

Foundations in Biomedical Sciences: A Core Curriculum for GMS Doctoral Students

Why should we consider a move to an integrated curriculum for first year students?

- Encourage students to think in a rigorous and interdisciplinary fashion
- Coordinate content across courses and programs
- Reduce redundancy in course content
- Decrease lecture hours
- Promote collegiality among participating doctoral students
- Compete with peer institutions to recruit prospective students

What are some important features of the proposed integrated curriculum?

- A critical thinking component will be integrated into each module. Example activities for critical thinking include paper discussions, structural workshops, bioinformatics sessions, etc.
- Critical thinking activities will be carried out in small (6-8 students + 1 faculty member) breakout groups.
- Each module will have a separate course number, exam(s), and grade.
- Each module will have a course director who sits on a curriculum steering committee with the other module course directors.
- The core curriculum will be coordinated to span 1.5 semesters; the second half of the spring semester will allow students to choose from optional related offerings including molecular metabolism, physiology of systems, stem cells & development, and translational genomics.
- Students will be able to take program-specific courses beginning with their first semester of study.
- A grant-writing course will be developed for the second year of doctoral study.
- Formalized, anonymous course evaluations will be made standard practice for all modules.
- This structure will provide more opportunities for students to teach.
- Individual programs can choose to opt into this curriculum.
- Existing courses in Biochemistry (755, 756), Molecular Biology (782), Cell Biology (753), and Advanced Genetics and Genomics (702) will no longer be offered in their current form.
- The general schedule will be as follows:
 - Lectures – Tuesday, Thursday, and Friday mornings, 9:30 – 11:20 am
 - Breakout sessions – Fridays, 12:15 – 1:45 pm
 - Total contact time per week = 7 hours

Foundations in Biomedical Sciences: Course directing team

Foundations curriculum co-directors:

Shoumita Dasgupta, Medicine

Karen Symes, Biochemistry

Module	Topic	Co-director 1	Co-director 2
I	Protein Structure, Catalysis, and Interactions	Jamie McKnight, Physiology and Biophysics	Matt Nugent, Biochemistry
II	Structure and Function of the Genome	Shoumita Dasgupta, Medicine	Greg Viglianti, Microbiology
III	Architecture and Dynamics of the Cell	Vickery Trinkaus-Randall, Biochemistry	Andy Zoeller, Physiology and Biophysics
IV	Mechanisms of Cell Communication	Karen Symes, Biochemistry	Tien Hsu, Medicine
Vd	Stem Cells and Development	TBD	TBD
Vg	Translational Genomics	Marc Lenburg, Medicine	Richard Myers, Neurology
Vm	Molecular Metabolism	Susan Fried, Medicine	Paul Pilch, Biochemistry
Vp	Physiology of Systems	Jeff Moore, Physiology and Biophysics	TBD
Small groups	Interdisciplinary topics throughout Modules I-IV	Vickery Trinkaus-Randall, Biochemistry	Andy Henderson, Medicine