Interdisciplinary Perspectives on Genes and Genomes (Minor)

The Interdisciplinary Genetics and Genomics (GG) Minor is designed to include students from a variety of life sciences programs at NC State and builds on the philosophy that the exploration of genes and genomes informs all fields of biology. The GG Minor will help build a strong, cohort-based graduate community representing excellence in education and research. Cultural and scientific diversity is key to the GG Minor, and applications are encouraged from students identifying with groups typically underrepresented in STEM fields.

The GG Minor program is an innovative, project-based curriculum (https://gggsc.org/one-year-training-curriculum/) that integrates foundational conceptual training in genetics and genome-scale techniques with big data analysis and professional development. The GG Minor students will provide a critical opportunity for students to join a community-based learning environment to understand how to help develop the tools needed for working with diverse teams on collaborative scientific projects. One of the goals of the Minor is to help students be involved in and build the capacity for interdisciplinary research within the fields of genetics and genomics. The curriculum associated with the minor will provide hands-on opportunities to develop white papers or proposals with an interdisciplinary group.

One of the missions at NC State is to develop university-wide interdisciplinary research that informs society and based on this goal, there is even more of a need to provide our natural science students with exposure to the societal and cultural aspects of genetics and genomics.

Minor Requirements

12 credit hours from a list of approved courses are required, all of which must come from the list of core GGS courses. The choice of courses is consistent with the interdisciplinary outlook of this minor, namely that students will learn the basic concepts and principles underlying genetics and genomics.

Additional courses may be added to the approved list, as determined by the Executive Committee. Courses may be substituted at the Directors’ discretion. A grade of B- or higher must be achieved in each course counted towards the minor.

Total Hours 12

Professors
Rodolphe Barrangou
Joe Barycki
Russel Borski
Matthew Breen
Gina Brown-Guedira
Jose Bruno-Barcena
Jason Delborne
Ralph Dewey
John Godwin
Fred Gould
Christine Hawkes
Catherine Hoyo
Mike Hyman
Fikret Isik
Sam Jones
Alun Lloyd
Terri Long
Marce Lorenzen
Nanette Nascone-Yoder
Jun Ninomiya-Tsuji
Mette Olufsen
Balaji Rao
Dorith Rotenberg

More Information
IPGG Program Website (https://gga.ncsu.edu/interdisciplinary-perspectives-on-genes-and-genomes-graduate-minor-ipgg/)

Masters and Doctoral Minor Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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<tbody>
<tr>
<td>GGS 770</td>
<td>Genetics &amp; Genomics Survey Course</td>
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<td>GGS 771</td>
<td>Data Science for Genetics &amp; Genomics</td>
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<td>GGS 840</td>
<td>Professional Development &amp; Ethics in Genes &amp; Genomics</td>
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Coby Schal
Max Scott
Heike Sederoff
Rob Smart
Sid Thakur
Anna Whitfield
Brian Wiegmann
Cranos Williams
Deyu Xie
Jeff Yoder

**Associate Professors**
Hamis Ashrafi
David Aylor
Yevgeny Brudno
Nick Buchler
Martha Burford Reiskind
Ben Callahan
Michael Cowley
Jillian De Gezelle
Colleen Doherty
Mary Elting
Claire Gordy
Whitney Jones
Albert Keung
Manuel Kleiner
Kurt Marsden
Kelly Meiklejohn
Dahlia Nielsen
Xinxia Peng
Tony Planchart
David Rasmussen
Michael Reiskind
Reade Roberts
Anna Stepanova

Casey Theriot

**Assistant Professors**
Ruben Rellan Alvarez
Oliver Baars
Christa Baker
Michael Bradshaw
Eric Brooks
Zixuan Cang
Mallory Choudoir
Carter Clinton
Nathan Crook
Jeff Dunne
Natalia Duque-Wilckens
Kerim Eroglu
Joe Gage
Rafael Guerrero
Jonathan Hall
Caitlin Heil
Skylar Hopkins
Alejandra Huerta
Amanda Hulse-Kemp
Sharonda LeBlanc
Xingcheng Lin
Wusheng Liu
Gareth Powell
Ryan Sartor
Seema Sheth
Javier Lopez Soto
Josh Strable
Acer VanWallendael
Justin Whitehill
Christina Zakas
Research Professors
Jim Holland
Imara Perera

Associate Research Professor
Liz Kierepka