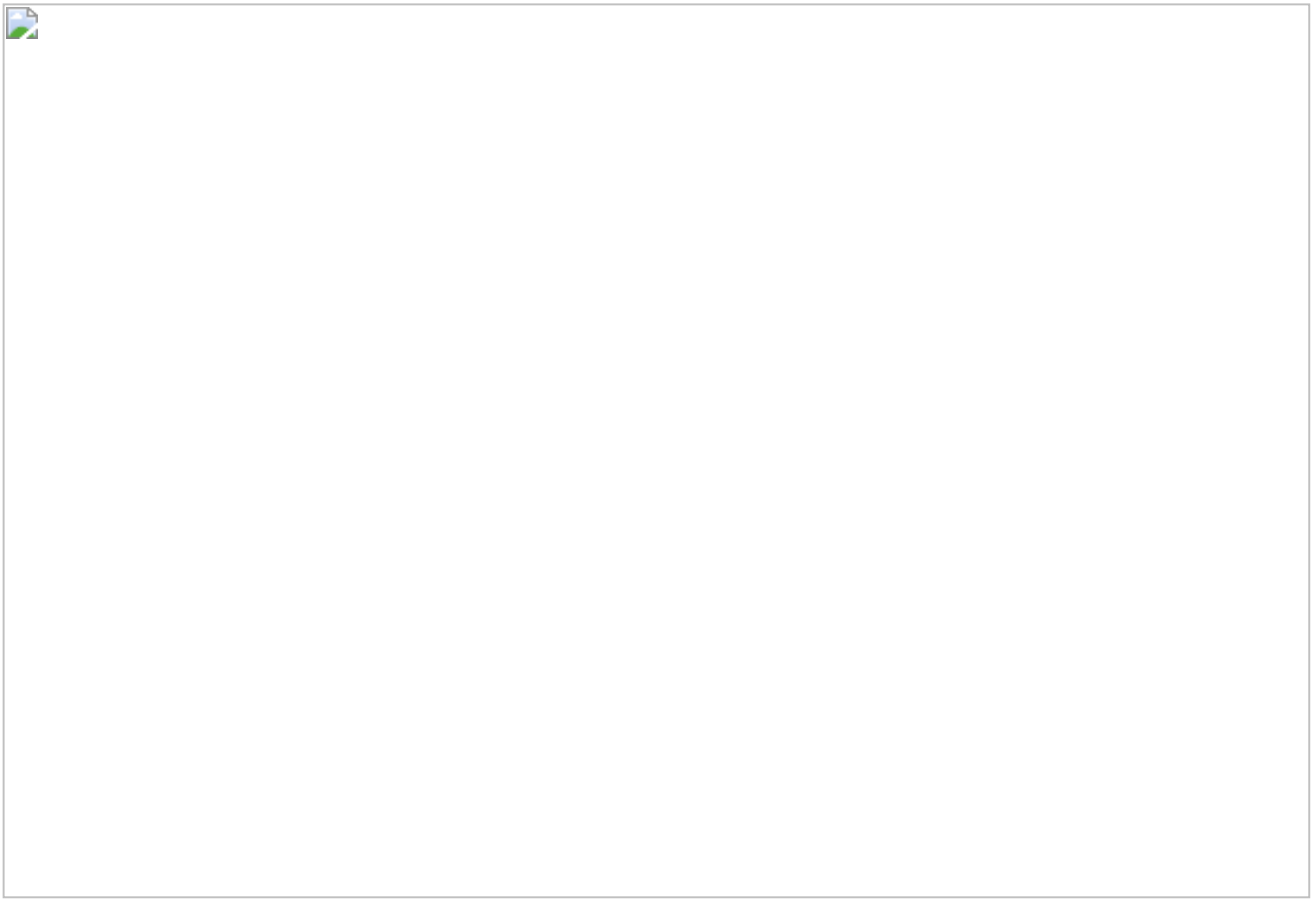
Of the bachelor's degrees awarded in psychology in 1999-2000, over 56,000 were to women (See figure 2). Psychology has seen tremendous growth over the past 50 years, with the percentage of women in the field rising sharply. Because fewer than 20% of students in engineering fields are women, addition of a psychology program will contribute to the goal of enhancing gender diversity on campus.



Psychology at Michigan Universities

Examining all 15 Michigan State Universities reveals that on a state level, the popularity of psychology is similar to national levels. In 2001, 5.2% of all bachelor level degrees awarded by Michigan Universities were in the field of Psychology. For comparison purposes, 2.3% of degrees were in Computer and Information Sciences, 8.5% were in Engineering fields (over 20% of Michigan's Engineering degrees were awarded by MTU), 4.5% were in Biological and Life

Sciences, 1.3% in Physical Sciences, and 1% in the field of Mathematics. All of the other 14 Michigan Universities offer bachelors programs in psychology. Figure 3 demonstrates the percentage of total degrees at each university that were awarded in the fields of psychology and engineering.



Psychology at Benchmark Institutions:
MTU's Benchmarks all offer degree programs in psychology (with the exception of the Colorado School of Mines). An average of 37 degrees were conferred in psychology at each of our Benchmark Institutions in 2001 (excluding the Colorado School of Mines). Both Carnegie Melon and Lehigh, conferring a total number of degrees similar to MTU (approximately 1000 each), matriculated over 50 students in psychology in 2001 (See Table 1).

Table 1. Degrees Conferred at MTU Benchmarks in 2001 by Major

Institution Name	*Total Degrees in 2001*	*Engineering*	*Bio/Life Sci*	*Comp/ Info Sci*	*Phys Sci*	*Psych*
MTU	996	620	65	48	19	0
Cal Poly	3509	739	211	68	36	96
COL SCH OF MINES	539	440	0	0	14	0
GEORGIA INST.TECH	2157	1226	70	238	53	16
U OF MISSOURI-ROLLA	742	557	14	92	22	22
CLARKSON	512	247	23	25	15	11
RENSSELAER	1200	592	38	193	25	7

CARNEGIE MEL	1178	291	27	231	38	52
LEHIGH	1079	299	51	64	27	58

Psychology at MTU:

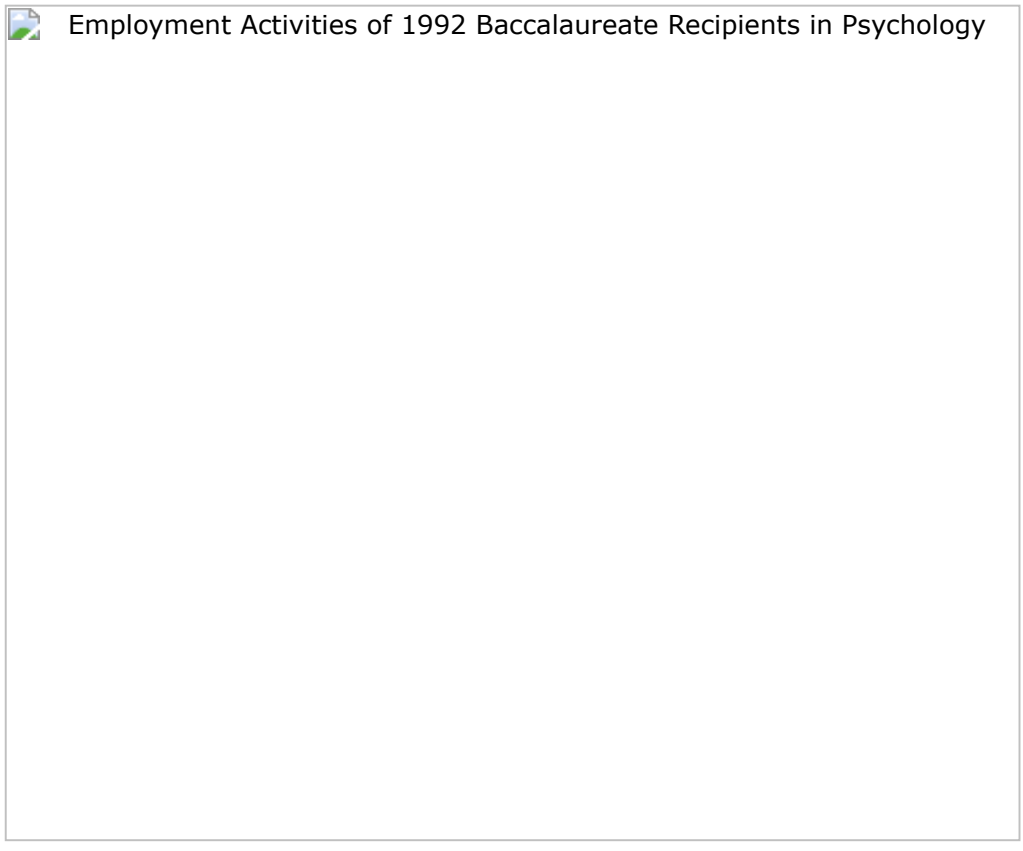
As reflected above and in current MTU policy and discussions, the need for expanding degree programs is of utmost importance as the university seeks to attract new students and retain current students. MTU currently offers only 37 bachelors level degree programs. Lake Superior State University, with approximately half our enrollment, also offers 37 degree programs. Michigan Universities with similar enrollments offer an average of 63% more choices in majors for students:

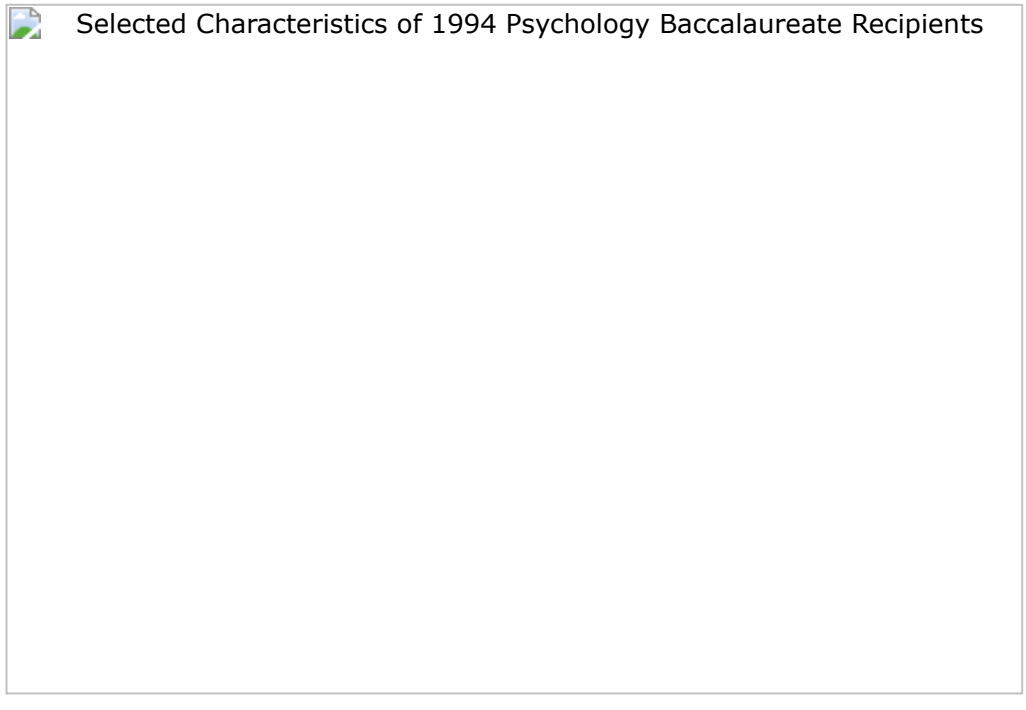
Institutions with similar enrollment:	Total Undergrad Enrollment (2002)	Bachelors Degrees Offered
LAKE SUPERIOR STATE UNIVERSITY	3110	37
UNIVERSITY OF MICHIGAN-FLINT	5879	62
MICHIGAN TECHNOLOGICAL UNIVERSITY	5931	37
UNIVERSITY OF MICHIGAN-DEARBORN	6326	56
SAGINAW VALLEY STATE UNIVERSITY	7320	62
NORTHERN MICHIGAN UNIVERSITY	7724	61

While MTU has developed some new bachelors level degree programs recently, most have been variations of current programs. Currently, MTU offers few alternatives to the student who decides not to continue in Engineering or science degree programs. Combining the effects of a drop in enrollment over the past 20 years, financial difficulties due to the economy, less state support, and a variety of other factors, MTU is in great need of degree programs that will attract new students (particularly students who may not otherwise be interested in MTU, especially females). The university also needs additional retention tools for those who may not wish to continue in their current major. A Psychology program would complement our current strengths, given the growth of career subfields such as I/O, Human Factors, and Biopsychology.

The national and state data regarding the “popularity” of psychology programs are clear. While this document focuses on the need of a program from the University’s perspective, a brief narrative regarding outcomes from a student’s perspective is warranted.

About 20% of psychology majors go on to graduate school (Psychology/Careers, 1996). The remaining 80% seek employment after graduation. Many researchers have reported that psychology graduates are generally successful at finding satisfactory jobs in a wide variety of occupations (e.g., Clay, 1996; Hayes, 1997). According to the American Psychological Association, most baccalaureate graduates find jobs in administrative support, public affairs, education, business, sales, service industries, health, the biological sciences, and computer programming. They work as employment counselors, correction counselor trainees, interviewers, personnel analysts, probation officers, and writers. Jessica Kohout, PhD, director of the American Psychological Association’s Research Office, foresees that areas such as technology, cultural diversity, and medical delivery will recruit high numbers of psychologists in the coming years. The U.S. Bureau of Labor Statistics also has a bright outlook for psychologists. In its 1998-99 Occupational Outlook Handbook, the bureau forecasts that more job opportunities will arise in businesses, nonprofit organizations and research and computer firms for psychologists working as consultants. Trends of graduates in psychology are pictured below:





C. Relevance to MTU Strategic Plan:

GOAL 1: Provide an outstanding and relevant learning environment, consistent with a national university of choice

- As per the strategic plan, “many of the new industries are related to emerging areas of science and technology that are interdisciplinary.” While this proposal is for a general psychology program, our goal is to build on the university's existing strengths by emphasizing subfields such as Industrial/Organizational Psychology (Business & Psychology), Human Factors psychology (Engineering + Psychology) and Biopsychology (Biology and Environmental Sciences + Psychology).

GOAL 2: **Expand our scholarship and research activities, sustaining successful existing programs while pursuing new endeavors in carefully targeted areas.**

- While psychology is not one of the listed program areas in MTU's strategic plan, MTU clearly desires to align themselves with the National Science Foundations Priority Areas (Strategic Plan, Goal 2). The NSF currently lists Human and Social Dynamics (HSD) as a priority area. According to the NSF, this priority area aims to better understand the causes and ramifications of change in our quickly changing workplace/world; to improve the understanding of the dynamics of behavior and the human mind; and to advance knowledge of the cognitive and social structures that create and define change and to help people and organizations better manage profound or rapid change.
- A program in psychology, with future interdisciplinary degree options, will assist in this goal by providing a fundamental understanding within and across the social and behavioral science disciplines, which is critical to the advancement of science and engineering disciplines.

GOAL 3: Identify the best size and blend for our educational programs, which have a diverse student body, faculty, and staff.

- As described above, over 75% of students enrolled in psychology programs nationally are women. A program in psychology will greatly enhance MTU's gender diversity.

In sum, a program in psychology specifically addresses several challenges facing MTU (as per MTU Strategic Plan; II Our Current Context; quoted from www.mtu.edu/stratplan/context.html):

- "there is increased competition for students, particularly female and minority students"
- "the 'engineering-only' reputation is viewed as an impediment to recruitment for other programs"
- "the University is not well-positioned in many areas of national research priorities and in some emerging fields of study required for this century's workforce"

D. Related Programs

MTU currently has no similar programs, although interdisciplinary teaching, research, and curriculum will be actively pursued following implementation of the degree program. The degree program will begin as a generalist program, suggesting concentration areas for electives and distribution courses that would allow students to focus interdepartmentally. The goal is to develop interdepartmental majors, such as Psychology and Engineering, Biopsychology, or Industrial Psychology, within 5 years.

A majority of the programs offered in psychology nationally are general programs. A recent trend, however, is for programs to offer concentrations and specialized majors combining curricular areas such as psychology and business or engineering. Specifically, departments at many technological universities differ from the generalist approach taken at more comprehensive universities by emphasizing the more technical areas of the field of psychology such as human factors, cognitive science, artificial intelligence, etc. Offering concentrations and specialized majors may be an effective marketing strategy (Messer, Griggs, & Jackson, 1999). For example, the American Psychological Association, Division of Applied Experimental and Engineering Psychology (www.apa.org/divisions/div21/Introduction/about_division_21.html) states:

> "Many U.S. universities offer integrated programs of courses and experiences in psychology designed to prepare the student for Applied Experimental and Engineering Psychology careers, and the list is growing. Also, many schools offer specialized training in the related field of Human Factors and Ergonomics. "

Universities that currently offer specialized programs, in addition to a general psychology option include Georgia Tech (business specialty; also graduate programs in Engineering psychology),

Tufts (biopsychology, Engineering Psychology), High Pont (Industrial/Organizational Concentration) and Case Western Reserve (I/O concentration). Offering specialty areas at the undergraduate level is a new, but growing trend that would be advantageous to MTU graduates. The long-term programmatic goal is to create interdisciplinary career options to assist in making MTU a national school of choice!

Program Administration

The program in Psychology will be administered through the Department of Education, College of Sciences and Arts, which currently oversees MTU's minor in Psychology.

E. Faculty Resources and Institutional Impact

Enrollment Predictions:

- *Year one and two Goal: 10 new students per year*. Until marketing of the program can occur, we expect current MTU students to migrate to the program.
- *Year three and four goal*: *20 new students per year*. Given the proportion of psychology degrees nationally and in Michigan, this conservative estimate should result in total enrollment in the program of approximately 60 students by year four, with psychology degrees accounting for approximately 2 percent of annual degrees conferred at MTU.
- *Year five and beyond:* As the program gains a strong reputation through marketing and outcomes, we anticipate attracting approximately 30 students per year (still a conservative estimate given the state and national rates of 5 – 6%). We believe a majority of these students will be from a new market. We also do not expect to have a major impact on any program areas currently offered at MTU, as most internal transfers to the psychology program will be students who would otherwise transfer out of MTU. This would put total enrollment in the program at approximately 90-120 students in the long term.

Personnel Needs:

- The Department of Education currently has two tenure-track Psychologists on faculty, who teach a total of 4 courses per semester. Additionally, adjunct funding has been sought every semester for the past 3 years to offer an additional 1 or 2 courses per semester. To offer a major that requires 36 credits of psychology coursework, an estimated 8 - 10 courses per semester will be offered. Thus, we will need one additional tenure track faculty line (to begin year 2 of the program), and adjunct funds for up to 4 courses per semester (once the program has enough students, we will request that the adjunct funding by replaced with funding for a fourth tenure track faculty line).

F. Facilities and Equipment

Equipment/Supplies/Costs:
Included in resource analysis table on page 11 (below).

Lab/Office Space:
We will need laboratory and office space for 1 new tenure track faculty, and a shared office space for adjunct/work study support. We will also need one additional office for a current faculty. Office and lab space are currently shared. Shared space will be ineffective with the new advising and directed study loads. We currently have one modest lab that is shared research space for the two faculty Psychologists.

Classroom Space:
Given the current lack of dedicated classroom space, the laptop computer and portable projector requested for marketing purposes will also be used for teaching. No additional costs are necessary.

Library:

Given the ease of ordering publications from your desktop computer, the addition of new journals is not absolutely necessary. However, enhancing our electronic database search engine PsychFirst is required. MTU currently offers database search access to psychology publications from only the preceding three years. Access to the entire database will be essential for faculty, and very attractive for students. New library costs are summarized below:
(These costs were estimated in consultation with Ellen Seidel):

- $3000.00 one-time allotment for the library to purchase core monographs in the area of psychology, allowing the purchase of approximately 90 hard and soft-cover items
- $350.00 per faculty member for full electronic searching abilities through PsycINFO in journal, book, and book chapter, and dissertation records (1887–present) and PsycARTICLES records (1988–present). This search capability *would not* be available for students to use. Their searches would be limited to our library's current subscription to FirstSearch. MTU currently pays approximately $1700 per year for the current level of use (about 1950 searches per year at 85 cents per search).
- For a cost of approximately $10,000, MTU could offer full database search capability of the psychology literature to all faculty and staff. This, obviously, is the most desirable option.
- Additional Interlibrary loan costs would be generated for the library.

Marketing:
A laptop computer and portable projector for marketing presentations at local and regional high schools, conferences, etc. (approx. $3000.00) will be needed. Additionally, the program will be advertised to all prospective students and accepted new students through email. Incoming students will be informed about the program through advising and orientation sessions. In addition to the computer and projector, the costs of printing brochures, new letterhead, and other start-up supplies will be necessary.

Computing Facilities:
As the Department of Education offers only certificate programs, we currently have no student computer facilities. With the implementation of a Bachelors Program in Psychology, collaboration with another department for student computer facilities will be required. Estimated cost is $150.00 - $200.00 per semester for each student.

G. Schedule

The program in Psychology is proposed to begin Fall semester 2004. At that time, we anticipate having some of our current Minor students transfer into the program. First year efforts will be focused on advertising, with new MTU students arriving on campus specifically for the psychology program anticipated in the fall of 2005. A few degrees may be awarded by 2006, but the first significant graduating class will likely occur in 2009.

H. Curriculum Structure

Total Credits Required: 126

Core Requirements: **13 credits**

UN 1001 Perspectives on Inquiry 3 credits
UN 1002 World Cultures 4 credits
UN2001 Revisions 3 credits
UN2002 Institutions 3 credits

Distribution Courses: **15 credits**

World Cultures and Institutions serve as prerequisites for the 15-credit distribution requirement. The distribution courses are divided into two lists: World Cultures and Institutions. Students must take six credits from each list. The final three credits can come from either list. Note the following restrictions:

- If a course is labeled "activities," a student may apply no more than three credits of approved activities courses to satisfy this requirement;
- A maximum of six credits of 2000-level courses may be used to meet the distribution requirement;
- *Psychology courses that are also listed as Distribution courses can apply to only the distribution requirement or the major requirement, not both.*

Science/Math Requirements: **16 credits**

Required for Psych Major:

MA 1032 (or higher)	4 credits
MA 2720	4 credits
BL 1040 (with lab)	4 credits
Any Science, Math, Eng, CS Course	4 credits

Co-Curricular Activities (PE) **3 credits**

Psychology Requirements:(new courses are denoted with a 39 **:(* credits**

Required Psychology Core **12 credits**

PSY 2000 Principles of Psychology	3 credits
PSY 2500 Freshman Seminar1	* credit
PSY 4000 Experimental Methods I (name change)	3 credits
PSY 4001 Experimental Methods II	3 credits
PSY 4500 Senior Seminar2	* credits

Biological Bases (Choose One of the Following Courses) **3 credits**

PSY 3060 Physiological Psychology	3 credits
PSY 3160 Sensation and Perception3	* credits

Human Service Bases (Choose One of the Following Courses) **3 credits**

PSY 3030 Abnormal Psychology	3 credits
PSY 3010 Theories of Personality	3 credits

Content Areas (Choose 2 of the following courses) **6 credits**

PSY 3050 Developmental Psychology	3 credits
SS 3720 Social Psychology	3 credits
PSY 4010 Cognitive Psychology	3 credits
PSY 4110 Learning	3 credits

Elective Courses (Choose from any of the following courses) -- **15 credits**

PSY 3070 Cross Cultural Psychology	3 credits
ED 3112 Psych. Foundations of Learning	3 credits
PSY 4120 Engineering Psych3	* credits
PSY 4020 I/O Psych3	* credits
PSY 4220 Psychology and Law3	* credits
PSY 2050 History of Psychology	3 credits
PSY 2100 Counseling Psychology	3 credits
PSY 2200 Behavior Modification	3 credits
PSY 4080 Special Topics in Psychology	3 credits
PSY 3090 Directed Study in Research3-1	* credits
PSY 3095Directed Study - UGTA3-1	* credits
PSY 4090 Independent Study in Psych	1-3 credits

**No more than 6 credits from Directed Study/Independent Study can apply to the major*

**courses not used to meet biological, human service, or content requirements may be used as Psychology electives.*

Free Electives: **40 credits**

Resources:

An analysis of the financial support required for the proposed program in Psychology is in the table below. The table illustrates the tuition dollars generated (accounting for retention rates and discounted tuition) and costs of personnel through year 6 of the proposed program (2010). Given the conservative estimates of students expected, the program is expected to generate approximately $180,000 annually by 2010.

Resource Analysis for Proposed Program in Psychology

PSYCHOLOGY MAJOR	assumptions (can be changed)	2004-05 (Year 1)	2005-06 (Year 2)	2006-07 (Year 3)	2007-08 (Year4)	2008-09 (Year 5)	2009-10 (Year 6)
retention rate	0.875						
discounted tuition	$4,500						
[instate tuition (30CRx$230)]	$6,900						
2004-05		10	9	8	7	-	
2005-06			10	9	8	7	-
2006-07				20	18	15	13

2007-08					20	18	15	
2008-09						30	26	
2009-10							30	
total enrollment		**10**	**19**	**36**	**52**	**70**	**85**	**(steady state)**
discounted tuition revenue								
		$45,000	**$84,375**	**$163,828**	**$233,350**	**$312,803**	**$382,324**	**382,324**
1 tt assistant	$62,550		62,550	62,550	62,550	125,100	125,100	125,100
1 instructor/lecturer	$44,480	44,490	44,490	44,490	44,490			
one-time startup	$15,000		15,000			15,000		
one-time library	$3,000							
one-time marketing/recruiting	$5,000	5,000	5,000					
$350/faculty search abilities	$350	700	1,050	1,050	0	0	0	0
full database search for faculty &students	$11,258				$11,258	$11,258	$11,258	$11,258
faculty computing	$800		800	800	800	1,600	1,600	1,600
new GTA Sci&Arts	$16,000			16,000	32,000	48,000	64,000	64,000
total expense		**50,190**	**128,890**	**124,890**	**151,098**	**200,958**	**201,958**	**201,958**
net profit/loss		($5,190)	($44,515)	$38,938	$82,252	$111,845	$180,366	$180,366
cumulative profit/loss		**($5,190)**	**($49,705)**	**($10,767)**	**$71,485**	**$183,329**	**$363,696**	**$544,062**

Appendix A
Description of Subfields in Psychology

Psychology is the science that studies behavior and mental processes. This means that psychologists use EMPIRICAL methods to understand and predict behavior, to develop procedures for changing behavior and to evaluate their effectiveness; they demand evidence to support their beliefs. There are many sub-fields within psychology, each attempting to explain behavior from a different perspective. People often misperceive the field of psychology as being stereotyped by the Clinical Psychologist (diagnosis and treatment of disorders). In fact, there are many different types of psychologists, many of which engage in research, consulting, and academics instead of therapeutic practices. As the field of psychology has changed tremendously over the past few decades, it would be useful to review some of the current subfields in the field of Psychology (in addition to Clinicians):

- **Environmental Psychologists** are concerned with the relations between psychological processes and physical environments. These environments range from homes and offices to urban areas and regions. They may do basic research (i.e., attitudes toward different environments, sense of personal space) or applied (i.e., evaluating an office design, assessing the psychological impact of a plan to build a new waste-treatment plant).
- **Experimental Psychologists** are a diverse group of psychologists who conduct research on and often teach about a variety of basic behavioral processes including learning, sensation, perception, human performance, motivation, memory, language, thinking, and communication; and the physiological processes underlying behaviors such as eating, reading, and problem solving.
- **Industrial/Organizational Psychologists** are concerned with the relation between people and work. Their interests include organizational structure and organizational change; workers' productivity and job satisfaction; consumer behavior, selection, placement, training, and development of personnel; the interaction between humans and machines; development (translating the results of research into usable products or procedures); and problem solving.

- **Consumer Psychologists** are industrial/organizational psychologists whose interests lie in consumers' reactions to a company's products or services and develop strategies for marketing products. They also try to improve the acceptability and the safety of products and to help the consumer make better decisions.
- **Human Factors/Engineering Psychologists** are I/O psychologists concerned with improving the interaction between humans and their working environments, including jobs and the contexts in which they are performed. They help design systems that require people and machines to interact, such as video-display units; they may also develop aids for training people to use those systems. Although all aspects of human function in work and learning environments is examined, human factors research today has several "hot" areas, including:
  - Information Technology (tremendous effort has been spent on studying how to improve the interaction between humans and computers)
  - Efficiency and Error (i.e., technological complexity and recent disasters with nuclear reactors, oil spills, and airline safety has led to an intense focus on improving efficiency and reducing error),
  - Medicine and Health (i.e., increasing use of various prosthetic devices comes an increase in the possibility of error in design and use).
  - Environment (i.e., How we get people to interact with the environmental system looms as the most important issue confronting engineering psychology as efforts are made to ensure that technology does not afford or foster negative environmental impact)
- **Personnel Psychologists** are industrial/organizational psychologists who develop and validate procedures to select and evaluate personnel. They may, for example, develop instruments and guides for interviewers to use in screening applicants for positions, or they may work with management and union representatives to develop criteria for assessing employees' performance.
- **Biological Psychology** is that branch of psychology that includes studies of the various biological bases of behavior. These include the study of neuroanatomy and physiology, the influences of hormones and other chemicals both andogenous and exogenous, and the genetics and heritability of behavioral traits. Biological psychology is one of a group of brain sciences called the neurosciences, which focuses on diverse aspects of the nervous system, while biological psychologists in particular are more specifically interested in the biology of behavior.
- **School Psychologists** are concerned with the intellectual, educational, social and emotional development of children. They are also concerned with creating environments that facilitate learning and mental health. They may evaluate and plan programs for children with special needs, or deal with less severe problems such as disruptive behavior in the classroom. They sometimes engage in program development and staff consultation to prevent problems.
- **Social Psychologists** study how people interact with each other and how their social environments affect them. They study individuals as well as groups, observable behaviors, and private thoughts. Topics of interest include personality theories, the formation of attitudes and attitude change, attractions between people such as friendship and love, prejudice, group dynamics, and violence and aggression.
- **Clinical Psychologists**—who constitute the largest specialty—usually work in counseling centers, independent or group practices, hospitals, or clinics. They help mentally and emotionally disturbed clients adjust to life and may help medical and surgical patients deal with illnesses or injuries. Some work in physical rehabilitation settings, treating patients with spinal cord injuries, chronic pain or illness, stroke, arthritis, and neurologic conditions. Others help people deal with times of personal crisis, such as divorce or the death of a loved one.

Appendix B

New Course Descriptions

Course Descriptions for new courses

PSY 2500 - Freshman Seminar (1, spring)
Students considering or registered as Psychology majors will examine the field of psychology and major degree requirements. Students will develop an undergraduate plan of study focused on the goal of graduate school admission or career preparation.

PSY 4001 - Experimental Methods II (3)
Second course in psychological research methodology & statistics, both experimental and non-experimental. Students design, execute, interpret, and report psychological research.

PSY 4500 - Senior Seminar: Psychology Capstone (2)
Focusing on career preparation or application to graduate programs, an intensive exploration into an aspect (e.g., teaching, service, research) and area (e.g., experimental, developmental, clinical) of psychology will enhance learning and unify knowledge and experiences acquired as a psychology major.

PSY 3160 - Sensation & Perception (3)
Survey of theories and empirical findings in the study of sensation and perception. Some of the topics covered are vision, audition, pain perception, illusions, pattern recognition and perceptual development.

PSY 2100 - Counseling Psychology (3)
A survey of the current practice of and basic issues in counseling. Topics include theories of counseling, the counseling process, and applications of counseling such as family, group, and health counseling.

PSY 4110 – Learning (3)
Fundamental concepts of learning with emphasis on classical conditioning, operant conditioning, and observational learning. This course includes analysis of major theories of learning including works of Thorndike, Pavlov, Skinner, and Tolman.

PSY 4120 - Engineering Psychology
Application of principles of experimental psychology to analysis of interaction of the human operator with machine systems and work environments; emphasis on psychological aspects of human performance.
Prerequisite: PSY 2000

PSY 2200 - Behavior Modification (3)
An introduction to techniques of behavior modification. Both theory and application of behavioral techniques will be covered with special emphasis on their use in education, child rearing, clinics, and self modification.

PSY 4020 - Industrial / Organizational Psychology (3)
The psychology of work and organizations. Introduction to the use and application of psychology in the workplace. Focus is on the development of employees and organizational structure, and social behavior including the management of work groups and organizations.
Prerequisite: PSY 2000

PSY 4220 - Psychology and Law (3)
Study of the relationship between psychology and the legal system. A variety of areas are examined, including social, cognitive, developmental, and clinical psychology.
Prerequisite: PSY 2000

Draft of 9 October 2003