

OPPORTUNITIES AT MESSIAH COLLEGE

Resources

- Career Center for Vocation and Development
Helping Professions Job and Internship Fair
Career information sheets
Graduate school information

Experiential Opportunities

- At the Internship Center
Full- or part-time internships
Examples: Research assistant —
Commission for Independent Colleges & Universities of Pennsylvania
- Department of Psychology
Practica: 1–3-credit work-learning experience.
Research: Assistant to a faculty member in the Department of Psychology

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DEPARTMENT OF PSYCHOLOGY

06-1119

PSYCHOLOGY AND *Research*



Experimental Psychology

Quantitative Psychology

“Psychologists with extensive training in quantitative research methods and computer science may have a competitive edge over applicants without this background. ... Companies will use psychologists’ expertise in survey design, analysis, and research to provide marketing evaluation and statistical analysis.”

(U.S. Department of Labor, 2004–2005)

An experimental psychologist might:

- Study the behavioral and cognitive processes of human beings, as well as animals.
- Research psychological areas such as motivation, thinking, attention, learning, sensation, effects of substance use and abuse, and genetic and neurological factors in behavior.
- Apply research design, the empirical method, and the manipulation of variables within the laboratory as a way of understanding certain psychological phenomena and advancing scientific knowledge.

A quantitative psychologist might:

- Create research strategies to assess the effectiveness of certain psychological treatments, social and educational programs, and intelligence or personality tests, as well as devise new ones.
- Apply advanced quantitative and statistical methods to empirical research and analyze real data.
- Work to develop new statistical methods and conduct research to compare the biases, strengths, or weaknesses of several different statistical or quantitative methods.

Places of Employment

- Academic settings
- University and private research centers
- Business, nonprofit, and governmental organizations
- Market research firms
- Grant review committees
- Engineering and consulting firms
- Federal government departments

Education and Training

Education:

A research-oriented doctoral degree is usually needed for advancement and mobility in experimental psychology. A master’s degree may qualify an individual to work as a psychological or research assistant, or to work under the supervision of a licensed psychologist. Course work includes research design and methodology, statistical analysis, and quantitative methods, as well as broad-based exposure to the major content areas in psychology.

It is not necessary to have a Ph.D. to work effectively in applied quantitative psychology. Having a master’s degree affords many excellent opportunities for employment, although having a Ph.D. allows one to work with greater independence as an applied quantitative psychologist.

In the area of theoretical quantitative psychology, a Ph.D. is required as well as an extensive background in calculus, differential equations, and linear algebra.

Training:

Quantitative psychologists are well-trained in mathematics, statistics, and computer programming and technology. There are two approaches to this field in which training differs. Theoretical quantitative psychology involves developing statistical methods and conducting research to analyze those methods. Applied quantitative psychologists essentially function as data analysis experts.

Experimental psychology usually includes the study of perception, cognitive psychology, comparative psychology, the experimental analysis of behavior, and some aspects of physiological psychology. In-depth research and application in a laboratory setting are imperative to training experimental psychologists.

Recommended Programs and Courses

Majors

- B.A. in Psychology
- B.S. in Psychology
- B.S. in Biopsychology

Minors

- Statistics
- Mathematics
- Computer Science

Courses

- Introduction to Social Research
- Psychological Testing
- Experimental Psychology
- Counseling Techniques
- Statistical Methods in Psychology
- Psychological Testing
- Life Span Development

Additional Resources

Websites

- www.apa.org
- www.apa.org/monitor/sep05/quantitative.html

Books

(Available through the Department of Psychology or Career Center for Vocation and Development.)

- Kuther, T.L., & Morgan, R.D. (2004). *Careers in psychology: Opportunities in a changing world*. Belmont, CA: Thomson/Wadsworth.
- Sternberg, R.J. (1997). *Career paths in psychology: Where your degree can take you*. Washington, D.C.: APA.
- Super, C.M., & Super D.E. (1994). *Opportunities in psychology careers*. VGM Career Horizons.

Journals

- *Journal of Experimental Psychology*
- *Journal of Methodology and Experimental Psychology*
- *Applied Psychological Measurement*
- *Psychometrika*
- *Psychological Methods*