



Proposal to the Senate Educational Policy Committee

PROPOSAL TITLE:

Revision of the Curriculum Requirements for the Ph.D. in Mechanical Engineering, Department of Mechanical Science and Engineering, College of Engineering

SPONSOR:

Anthony Jacobi, Department Head of Mechanical Science and Engineering, ajacobi@illinois.edu, 333-4108

COLLEGE CONTACT:

Harry Dankowicz, Associate Dean of Engineering Graduate, Online and Professional Programs, danko@illinois.edu, 244-1231

BRIEF DESCRIPTION:

We propose to change the number of coursework credit hours required for the 64-credit hour Ph.D. degree in Mechanical Engineering from 32 to 20 and the 96-credit hour Ph.D. from 56 to 44. Correspondingly, the number of dissertation credit hours will increase from 32 to 44 in the 64-credit hour curriculum and from 40 to 52 in the 96-credit hour curriculum, keeping the total at the 64-credit and 96-credit hour minimum requirement of the Graduate College. No change is proposed to the MS degree requirements.

64-Credit Hour Curriculum

- 20 credit hours of graduate-level courses beyond the MS. Of these, no more than 4 hours may be ME 597, Independent Study.
- At least 8 of the 20 credit hours must be 500-level courses of which one must be an advanced 500-level math course from approved list (see Appendix A).
- At least 8 credit hours of “Enrichment” coursework (graduate level courses that do not strongly overlap with the student’s main research topic) to be chosen in consultation with thesis advisor.
- 44 credit hours of dissertation credit.
- Additional courses beyond the 8 credit hours of 500-level courses may be ME or TAM graduate level 400 or 500 level courses, or other engineering graduate-level 400 or 500 level technical courses that are chosen in consultation with advisor.

96-Credit Hour Curriculum

- 44 credit hours of graduate level courses. Of these no more than 8 hours may be ME 597, Independent Study.
- At least 16 of the 44 credit hours must be 500-level courses of which one must be an advanced 500-level math course from an approved list (see Appendix A).
- At least 8 credit hours of “Enrichment” coursework (graduate level courses that do not strongly overlap with the student’s main research topic) to be chosen in consultation with thesis advisor.
- 52 credit hours of dissertation credit.
- Additional courses beyond the 16 credit hours of 500-level courses may be ME or TAM graduate level 400 or 500 level courses, or other engineering graduate-level 400 or 500 level technical courses that are chosen in consultation with advisor.

JUSTIFICATION:

Current ME graduate degree coursework requirements include a minimum of 24 course credit hours for the MSME with thesis and an additional 32 graduate-level course credit hours for the ME Ph.D. The current ME Ph.D. coursework requirements include 16 hours at 500-level, to include 3-4 hours of advanced mathematics from an approved list of courses.

An audit of our peer institutions showed that our existing ME Ph.D. requirements were higher than at peer institutions in both the number of 500-level graduate courses required and the overall number of graduate courses required for comparable programs. In addition, recent changes to the ME Ph.D. Qualifying Exam have placed a stronger emphasis on research. This adjustment of the number of required graduate-level courses and required number of dissertation credits will assist the students in balancing this demand.

With requesting this change to our 64-credit hour Ph.D. requirement, we also want to align our 96-credit hour Ph.D. curriculum with the same adjustments so that students in either program are completing the same number of coursework hours. This will keep this curriculum competitive with our peers as well.

BUDGETARY AND STAFF IMPLICATIONS: *(Please respond to each of the following questions.)*

1. Resources

- a. How does the unit intend to financially support this proposal?

There will not be any budgetary obligations due to these changes in the ME Ph.D. The program implementation will be carried out with existing resources.

- b. How will the unit create capacity or surplus to appropriately resource this program? If applicable, what functions or programs will the unit no longer support to create capacity?

There are no capacity implications with respect to this proposed change. There will be no additional enrollment beyond the numbers currently

supported by the department. Graduate student enrollment is limited by the number of research assistantships (faculty grants) and by available teaching assistantships.

- c. Will the unit need to seek campus or other external resources? If so, please provide a summary of the sources and an indication of the approved support.

No, there will be no additional financial obligations resulting from these changes.

- d. Please provide a letter of acknowledgment from the college that outlines the financial arrangements for the proposed program.

There are no financial implications for these requested changes.

2. Resource Implications

- a. Please address the impact on faculty resources including the changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc. any change to student –faculty ratio.

The proposed change to the ME Ph.D. curriculums will potentially reduce course enrollment by 438 as there are approximately 148 ME Ph.D. students currently completing their coursework. This is based on the assumption that they decide to strictly follow the course requirements and choose not to enroll in classes beyond those requirements. As a result, we do not anticipate changes in teaching load or class size. Rather, we expect this change may facilitate new course opportunities, affording a greater variety of offerings for students. Since this is a Ph.D. requirements change, we do not anticipate any change in student-faculty ratio.

- b. Please address the impact on course enrollment in other units and provide an explanation of discussions with representatives of those units. (A letter of acknowledgement from units impacted should be included.)

The proposed change is going to have no change on courses in other units. In fact, by reducing the required number of total course work hours, if anything, it will reduce workload.

- c. Please address the impact on the University Library (A letter of estimated impact from the University Librarian must be included for all new program proposals. If the impact is above and beyond normal library business practices, describe provisions for how this will be resourced.)

The proposed changes will have no impact on the University Library.

- d. Please address the impact on technology and space (e.g. computer use, laboratory use, equipment, etc.)

The proposed changes will have no impact on technology and space.

For new degree programs only:

3. Briefly describe how this program will support the University's mission, focus, and/or current priorities. Include specific objectives and measurable outcomes that demonstrate the program's consistency with and centrality to that mission.

NA

4. Please provide an analysis of the market demand for this degree program. What market indicators are driving this proposal? What type of employment outlook should these graduates expect? What resources will be provided to assist students with job placement?

NA

5. If this is a proposed graduate program, please discuss the programs intended use of waivers. If the program is dependent on waivers, how will the unit compensate for lost tuition revenue?

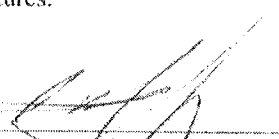
NA

DESIRED EFFECTIVE DATE: Fall 2017

STATEMENT FOR PROGRAMS OF STUDY CATALOG: See Appendix B


CLEARANCES: (Clearances should include signatures and dates of approval. These signatures must appear on a separate sheet. If multiple departments or colleges are sponsoring the proposal, please add the appropriate signature lines below.)

Signatures:



Unit Representative:

Date:



College Representative:

12-6-16

Date:



Graduate College Representative:

2/2/17

Date:

Council on Teacher Education Representative:

Date:

Appendix A: Revised Credit Hour ME Ph.D. Curriculums (Proposed Curriculum Revisions)

64-Credit Hour Curriculum

Current Requirements:	Current Hours	Revised Hours
<i>ME Ph.D. Course Requirements</i>		
Required coursework hours (advanced math course)	3-4 hours	3-4 hours
Elective coursework	28-29 hours	16-17 hours
500 level coursework (hours counted in Elective Coursework)	16 hours	8 hours
Thesis hours required	32 hours	44 hours
Total Required Hours	64 hours	64 hours

Revised Curriculum:

- 20 credit hours of graduate level courses beyond MS.
- 44 credit hours of dissertation credit beyond the MS.

Required Courses:

- ME 590 (0 credit hours)
- Advanced Mathematics Course from approved list (3-4 hour 500-level course)

Approved List

- TAM 541 Mathematical Methods I
- TAM 542 Mathematical Methods II
- TAM 549 Asymptotic Methods
- Any 500-level math course by the University of Illinois Math Department except for Math 596, 597, 598, or 599.

Elective Courses:

Students must complete 16-17 elective hours, of which 8 must be 500-level courses. No more than 4 hours may be in a ME 597 independent study course. Elective courses must include 8 hours of graduate level “Enrichment Courses” (graduate level courses that do not strongly overlap with student's main research topic and are chosen in consultation with thesis advisor). Additional courses beyond the 8 credit hours of 500-level course may be ME or TAM 400 or 500 level graduate courses, or 400 or 500 level engineering graduate technical courses to be chosen in conjunction with the advisor.

96-Credit Hour Curriculum

Current Requirements:	Current Hours	Revised Hours
<i>ME Ph.D. Course Requirements</i>		
Required coursework hours (advanced math course)	3-4 hours	3-4 hours
Elective coursework	52-53 hours	40-41 hours
500 level coursework (hours counted in the Elective Coursework)	24 hours	16 hours
Thesis hours required	40 hours	52 hours

Total Required Hours	96 hours	96 hours
-----------------------------	----------	----------

Revised Curriculum

- 44 credit hours of graduate level courses.
- 52 credit hours of dissertation credit.

Required Courses:

- MSE 492 (0 credit hours)
- ME 590 (0 credit hours)
- Advanced Mathematics Course from approved list (3-4 hour 500-level course)

Approved List

- TAM 541 Mathematical Methods I
- TAM 542 Mathematical Methods II
- TAM 549 Asymptotic Methods
- Any 500-level math course by the University of Illinois Math Department except for Math 596, 597, 598, or 599.

Elective Courses:

Students must complete 40-41 elective hours, of which 16 must be 500-level courses. No more than 8 hours may be in a ME 597 independent study course. Elective courses must include 8 hours of graduate level “Enrichment Courses”(graduate level courses that do not strongly overlap with student's main research topic and are chosen in consultation with thesis advisor). Additional courses beyond the 16 credit hours of 500-level course may be ME or TAM 400 or 500 level graduate courses, or 400 or 500 level engineering graduate technical courses to be chosen in conjunction with the advisor.

Appendix B: Program of Study

<http://mechse.illinois.edu>

Head of the Department: Tony Jacobi
Associate Head for Graduate Programs: Taher Saif
168 Mechanical Engineering Building
1206 West Green Street
Urbana, IL 61801
(217) 244-3416
E-mail: mechse-grad@illinois.edu

Associate Head for Mechanics Programs: Ken Christensen
154 Mechanical Engineering Building
1206 West Green Street
Urbana, IL 61801
(217) 333-4388
E-mail: mechse-mechanics@illinois.edu
Major: Engineering
Degrees Offered: M.Eng.
Graduate Concentration: Computational Engineering

Major: Mechanical Engineering
Degrees Offered: M.Eng., M.S., Ph.D.

Major: Theoretical and Applied Mechanics
Degrees Offered: M.S., Ph.D.

Off-Campus Program: Mechanical Engineering
Degree offered: M.S.

Concentrations: Biomechanics, Computational Science and Engineering

Graduate Degree Programs

Building upon the longstanding strengths of programs in mechanical engineering and in mechanics, the Department of Mechanical Science and Engineering (MechSE) at the University of Illinois at Urbana-Champaign is taking a bold, new approach to research and education that will enable it to address some of the most pressing problems facing the nation and the world. A new paradigm in research is being created in the department by integrating basic sciences such as biology, chemistry, applied mathematics, and applied physics with the traditional mechanical engineering and engineering mechanics disciplines of fluid mechanics-thermal science, solid mechanics-materials, and controls-dynamics. This integration is fostering new directions and discoveries in nanomechanics, nanomanufacturing, biomechanics and computational science and engineering.

The goal of all research in the department is to address critical societal problems in the areas of health, security-defense, energy-environment, manufacturing, and transportation. While the basic function of departmental research is generation of new knowledge, a growing number of projects are prompted by current needs of the State of Illinois and of the nation.

The department offers graduate programs leading to master's and doctoral degrees with exciting research opportunities as described in the Faculty Research Interests section below. Opportunity also exists for specializing in:

1. computational science and engineering, and
2. energy and sustainability engineering

via the Computational Science and Engineering (CSE) transcriptable Concentration and the Energy and Sustainability Engineering (EaSE) option.

The M.Eng. is a professional master's degree program for students whose primary intent is a career in industry or government. This degree differs from the Master of Science degree in that it is a terminal degree and not a pathway to a doctoral program.

Admission

An applicant for admission to the Department of Mechanical Science and Engineering must:

1. Be a graduate of an institution awarding a baccalaureate degree equivalent to that granted by the University of Illinois at Urbana-Champaign;
2. be adequately prepared for advanced study as demonstrated by his or her previous program of study and scholastic record; and
3. be recommended for admission by the Department of Mechanical Science and Engineering. A minimum grade point average of 3.25 (A = 4.00) for the last two years of undergraduate study is required and a 3.50 for any previous graduate work completed.

Scores on the Graduate Record Examination (GRE) general test are required of all applicants. Based upon the previous preparation of the student, prerequisite courses may be specified by the advisor, but the credit may not be applied toward a degree.

All applicants whose native language is not English must submit a minimum TOEFL score of 103 (iBT), 257 (CBT), or 613 (PBT); or minimum International English Language Testing System (IELTS) academic exam scores of 7.0 overall and 6.0 in all subsections. Applicants may be exempt from the TOEFL if certain criteria are met. Full admission status is granted for those meeting the minimum requirements and having taken the TOEFL or IELTS since the scores required for admission to MechSE are above the minimum scores demonstrating an acceptable level of English language proficiency.

Applicants to the M.Eng. must have a bachelor's or master's degree in engineering or a related field and will be considered for admission if they have a grade point average of at least 3.00 (A = 4.00) for the last two years of undergraduate study. Admission is possible for the spring term, but most admissions are for the fall term. The same requirements as listed above apply for all applicants whose native language is not English.

Students may apply to the Medical Scholars Program prior to beginning graduate school or while in the graduate program. Applicants to the Medical Scholars Program must meet the admissions standards for and be accepted into both Mechanical Science and Engineering and the College of Medicine. An application to the Medical Scholars Program will also serve as the application to the Mechanical Science and Engineering graduate programs. Further information on this program is available by contacting the Medical Scholars Program, (125 Medical Sciences Building, (217)-333-8146, mspo@illinois.edu).

Students interested in the joint M.S.M.E.-M.B.A. degree program must apply initially to the M.B.A. program. In the term in which 60 hours of the M.B.A. course work prescribed for the joint-degree program is expected to be completed, they become eligible to petition to transfer to the M.S.M.E. degree program and with MechSE approval, may be admitted under the joint M.S.M.E.-M.B.A. program code.

Off-Campus Programs

The department offers the M.S. in Mechanical Engineering with both a thesis and a non-thesis option as described above.

Graduate Teaching Experience

Although teaching is not a general Graduate College requirement, experience in teaching is considered an important part of the graduate experience in both the ME and TAM Ph.D. programs. The TAM Ph.D. requires that one semester of teaching assistantship be completed during the program.

Faculty Research Interests

A new paradigm in research is being created in the department by integrating basic sciences such as biology, chemistry, applied mathematics, and applied physics with the traditional mechanical engineering and engineering mechanics disciplines of fluid mechanics/thermal science, solid mechanics/materials and controls/dynamics. This integration is fostering new directions and discoveries in nanomechanics, nanomanufacturing, biomechanics and computational science and engineering.

The goal of all research in the department is to address critical societal problems in the areas of health, security/defense, energy/environment, manufacturing, and transportation. While the basic function of departmental research is generation of new knowledge, a growing number of projects are prompted by current needs of the state of Illinois and of the nation.

Faculty research interests include the following:

- Biomechanics – cell adhesion and motility, biological machines, bio-fluid mechanics, orthopedic biomechanics, musculoskeletal biomechanics, rehabilitation engineering, bone mechanics, composite biological nanomaterials, single-cell mechanics, synthetic biomaterials, failure mechanics of biomaterials, cytoskeletal biomechanics, mechanotransduction, bio-imaging of cytoskeletal structures and stress distribution in living cells, human motion analysis, human-machine systems.
- Nanomechanics/nanomanufacturing – micro/nano-fluidics, NEMS and MEMS, photonic metamaterials and devices, 3D micro/nanofabrication, process planning, programmable machines, nanotubes, nano-materials, electronic and photonic materials, metal cutting, micro/meso-machining, agile fixturing, scanning probe microscopy, micro/nano heat and mass transfer, feature-based cost analysis, rapid prototyping, interface surface science and technology, tribology, magnetic storage, friction/vibration characterization, microscale transport, electrokinetic phenomena, nano-positioning, atomic force microscopy, nanoscale actuation and robotics.
- Controls/dynamics – autonomous networked vehicle control, nonlinear mechanical systems and phenomena, distributed-parameter systems, wavelet methods, stability theory, piecewise smooth dynamics, multi-body dynamics, control of multi-rate and asynchronous systems, equi-variant (symmetric) dynamical systems, control using methods of stochastic dynamics, experimental and analytical modal analysis, and control theory (non-linear, adaptive, robust, optimal, and distributed) with application to mechanical and electromechanical systems.
- Fluid mechanics/thermal sciences – bio-fluids, combustion, propulsion, energy systems and the environment, IC engines, gas turbines, laser diagnostics, energetic materials, combustion synthesis of materials, micro- and nano-scale heat transfer, kinetics of chemical processes, two-phase flow, liquid atomization and spray, air-conditioning and refrigeration systems, micro-fluidics, computational fluid dynamics, compressible flow, fluid-structure interactions, meshless methods, detonation, deflagration-to-detonation transition, shock propagation, reacting flows, internal ballistics of rockets and guns, continual eddies, turbulent boundary layers, turbulent wakes, stratified turbulence, turbulence simulation, instability modes, vortex dynamics, coating flows, flow separation, three-dimensional foams, direct numerical simulation, large-eddy simulation, and particle-image velocimetry.
- Solid mechanics/materials – bio-materials, composite biological nanomaterials, electronic and photonic materials, stochastic mechanics, mechanics and transport in random media, thermomechanics, composite materials, creep, fatigue, fracture, high-temperature material behavior, polymer processing, ceramic-matrix composites, thin films, deformation processes, crystal plasticity, micro-scale phenomena, non-linear dynamics, continuum mechanics, ferroelectric ceramics, shape-memory alloys, composite interfaces, woven laminates, electronic packaging, energetic materials, corn-based composites, orientable elastomers, thermoelasticity, dynamic plasticity, residual stresses, martensitic microstructure, surface crack growth, brittle-to-ductile transition, pure shear failure, shear-band measurements, damage evolution, creep resistance, hydrogen embrittlement, powder consolidation, solidification, strain-gradient plasticity,

nanotubes, composite interfaces, continuum-atomistic coupling, surface waves, wave scattering, crack detection, vibration transport, diffuse waves, stochastic waves, reverberant ultrasound and casting processes.

Centers, Programs, and Institutes

The following research centers and programs are integral to the MechSE graduate program:

- Air Conditioning and Refrigeration Center (ACRC)
- Center for Intracellular Mechanics
- Center for Nanoscale Chemical-Electrical-Mechanical Manufacturing systems (Nano-CEMMS)
- Continuous Casting Consortium (CCC)
- Cooperative Networked Control of Dynamical Peer-to-Peer Vehicle Systems
- Fracture Control Program
- Manufacturing Research Center
- Midwest Structural Sciences Center
- The Center for Advanced Automotive Bio-Fuel Combustion Engines
- The Center for Process Simulation and Design
- The Center of Advanced Materials for Purification of Water with Systems (The WaterCAMPWS)
- The Global Enterprise for Micro-Mechanics and Molecular Medicine (GEM4)

To learn more about the research centers and programs within the MechSE department, please visit the department's [research center Web site](#).

Facilities and Resources

Research facilities include laboratories for advanced automation, air conditioning and refrigeration, combustion, computer-integrated manufacturing, control systems, design for manufacturing, gas dynamics, heat transfer, high-temperature materials, human factors and simulation of human-machine interaction, human dynamics and controls, intracellular mechanics, cell and molecular mechanics, internal-combustion engines, laser diagnostics for combustion, opto-electronic materials, machining and machine tool systems, mechanical behavior of materials, metrology, micromachining, microtribodynamics, polymer and composite materials processing, propulsion, rapid prototyping, robotics, short-pulse laser-ablation technology, thermal processing of materials, thermal radiation, tribology, and vehicle dynamics. Special facilities include a micro-fabrication facility with its own clean room (Class 10 and 1000) for silicon and CMOS-based micro-fabrication, test facilities for refrigeration and air-conditioning systems and components, low- and high-speed wind tunnels, and laboratories for study of combustion, quantitative visualization, complete specimen-scale mechanical testing equipment including an environmental testing chamber, thermomechanical and multiaxial loading capabilities. The department has a machine shop staffed with skilled instrument makers.

Financial Aid

Financial assistance is available to students who are admitted and includes fellowships, research and teaching assistantships, and/or waivers of tuition and fees. Assistantship stipends vary with one's entry level into the program. All applicants, regardless of U.S. citizenship, whose native language is not English and who wish to be considered for teaching assistantships must demonstrate spoken English language proficiency by achieving a minimum score of 24 on the speaking subsection of the TOEFL iBT or 8 on the speaking subsection of the IELTS. For students who are unable to take the iBT or IELTS, a minimum score of 4CP is required on the EPI test, offered on campus. All new teaching assistants are required to participate in the Graduate Academy for College Teaching conducted prior to the start of the semester.

Doctor of Philosophy, Mechanical Engineering

For the Ph.D. program, a preliminary examination is taken after the qualifying examination. A minimum of six months should elapse between the successful completion of the doctoral preliminary examination and the doctoral final examination (oral dissertation defense). For more details of the degree requirements for both Ph.D. programs, visit the department's [Graduate Program Website](#).

Entering with approved M.S. or M.A. degree

Code	Title	Hours
ME 599	Thesis Research (min-max applied toward the degree)	44
MSE 492	Lab Safety Fundamentals (1 hour if not taken while completing the Master's degree; credit does not apply toward the degree)	0
ME 590	Seminar (registration for 1 hour every term while in residence; credit does not apply toward the degree)	0
Advanced math requirement from an approved list ³		3-4
Elective courses – chosen in consultation with advisor (subject to Other Requirements and Conditions below)		16-17
Total Hours		64

Course List

Other Requirements and Conditions¹

Requirement	Description
Other Requirements and Conditions may overlap	
Minimum 500-level credit hours applied toward the degree	8
Maximum hours of ME 597 or TAM 597 (or other approved independent study) which may be applied toward the elective course work requirement	4
No ME 599 credit may be applied toward the elective course work requirement.	
Minimum GPA:	3.0
Continuous registration is required after the preliminary exam and until dissertation deposit, while on campus and during semester of final defense.	
Ph.D. exam and dissertation requirements:	
Qualifying Exam: ² Qualifying examinations should be taken no later than the second calendar semester after initial enrollment.	
Preliminary exam	
Final exam or dissertation defense	
Dissertation deposit	
Grad Other Degree Requirements	

¹ For additional details and requirements refer to the department's [graduate program requirements](#) and the [Graduate College Handbook](#).

² [Qualifying Exam Information](#)

³ [Advanced math requirement approved list](#)

Entering with approved B.S. or B.A. degree

A student entering with a bachelor's degree has the option of a direct Ph.D. program. It does not award an M.S. degree.

Code	Title	Hours
ME 599	Thesis Research (min-max applied toward the degree)	52
MSE 492	Lab Safety Fundamentals (1 hour if not taken while completing the Master's degree; credit does not apply toward the degree)	0
ME 590	Seminar (registration for 1 hour every term while in residence; credit does not apply toward the degree)	0
Advanced math requirement from an approved list		3-4
Elective courses – chosen in consultation with advisor (subject to Other Requirements and Conditions below)		40-41
Total Hours		96

Course List

Other Requirements and Conditions¹

Requirement	Description
Other Requirements and Conditions may overlap	
Minimum 500-level credit hours applied toward the degree	16
Maximum hours of ME 597 or TAM 597 (or other approved independent study) which may be applied toward the elective course work requirement	8
No ME 599 credit may be applied toward the elective course work requirement.	
Continuous registration is required after the preliminary exam and until dissertation deposit, while on campus and during semester of final defense.	
Ph.D. exam and dissertation requirements:	
Qualifying Exam: ² Qualifying examinations should be taken as early as possible, generally no later than the third semester.	
Preliminary exam	
Final exam or dissertation defense	
Dissertation deposit	
Minimum GPA:	3.0

Grad Other Degree Requirements

¹ For additional details and requirements refer to the department's graduate program requirements and the Graduate College Handbook.

² Qualifying Exam Information

Name of existing Illinois (UIUC) degree: _____

Name of non-Illinois partnering institution: _____

Location of non-Illinois partnering institution:

State of Illinois US State: _____ Foreign country: _____

- B. Proposal to create a new academic unit (college, school, department, program or other academic unit):

Name of proposed new unit: _____

- C. Proposal to rename an existing academic unit (college, school, department, or other academic unit):

Current name of unit: _____

Proposed new name of unit: _____

- D. Proposal to reorganize existing units (colleges, schools, departments, or program):

1. Proposal to change the status of an existing and approved unit (e.g. change from a program to department)

Name of current unit including status: _____

2. Proposal to transfer an existing unit:

Current unit's name and home: _____

Proposed new home for the unit: _____

3. Proposal to merge two or more existing units (e.g., merge department A with department B):

Name and college of unit one to be merged: _____

Name and college of unit two to be merged: _____

Proposed name and college of new (merged) unit: _____

4. Proposal to terminate an existing unit:

Current unit's name and status: _____

- E. **Other educational policy proposals** (e.g., academic calendar, grading policies, etc.)

Nature of the proposal: _____

Revised 10/2012

From: [McKinney, Allison Ann](#)
To: [Martensen, Kathy](#)
Cc: [McElroy, Rhonda Kay](#)
Subject: Proposal to Revise the PhD in Mechanical Engineering
Date: Thursday, February 2, 2017 1:46:36 PM
Attachments: [MechSE PhD Revision 2.2.17.pdf](#)

Dear Kathy,

Please see attached for a proposal from the College of Engineering. The proposal was received on November 22, 2016 and reviewed at the Graduate College Executive Committee meeting on December 13, 2016. The committee approved the proposal pending a few minor points of clarification.

These of clarifications have been received and we find that this proposal meets the standards of Graduate Education at Illinois. We now forward for your review.

Thank you,

Allison McKinney
Director
Academic Affairs
Graduate College

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

College of Engineering
Graduate, Professional & Online Programs
401 Engineering Hall, MC-266
1308 West Green Street
Urbana, IL 61801



November 11, 2016

David Padua, Vice Chair
Executive Committee
College of Engineering

Dear Professor Padua:

Our office has reviewed the following curriculum proposal submitted by the Department of Mechanical Science and Engineering to modify their current 64-credit hour Ph.D. curriculum to reduce the coursework hours and increase the thesis research hours to be more in line with other engineering departments and their competitors.

Revision of the Curriculum Requirements for the Ph.D. in Mechanical Engineering, Department of Mechanical Science and Engineering, College of Engineering

We are now submitting this proposal for review by the Executive Committee.

Sincerely,

A handwritten signature in cursive script that reads "Harry Dankowicz".

Harry Dankowicz
Associate Dean
Office of Graduate, Online, and Professional Programs

UNIVERSITY OF ILLINOIS
AT URBANA · CHAMPAIGN

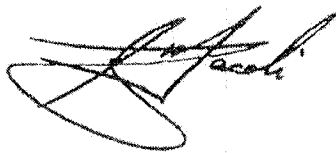
Department of Mechanical Science and Engineering
A.M. Jacobi, Head & Richard W. Kritzer Distinguished Professor
College of Engineering
144 Mechanical Engineering Building, MC-244
1206 West Green Street
Urbana, IL 61801-2906



November 11, 2016

College of Engineering Executive Committee,

This letter serves to verify that the attached ME Ph.D. curriculum change proposal was reviewed and approved pursuant to MechSE Department process. The proposal was drafted and sent to the MechSE Advisory Committee for review. The Advisory Committee completed their review and returned the document to the Graduate Programs Committee. The Advisory Committee suggestions were incorporated into the final format of the proposal and the Graduate Programs Committee then voted on sending the proposal to the College of Engineering to proceed with the formal process of implementing the changes to the ME Ph.D. curriculum. The Graduate Programs Committee voted unanimously to send the proposal forward to initiate the curriculum change.



Anthony M. Jacobi
Department Head and Richard W. Kritzer Distinguished Professor

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

EP.17.53

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820



February 6, 2017

Bettina Francis, Chair
Senate Committee on Educational Policy
Office of the Senate
228 English Building, MC-461

Dear Professor Francis:

Enclosed is a copy of a proposal from the College of Engineering and the Graduate College to revise the Ph.D. in Mechanical Engineering.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Kathryn A. Martensen'.

Kathryn A. Martensen
Assistant Provost

Enclosures

c: A. Jacobi
H. Dankowicz
R. McElroy
A. McKinney
J. Hart