

2007 ME Curriculum Proposal

2006-07 ME Dept Curriculum Committee
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Goals

1. Increase the number of technical electives in our curriculum
2. Add 2-credits to ME311 Mechanical Measurements
3. Consider separating Machine Elements and the capstone project.
4. Consider the question of imbalance between solid mechanics and fluid/thermal required courses

Constraints

1. Focus primarily on the junior and senior years
2. Required courses should fulfill “what every ME graduate” should know
3. Meet the needs of students not on the conventional flow chart, e.g. co-op students.
4. Evenly distribute the workload through the year for all ME faculty groups, e.g., the “mechanics/materials” faculty or the “thermal/fluids” faculty and so forth.
5. Maintain the 194 credit graduation requirement

Background leading to the current proposal

- Mar 01 Department votes to increase the number of technical elective class slots in the curriculum.
- May 01 2000-01 ME Curriculum Committee drafts a suggestion to separate Machine Elements and the capstone project.
- Oct 02 2002-03 ME Curriculum Committee agrees to focus on junior/senior year.
- Early 03 Committee decides the lab upgrade is the easiest first step. Lab Group forms.
- Dec 05 2003-05 Lab Group recommends a 4-credit ME311 and a 2-credit ME421.
- AY 06-07 Fluid/thermal faculty discuss the question of imbalance between solid mechanics and fluid/thermal required courses
- Jan 07 Dept discusses proposal to require either/or Chem202 and a Biology course
- Apr 07 2006-07 ME Curriculum Committee finalizes proposal.

Recommendations are summarized in the proposal and flow chart distributed last week (attached).

Conclusions. Goals 1-3 are clearly addressed. Goal 4 shows some progress, and the Thermal/Fluids faculty are not recommending any additional changes in the thermal/fluids area at this time.

Recommendations

Change	Reducing credits	Change	Adding credits
Remove the requirement for ME 303 Kinematics. Retire ME 303 from the catalog. Offer a new ME 403 Kinematics as a technical elective.	3	Add 2-credit hours to ME 311 Mechanical Measurements, making it 3R-3L-4C. (Change course number to ME321.)	2
		Add 1-credit hour (3-hour lab) to ME 323 Computer Applications II, making it 2R-3L-3C.	1
From ME 450 Engineering Design and ME 460 Machine Design, separate the capstone design content from the machine elements content. (No change to ME 470.) Retire ME 450/460 from the catalog.	8	New ME 350 Machine Elements required course (technical content from ME 450/460). (4R-0L-4C)	4
		New ME 471 Capstone Design 1, required course WQ (project from ME450/460). (0R-6L-2C)	2
		New ME 472 Capstone Design 2, required course SQ (project from ME450/460). (0R-6L-2C)	2
Remove the "take either" requirement for Vibrations/Controls. Offer EM 406 Vibrations as a technical elective.	4	Make ME 406 Control Systems a required course.	4
Remove the requirement for ME 461/462. Offer ME 461 Aircraft Design and ME 462 Thermal Design as technical electives.	4	Add a new technical elective.	4
Remove the requirement for ECE 207 Elements of Elec Engng II. Retire ECE 207 from the catalog.	4	Add a new technical elective.	4
Remove the requirement for CM 202 Chem II.	4	Add a new "take either" requirement for CM 202 Chem II and AB 110 Biology I	4
Total	27	Total	27

Prerequisite updates.

Course	Prerequisite change
EM 103 Introduction to Design	Add prereq EM 104 Graphical Communications. Add a drag section of EM 104 Graphical Communications in WQ.
ME 321 Measurement Systems (old ME311)	Remove prereq Junior-class standing Add prereqs EM 103 Introduction to Design and ES 205 Analysis and Design of Engineering Systems
ME 430 Mechatronics	Remove prereqs ECE 207 EEE-II and ME 323 Comp Apps II Add prereq ME 123 Computer Applications I
ME 470 Engineering System Design	Add prereq EM 103 Introduction to Design

Name/number updates.

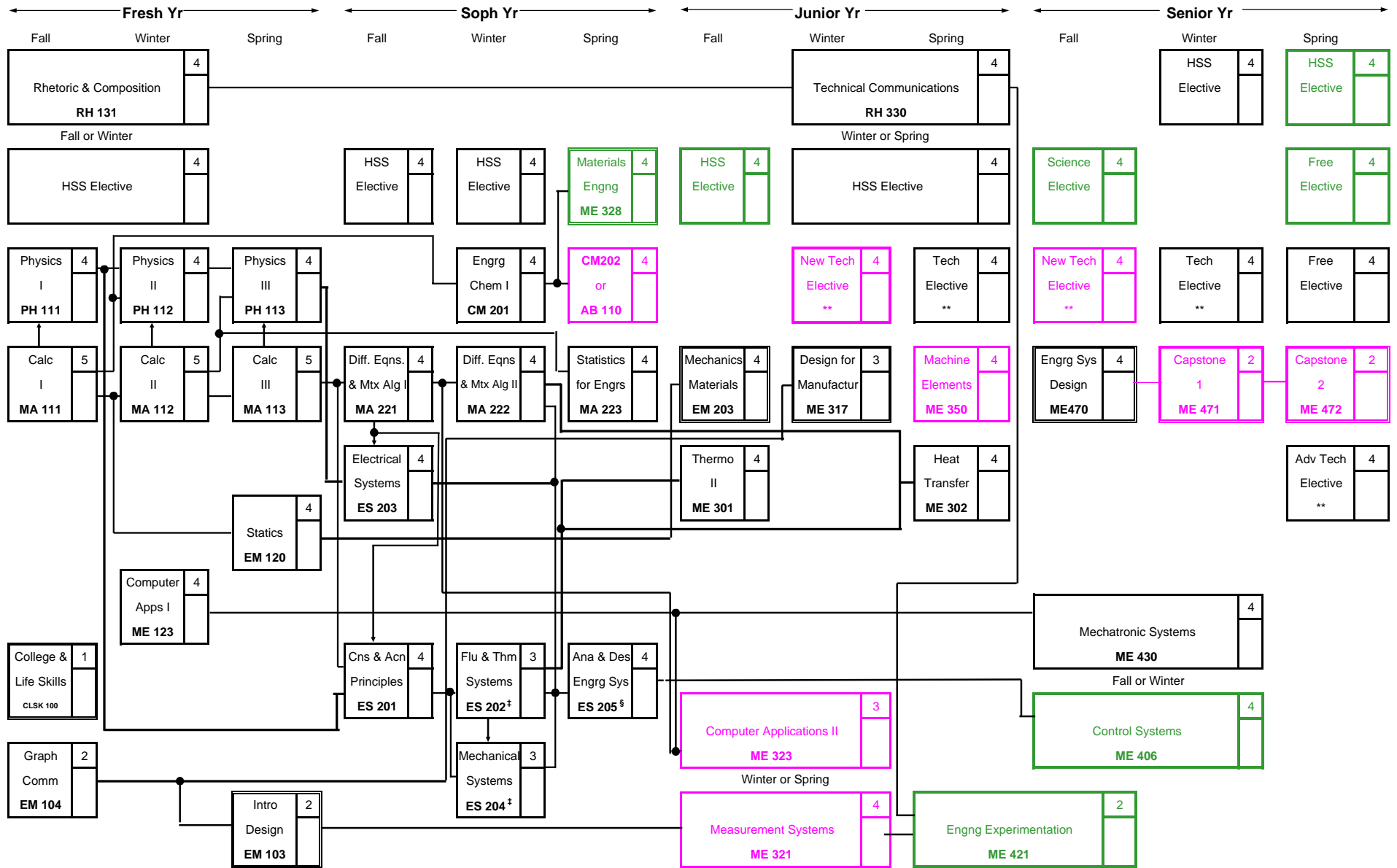
Course	New name/number
ME 311 Mechanical Measurements	ME 321 Measurement Systems
ME 421 ME Lab	ME 421 Engineering Experimentation

Rose-Hulman Institute of Technology

Mechanical Engineering Department Curriculum Flowchart

Student: _____

Keys: Prerequisite — Corequisite ↑ ↓ ME/EM courses offered this quarter only



[†] Prerequisite grade of C or better in ES 201

[§] Prerequisite grade of C or better in ES 203

14 18
176 194

Credit Hrs	16	17	15	16	18	16	15 or 16	15 or 14	16 or 18	18 or 16
Cum Hrs	16	33	48	64	82	98	114	128	146	162 or 162