# Genetics (MS)

## Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Courses</strong></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>GN 701</td>
<td>Molecular Genetics</td>
<td></td>
</tr>
<tr>
<td>GN 702</td>
<td>Cellular and Developmental Genetics</td>
<td></td>
</tr>
<tr>
<td>GN 703</td>
<td>Population and Quantitative Genetics</td>
<td></td>
</tr>
<tr>
<td>GN 810</td>
<td>Special Topics in Genetics (Journal Club)</td>
<td></td>
</tr>
<tr>
<td>GN 850</td>
<td>Professionalism and Ethics</td>
<td></td>
</tr>
<tr>
<td>ST 511</td>
<td>Statistical Methods For Researchers I</td>
<td></td>
</tr>
<tr>
<td><strong>Teaching Requirement</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>GN 685</td>
<td>Master's Supervised Teaching</td>
<td></td>
</tr>
<tr>
<td><strong>Elective Course</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>See “Elective Courses” listed below</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Elective</strong></td>
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<tr>
<td>&quot;Other Elective&quot; is determined in conjunction with the academic committee</td>
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<tr>
<td><strong>Research Course</strong></td>
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<tr>
<td>GN 695</td>
<td>Master's Thesis Research</td>
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<tr>
<td><strong>Total Hours</strong></td>
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<td>32</td>
</tr>
</tbody>
</table>

1. Only three hours of these courses may be counted toward the primary elective requirement.
2. Other courses that do not appear on this list may be counted if they have substantial genetics content. Please consult with the Director of Graduate Programs if you would like to count a course as an elective that is not on this list.

## Elective Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GN 713</td>
<td>Quantitative Genetics and Breeding</td>
<td>3</td>
</tr>
<tr>
<td>GN 721</td>
<td>Genetic Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>GN 725</td>
<td>Forest Genetics</td>
<td>3</td>
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<tr>
<td>GN 735</td>
<td>Functional Genomics</td>
<td>3</td>
</tr>
<tr>
<td>GN 740</td>
<td>Evolutionary Genetics</td>
<td>3</td>
</tr>
<tr>
<td>GN 745</td>
<td>Quantitative Genetics In Plant Breeding</td>
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<tr>
<td>GN 750</td>
<td>Developmental Genetics</td>
<td>3</td>
</tr>
<tr>
<td>GN 755</td>
<td>Population Genetics</td>
<td>3</td>
</tr>
<tr>
<td>GN 756</td>
<td>Computational Molecular Evolution</td>
<td>3</td>
</tr>
<tr>
<td>GN 757</td>
<td>Quantitative Genetics Theory and Methods</td>
<td>3</td>
</tr>
<tr>
<td>GN 758</td>
<td>Microbial Genetics &amp; Genomics</td>
<td>3</td>
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<tr>
<td>GN 761</td>
<td>Advanced Molecular Biology Of the Cell</td>
<td>3</td>
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<tr>
<td>GN 768</td>
<td>Nucleic Acids: Structure and Function</td>
<td>3</td>
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<tr>
<td>GN 810</td>
<td>Special Topics in Genetics</td>
<td>1-6</td>
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<tr>
<td>GN 820</td>
<td>Special Problems</td>
<td>1-6</td>
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<tr>
<td>ST 590</td>
<td>Special Topics (Bioinformatics I)</td>
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<tr>
<td>ST 590</td>
<td>Special Topics (Bioinformatics II)</td>
<td>1-6</td>
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<td>PB 780</td>
<td>Plant Molecular Biology</td>
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<td>PB 824</td>
<td>Topical Problems (Topics in Plant Molecular Genetics)</td>
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</table>

- BCH 701  Macromolecular Structure  3
- BIT 510  Core Technologies in Molecular and Cellular Biology  4
- BIT 815  Advanced Special Topics  1-6

## Faculty

### Full Professors

- Jose Miguel Alonso
- Peter J. Balint-Kurti
- Rodolphe Barrangou
- David M. Bird
- Adam Joseph Birkenheuer
- Matthew Breen
- Ignazio Carbone
- Ralph A. Dean
- Ralph E. Dewey
- Robert Graham Franks
- Troy Ghashghaei
- John R. Godwin
- Major M. Goodman
- Fred L. Gould
- Candace Hope Haigler
- Linda Kay Hanley-Bowdoin
- Christine Veronica Hawkes
- James B. Holland
- Fikret Isik
- Ramsey S. Lewis
- Hsiao-Ching Liu
- Steven Lommel
- James W. Mahaffey
- Christian Maltecca
- Carolyn Jane Mattingly
- Kathryn Montgome Meurs
- Spencer V. Muse
- Natasha J. Olby
- Charles H. Opperman
- Emilie Francesca Rissman
Jean B. Ristaino  
Coby J. Schal  
Maxwell J. Scott  
Heike Inge Ada Sederoff  
Seth M. Sullivant  
William F. Thompson  
Jeffrey L. Thorne  
Jung-Ying Tzeng  
Keith R. Weninger  
Ross W. Whetten  
Brian M. Wiegmann  
Qiuyun Xiang  
Deyu Xie  
Jeffrey A. Yoder  
Zhaobang Zeng

**Associate Professors**

David Lawrence Aylor  
Chase Beisel  
Nicolas Emile Buchler  
Gavin Clay Conant  
Steffen Heber  
Vasu Kuraparthi  
Randall Brian Langerhans  
Terri A. Long  
Marce D. Lorenzen  
John Edward Meitzen  
Susana Rita Milla-Lewis  
Nanette M. Nascone-Yoder  
Dahlia M. Nielsen  
Xinxia Peng  
Marcela Pierce  
Antonio Planchart  
David Michael Reif  
Michael Hay Reiskind  
Reade Bruce Roberts

Michael L. Sikes  
Rosangela Sozzani  
Anna N. Stepanova  
Yihui Zhou

**Assistant Professors**

Hamid Ashrafi  
Benjamin John Callahan  
Michael Anthony Cowley  
Colleen Jennifer Doherty  
Amanda Marie Hulse  
Albert Jun Qi Keung  
Manuel Kleiner  
Caroline Laplante  
Wusheng Liu  
Anna Michelle Locke  
Elizabeth Lucas  
Kurt Marsden  
Santosh Kumar Mishra  
Casey C. Nestor  
Benjamin J. Reading  
Ruben Rellan Alvarez  
Adriana San Miguel Delgadillo  
Caitlin Suzanne Smukowski Heil  
Casey Michelle Theriot  
Laurianne Chantal Van Landeghem  
Christina Zakas

**Emeritus Professors**

William Reid Atchley  
Stephanie E. Curtis  
Eugene Eisen  
Charles S. Levings III  
Todd Robert Klaenhammer  
Wesley Edwin Kloos  
Dale F. Matzinger