

QBio Ph.D. Minor Approval Form

Student Name: _____ Campus ID #: _____

Current Ph.D. Graduate Program: _____

The minor program for Quantitative Biology should be designed to represent an interdisciplinary body of work and requires the following for completion:

- Ten (10) credits minimum from the course list attached to this document. These minimum ten credits should span four (4) courses from four (4) distinct categories:
 - One (1) Research Seminar (BME 780 is the only available course and is thus required)
 - One (1) Quantitative Course
 - One (1) Integrated Course
 - One (1) Biological Course
- Student completion and submission of this form for approval to their advisor and to the QBio minor's faculty advisor (*no later than halfway through the minor course sequence and before requesting the Preliminary Exam Warrant*).

Questions regarding the minor that are not addressed on the [QBio website](#) or in the [Graduate School's Guide](#) should be directed to the minor's faculty advisor, [Dr. Pam Kreeger](#), via email at kreeger@wisc.edu.

	Instructor	Dept. & Course #: Course Title	Grade	# of Credits	Semester Taken (e.g., Spring 2018)
Research Seminar		BME 780: Methods in Quantitative Biology		1	
Quantitative Course					
Integrated Course					
Biological Course					

For Departmental Use:

I approve the above courses for use in satisfying the requirements for a doctoral minor in Quantitative Biology:

Advisor Name: _____ Advisor Signature: _____ Date: _____

QBio Minor Faculty Director Signature: _____ Date: _____



QBio Ph.D. Minor Course List

Research Seminar (Required)

- B ME 780 - *Methods in Quantitative Biology*

Quantitative Courses (Choose One)

- CBE 660 - *Intermediate Problems in Chemical Engineering*
- COMP SCI 760 - *Machine Learning*
- MATH 443 - *Applied Linear Algebra*
- MATH / COMP SCI 513 - *Numerical Linear Algebra*
- MATH / COMP SCI 514 - *Numerical Analysis*
- MATH 519 - *Ordinary Differential Equations*
- MATH 531 - *Probability Theory*
- MATH 605 - *Stochastic Methods for Biology*
- MATH 608 - *Mathematical Methods for Continuum Modeling in Biology*
- MATH 619 - *Analysis of Partial Differential Equations*
- MATH / COMP SCI 714 - *Methods of Computational Mathematics I*
- STAT / MATH 431 - *Introduction to the Theory of Probability*
- STAT / B M I 541 - *Introduction to Biostatistics*
- STAT / F&W ECOL / HORT 571 - *Statistical Methods for Bioscience I*
- STAT / F&W ECOL / HORT 572 - *Statistical Methods for Bioscience II*
- STAT 609 - *Mathematical Statistics 1*
- STAT 610 - *Introduction to Statistical Inference*
- STAT / I SY E / MATH / OTM 632 - *Introduction to Stochastic Processes*
- STAT / MATH 709 - *Mathematical Statistics*
- STAT / MATH 710 - *Mathematical Statistics*

Integrated Courses (Choose One)

- B ME 556 - *Systems Biology: Mammalian Signaling Networks*
- B ME / CBE 782 - *Modeling Biological Systems*
- B ME / CBE 783 - *Design of Biological Molecules*
- B M I / COMP SCI 576 - *Introduction to Bioinformatics*
- B M I / BIOCHEM / BMOLCHEM / MATH 606 - *Mathematical Methods for Structural Biology*
- B M I / BIOCHEM / BMOLCHEM / MATH 609 - *Math Methods for Systems Biology*
- B M I / COMP SCI 776 - *Advanced Bioinformatics*
- B M I / STAT 877 - *Statistical Methods for Molecular Biology*
- GENETICS 885 - *Advanced Genomic and Proteomic Analysis*

Biological Courses (Choose One)

- BIOCHEM 501 - *Introduction to Biochemistry*
- BIOCHEM 601 - *Protein and Enzyme Structure and Function*
- BIOCHEM / GENETICS / MICROBIO 612 - *Prokaryotic Molecular Biology*
- BIOCHEM / GENETICS / MD GENET 620 - *Eukaryotic Molecular Biology*
- BIOCHEM / BOTANY 621 - *Plant Biochemistry*
- BIOCHEM 625 - *Coenzymes and Cofactors in Enzymology*
- BIOCHEM / PHM COL-M / ZOOLOGY 630 - *Cellular Signal Transduction*
- BIOCHEM 660 - *Methods in Biochemistry*
- BIOCHEM / CHEM 704 - *Chemical Biology*
- BIOCHEM / MICROBIO 726 - *Regulation of Expression in Prokaryotes*
- GENETICS 466 - *Principles of Genetics*
- GENETICS / MICROBIO 607 - *Advanced Microbial Genetics*
- GENETICS / BOTANY / M M & I / MICROBIO / PL PATH 655 - *Biology and Genetics of Fungi*
- GENETICS 701 - *Advanced Genetics*
- MICROBIO 625 - *Advanced Microbial Physiology*
- MICROBIO / BMOLCHEM 668 - *Microbiology at Atomic Resolution*
- ZOOLOGY 570 - *Cell Biology*