Bachelor of Arts in Human Biology

Human Biology
This interdisciplinary major permits students to understand humans from a variety of academic viewpoints: anthropology, applied behavioral science, biology, psychology, and speech-language-hearing. Each human biology concentration offers major-level courses in topical categories that allow students to focus on areas that interest them most while retaining the interdisciplinary manner of the major. The broad nature of this major can prepare students for a variety of post-undergraduate opportunities.

Undergraduate Admission

Admission to KU
All students applying for admission must send high school and college transcripts to the Office of Admissions. Unless they are college transfer students with at least 24 hours of credit, prospective students must send ACT or SAT scores to the Office of Admissions. Prospective first-year students should be aware that KU has qualified admission requirements that all new first-year students must meet to be admitted. Consult the Office of Admissions (http://admissions.ku.edu) for application deadlines and specific admission requirements.

Visit the International Support Services (http://www.iss.ku.edu) for information about international admissions.

Admission to the College of Liberal Arts and Sciences

Admission to the College is a different process from admission to a major field. Some CLAS departments have admission requirements. See individual department/program sections for departmental admission requirements.

First- and Second-Year Preparation

Because biology study requires preparation in other sciences, students should begin meeting major requirements in the first year. It is particularly important to take CHEM 130 and CHEM 135 in the first year and, for several majors, to take CHEM 330, CHEM 331, CHEM 335, and CHEM 336 in the second year. Ideally, most majors should also take BIOL 150 and BIOL 152 during the first year, as well as BIOL 105.

 Majors and Concentrations

Bachelor's degree requirements in biology are modified as necessary. Current requirements are available in the UBP office and online (http://www.kuub.ku.edu). Major programs are offered in biochemistry, biology, human biology, and microbiology. Students may choose to concentrate in a range of specialties in the biological sciences, such as botany, cellular biology, developmental biology, environmental biology, ecology, entomology, genetics, marine biology, molecular biology, neurobiology, paleontology, physiology, systematics, or zoology (invertebrate or vertebrate).

Requirements for the B.A. Major in Human Biology

The curriculum builds from a broad background of general science courses and adds depth in a set of 5 specialized disciplines. Courses in the disciplines emphasize topics related to humans and provide a solid understanding of each field of knowledge.

For general requirements for the B.A. degree, see CLAS General Education Degree Requirements (http://catalog.ku.edu/liberal-arts-sciences) on the College of Liberal Arts and Sciences Degree Requirements page.

Students must choose 1 concentration from the 5 areas:

- Anthropology
- Applied behavioral science
- Biology
- Psychology
- Speech-language-hearing

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 105</td>
<td>Principles of Molecular and Cellular Biology, Honors</td>
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<td>BIOL 150</td>
<td>Principles of Molecular and Cellular Biology</td>
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<tr>
<td>BIOL 151</td>
<td>Principles of Molecular and Cellular Biology, Honors</td>
<td>3</td>
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<td>CHEM 130</td>
<td>General Chemistry I</td>
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<tr>
<td>CHEM 190</td>
<td>Foundations of Chemistry I, Honors</td>
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<td>CHEM 191</td>
<td>Foundations of Chemistry I Laboratory, Honors</td>
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<td>CHEM 135</td>
<td>General Chemistry II</td>
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<td>CHEM 195</td>
<td>Foundations of Chemistry II, Honors</td>
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<td>PHSX 114</td>
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<td>PHSX 211</td>
<td>General Physics I</td>
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<td>PHSX 216</td>
<td>and General Physics I Laboratory</td>
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<td>Statistics</td>
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Anthropology

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<tr>
<td>BIOL 570</td>
<td>Introduction to Biostatistics (Recommended for the Anthropology and Biology Concentrations)</td>
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<tr>
<td>PSYC 210</td>
<td>Statistics in Psychological Research (Recommended for the Psychology Concentration)</td>
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<td>MATH 365</td>
<td>Elementary Statistics</td>
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### Anthropology Concentration

Majors must complete the following 31 hours. These additional science courses are included in the Human Biology-Anthropology major hours and GPA calculations.

**Organic Chemistry I. Satisfied by one of the following:**
- CHEM 310 Fundamentals of Organic Chemistry
- CHEM 330 Organic Chemistry I

**Organic Chemistry I Laboratory. Satisfied by:**
- CHEM 331 Organic Chemistry I Laboratory

**Cell Structure & Function. Satisfied by one of the following:**
- BIOL 416 Cell Structure and Function
- BIOL 536 Cell Structure and Function (Honors)

**Principles of Genetics. Satisfied by one of the following:**
- BIOL 350 Principles of Genetics
- BIOL 360 Principles of Genetics, Honors

**Senior Seminar in Human Biology. Satisfied by:**
- BIOL 599 Senior Seminar: _____ (Must be taken in senior year)

### Anthropology Concentration Categories

Satisfied by completing 2 of the following 4 categories (18-21 hours required):

1. **Category 1: Human Anatomy and Physiology**
   - Biology of Development. Satisfied by:
   - BIOL 417 Biology of Development

2. **Category 2: Human Population Biology**
   - Satisfied by completing 9 hours from the following:
   - ANTH 542 Biology of Human Nutrition
   - ANTH 648 Human Osteology
   - ANTH 650 Human Reproduction: Biology and Behavior
   - BIOL 426 Laboratory in Cell Biology
   - BIOL 440 Advanced Human Anatomy
   - BIOL 600 Introductory Biochemistry, Lectures
   - BIOL 637 Introductory Biochemistry Laboratory
   - BIOL 546 Mammalian Physiology
   - BIOL 647 Mammalian Physiology Laboratory

3. **Category 3: Human Adaptation and Evolution**
   - Satisfied by completing 9 hours from the following:
   - ANTH 340 Human Variation and Evolution
   - ANTH 442 Anthropological Genetics
   - ANTH 544 Origins of Native Americans
   - ANTH 545 Contemporary Health Issues in Africa
   - ANTH 652 Population Dynamics

### Major Hours & Major GPA

While completing all required courses, majors must also meet each of the following hour and grade-point average minimum standards:

- **Major Hours** Satisfied by 31 hours of major courses.
- **Major Hours in Residence** Satisfied by a minimum of 15 hours of KU resident credit in the major.
- **Major Junior/Senior Hours** Satisfied by a minimum of 12 hours from junior/senior courses (300+) in the major.

### Applied Behavioral Science

<table>
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<tr>
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<tr>
<td>ANTH 350</td>
<td>Human Adaptation</td>
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<tr>
<td>ANTH 352</td>
<td>Controversies on the Living and the Dead</td>
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<tr>
<td>ANTH 503</td>
<td>Topics in Biological Anthropology: _____</td>
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<tr>
<td>ANTH 555</td>
<td>Evolution of Human Diseases</td>
</tr>
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</table>

**Category 4: Human Biology and Behavior**

Satisfied by completing 9 hours from the following:
- ANTH 359 Anthropology of Sex
- ANTH 447 Human Behavioral Genetics
- ANTH 461 Introduction to Medical Anthropology
- PSYC 370 Behavioral Neuroscience
- PSYC 536 The Psychology of Language

### Major Hours & Major GPA

While completing all required courses, majors must also meet each of the following hour and grade-point average minimum standards:

- **Major Hours** Satisfied by 33 hours of applied behavioral science courses.
- **Major Hours in Residence** Satisfied by a minimum of 15 hours of KU resident credit in the major.
- **Major Junior/Senior Hours** Satisfied by a minimum of 12 hours from junior/senior courses (300+) in the major.

### Applied Behavioral Science Concentration Categories

Satisfied by completing 2 of the following 4 categories (18-19 hours required):

1. **Category 1: Applied Behavioral Science**
2. **Category 2: Applied Behavioral Science**
3. **Category 3: Applied Behavioral Science**
4. **Category 4: Applied Behavioral Science**
Principles and Procedures of Behavior Modification and Therapy. Satisfied by:
ABSC 304 Principles and Procedures of Behavioral Interventions

Applied Behavioral Science. Satisfied by completing 6 hours selected from the following courses:
ABSC 150 Community Leadership
ABSC 310 Building Healthy Communities
or ABSC 311 Building Healthy Communities, Honors
ABSC 350 The Behavioral Treatment of Children with Autism
ABSC 410 Behavioral Approaches in Working with Adolescents
ABSC 437 Independent Living and People with Disabilities

Category 2: Development: Typical and Atypical
Child Behavior and Development. Satisfied by:
ABSC 632 Advanced Child Behavior and Development

Development: Typical and Atypical. Satisfied by completing 6 hours selected from the following:
ABSC 535 Developmental Psychopathology
ABSC 565 Applied Developmental Psychology
BIOL 417 Biology of Development

Category 3: Biology of Behavior

Satisfied by:
BIOL 544 Comparative Animal Physiology

Biology of Behavior. Satisfied by completing 6 hours selected from the following:
ANTH 542 Biology of Human Nutrition
BIOL 435 Introduction to Neurobiology
BIOL 440 Advanced Human Anatomy
BIOL 454 Brain Diseases and Neurological Disorders
BIOL 546 Mammalian Physiology
BIOL 647 Mammalian Physiology Laboratory
BIOL 655 Behavioral Genetics
PSYC 370 Behavioral Neuroscience
PSYC 380 Clinical Neuroscience

Category 4: Evolution, Culture, and Behavior
Evolutionary Biology. Satisfied by:
BIOL 412 Evolutionary Biology

Evolution, Culture, and Behavior. Satisfied by completing 6 hours selected from the following:
ANTH 341 Human Evolution
ANTH 415 The Rise of Civilization
ANTH 650 Human Reproduction: Biology and Behavior
BIOL 428 Introduction to Systematics
BIOL 625 Behavioral Ecology and Sociobiology
BIOL 652 Comparative Animal Behavior

Major Hours & Major GPA
While completing all required courses, majors must also meet each of the following hour and grade-point average minimum standards:

Major Hours
Satisfied by 33 hours of major courses.

Major Hours in Residence
Satisfied by a minimum of 15 hours of KU resident credit in the major.

Major Junior/Senior Hours
Satisfied by a minimum of 12 hours from junior/senior courses (300+) in the major.

Major Junior/Senior Graduation GPA
Satisfied by a minimum of a 2.0 KU GPA in junior/senior courses (300+) in the major. GPA calculations include all junior/senior courses in the field of study including F’s and repeated courses. See the Semester/Cumulative GPA Calculator (http://clas.ku.edu/undergrad/tools/gpa).

Biology

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<td>BIOL 599</td>
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Biography Laboratory Electives. Course selections from the following categories must include at least 3 hours of laboratory credit, 400 level or above.

Biology Concentration Categories
Satisfied by completing 2 of the following 4 categories listed below. 18-20 (18-20 hours required) (Course selections must include at least 3 hours of laboratory credit, 400 level or above.)

Category 1: Development and Genetics
Biography of Development. Satisfied by:

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<td>BIOL 417</td>
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Development and Genetics. Satisfied by completing 6 hours from the following:

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<tr>
<td>ABSC/PSYC 535</td>
<td>Developmental Psychopathology</td>
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<td>ANTH 762</td>
<td>Human Growth and Development</td>
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<td>BIOL 405</td>
<td>Laboratory in Genetics</td>
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</tr>
<tr>
<td>BIOL 416</td>
<td>Cell Structure and Function</td>
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<tr>
<td>or BIOL 536</td>
<td>Cell Structure and Function (Honors)</td>
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<tr>
<td>BIOL 595</td>
<td>Human Genetics</td>
<td>3</td>
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<tr>
<td>BIOL 655</td>
<td>Behavioral Genetics</td>
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<tr>
<td>BIOL 688</td>
<td>The Molecular Biology of Cancer</td>
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<tr>
<td>PSYC 333</td>
<td>Child Development</td>
<td>3</td>
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<tr>
<td>PSYC 430</td>
<td>Cognitive Development</td>
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</table>
Bachelor of Arts in Human Biology

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<td>SPLH 566</td>
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<td>Anatomy</td>
<td>Anatomy and Physiology</td>
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<tr>
<td>BIOL 546</td>
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<td>Mammalian Physiology. Satisfied by:</td>
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<td>BIOL 435</td>
<td>Introduction to Neurobiology</td>
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<td>BIOL 440</td>
<td>Advanced Human Anatomy</td>
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<td>BIOL 600</td>
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<td>PSYC 370</td>
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<td>PSYC 375</td>
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<td>ANTH 648</td>
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<td>PSYC 375</td>
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<td>ANTH 542</td>
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<td>ANTH 648</td>
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<td>BIOL 435</td>
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<td>PSYC 370</td>
<td>Behavioral Neuroscience</td>
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<td>PSYC 375</td>
<td>Cognitive Neuroscience</td>
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<td>PSYC 380</td>
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<tr>
<td>Category 3: Evolution, Ecology, and Adaptation</td>
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<td>BIOL 412</td>
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<td>ANTH 340</td>
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<td>Human Evolution</td>
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<td>ANTH 350</td>
<td>Human Adaptation</td>
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<td>ANTH 652</td>
<td>Population Dynamics</td>
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<td>Principles of Ecology</td>
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<td>BIOL 668</td>
<td>Evolutionary Ecology</td>
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<td>BIOL 616</td>
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<td>BIOL 688</td>
<td>The Molecular Biology of Cancer</td>
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Total Hours: 32-34

Major Hours & Major GPA

While completing all required courses, majors must also meet each of the following hour and grade-point average minimum standards:

**Major Hours**

Satisfied by 32 hours of major courses.

**Major Hours in Residence**

Satisfied by a minimum of 15 hours of KU resident credit in the major.

**Major Junior/Senior Hours**

Satisfied by a minimum of 12 hours from junior/senior courses (300+) in the major.

**Major Junior/Senior Graduation GPA**

Satisfied by a minimum of a 2.0 KU GPA in junior/senior courses (300+) in the major. GPA calculations include all junior/senior courses in the field of study including F's and repeated courses. See the Semester/Cumulative GPA Calculator (http://clas.ku.edu/undergrad/tools/gpa).

Psychology

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<td>PSYC 200</td>
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<tr>
<td>BIOL 599</td>
<td>Senior Seminar in Human Biology</td>
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</table>

**Psychology Concentration**

Majors must complete the following 31 hours. These additional science courses are included in the Human Biology-Psychology major hours and GPA calculations.

- Organic Chemistry I. Satisfied by one of the following: 3
  - CHEM 310 Fundamentals of Organic Chemistry
  - CHEM 330 Organic Chemistry I

- Organic Chemistry I Laboratory. Satisfied by: 2
  - CHEM 331 Organic Chemistry I Laboratory

- Principles of Genetics. Satisfied by one of the following: 4
  - BIOL 350 Principles of Genetics
  - BIOL 360 Principles of Genetics, Honors

- Research Methods. Satisfied by: 3
  - PSYC 200 Research Methods in Psychology

- Senior Seminar in Human Biology. Satisfied by: 1
  - BIOL 599 Senior Seminar: _____ (Must be taken in senior year.)

**Psychology Concentration Categories**

Satisfied by completing 2 of the following 4 categories listed below. 18

- Category 1: Evolution, Adaptation and Health
- Category 2: Human Development
- Category 3: Evolution, Ecology, and Adaptation
- Category 4: Human Disease

- Category 3: Evolution, Ecology, and Adaptation
  - PSYC 555 Evolutionary Psychology
  - PSYC 605 Health Psychology
  - ANTH 340 Human Variation and Evolution
  - ANTH 341 Human Evolution
  - ANTH 350 Human Adaptation
  - ANTH 442 Anthropological Genetics
  - ANTH 447 Human Behavioral Genetics
  - ANTH 542 Biology of Human Nutrition
  - ANTH 555 Evolution of Human Diseases
  - BIOL 412 Evolutionary Biology
  - BIOL 595 Human Genetics

- Category 4: Human Disease
Bachelor of Arts in Human Biology

Speech-Language-Hearing

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Research Methods. Satisfied by:

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Genetics. Satisfied by one of the following:

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<td>Principles of Genetics</td>
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<td>BIOL 360</td>
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Senior Seminar in Human Biology. Satisfied by:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BIOL 599</td>
<td>Senior Seminar: _____ (Must be taken in senior year.)</td>
<td>1</td>
</tr>
</tbody>
</table>

Speech-Language-Hearing Concentration Categories

Satisfied by completing 2 of the following 4 categories (18-19 hours required).

1. **Development and Genetics**
   - Biology of Development. Satisfied by:
     - BIOL 417 Biology of Development
   - Development and Genetics. Satisfied by completing 6 hours selected from the following:
     - ANTH 762 Human Growth and Development
     - BIOL 405 Laboratory in Genetics
     - BIOL 416 Cell Structure and Function
     - BIOL 595 Human Genetics
     - SPLH 464 Undergraduate Seminar in: _____
     - or SPLH 764 Seminar in: _____
   - SPLH 466 Language Science
   - SPLH 566 Language Development

2. **Anatomy and Physiology**
   - Mammalian Physiology. Satisfied by:
     - BIOL 417 Biology of Development
     - Development and Genetics. Satisfied by completing 6 hours selected from the following:
     - ANTH 762 Human Growth and Development
     - BIOL 405 Laboratory in Genetics
     - BIOL 416 Cell Structure and Function
     - BIOL 595 Human Genetics
     - SPLH 464 Undergraduate Seminar in: _____
     - or SPLH 764 Seminar in: _____
   - SPLH 466 Language Science
   - SPLH 566 Language Development

3. **Neuroscience**
   - Physiology of Organisms. Satisfied by:
     - BIOL 440 Advanced Human Anatomy
     - BIOL 647 Mammalian Physiology Laboratory
     - SPLH 462 Principles of Speech Science
     - SPLH 463 Principles of Hearing Science
   - SPLH 466 Language Science
   - SPLH 566 Language Development

4. **Animal Behavior**
   - Mammalian Physiology. Satisfied by:
     - BIOL 417 Biology of Development
     - Development and Genetics. Satisfied by completing 6 hours selected from the following:
     - ANTH 762 Human Growth and Development
     - BIOL 405 Laboratory in Genetics
     - BIOL 416 Cell Structure and Function
     - BIOL 595 Human Genetics
     - SPLH 464 Undergraduate Seminar in: _____
     - or SPLH 764 Seminar in: _____
   - SPLH 466 Language Science
   - SPLH 566 Language Development

**Major Hours & Major GPA**

While completing all required courses, majors must also meet each of the following hour and grade-point average minimum standards:

**Major Hours**

Satisfied by 31 hours of major courses.

**Major Hours in Residence**

Satisfied by a minimum of 15 hours of KU resident credit in the major.

**Major Junior/Senior Hours**

Satisfied by a minimum of 12 hours from junior/senior courses (300+) in the major.

**Major Junior/Senior Graduation GPA**

Satisfied by a minimum of a 2.0 KU GPA in junior/senior courses (300+) in the major. GPA calculations include all junior/senior courses in the field of study including F’s and repeated courses. See the Semester/Cumulative GPA Calculator (http://clas.ku.edu/undergrad/tools/gpa).
PSYC 375  Cognitive Neuroscience
PSYC 380  Clinical Neuroscience
SPLH 464  Undergraduate Seminar in: _____ (Neural Bases of Speech & Voice)
SPLH 464  Undergraduate Seminar in: _____ (Speech Motor Control)

Category 4: Research Practicum
Satisfied by completing 9 hours selected from the following courses:
SPLH 464  Undergraduate Seminar in: _____ (Circuit Theory & Bioinstrumentation)
SPLH 449  Laboratory/Field Work in Human Biology (various topics)
SPLH 499  Directed Study in Speech-Language-Hearing

Major Hours & Major GPA

While completing all required courses, majors must also meet each of the following hour and grade-point average minimum standards:

**Major Hours**
Satisfied by 30 hours of major courses.

**Major Hours in Residence**
Satisfied by a minimum of 15 hours of KU resident credit in the major.

**Major Junior/Senior Hours**
Satisfied by a minimum of 12 hours from junior/senior courses (300+) in the major.

**Major Junior/Senior Graduation GPA**
Satisfied by a minimum of a 2.0 KU GPA in junior/senior courses (300+) in the major. GPA calculations include all junior/senior courses in the field of study including F's and repeated courses. See the Semester/Cumulative GPA Calculator (http://clas.ku.edu/undergrad/tools/gpa).


**Departmental Honors**

Undergraduate majors are eligible to graduate with honors in biology if they fulfill the following requirements:

1. Complete all course work required for the appropriate degree in biology.
2. Achieve a minimum grade-point average of 3.25 overall and 3.5 in the major.
3. Complete BIOL 499 Introduction to Honors Research with a grade of B or higher.
4. Complete BIOL 699 Biology Honors Research Colloquium with a grade of B or higher.
5. Complete an independent research project under the supervision of a faculty member in an area appropriate to the degree sought.
6. Submit an honors thesis to the honors committee once the research is complete and present the results of the completed research at the honors research symposium.

Students majoring in Human Biology with Anthropology, Applied Behavioral Science, Psychology, or Speech-Language-Hearing concentrations will follow the honors requirements for their respective concentration department.

Specific guidelines and intent forms are available in the Undergraduate Biology Program office and online (http://www.kuub.ku.edu). Candidates must declare their intent to graduate with honors at least 2 semesters before graduation.

**Study Abroad**

Consult an advisor at least 4 months before undertaking study abroad. Consult the Office of Study Abroad (http://www.studyabroad.ku.edu), 108 Lippincott Hall, for information about study in one of the many countries (e.g., Scotland, Australia, Switzerland) with special arrangements with KU.