

**MABE Ph. D. Qualifying Examination
Fall 2009**

Subject	Instructions
Bio-instrumentation	Closed book and closed notes.
Bio-materials	May use all textbooks and notes used in MSE201, MSE474, BME409, MSE/BME486/588, as well as books recommended as references for these courses.
Bio-mechanics	Closed book and closed notes.
Bio-systems	Closed book and closed notes.
Computational Biology	Closed book and closed notes.
CFD	Closed books and closed notes.
Controls	Closed book and closed notes.
Dynamics	Closed book and closed notes.
Fluid Mechanics	Closed books and closed notes; may use handout of some equations and compressible flow tables.
Fracture Mechanics	Open book.
Heat Transfer	Closed notes; may use textbook, <i>Fundamentals of Heat and Mass Transfer</i> , by Incropera and DeWitt (5th & 6th edition).
Mechanics of Materials	Open book; open notes.
Thermodynamics	Closed book and closed notes.
Vibrations	Closed book and closed notes.

For all exams, a calculator is allowed but a computer is not permitted.