Genetics, Genomics & Bioinformatics

Theme Director
Kevin Dybvig, Ph.D.
Email
dvdbvig@uab.edu
Theme Co-Director
Zsuzsa Bebok, M.D.
Email
bebok@uab.edu

Theme Information
Genetics, Genomics, & Bioinformatics (GGB) is one of eight interdisciplinary PhD themes within Graduate Biomedical Sciences (GBS). Students select a theme upon application but have access to faculty and courses from across GBS, allowing for flexibility in both research and academics.

The GGB theme provides flexible, didactic, and integrated training opportunities across the broad disciplines of genetics, genomics, and bioinformatics. Our goal is to prepare students for independent research careers in experimental and computational disciplines, or the combination of those in academic research institutions and industry. To support this broad subject, the academic departments at UAB offer a large pool of mentors with expertise in varied research areas. The research interests of our mentors and students span the fields of genetics, genomics, bioinformatics, cancer biology, biochemistry, cell biology, developmental biology, immunology, and neuroscience. In addition, we teamed up with the UAB Informatics Institute (http://www.uab.edu/medicine/informatics) and HudsonAlpha Institute for Biotechnology (http://hudsonalpha.org) to accommodate training in their specific areas.

Admissions
Prospective students should visit the GBS Admissions page (https://www.uab.edu/gbs/home/admissions) for information on admissions requirements, application deadlines, and how to apply.

Financial Support
All students accepted into GBS programs receive a competitive annual stipend and fully paid tuition and fees. Single coverage health insurance is also provided at no cost to the student. Please reference the GBS Financial Support page (https://www.uab.edu/gbs/home/admissions/financial-support) for further information.

Curriculum

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Rotations</td>
<td>3</td>
</tr>
<tr>
<td>GBS 795</td>
<td>Lab Rotation 1</td>
</tr>
<tr>
<td>GBS 796</td>
<td>Lab Rotation 2</td>
</tr>
<tr>
<td>GBS 797</td>
<td>Lab Rotation 3</td>
</tr>
<tr>
<td>Core Courses</td>
<td>7</td>
</tr>
<tr>
<td>GBS 701</td>
<td>Core Concepts in Research: Critical Thinking &amp; Error Analysis</td>
</tr>
<tr>
<td>GBS 702</td>
<td>Basic Biochemistry and Metabolism</td>
</tr>
<tr>
<td>GBS 703</td>
<td>Basic Genetics and Molecular Biology</td>
</tr>
<tr>
<td>GBS 709</td>
<td>Basic Biological Organization</td>
</tr>
</tbody>
</table>

Module Courses 8

Theme Required Courses 9
- GBS 717 Methods and Scientific Logic
- GBS 724 Research
- GBS 725 GBS Student Theme Meeting Course

GBS Required Courses 49
- GRD 717 Principles of Scientific Integrity
- Biostatistics
- Journal Clubs
- Three Advanced Courses
- Research 7

1 Four modular courses selected from the following: GBS 710, GBS 712, GBS 714, GBS 720, GBS 722, GBS 723, GBS 724, GBS 740A, GBS 740B, GBS 741, GBS 744, GBS 750, GBS 751, GBS 752, GBS 753, GBS 760, GBS 762, GBS 763, GBS 764, GBS 765, GBS 769, GBS 770, GBS 774, GBS 781, GBS 782, GBS 784, GBS 788, GBS 727, GBS 729, GBS 744, GBS 747
2 Required each fall and spring semester, 2nd year until graduation.
3 Course selected from the following: GBS 716, GBS 725, GBS 726, GRD 709
4 Course selected from the following: GRD 770, BST 611, BST 612, BY 755, PY 716
5 Required each fall and spring semester, 2nd year until graduation. Courses selected from the following: GBS 736, GBS 746J, GBS 747J, GBS 756, GBS 766, GBS 776, GBS 786J, GBS 793, GBS 700, GBS 713, GBS 720, INFO 673, INFO 793
6 Courses selected from the following: GBS 700, GBS 702, GBS 715, GBS 718, GBS 726, GBS 727, GBS 729, GBS 739, GBS 742, GBS 749, GBS 754, GBS 757, GBS 765, GBS 775, GBS 778, GBS 779, GBS 783, GBS 785, GBS 706, GBS 707, GBS 709, GBS 710, GBS 712, GBS 714, GBS 715, GBS 717, GBS 721, GBS 724, GBS 725, GBS 726, GBS 730, GBS 732, GBS 734, GBS 735, GBS 736, GBS 740, GBS 741, GBS 743, GBS 745, GBS 746, INFO 701, INFO 702, INFO 703, INFO 704, INFO 751, INFO 762, INFO 796, INFO 797, BME 770, BME 772 or approved course.
7 Student must complete 24 hours total of dissertation research, GBS 799.

Theme Faculty
The faculty listing for the Genetics, Genomics, and Bioinformatics theme is located here (https://www.uab.edu/gbs/home/directories/gbs-faculty).

For further information, please reference the GBS website (https://www.uab.edu/gbs/home).