Mechanical Engineering Graduate Program
Requirements for PhD students

STUDENT NAME: _____________________________

REQUIREMENT:                      COMPLETION DATE:

1. Select a Studies Committee consisting of four regular members of the Graduate Faculty and obtain approval by the mechanical engineering graduate program coordinator by the end of the first semester. The Chairperson of the Studies Committee serves as the student's academic advisor and also as the dissertation advisor. Only a regular member of the Graduate Faculty can serve as an advisor of a doctoral dissertation.

Print Studies Committee member names here:
(thesis advisor) ______________________________
(member 1) ______________________________
(member 2) ______________________________
(member 3) ______________________________

2. Provide Graduate Degree Program Outline to the Graduate College prior to registration for the third semester of study. _____________________________

3. Complete 15 credit hours of coursework at UVM. _____________________________

4. Complete at least 15 credit hours in graduate-level mechanical engineering coursework at UVM from table of areas of specialization below. This can include M.S. credits earned at UVM. _____________________________

5. Complete 9 additional credit hours in graduate-level Engineering, Mathematics, Statistics, Physical or Life Sciences. _____________________________


7. Complete the teaching requirement by either:
   A. giving 2 seminars or
   B. serving as a Graduate Teaching Assistant (GTA) for one semester. _____________________________
8. Select your Thesis Defense Committee. The Thesis Defense Committee must consist of at least four University of Vermont graduate faculty members. At least two Graduate Faculty members must be from the mechanical engineering graduate program. The Chairperson must be both a member of the Graduate Faculty and from outside the mechanical engineering program. The Chairperson will be designated by the Graduate Dean upon nomination by the dissertation advisor. __/__/___


10. Complete a minimum of 20 hours of thesis credits (ME491) supervised by the dissertation advisor prior to the doctoral thesis defense, with the expectation that the student’s research must culminate in original works publishable in peer-reviewed journal articles. __/__/___

11. Complete a total of 75 credit hours. A minimum of 51 credit hours must be accumulated in residence at UVM combining both credits taken for coursework and independent research. Up to 24 credits hours is allowable for transfer from other institutions. Also, up to 24 hours of coursework for which graduate credit is earned at UVM in an M.S. program may be applied toward a Ph.D., provided the credit is appropriate for a Ph.D. __/__/___


Graduate program coordinator approval:

Signature: ________________________________  Date: __/__/___

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Date: __/__/___
**AREAS OF SPECIALIZATION IN MECHANICAL ENGINEERING:**

<table>
<thead>
<tr>
<th>Area</th>
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| **Bioengineering and Biomechanics Area** | ME207 (Bioengineering)  
ME208 (Biomechanics: Tissue Engr.)  
ME209 (Biomechanics: Transport Proc.)  
ME312 (Adv. Bioengineering Systems)  
Any approved course at the 200 or 300 level in biomechanics area as offered |
| **Control Theory and Mechanical Systems Area** | ME203 (Machinery Analysis & Synthesis)  
ME210 (Control Systems) (cross-listed with EE210)  
ME230 (Orbital Mechanics)  
ME234 (Mechanical Vibrations)  
ME338 (Advanced Dynamics)  
Any approved course at the 200 or 300 level in Control Theory and Mechanical Systems area as offered |
| **Solid Mechanics and Materials Area**   | ME252 (Mechanical Behavior of Materials)  
ME255 (Advanced Engineering Materials)  
ME257 (Composite Materials)  
ME333 (Stress Analysis)  
Any approved course at the 200 or 300 level in solid mechanics/materials area as offered |
| **Thermo/Fluids Area**                  | ME237 (Intro to Turbulence)  
ME240 (Compressible Flow)  
ME242, 344 (Adv. Engr. Thermodynamics I, II)  
ME245, 345 (Advanced Heat Transfer I, II)  
ME243 (Incompressible Flow)  
ME342 (Advanced Combustion)  
ME343 (Advanced Fluid Dynamics)  
Any approved course at the 200 or 300 level in thermo-fluids area as offered |
The Doctoral Comprehensive Exam is administered by the Mechanical Engineering Graduate Program of the School of Engineering. The candidate must pass a combined written and oral examination.

The doctoral comprehensive examination will be offered twice a year, December or May, by the end of the second calendar week in each case.

The candidate is given a maximum of two opportunities to pass the examination.

Candidates must register for GRAD 497 in the semester in which they wish to take the examination, and register with the Graduate Program Coordinator at the beginning of the semester in which the examination may be offered.

The examination subject matter must cover four courses at the Doctorate level that the student has taken in prior semesters. A doctoral comprehensive examination committee consisting of 3 mechanical engineering graduate faculty and 1 from outside the program will be the examiners. A faculty member with secondary appointment in the mechanical engineering program can be considered as the outsider.

The first part of the examination will be in a written closed-book format that has two 3-hour sessions. The second part of the examination is the oral portion with each examiner. The written examination must be graded before the oral examination.

Following the oral examination, each examiner will directly report to the mechanical engineering graduate program coordinator who will decide on the pass/fail status.

Last modified on 01/09/2012.