# 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><strong>14</strong></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><strong>3</strong></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><strong>3</strong></td>
</tr>
<tr>
<td>See &quot;Elective Courses&quot; listed below</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Elective</strong></td>
<td></td>
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<tr>
<td>&quot;Other Elective&quot; is determined in conjunction with the academic committee</td>
<td></td>
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<tr>
<td><strong>Research Course</strong></td>
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<td><strong>9</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>
<td></td>
<td><strong>32</strong></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>
</tr>
<tr>
<td>GN 735</td>
<td>Functional Genomics</td>
<td>3</td>
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<tr>
<td>GN 740</td>
<td>Evolutionary Genetics</td>
<td>3</td>
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<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>
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<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>
</tr>
<tr>
<td>GN 761</td>
<td>Advanced Molecular Biology Of the Cell</td>
<td>3</td>
</tr>
<tr>
<td>GN 768</td>
<td>Nucleic Acids: Structure and Function</td>
<td>3</td>
</tr>
<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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<tr>
<td>PB 780</td>
<td>Plant Molecular Biology</td>
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<tr>
<td>PB 824</td>
<td>Topical Problems (Topics in Plant Molecular Genetics)</td>
<td>1-4</td>
</tr>
</tbody>
</table>

**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. Obly
- Charles H. Opperman
- Balaji M. Rao
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
Shobhan Gaddameedhi
Steffen Heber
Vasu Kuraparthy
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 Planchar
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
Rafael Felipe Guerro Farias
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
Justin Graham Alexander Whitehill
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
Wendell Herbert McKenzie
John G. Scandalios
Henry E. Schaffer
Ron Ross Sederoff
Charles William Stuber
Earl A. Wernsman

Adjunct professors
Robert R. Anholt
Trudy F. MacKay
Alison Anne Motsinger-Reif
Nadia Singh