Ph.D. DEGREE IN  
HUMAN SCIENCES – EMPHASIS IN FOOD SCIENCE

Students are required to earn six (6) CHS graduate credit hours that count toward the degree before graduation by attendance in one or more summer semesters in the Department or the CHHS. The Ph.D. program in Human Sciences with an area of emphasis in Food Science is a competency-based research degree; satisfying the courses alone does not guarantee the degree will be awarded - the student must advance to mastery in the field of specialization.

<table>
<thead>
<tr>
<th>CORE</th>
<th>23 CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOS 5205* Food Safety and Quality</td>
<td>3</td>
</tr>
<tr>
<td>FOS 5424* Food Preservation</td>
<td>3</td>
</tr>
<tr>
<td>FOS 5936* Selected Topics in Food Science and Technology</td>
<td>3</td>
</tr>
<tr>
<td>FOS 6351C* Physical and Chemical Techniques in Food and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>FOS 6930 Seminar in Food and Nutrition Science</td>
<td>3</td>
</tr>
<tr>
<td>(1 credit per semester for three semesters)</td>
<td></td>
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<tr>
<td>HOE 6366 Research Best Practices in Human Sciences</td>
<td>2</td>
</tr>
<tr>
<td>HUN 6248* Adv in Nutr &amp; Food Sci: Food Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>HUN 6911 Supervised Research (S/U)</td>
<td>3</td>
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* Required if have not previously been taken. If these courses have been taken, the student’s committee should decide on different courses (up to 15 credit hours) relevant to the student’s research interest to fulfill the credit requirement.

<table>
<thead>
<tr>
<th>DEPARTMENTAL ELECTIVES</th>
<th>minimum 3 CREDIT HOURS</th>
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</thead>
<tbody>
<tr>
<td>HUN 5242 Carbohydrates, Fats, and Proteins</td>
<td>3</td>
</tr>
<tr>
<td>HUN 5243 Vitamins and Minerals</td>
<td>3</td>
</tr>
<tr>
<td>HUN 5938 Special Topics in Nutrition: Microbiome and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>HUN 6248 Adv in Nutr &amp; Food Sci: Food Immunochemistry (Lecture &amp; Lab)</td>
<td>4</td>
</tr>
<tr>
<td>HUN 6248 Adv in Nutr &amp; Food Sci: Food Protein Chemistry (Lecture &amp; Lab)</td>
<td>4</td>
</tr>
<tr>
<td>HUN 6248 Adv in Nutr &amp; Food Sci: Technical Writing</td>
<td>4</td>
</tr>
<tr>
<td>HUN 6940 Supervised Teaching (S/U)</td>
<td>1-3</td>
</tr>
<tr>
<td>HUN 6906 Directed Individual Study (S/U)</td>
<td>3</td>
</tr>
<tr>
<td>PET 6931 Advanced Topics: Cell and Molecular Biology</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>OUTSIDE ELECTIVES</th>
<th>minimum 3 CREDIT HOURS</th>
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<tbody>
<tr>
<td>BCH 5745 Chemical and Physical Characterization of Biopolymers</td>
<td>3</td>
</tr>
<tr>
<td>BSC 5409 Biophysical Principles of Biological Techniques</td>
<td>3</td>
</tr>
<tr>
<td>BSC 5936 Selected Topics in Biological Sciences: Nanotechnology</td>
<td>2</td>
</tr>
<tr>
<td>CHM 5140 Introduction to Chemical Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>CHM 5154 Chemical Separations</td>
<td>3</td>
</tr>
<tr>
<td>CHM 5440 Physical and Chemical Kinetics</td>
<td>3</td>
</tr>
<tr>
<td>CHM 5585 Experimental Methods in Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>EMA 5015C Nanomaterials and Nanotechnology</td>
<td>3</td>
</tr>
<tr>
<td>PCB 5936 Selected Topics in Genetics and Cell Biology: Immunology</td>
<td>3</td>
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</tbody>
</table>

The above outside elective courses are suggested; however, the course requirement can be decided by the student’s committee.

<table>
<thead>
<tr>
<th>STATISTICS</th>
<th>minimum 4 CREDIT HOURS</th>
</tr>
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<tbody>
<tr>
<td>EDF 5401 General Linear Model Applications</td>
<td>4</td>
</tr>
<tr>
<td>FAD 5700 Applied Research in Human Sciences (HS)</td>
<td>4</td>
</tr>
</tbody>
</table>

These are recommended statistics courses; however, a different statistics course relevant to the student’s interests may be decided by the student’s committee. Previously taken courses, cannot be repeated.
<table>
<thead>
<tr>
<th>DISSENTATION</th>
<th>minimum 24 CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUN 8964r</td>
<td>Preliminary Doctoral Examination (P/F)</td>
</tr>
<tr>
<td>HUN 6980r</td>
<td>Dissertation (S/U)</td>
</tr>
<tr>
<td>HUN 8985r</td>
<td>Dissertation Defense Examination (P/F)</td>
</tr>
</tbody>
</table>

Minimum requirements: 57 credit hours