

**Cell, Molecular, & Developmental Biology (CMDB) Theme  
2018-2019 Academic Requirements**

COURSES	PLANNED	COMPLETED
<b>Lab Rotations</b>		
GBS 795- Lab Rotation 1 (1 hour)	1 <sup>st</sup> Fall	
GBS 796- Lab Rotation 2 (1 hour)	1 <sup>st</sup> Fall	
GBS 797- Lab Rotation 3 (1 hour)	1 <sup>st</sup> Spring	
GBS 794- Lab Rotation 4 (1 hour), if needed	1 <sup>st</sup> Spring	
<b>Core Courses</b>		
GBS 707- Basic Biochemistry and Metabolism (2 hours)	1 <sup>st</sup> Fall	
GBS 708- Basic Genetics and Molecular Biology (2 hours)	1 <sup>st</sup> Fall	
GBS 709- Basic Biological Organization (2 hours)	1 <sup>st</sup> Fall	
<b>Module Courses- recommended by theme</b>		
GBS 710- Cell Signaling (January, 2 hours)	1 <sup>st</sup> Spring	
GBS 712- Cellular and Molecular Aspects of Developmental Biology (February, 2 hours)	1 <sup>st</sup> Spring	
GBS 714- Developmental Neuroscience (March, 2 hours)	1 <sup>st</sup> Spring	
GBS 784- Stem Cell Biology (April, 2 hours)	1 <sup>st</sup> Spring	
<b>Theme Required Courses</b>		
GBS 717- Methods and Scientific Logic (2 hours)	1 <sup>st</sup> Summer	
GBS 723- Model Systems for Genetic Analysis (2 hours)	1 <sup>st</sup> Summer	
GBS 792- CMDB Seminar or any JHS Seminar (1 hour) <i>- Attend in 1<sup>st</sup> year, but do not register</i>	Every fall & spring, 2 <sup>nd</sup> year to graduation	
GBSC 742.VTC- CMDB Student Theme Meeting (1 hour) <i>- Attend in 1<sup>st</sup> year, but do not register</i>	Every fall & spring, 2 <sup>nd</sup> year to graduation	
<b>GBS Required Courses</b>		
GRD 717- Principles of Scientific Integrity (3 hours)	1 <sup>st</sup> Summer	
Grant-writing/Scientific-writing (2 hours) <i>- Course selected: GBS 716, GBS 725, GBS 768, GBSC 726</i>	2 <sup>nd</sup> year	
Biostatistics (3 hours) <i>-Course selected: GBSC 731, BST 611, BST 612, BY 755, PY 716</i>	2 <sup>nd</sup> year	
Journal Clubs (1 hour) <i>-Chosen in consultation with mentor</i>	Every fall & spring, 2 <sup>nd</sup> year to graduation	
Three Advanced Courses (3 hours each) <i>-Chosen in consultation with mentor and thesis committee</i>		
Research (Non-dissertation & Dissertation) <i>- Student must complete 24 hours total of dissertation research</i>	Every semester beyond lab rotations	

**Notes:**

- Students must be registered for 9 hours each semester, for a total of 27 hours per year. Equity and Diversity Scholars must register for 32 hours total per year. Any hours over must be approved by the program.
- Students must be admitted to candidacy for a minimum of 1 year before the thesis defense

**Additional Theme Requirements:**

- Publications: At least two first authored papers
- Presentations: At least one presentation at a national or international scientific meeting