PSYCHOLOGY

Psychology is the scientific study of behavior and cognitive processes. Psychology is both a natural science, which stresses the cognitive and physiological causes of behavior, and a social science, which is directed at understanding how human behavior is affected by cultural and social factors. As a psychology major at Missouri S&T, you will be exposed to the many diverse areas of psychology.

Perception, memory, thinking, personality, emotion, motivation, stress and adjustment, abnormal behavior, social relations, and group dynamics are among the basic areas of research in psychology. The discipline also represents the application of these basic research areas to people, their work, and their environment. Clinical, counseling, educational, industrial/organizational, and human factors psychologists are among the professionals who apply basic research to the solution of human problems. Our department provides a broad education to Missouri S&T students in both the basic and applied areas of psychology.

The statistics and research methods courses required of our majors prepare you to engage in undergraduate research as early as your sophomore year. By collaborating with a faculty member on a research project, you will gain valuable experience for subsequent graduate studies in psychology and related fields or for employment. Supervised internship experience in applied psychological settings, such as human service agencies, is also available for qualified students.

The department offers a choice of two degrees for majors. The Bachelor of Science degree provides a solid foundation in mathematics, biological sciences, physical sciences, and computer science. The bachelor of arts degree provides a broad liberal arts foundation, including courses in western civilization and foreign languages. Supporting courses in the humanities and social sciences are offered in both degrees and the psychology requirements are the same in both. In addition to the traditional B.A.-B.S. degrees in psychology, the department also offers specialized B.A.-B.S. degrees in psychology that prepare the student for secondary education teaching certification in Missouri.

The department also offers six minor programs: a general psychology minor, a minor in industrial/organizational psychology, a minor in the psychology of leadership, a minor in cognitive neuroscience, a minor in psychometrics, and a minor in multiculturalism and diversity. The general psychology minor allows students to select from a variety of courses tailored to their needs. The minor in industrial/organizational psychology requires specific courses of benefit to engineering and science majors. The minor in the psychology of leadership is geared for those individuals who would like to become leaders and managers. The cognitive neuroscience minor is designed to give students a broad understanding of neuroscience principles. The minor in psychometrics helps students better understand the application of statistical methods to the measurement of human characteristics and individual differences. The multicultural and diversity minor allows students to select courses across three of four departments, including psychological science, to increase their awareness of multiculturalism and diversity.

Bachelor of Arts Psychology

A minimum of 120 credit hours is required for a bachelor of arts degree in psychology and an average of at least two grade points per credit hour must be obtained. The psychology B.A. curriculum requires 23 hours of basic skills and concepts. That is, 6 hours of English Composition, 6 hours of western civilization, and 11-16 hours of foreign language. 12 semester hours in humanities must be taken with at least one course taken in each of the three areas of literature (English and American), philosophy, and fine arts (art, music and theater), but not to include studio and performance offerings. A minimum of 12 semester hours is required in social sciences in at least two of the following three areas: economics, political science, and history. A minimum of 12 hours of math and science are required and a minimum of 34 hours are required in psychology. Up to 12 credit hours of advanced ROTC may be credited toward the degree. Specific requirements for the bachelor of arts degree are outlined in the sample program listed below.

1. ENGLISH 1120 and one additional three hour composition course (6 hours).

2. Western civilization (HISTORY 1100 and HISTORY 1200) (6 hours).

3. Foreign languages for at least 3 semesters of basic study in French, German, Russian, Spanish or an approved substitute; or one year of basic study in a foreign language in either French, German, Russian, Spanish, or an approved substitute, and a humanities or social sciences course taught in a foreign country and employing the language of that country; or one year of basic study in each of two of the foreign languages of French, German, Russian or Spanish or an approved substitute (11-16 hours).

4. Sciences. At least one course taken in biological (biological sciences) and physical (chemistry, geology and geophysics, physics) sciences. At least one statistics course. A laboratory course is required (and a lab offered in engineering also may count at the discretion of the student’s major advisor) toward the total requirement (12 hours).

5. Humanities and fine arts. Courses used to satisfy this requirement must include one course in each of the three areas of literature (English or American), philosophy, and fine arts (art, music or theater), but not to include studio and performance offerings (12 hours).

6. Social Sciences. At least two of the following social science areas are to be included: economics, political science, or history (12 hours).

7. Psychology Courses (34 hours)

Required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Skills Courses:</td>
<td>PSYCH 1100 Introduction to Psychology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYCH 1101 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 2200 Research Methods</td>
<td>4</td>
</tr>
<tr>
<td>Content Courses:</td>
<td>PSYCH 3310 Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4400 Cognitive Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4501 Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4600 Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>And one of the following 2 courses:</td>
<td>PSYCH 4410 Neuroscience</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4411 Sensation and Perception</td>
<td>3</td>
</tr>
<tr>
<td>Capstone Course:</td>
<td>Select three credit hours from the Capstone courses:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYCH 4010 Seminar</td>
<td>0-6</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4099 Undergraduate Research</td>
<td>0-6</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4200 Tests and Measurements</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4590 Health Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4994 Psychology in Media</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4992 Cross-Cultural Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4993 Psychology of Gender</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYCH 4990 Internship</td>
<td>0-6</td>
</tr>
</tbody>
</table>
Emphasis Areas

Note: The following areas identify courses from which a student may opt to develop an emphasis area. It is not required that students obtain an emphasis specialty within psychology.

<table>
<thead>
<tr>
<th>Human Resources/Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 4700</td>
</tr>
<tr>
<td>PSYCH 4600</td>
</tr>
<tr>
<td>PSYCH 4601</td>
</tr>
<tr>
<td>PSYCH 4602</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Human Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 3311</td>
</tr>
<tr>
<td>or PSYCH 3310</td>
</tr>
<tr>
<td>PSYCH 4501</td>
</tr>
<tr>
<td>PSYCH 4500</td>
</tr>
<tr>
<td>PSYCH 4510</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cognitive Neuroscience</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 4411</td>
</tr>
<tr>
<td>PSYCH 3400</td>
</tr>
<tr>
<td>or PSYCH 4501</td>
</tr>
<tr>
<td>PSYCH 4400</td>
</tr>
<tr>
<td>PSYCH 4410</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Usability of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 2300</td>
</tr>
<tr>
<td>PSYCH 4710</td>
</tr>
<tr>
<td>PSYCH 4720</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychology of Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 4600</td>
</tr>
<tr>
<td>or PSYCH 4603</td>
</tr>
<tr>
<td>PSYCH 4610</td>
</tr>
<tr>
<td>PSYCH 4993</td>
</tr>
<tr>
<td>or PSYCH 4601</td>
</tr>
<tr>
<td>PSYCH 4602</td>
</tr>
</tbody>
</table>

*These required courses total 26 hours.

Elective Courses:
Select an additional 8 hours of psychology electives to complete the 34 hour degree requirement.

8. Major-field requirements: A cumulative grade point average of 2.0 must be earned in all course work taken in the major field. Upper-class (3000-4000-level) courses completed with grades of "D" may not be included in the course work for the major field without the approval of the chair of the department. At least nine hours of upper-class work in the major field must be completed in residence at Missouri S&T.

9. Minor: A minor will be selected from any discipline other than the major with the approval of the student's advisor. A total of at least 15 hours is required for the minor, but may include courses which also satisfy other requirements. At least nine hours must be beyond the introductory level. A cumulative grade point average of 2.0 must be earned in all course work required in the minor field. At least six hours of work in the minor field must be completed in residence at Missouri S&T.

10. Basic ROTC may be elected in the freshman and sophomore years, but is not creditable toward a degree. Up to 12 credit hours of advanced ROTC may be credited toward a degree.

11. Elective Credits: In consultation with his/her advisor, each student will elect sufficient additional courses to complete a minimum of 120 credit hours.

Bachelor of Arts Psychology (Secondary Education Emphasis Area)

You may earn a B.A. degree in psychology from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with the secondary education emphasis area program. This program can be completed in four academic years and student teaching is arranged with public schools within 30 miles of the Rolla campus.

Students interested in this emphasis area should consult with the advisor for the secondary education emphasis area in the department of psychological science.

In order to successfully complete this emphasis area, students must have at least 22 on the ACT, maintain a cumulative GPA of at least 2.5, and attain at least a 2.5 GPA in psychology courses taken. Current Missouri S&T or transfer students who wish to pursue this emphasis area must meet both of these GPA requirements to be accepted into the program. Students must also meet all requirements listed under the teacher education program in this catalog. Students who do not meet all the teacher certification requirements will not be eligible for the secondary education emphasis area, even if they have completed all course work.

A degree with this emphasis area requires 128 credit hours. The required courses are provided below.

Communications Skills: 9 semester hours

- ENGLISH 1120 Exposition And Argumentation 3
- ENGLISH 1160 Writing And Research 3
- SP&M S 1185 Principles Of Speech 3

Humanities: 12 semester hours

- Art, Music, or Theatre course 3
- Philosophy course 3
- Literature course 3
- One additional humanities from the above course groups, Foreign Language, or Etymology 3

Social Sciences: 18 semester hours

- HISTORY 1300 American History To 1877 3
- or HISTORY 1310 American History Since 1877 3
- POL SCI 1200 American Government 3
- POL SCI 3211 American Political Parties 3
- or POL SCI 3300 Principles Of Public Policy 3
- or POL SCI 3760 The American Presidency 3
- or POL SCI 3763 Contemporary Political Thought 3
- PSYCH 1101 General Psychology 3
- ECON 1100 Principles Of Microeconomics 3
- or ECON 1200 Principles Of Macroeconomics 3

Geography 3

Natural Science/Mathematics: 13 semester hours

- One course in Physics, Chemistry or Geology 3-4
- Mathematics 3
- BIO SCI 1113 General Biology 3
- STAT 1115 Statistics For The Social Sciences I 3

Professional Requirements: 26 semester hours

- EDUC 1040 Perspectives In Education 2
- EDUC 1174 School Organization & Adm For Elementary & Secondary Teachers 2
- EDUC 2251 Historical Foundation Of American Education 3
- EDUC 3216 Teaching Reading in Content Area 3
- EDUC 3280 Teaching Methods and Skills in Content Areas 6
- EDUC 4298 Student Teaching Seminar 1
- PSYCH 2300 Educational Psychology 3
- PSYCH 3311 Psychological & Educational Development Of The Adolescent 3
Bachelor of Science Psychology

A minimum of 120 credit hours is required for a bachelor of science degree in psychology and a cumulative grade point average of 2.0 must be obtained. These requirements for the B.S. degree are in addition to credit received for basic ROTC.

The psychology bachelor of science curriculum requires six hours of English composition; 23 hours of math, science and computer science; and twelve semester hours in humanities. Specific requirements for the bachelor degree are outlined in the sample program listed below.

1. ENGLISH 1120 and ENGLISH 1160 (entering students will normally take ENGLISH 1120 either semester of the first year.) (6 hours)
2. A total of 20 hours in biological, physical, (chemistry, geology and geophysics, and physics), and mathematical (mathematics/statistics and computer science or information science & technology) sciences, to include at least one course taken in the biological and one in the physical sciences. Of the biological and physical science offerings, at least one must be a laboratory course. Engineering courses may, at the discretion of the student's major advisor, also count toward this total requirement. (20 hours)
3. 12 hours in humanities and fine arts (literature, philosophy, art, music, or theater). Foreign language courses may count toward fulfilling this requirement. Courses used to satisfy this requirement must be taken in at least two humanities areas. (12 hours)
4. 12 hours in at least two social sciences fields outside the major area (economics or history or political science). A course in Modern Western Civilization (HISTORY 1200), American History To 1877 (HISTORY 1300) or American History Since 1877 (HISTORY 1310), or American Government (POL SCI 1200) must be taken to satisfy the requirement of the state of Missouri (the “Williams Law”), and this course may count toward fulfilling the social sciences requirement. (12 hours)
5. Minor: A minor will be selected from any discipline other than the major with the approval of the student's advisor. A total of at least 15 hours is required for the minor, but may include courses which also satisfy other requirements. At least nine hours must be beyond the introductory level.
6. Basic ROTC may be elected in the freshman and sophomore years, but is not creditable toward a degree. Six credit hours of advanced ROTC may be credited toward a degree.
7. Elective Credits: In consultation with his/her advisor, each student will elect sufficient additional courses to complete a minimum of 120 credit hours which may include MATH 1160 and one of MATH 1120 or MATH 1140.

8. Psychology Courses (34 hours)

Required:
General Skills Courses:
- PSYCH 1100 Introduction to Psychology 1
- PSYCH 1101 General Psychology 3
- PSYCH 2200 Research Methods 4
Content Courses:
- PSYCH 3310 Developmental Psychology 3
- PSYCH 4400 Cognitive Psychology 3
- PSYCH 4501 Abnormal Psychology 3
- PSYCH 4600 Social Psychology 3
And one of the following 2 courses:
- PSYCH 4410 Neuroscience 3
- PSYCH 4411 Sensation and Perception 3
Capstone Course:
Select three credit hours from the following Capstone courses:
- PSYCH 4010 Seminar 0-6
- PSYCH 4099 Undergraduate Research 0-6
- PSYCH 4200 Tests and Measurements 3
- PSYCH 4590 Health Psychology 3
- PSYCH 4994 Psychology in Media 3
- PSYCH 4992 Cross-Cultural Psychology 3
- PSYCH 4993 Psychology of Gender 3
- PSYCH 4990 Internship 0-6
*These required courses total 26 hours.

Elective Courses:
Select an additional 8 hours of psychology electives to complete the 34 hour degree requirement.

9. A cumulative grade point average of 2.0 must be earned in all course work taken in the major field. Upper class (3000-level and above) courses completed with grades of "D" may not be included in the course work for the major field without the approval of the advisor and the chair of the department concerned.
Emphasis Areas

Note: The following areas identify courses from which a student may opt to develop an emphasis area. It is not required that students obtain an emphasis specialty within psychology.

Human Resources/Personnel

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 4700</td>
<td>Industrial Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4600</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4601</td>
<td>Group Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4602</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Human Services

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 3311</td>
<td>Psychological &amp; Educational Development Of The Adolescent</td>
<td>3</td>
</tr>
<tr>
<td>or PSYCH 3310</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4501</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4500</td>
<td>Personality Theory</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4510</td>
<td>Clinical Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Cognitive Neuroscience

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 4411</td>
<td>Sensation and Perception</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 3400</td>
<td>Theories Of Learning</td>
<td>3</td>
</tr>
<tr>
<td>or PSYCH 4501</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4400</td>
<td>Cognitive Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4410</td>
<td>Neuroscience</td>
<td>3</td>
</tr>
</tbody>
</table>

Usability of Technology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 2300</td>
<td>Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4710</td>
<td>Human Factors</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4720</td>
<td>Psychology of Social Technology</td>
<td>3</td>
</tr>
</tbody>
</table>

Psychology of Leadership

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 4600</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or PSYCH 4603</td>
<td>Social Influence: Science and Practice</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4610</td>
<td>Psychology of Leadership in Organizations</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4993</td>
<td>Psychology of Gender</td>
<td>3</td>
</tr>
<tr>
<td>or PSYCH 4601</td>
<td>Group Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4602</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Bachelor of Science Psychology
(Secondary Education Emphasis Area)

You may earn a B.S. degree in psychology from Missouri S&T and certification to teach at the secondary level in the schools of Missouri with the secondary education emphasis area program. This program can be completed in four academic years and student teaching is arranged with public schools within 30 miles of the Rolla campus.

Students interested in this emphasis area should consult with the advisor for the secondary education emphasis area in the department of psychological science.

In order to successfully complete this emphasis area, students must have at least 22 on the ACT, maintain a cumulative GPA of at least 2.5, and attain at least a 2.5 GPA in psychology courses taken. Current Missouri S&T or transfer students who wish to pursue this emphasis area must meet both of these GPA requirements to be accepted into the program. Students must also meet all requirements listed under the teacher education program in this catalog. Students who do not meet all the teacher certification requirements will not be eligible for the secondary education emphasis area, even if they have completed all course work.

A degree in this emphasis area requires 136 credit hours. The required courses are provided below.

Communications Skills: 9 semester hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGLISH 1120</td>
<td>Exposition And Argumentation</td>
<td>3</td>
</tr>
</tbody>
</table>

ENGLISH 1160  Writing And Research 3
SP&M S 1185  Principles Of Speech 3

Humanities: 12 semester hours

Art, Music, or Theatre course 3
Philosophy course 3
Literature course 3
One additional humanities from the above course groups, Foreign Language, or Etymology 3-4

Social Sciences: 18 semester hours

HISTORY 1300  American History To 1877 3
or HISTORY 1310  American History Since 1877 3
POL SCI 1200  American Government 3
POL SCI 3211  American Political Parties 3
or POL SCI 3300  Principles Of Public Policy 3
or POL SCI 3760  The American Presidency 3
or POL SCI 3763  Contemporary Political Thought 3
PSYCH 1101  General Psychology 3
ECON 1100  Principles Of Microeconomics 3
or ECON 1200  Principles Of Macroeconomics 3
HISTORY 2110  World Regional Geography 3

Natural Sciences/Mathematics: 21 semester hours

One course in Physics, Chemistry or Geology 3-4
Mathematics 3
BIO SCI 1113  General Biology 3
STAT 1115  Statistics For The Social Sciences I 3

COMP SCI 1570  Introduction To Programming 3-4
& COMP SCI 1580  and Introduction To Programming Laboratory
& COMP SCI 1970  Basic Scientific Programming
or COMP SCI 1980  and Computer Programming Laboratory
or COMP SCI 1971  Introduction To Programming Methodology
& COMP SCI 1981  and Programming Methodology Laboratory
or COMP SCI 1972  Introduction to MATLAB Programming
& COMP SCI 1982  and MATLAB Programming Laboratory

5-6 additional hours of Math &/or Science courses 5-6

Professional Requirements: 26 semester hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1040</td>
<td>Perspectives In Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 1174</td>
<td>School Organization &amp; Adim For Elementary &amp; Secondary Teachers</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2251</td>
<td>Historical Foundation Of American Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3216</td>
<td>Teaching Reading in Content Area</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3280</td>
<td>Teaching Methods and Skills in Content Areas</td>
<td>6</td>
</tr>
<tr>
<td>EDUC 4298</td>
<td>Student Teaching Seminar</td>
<td>1</td>
</tr>
<tr>
<td>PSYCH 2300</td>
<td>Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 3311</td>
<td>Psychological &amp; Educational Development Of The Adolescent</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4310</td>
<td>Psychology Of The Exceptional Child</td>
<td>3</td>
</tr>
</tbody>
</table>

Clinical Experience: 16 semester hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1104</td>
<td>Teacher Field Experience</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 1164</td>
<td>Aiding Elementary, Middle And Secondary Schools</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4299</td>
<td>Student Teaching</td>
<td>12</td>
</tr>
</tbody>
</table>

Psychology Degree Requirements: 17 semester hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 1100</td>
<td>Introduction to Psychology</td>
<td>1</td>
</tr>
<tr>
<td>PSYCH 2200</td>
<td>Research Methods</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH 3400</td>
<td>Theories Of Learning</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 3310</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4501</td>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or PSYCH 4500</td>
<td>Personality Theory</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 4600</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Certification: 17 semester hours

9 hours of American History from the following:

HISTORY 3320  Colonial America
HISTORY 3325  Revolutionary America, 1754-1789
HISTORY 3340  Age Of Jefferson And Jackson
HISTORY 3345  Civil War And Reconstruction
The department of psychological science offers six minors: a general psychology minor, industrial/organizational psychology minor, psychology of leadership minor, cognitive neuroscience minor, psychometrics minor, and a minor in multiculturalism and diversity. Nine (9) hours of work in any of these minors in psychology must be completed in residence at Missouri S&T. A student may only receive one of the six minors.

**Psychology Minor**

General psychology minor requires 15 hours of courses in psychology. At least nine of these hours must be at the 3000-level or above.

**Industrial/Organizational Psychology Minor**

Requirements include:

- **PSYCH 1101** General Psychology 3
- **PSYCH 4700** Industrial Psychology 3
- **PSYCH 4600** Organizational Psychology 3

and 2 of the following:

- **PSYCH 4600** Social Psychology 3
- **PSYCH 4710** Human Factors 3
- **PSYCH 4500** Personality Theory 3

**Psychology for Health Care Minor**

Required Courses:

- **PSYCH 1101** General Psychology 3
- **PSYCH 4600** Social Psychology 3

Choose 3 of the following Courses:

- **PSYCH 4411** Sensation and Perception 3
- **PSYCH 4410** Neuroscience 3
- **PSYCH 4400** Cognitive Psychology 3
- **PSYCH 4501** Abnormal Psychology 3
- **PSYCH 4590** Health Psychology 3

**Psychology of Leadership**

Requirements include the following:

- **PSYCH 1101** General Psychology 3
- **PSYCH 4610** Psychology of Leadership in Organizations 3

and 3 of the following 5 courses are required:

- **PSYCH 4600** Social Psychology 3
- **PSYCH 4601** Group Dynamics 3

**Cognitive Neuroscience Minor**

Requirements include:

- **PSYCH 1101** General Psychology 3
- **PSYCH 4400** Cognitive Psychology 3
- **PSYCH 4410** Neuroscience 3
- **PSYCH 4411** Sensation and Perception 3

or **PSYCH 4501** Abnormal Psychology 3

and 1 of the following:

- **PSYCH 3400** Theories Of Learning 3
- **PSYCH 4501** Abnormal Psychology 3

**Psychometric Minor**

Requirements include the following courses:

- **PSYCH 1101** General Psychology 3
- **PSYCH 5201** Psychometrics 3
- **PSYCH 4700** Industrial Psychology 3
- **PSYCH 4200** Tests and Measurements 3
- **STAT 5346** Regression Analysis 3

or **STAT 5353** Statistical Data Analysis 3

**Multiculturalism & Diversity Minor**

The Multiculturalism and Diversity Minor prepares students to function more effectively in a global society as well as enhances Missouri S&T graduates’ employment options by providing knowledge, skills, and strategies for appreciating and understanding diverse cultural practices.

The minor requires 15 hours in a minimum of 3 of 4 humanities and social sciences (HSS) departments: the departments of arts, languages and philosophy; English and technical communication; history and political science; and psychological science. The academic home for this minor will be the arts, languages and philosophy department. Courses offered by these departments that can be included in the minor are listed below.

**Arts, Languages & Philosophy:**

- One language course at the third semester or above in a foreign language (German, Spanish, French, or Russian)
- **PHILDS 4340** Social Ethics
- **RUSSIAN 4360** Russian Civilization
- **SP&M S 3235** Intercultural Communication

**English and Technical Communication:**

- **ENGLISH 1231** World Literature I: From The Beginnings To The Renaissance
- **ENGLISH 2242** Literature By Women
- **ENGLISH 2245** African American Literature
- **ENGLISH 3228** The American Experience

**History and Political Science:**

- **HISTORY 2222** The Making Of Modern France 3
- **HISTORY 2224** Making Of Modern Russia 3
- **HISTORY 3130** Medieval History I 3
- **HISTORY 3135** Medieval History II 3
- **HISTORY 3140** History Of Renaissance Thought 3
- **HISTORY 3220** Europe In The Age Of The French Revolution And Napoleon 3
- **HISTORY 3225** Foundations Of Contemporary Europe 1815-1914 3
- **HISTORY 3240** Contemporary Europe 3
- **HISTORY 3660** Modern East Asia 3

**Psychology:**

- **PSYCH 4992** Cross-Cultural Psychology 3
- **PSYCH 4993** Psychology of Gender 3

* Language Courses at the 3rd Semester or above that qualify for the minor:

- **FRENCH 1180** Intermediate French 3
- **FRENCH 2110** Basic French Conversation 3
- **FRENCH 2170** Masterpieces Of French Literature 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRENCH 2180</td>
<td>Basic French Composition</td>
</tr>
<tr>
<td>FRENCH 4311</td>
<td>Advanced French Conversation</td>
</tr>
<tr>
<td>FRENCH 4320</td>
<td>French and Francophone Cinema</td>
</tr>
<tr>
<td>FRENCH 4360</td>
<td>French Culture And Civilization</td>
</tr>
<tr>
<td>FRENCH 4370</td>
<td>Survey Of French Literature I (Early Period)</td>
</tr>
<tr>
<td>FRENCH 4375</td>
<td>Survey Of French Literature II (Modern Period)</td>
</tr>
<tr>
<td>GERMAN 1180</td>
<td>Classical And Modern German Readings</td>
</tr>
<tr>
<td>GERMAN 2110</td>
<td>Basic German Conversation</td>
</tr>
<tr>
<td>GERMAN 2170</td>
<td>Masterpieces Of German Literature</td>
</tr>
<tr>
<td>RUSSIAN 1180</td>
<td>Readings In Science And Literature</td>
</tr>
<tr>
<td>RUSSIAN 2110</td>
<td>Basic Russian Conversation</td>
</tr>
<tr>
<td>RUSSIAN 2170</td>
<td>Masterpieces Of Russian Literature</td>
</tr>
<tr>
<td>RUSSIAN 4320</td>
<td>Russian Phonetics and Intonation</td>
</tr>
<tr>
<td>RUSSIAN 4330</td>
<td>Business Russian</td>
</tr>
<tr>
<td>RUSSIAN 4360</td>
<td>Russian Civilization</td>
</tr>
<tr>
<td>RUSSIAN 4370</td>
<td>Survey Of Russian Literature I (Early Period)</td>
</tr>
<tr>
<td>RUSSIAN 4375</td>
<td>Survey Of Russian Literature II(Modern Period)</td>
</tr>
<tr>
<td>SPANISH 1180</td>
<td>Intermediate Spanish</td>
</tr>
<tr>
<td>SPANISH 2110</td>
<td>Basic Spanish Conversation</td>
</tr>
<tr>
<td>SPANISH 2160</td>
<td>Hispanic Culture</td>
</tr>
<tr>
<td>SPANISH 2170</td>
<td>Masterpieces Of Hispanic Literature</td>
</tr>
<tr>
<td>SPANISH 2180</td>
<td>Intermediate Spanish Composition</td>
</tr>
<tr>
<td>SPANISH 4311</td>
<td>Advanced Spanish Conversation</td>
</tr>
<tr>
<td>SPANISH 4377</td>
<td>Spanish-American Novel And Short Story</td>
</tr>
<tr>
<td>SPANISH 4302</td>
<td>Phonetics and Phonology of Spanish</td>
</tr>
</tbody>
</table>

Denise Baker, Assistant Professor  
PHD Arizona State University

Amy Belfi, Assistant Professor  
PHD University of Iowa

Devin Burns, Assistant Professor  
PHD Indiana University

Jessica L. Cundiff, Assistant Professor  
PHD Pennsylvania State University

Amber M Henslee, Associate Professor  
PHD Auburn University Main Campus

Clair Kueny, Assistant Professor  
PHD Saint Louis University

Robert Lew Montgomery, Emeritus Professor  
PHD Oklahoma State University Main

Frances H Montgomery, Emeritus Professor  
PHD Florida State University

Susan L Murray, Professor and Chair  
PHD Texas A&M University

Daniel Shank, Assistant Professor  
PHD University of Georgia

Nancy J Stone, Professor  
PHD Texas Tech University

Nathan W Weidner, Assistant Professor  
PHD Wayne State University

Merilee Krueger Wilsdorf, Associate Teaching Professor  
MA University of Nebraska Omaha

**PSYCH 1100 Introduction to Psychology** (LEC 1.0)  
An introduction to the study of psychology at S&T. Students will learn about personal and professional opportunities associated with the different areas of psychology and become acquainted with the psychology faculty and campus facilities.

**PSYCH 1101 General Psychology** (LEC 3.0)  
An introduction to the science of the human mind and behavior. Topics include brain structure and function, human development, learning and memory, motivation, emotion, personality and psychological health, psychological disorders and their treatment, and social cognition and human relationships.  
PSYCH 1101 - MOTR PSYC 100: General Psychology

**PSYCH 2000 Special Problems** (IND 0.0-6.0)  
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

**PSYCH 2001 Special Topics** (LEC 0.0 and LAB 0.0)  
This course is designed to give the department an opportunity to test a new course. Variable title.

**PSYCH 2200 Research Methods**  
An introduction to the content, models and methodologies of psychological research. This course covers the fundamental components of psychological research including the literature review, correlational and descriptive methods, experimental design, statistical analyses, interpretation, and ethics. Prerequisites: Psych 1101; Stat 1115, Stat 3113, or Stat 3115. Stat 1115 preferred.

**PSYCH 2300 Educational Psychology** (LEC 3.0)  
Principles of psychology relevant to the field of education. Course covers theoretical and applied information on such topics as human growth and development, and cognitive and behavioral views of learning and intelligence. The course also covers motivation, creation of learning environments, measurement and evaluation of learning. Prerequisite: Psych 1101. (Co-listed with Educ 2102).

**PSYCH 3000 Special Problems In Psychology** (IND 0.0-6.0)  
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

**PSYCH 3001 Special Topics** (LEC 0.0-6.0)  
This course is designed to give the department an opportunity to test a new course. Variable title.

**PSYCH 3310 Developmental Psychology** (LEC 3.0)  
A study of human growth and development across the lifespan. The course emphasizes the interaction of physical, psychological, and social changes and their resulting impact on the developing person at all stages in life. Prerequisite: Psych 1101.  
PSYCH 3310 - MOTR PSYC 200: Lifespan Human Development
PSYCH 3111 Psychological & Educational Development Of The Adolescent (LEC 3.0)
An examination of the biological, social, and cognitive transitions that occur during adolescence. Other topics include the role of families, the role of peers, the adolescent identity, sexuality, the impact of schools, the role of achievement, how adolescents spend their time (work, leisure), the role of the media, and problems encountered by the adolescent. Prerequisite: Psych 1101.

PSYCH 3400 Theories Of Learning (LEC 3.0)
An examination of basic learning processes and the behavioral phenomena that arise from them. Topics include non-associative learning, classical conditioning, operant conditioning, and vicarious learning. Prerequisite: Psych 1101.

PSYCH 3501 Drugs and Behavior (LEC 3.0)
An introduction to the behavioral effects of drugs. A broad range of topics are covered including the 1) History of therapeutic and recreational drug use and abuse 2) Consequences of drug abuse and addiction 3) Behavioral, psychological, and physiological effects of drugs 4) Research methods used to study drugs 5) Effective treatments for drug problems. Prerequisites: Psych 1101.

PSYCH 4000 Special Problems And Readings In Psychology (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

PSYCH 4001 Special Topics (LEC 0.0-6.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

PSYCH 4010 Seminar (RSD 0.0-6.0)
Prerequisite: Senior Standing.

PSYCH 4099 Undergraduate Research (IND 0.0-6.0)
Designed for the undergraduate student who wishes to engage in research. Not for graduate credit. Not more than six credit hours allowed for graduation credit. Subject and credit to be arranged with the instructor. Prerequisite: Instructor consent.

PSYCH 4200 Tests and Measurements (LEC 3.0)
Theoretical and statistical basis of psychological testing and measurement; test development and validation; examination of standardized tests of intelligence, aptitude, interest, personality, attitudes, and psychopathology; use of test and test batteries for diagnostics and prediction of criteria. Prerequisite: Psych 1101.

PSYCH 4310 Psychology Of The Exceptional Child (LEC 3.0)
Study of the psychology of children on both ends of the educational spectrum. The course presents the fundamentals of providing services as well as understanding the abilities and disabilities of children classified as exceptional. Includes coverage of various disabilities, and the implications of dealing with personal, family and classroom issues. Prerequisite: Psych 1101. (Co-listed with Educ 4310).

PSYCH 4400 Cognitive Psychology (LEC 3.0)
This course covers basic cognitive processes and their application. Theory and research are presented on attention, perception, memory, problem solving, decision making and language. Prerequisite: Psych 1101.

PSYCH 4410 Neuroscience (LEC 3.0)
The neurophysiological bases of behavior and cognition are examined. Topics covered include neuroanatomy, neurotransmission, neuropharmacology, brain systems, learning and memory, emotion, attention and consciousness, and neurologic/psychological disorders. Prerequisite: Psych 1101.

PSYCH 4411 Sensation and Perception (LEC 3.0)
An in-depth examination of the human senses, with special emphasis on vision and hearing. Topics include the anatomy and physiology of the eye and ear, neural transduction, the organization and interpretation of sensory signals by the brain, selective attention, and the neural basis of the perception of color, form, space, depth, motion, music, and language. Prerequisite: Psych 1101.

PSYCH 4500 Personality Theory (LEC 3.0)
An examination of the ways in which personality traits develop and the sources of differences among people in the traits they exhibit. The emphasis is on major theories of personality development, as well as recent research in the field. Prerequisite: Psych 1101.

PSYCH 4501 Abnormal Psychology (LEC 3.0)
An introductory study of various forms of personality and behavioral disorders. Consideration will be given to neurosis, psychosis, mental deficiency and other deviations, with emphasis on etiology and treatment. Prerequisite: Psych 1101.

PSYCH 4510 Clinical Psychology (LEC 3.0)
Comprehensive survey of the field of clinical psychology. Course will cover a variety of assessment and treatment procedures relevant to psychology and other professionals who treat human adjustment problems; techniques based on experimental outcome research and psychological testing will be emphasized. Prerequisites: Psych 1101 and Psych 4501.

PSYCH 4590 Health Psychology (LEC 3.0)
This course examines Health Psychology. Topics include basic behavioral pharmacology (involving alcohol and other drugs), illusions of invulnerability to risk, stress and coping, and the science of persuading people to protect their health. Students learn how to construct a public service announcement towards a societal problem as part of the course. Prerequisite: Psych 1101.

PSYCH 4600 Social Psychology (LEC 3.0)
An exploration of the phenomena involved in human social behavior and the theories that explain them. Topics typically include social thinking, attitudes and attitude change, conformity, persuasion, interpersonal attraction, and more. Prerequisite: Psych 1101.

PSYCH 4600H Social Psychology-Honors (LEC 3.0)
PSYCH 4601 Group Dynamics (LEC 3.0)
A review of the concepts and theories related to group dynamics. Topics include group goals, communication within groups, group structure, norms, leadership, decision making, controversy, conflict resolution, power, diversity issues, and team development. Prerequisite: Psych 1101.

PSYCH 4602 Organizational Psychology (LEC 3.0)
Analysis, comprehension, and prediction of human behavior in organizational settings through the scientific study of individual processes, group processes, and organizational structure and function. Prerequisite: Psych 1101.

PSYCH 4603 Social Influence: Science and Practice (LEC 3.0)
Principles and procedures that affect the process of social influence, with consideration given to attitudinal, compliance inducing, and perceptual influences. Prerequisite: Psych 1101.

PSYCH 4610 Psychology of Leadership in Organizations (LEC 3.0)
Examination of conceptual and empirical research on determinants of effective vs. ineffective leadership. Topics include leadership measurement, traits, skills, leader-member exchange, charismatic and transformational leadership, change management, team leadership, and ethical leadership. Practical guidelines for developing leadership skills are discussed. Prerequisite: Psych 1101.

PSYCH 4700 Industrial Psychology (LEC 3.0)
An overview of the field of industrial psychology including topics such as criterion development, job analysis, selection, training, performance assessment, and some human factors concerns. Prerequisite: Psych 1101.

PSYCH 4710 Human Factors (LEC 3.0)
An examination of human-machine systems and the characteristics of people that affect system performance. Topics include applied research methods, systems analysis, and the perceptual, cognitive, physical and social strengths and limitations of human beings. The focus is on user-centered design of technology, particularly in manufacturing environments. Prerequisite: Psych 1101. (Co-listed with Eng Mgt 4330).

PSYCH 4720 Psychology of Social Technology (LEC 3.0)
This course covers research, theory, and practice from psychology and other social science disciplines for understanding the use of, interactions with, and interactions through computers and other technology. This course introduces students to the psychological and social issues involving personal, work, and societal use of technology. Prerequisite: Psych 1101.

PSYCH 4730 Environmental Psychology (LEC 3.0)
An examination of the psychological effects of various environmental designs and ways to design environments effectively. Topics include: environmental attitudes, perception, and cognition; environmental influences, crowding, and the application of environmental design principles to living, educational, work, and recreational settings. Prerequisite: Psych 1101.

PSYCH 4990 Internship (IND 0.0-6.0)
Internship will involve students applying critical thinking skills and discipline specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisite: Junior or Senior Psychology major; consent of instructor; must have completed 9 hours in major.

PSYCH 4992 Cross-Cultural Psychology (LEC 3.0)
Study of the impact of ethnic and national culture on psychological processes and behaviors. Topics include the effects of individualism and collectivism on patterns of socialization, personality, motivation, emotion and cognition; cultural differences in diagnosis and treatment of mental and physical health; and group and organizational behavior. Prerequisite: Psych 1101.

PSYCH 4993 Psychology of Gender (LEC 3.0)
Overview of current research and theory on the psychology of gender. The course explores gender as a psychological and social construct that influences women's and men's lives across a variety of contexts including work, family, relationships, self-perceptions, and health. Considers how gender intersects with other social categories to shape experience. Prerequisite: Psych 1101.

PSYCH 4994 Psychology in Media (LEC 3.0)
Examples drawn from the media (e.g., television, movies, newspapers) will be used as the basis for discussing a wide variety of psychological phenomena, principles, and theories, and their applicability to everyday life. Prerequisite: Psych 1101.

PSYCH 5000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

PSYCH 5001 Special Topics (LEC 0.0-6.0)
This course is designed to give the department an opportunity to test a new graduate level course. Variable title.

PSYCH 5010 Seminar for Industrial / Organizational Psychology (RSD 3.0)
A seminar course for general overviews of the most recent research in Industrial-Organizational Psychology. Prerequisite: Graduate standing.

PSYCH 5012 Ethics and Professional Responsibilities (LEC 1.0)
Case studies examining the ethical practice of psychology in organizations will be discussed. This will include covering both the legal and ethical standards surrounding the consulting and practice of I-O psychology and personnel management in organizations. Prerequisite: Graduate standing.

PSYCH 5020 Introduction to Industrial-Organizational Psychology (LEC 3.0)
Review of the most recent theoretical and applied research in advanced personnel and organizational psychology. Topics will include personnel selection, training and performance appraisal, job attitudes, motivation, work groups and teams, leadership, organizational culture, and organizational development. Prerequisites: Graduate Standing.
PSYCH 5200 Theories and Practice of Psychological Measurement (LEC 3.0)
An overview of psychological tests and batteries used in a variety of disciplines. An emphasis is placed on the proper development and use of these tests and test batteries. Tests examined will include tests of intelligence, aptitude, personality, and psychopathology. Prerequisite: Psych 4200 or graduate standing.

PSYCH 5201 Psychometrics (LEC 3.0)
An examination of statistical methods used to develop and refine measures of human performance, aptitudes, and personality. Topics include reliability and validity, data reduction, measuring interrelationships among variables (e.g., factor analysis, multiple regression), and testing group differences. Prerequisite: Psych 5202.

PSYCH 5202 Applied Psychological Data Analysis (LEC 3.0)
This course will focus on those statistical methods most useful for advanced research in psychology. We will learn to use R, a powerful, open-source statistical programming platform, and work through examples with psychological data sets including such techniques as correlation, ANOVAs, regression, and chi-squared. Prerequisite: Graduate standing.

PSYCH 5210 Advanced Research Methods (LEC 3.0)
Research methods and techniques, with an emphasis on conducting psychological research in organizational settings. Topics discussed include: ethics, reliability and validity in measurement and application, proper uses of experimental, quasi-experimental, and survey methodologies, as well as advanced methodologies IRT, SEM, HLM, and Meta-Analyses. Prerequisite: Graduate standing.

PSYCH 5600 Advanced Social Psychology (LEC 3.0)
An advanced study of the behavior of individuals in interaction within groups. Consideration will also be given to the experimental literature dealing with the formal properties of groups, conformity and deviation, intergroup relations, and attitude formation and attitude change. Prerequisite: Psych 4600.

PSYCH 5601 Small Group Dynamics (LEC 3.0)
This course covers group perception, identification, leadership, structure, conflict, cohesion, commitment, performance, norms, roles, influence, and decisions, and groups’ relations, networks, and work teams. Students consider both theory and applications to their lives and organizations through observational, research, team and applied assignments. Prerequisite: Psych 4601 or graduate standing.

PSYCH 5602 Organizational Development (LEC 3.0)
Examination of the field of organizational development theories and interventions. An emphasis is placed on research methods and application of practices related to individual processes, group processes, and organizational structures and functions that impact change and development strategies and interventions. Prerequisite: Psych 4602 or graduate standing.

PSYCH 5603 Advanced Social Influence (LEC 3.0)
An in-depth review of the principles and procedures that affect the process of social influence, with consideration given to attitudinal, compliance inducing, and perceptual influences. Students will consider the theoretical implications and practical applications of topics in social influence in the form of independent reading, research proposals and/or projects, and observational assignments. Prerequisite: Psych 4603 or graduate standing.

PSYCH 5700 Job Analysis and Performance Management (LEC 3.0)
A focus on the scientific measurement of job performance. An in-depth discussion of the science and methods of appropriate job and task analysis will be discussed. Additionally, students will focus on current issues in performance management and appraisal including scientific findings related to both objective and subjective measures of performance. Prerequisite: Psych 4700 or graduate standing.

PSYCH 5710 Advanced Human Factors (LEC 3.0)
An in-depth review of the foundations of human factors, focusing on the interaction of people with various forms of technology in a variety of environments. Topics include research and evaluation methods, displays (e.g., visual, auditory), attention and information processing, decision making, motor skills, anthropometry, and biomechanics. (Co-listed with ENG MGT 5330).

PSYCH 5720 Advanced Human-Computer Interaction (LEC 3.0)
This course examines the psychological research and theories that contribute to the field of human-computer interaction. An emphasis will be placed on engaging in critical evaluation of research and applying theoretical knowledge to effectively use computers in organizations. Prerequisite: Psych 4720 or graduate standing.

PSYCH 5730 Environmental Psychology: Research and Practice (LEC 3.0)
An in-depth review of the theoretical perspectives in environmental psychology and the psychological effects of various environments. An emphasis is placed on the review and integration of the research to explain the psychological issues related to various environments as well as to understand ways to effectively design living, educational, work, and recreational environments. Prerequisite: Psych 4730 or graduate standing.