

**Brothers, Sheila C**

---

**From:** Grzegorz Wasilkowski [greg@cs.uky.edu]  
**Sent:** Monday, March 17, 2014 2:42 PM  
**To:** Blonder, Lee  
**Cc:** Brothers, Sheila C; Grzegorz Wasilkowski  
**Subject:** MSME proposal

Dear Lee,

This is a recommendation from Senate Advisory Organization and Structure Committee that the University Senate endorse the move of the MS in Manufacturing Systems Engineering to the Department of Mechanical Engineering in the College of Engineering.

Greg Wasilkowski,

=====  
Grzegorz (Greg) W. Wasilkowski      [greg@cs.uky.edu](mailto:greg@cs.uky.edu)  
Department of Computer Science      <http://www.cs.uky.edu/~greg/>  
301 Davis Marksbury Building      office:      859-257-8029  
University of Kentucky      department: 859-257-3961  
Lexington, KY 40506-0633      fax:      859-257-1505  
=====



RECEIVED

OCT 30

OFFICE OF THE  
SENATE COUNCIL  
Office of the  
College of Engineering  
351 Ralph G. Anderson Building  
Lexington, KY 40506-0503

859 257-1687  
fax 859 257-5727

www.engr.uky.edu

October 29, 2013

Dr. Christine Riordan, Provost  
University of Kentucky  
105 Main Building  
Campus 0032

Dear Dr. Riordan,

I am requesting your approval to change the administrative reporting structure of the M.S. degree program in Manufacturing Systems Engineering (MS-MSE) from the Dean of the College of Engineering to the Department of Mechanical Engineering. This proposed change, which would take effect July 1, 2014, would not have any impact on the educational course offerings of the program.

The attached proposal to change the administrative reporting structure of the MS-MSE degree program was approved by the Manufacturing Systems Engineering graduate faculty (7 in favor, 3 opposed), by the Mechanical Engineering full-time faculty (21 in favor, 6 opposed) and by the Engineering Graduate Education Team (9 in favor, 0 opposed). The proposal also has my strong support.

By copy of this letter, I am routing this proposal concurrently to Dr. Lee Blonder, Senate Chair, for Senate endorsement.

Sincerely,

A handwritten signature in black ink that reads "John Y. Walz". The signature is written in a cursive style with a large, looping "W".

John Y. Walz  
Dean

Attachment

✓ Cc: Dr. Blonder

**Proposal to Change Administrative Reporting Structure of M.S. Degree  
Program in Manufacturing Systems Engineering to the  
Department of Mechanical Engineering**

**Proposal:**

It is proposed that the administrative reporting structure of the M.S. degree program in Manufacturing Systems Engineering (MS-MSE) be changed from the Dean of the College of Engineering to the Department of Mechanical Engineering. This change, would take effect from July 1, 2014.

The following sections provide a detailed discussion of the points raised in the SAOSC 'Guidelines for Preparing a Proposal for Change in Organization' and items *a* through *h* in the 'Changes to Academic Organization or Structure of an Educational Unit' form, as they relate to this proposal.

**Impetus for the proposed change**

The interdisciplinary MS-MSE program provides graduate-level education in the field of manufacturing which is a critical discipline for the Commonwealth of Kentucky. It is thus important that this program continue to succeed and grow.

At the same time, having the program administered directly by the Dean of Engineering is not an effective arrangement for several reasons. First, it requires an inefficient allocation of resources from the academic departments. Second, the supervision and oversight of the program can best be handled by the Mechanical Engineering Department Chair (possibly through a Director of Graduate Studies) who is more familiar with the specific needs of the program. Third, the College of Engineering cannot provide the same level of associated support (e.g., graduate student recruiting, staff support, student advising, etc.) as could be provided by an academic department.

**Current Structure vs. Proposed Structure: Benefits and Weaknesses**

Under the current structure, the MS-MSE program resides within the College of Engineering and is managed by a designated Director of Graduate Studies for MS-MSE. A committee consisting of senior faculty involved in the MS-MSE program provides advisory support for the DGS and is involved with strategic

decision making for the program. Administrative support for the program is provided by staff from the Institute for Sustainable Manufacturing and before that, its predecessor, the Center for Manufacturing. With the proposed change, the MS-MSE program will reside in the Department of Mechanical Engineering with the supervision of the program handled by the Department Chair. A separate Director of Graduate Studies will oversee the administration of the MS-MSE program. The MS-MSE advisory committee will be maintained to provide direction on strategic issues pertaining to the program. Staff support for the program will be provided by the Mechanical Engineering department. It is anticipated that the Mechanical Engineering department can provide better support for the program than is available with the current structure as the department has the mechanisms and resources in place for graduate student recruiting, student advising, etc.

In the proposed arrangement, all credit for students enrolled in the MS-MSE program would be assigned to the Department of Mechanical Engineering. This will result in additional funds for the department from the college. Likewise, funds generated by MS-MSE education activities that extend beyond the standard, academic year course offerings, such as distance learning efforts (both academic year and summer), regular summer course offerings and/or short courses, will flow back to the Department of Mechanical Engineering for use throughout the fiscal year in support of the MS-MSE program. These funds will roll-over from one fiscal year to the next. At present, there appears to be no funds returned to the College based on distance learning efforts during the academic year. The Associate Dean of Outreach and External Partnerships will actively work with the Provost's office to enable financial policies that incentivize distance learning in support of the programs generating the revenue, including the MS-MSE program.

### **Implications due to Change on Program Faculty**

The proposed change in the administrative reporting structure of the MS-MSE program involves only the College of Engineering. The faculty involved in teaching courses and advising students in the MS-MSE program have primary appointments in their respective academic departments. Almost all courses in the Manufacturing Systems Engineering program (MFS prefix) are also cross-listed in the home departments of those faculty where they will continue to receive credit for teaching. The faculty appointments will continue in their home departments as before and the change in the administrative structure of the MS-

MSE program will not require those educational units to release faculty or any transfer of faculty from one unit to another. Also, the change will not affect the DOE of any faculty engaged in teaching/advising students in the program. Program faculty will also have access to Mr. Peter Hayman, a staff person for graduate programs in Mechanical Engineering who will be able to assist with any number of graduate program related issues and questions. The addition of this program to his responsibilities is within his present JAQ and will have minimal impact on his work.

### *Personnel Associated with Program, their Qualifications and Selection*

The key personnel associated with the program administration when transferred to the Mechanical Engineering department are the Department Chair and the Director for Graduate Studies for the MS-MSE program.

Prof. Scott Stephens (Chair of Mechanical Engineering): Dr. Stephens is a Professor and Chair of Mechanical Engineering. He is charged with oversight for all of the programs within the department which include three separately accredited undergraduate programs and a MS and PhD graduate program in ME. Prior to serving as Chair, Dr. Stephens was DGS for three years.

Prof. Fazleena Badurdeen (DGS, MS-MSE Program): Prof. Badurdeen is an Associate Professor in Mechanical Engineering and has been involved with the MS-MSE program since joining the University of Kentucky in 2005. As one of the core faculty members in the program, she regularly teaches courses in Manufacturing Systems Engineering and has also served as the faculty advisor to fourteen students since 2005. She was appointed as the DGS for the MS-MSE program in October 2013.

A Mechanical Engineering faculty member has served as the DGS for the MS-MSE program in the last few years. The appointment was made for a three year term at the college level by the Dean with consultation from the faculty and from the relevant Chair. With the proposed change in administrative reporting structure, this practice will continue with the appointment of a Mechanical Engineering faculty member as DGS to serve a three year term, as is the case with all such DGS appointments. The suitable candidate will be identified by the Mechanical Engineering Chair, in consultation with the MSE program Advisory Committee and recommended for appointment to the Dean of Engineering.

### *Implications of the proposal for accreditation by SACS*

Changing the administrative structure of the MS-MSE program to be under the Mechanical Engineering department will benefit the program. The established procedures and practices used in Mechanical Engineering, which has a much larger graduate enrollment than MS-MSE, for SACS accreditation will be available for the MS-MSE program.

### *Financial Viability of the Program*

To ease the transition to this new arrangement, and to also assist the program in developing additional sources of revenue, the College of Engineering will provide \$10,000 per year in additional resources to the Department of Mechanical Engineering for the first two years to support a Director of Graduate Studies (DGS), separate from the Mechanical Engineering DGS and specifically for this MS-MSE program. It is anticipated that the program will be capable of generating enough income beyond this two-year period that such support would not be required. However, beyond the initial appointment period, the DGS for the MS-MSE program may be the same as that for the ME department. Appointment of the DGS will follow the usual Graduate School process (consultation with the Graduate Faculty and Graduate Studies Committee, recommendation of the Chair of Mechanical Engineering and recommendation of the Dean of Engineering). Staff support for the DGS and the program will be the responsibility of the Department of Mechanical Engineering. Finally, Teaching Assistant support for the MFS courses should be roughly consistent with the enrollment in MFS or cross-listed courses, relative to other ME courses assigned TA's.

All other operational processes for the program, as outlined in the approved degree proposal of 1991 and current Graduate School policies for graduate programs will remain in effect. The Graduate Studies Committee for MS-MSE will continue as the entity responsible for administering the program and curriculum, and will be distinct from other Graduate Studies Committees in the department. Because of the interdisciplinary nature of the program, it is expected that one or more members will be from outside the department. Appointments will be by the Chair of the respective department, upon recommendation of the DGS for MS-MSE.

Approval of this proposal is contingent on the assumption that the program will generate sufficient funding through student enrollment and educational activities. As an interdisciplinary program, the College of Engineering will remain a primary steward for the program.

More recently, the Manufacturing Systems engineering program was awarded a grant (PI – Prof. Fazleena Badurdeen) by the eLearning Innovation Initiative (eLII) at UK to convert courses for on-line delivery where students can receive the entire degree (non-thesis option only) on-line. The on-line delivery of MFS courses is expected to increase accessibility of the program to a large number of working professionals in need of continuing education to add to their professional knowledge. The first set of online courses developed through this grant is scheduled for delivery in Spring 2015, followed by another two in Fall 2015.

*Summary of Votes and Viewpoints of Faculty*

On the issue of the proposed change in the administrative reporting structure of the M.S. degree program in Manufacturing Systems Engineering (MS-MSE) from the Dean of the College of Engineering to the Department of Mechanical Engineering effective July 1, 2014, a proposal offering the rationale for this administrative change was distributed to affected unit faculty - Manufacturing Systems Engineering Graduate Faculty and Mechanical Engineering (ME) Faculty - during the Fall 2013 semester for review and discussion. The issue was discussed at ME faculty meetings in September and October. An electronic vote was then conducted of each group through use of a voting web site.

The results of the ballot by Manufacturing Systems Engineering Graduate Faculty on this issue are:

Favor: 7

Oppose: 3

The results of the ballot by Mechanical Engineering Faculty on this issue are:

Favor: 21

Oppose: 6

Because voting by each group was conducted using a web site, we are unable to identify those who voted against the proposal to determine the reason for their negative vote.

The proposal was considered in late October by the Engineering Graduate Education Team. The Team reviewed the proposed Change in Administrative Reporting Structure of the MFS program both individually and at its meeting on October 23, 2013. At that meeting, Dr. Badurdeen led a discussion on the proposal and answered questions from team members. The Engineering Graduate Engineering Team voted 9 – 0 to approve the proposed change.

Favor: 9

Oppose: 0

**Impact of Proposed Change on Department, College and/or University Objectives/Priorities**

The change in reporting structure from the college to the Department of Mechanical Engineering is aligned with the objectives of the unit, the college and, as such, strengthens the university priorities. In particular, Mechanical Engineering has had a focus area of manufacturing within the department at the graduate level for more than 20 years. Moving the MFS degree to Mechanical Engineering strengthens that commitment to manufacturing and supports the many faculty that are associated with manufacturing through their research programs. The college had traditionally housed the program because the Center for Manufacturing Systems, which is no longer in existence, had been administering it on the college's behalf. Since that center has closed and since the clarification that no degree programs can be housed in centers, the program was left without a home, as the remaining college staff did not have the expertise in the Manufacturing area to provide effective support. As a result, the enrollment numbers have dwindled in recent years. It is in the interest of the college to strengthen manufacturing as this has been selected as a focus area for the college by the new Dean. As a result, the best move to strengthen the program is to house it in a department that has the area expertise to help it grow. This projected growth in numbers is consistent with the university's objectives.

**Impact of Change on Program's/UK's Position Relative to Benchmark Institutions**

UK has been a leading university in manufacturing for more than 25 years. The growth and development of this program through moving to ME will help us



maintain that reputation, especially in the areas of advanced manufacturing including lean manufacturing and sustainable manufacturing. Plans for the program include placing a large part of it on-line for distance delivery as well as the traditional classroom delivery. This will be a first of its kind program online, as it will include experimental classes as well as straight informational classes. This will help us maintain our leadership role in these areas.

**Timeline for Key Events in the Proposed Change (Student enrollments, graduates, moved programs, closed courses, new faculty and staff hires, etc.)**

The table below summarizes the revenue projections, primarily based on the increased accessibility due to online delivery of the MFS program, based on a steady-state cohort of 20 full-time students and 60 part-time students. These numbers are reasonable given that the MFS program has had 30+ full-time students in the past. A 3-4 year lead time will be required to develop the program to that level of enrollment. The computations also consider that a percentage of students from both cohorts will be out-of-state (with a higher % of online students being out-of-state); summer offering of online courses, too, is considered. As shown, with the estimated enrollment during a six year period, the program will generate approximately \$500K in tuition revenue. This does not include tuition revenue generated due to the relatively large undergraduate students who take (mostly 500-level) MFS courses as electives: for example, MFS 503 and MFS 505 have ~ 35 and 20 students, respectively.

**Table 1: Projected Revenue from MFS MS Online Degree Program (Years 1-6)**

Year	No. Full-time students enrolled	No. part-time students enrolled	% Full-time out-of-state	% Part-time out-of-state	Percent SCH in summer classes	SCH for full-time students	SCH for part-time students	Total SCH per year	Equivalent Student_F TE	Tuition Revenue (Full-time)	Tuition Revenue (Part-time)	Total Tuition Revenue
Rate						18 hr/year	6 hr/year			100%	100%	
1	5	5	20%	30%	20%	90	30	120	6.67	\$63,198	\$17,040	\$80,238
2	10	20	30%	50%	20%	180	120	300	16.67	\$138,474	\$68,160	\$206,634
3	20	40	30%	50%	20%	360	240	600	33.33	\$276,948	\$136,320	\$413,268
4	20	60	30%	50%	20%	360	360	720	40.00	\$276,948	\$204,480	\$481,428
5	20	60	30%	50%	20%	360	360	720	40.00	\$276,948	\$204,480	\$481,428
6	20	60	30%	50%	20%	360	360	720	40.00	\$276,948	\$204,480	\$481,428

The Mechanical Engineering department has tentative plans to add one more faculty line in the manufacturing area in the next year. Additional staff will be added at a threshold of approximately 50-60 students in the program.

# CHANGE MASTERS DEGREE PROGRAM FORM

## 1. GENERAL INFORMATION

College: Engineering

Department:

Current Major Name: Manufacturing Systems Engineering

Proposed Major Name:

Current Degree Title: Master of Science in Manufacturing Systems Engineering

Proposed Degree Title:

Formal Option(s):

Proposed Formal Option(s):

Specialty Fields w/in Formal Option:

Proposed Specialty Fields w/in Formal Options:

Date of Contact with Associate Provost for Academic Administration<sup>1</sup>: 6-4-2013

Bulletin (yr & pgs):

CIP Code<sup>1</sup>: 14.3601

Today's Date: 10-29-13

Accrediting Agency (if applicable):

Requested Effective Date:  Semester following approval. OR  Specific Date<sup>2</sup>: 7-1-2014

Dept. Contact Person: Fazleena Badurdeen

Phone: 3-3252

Email: badurdeen@uky.edu

## 2. CHANGE(S) IN PROGRAM REQUIREMENTS

N/A

Current

Proposed

1. Number of transfer credits allowed  
(Maximum is Graduate School limit of 9 hours or 25% of course work)
2. Residence requirement (if applicable)
3. Language(s) and/or skill(s) required
4. Termination criteria
5. Plan A Degree Plan requirements<sup>3</sup> (thesis)
6. Plan B Degree Plan requirements<sup>3</sup> (non-thesis)
7. Distribution of course levels required  
(At least one-half must be at 600+ level & two-thirds must be in organized courses.)
8. Required courses (if applicable)
9. Required distribution of courses within program (if applicable)
10. Final examination requirements

<sup>1</sup> Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the APAA can provide you with that during the contact.

<sup>2</sup> Program changes are typically made effective for the semester following approval. No changes will be made effective until all approvals are received.

<sup>3</sup> If there is only one plan for the degree, plans involving a thesis (or the equivalent in studio work, etc.) should be discussed under Plan A and those not involving a thesis should be discussed under Plan B.

## CHANGE MASTERS DEGREE PROGRAM FORM

11. Explain whether the proposed changes to the program (as described in sections 1 to 10) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).
12. List any other requirements not covered above?
13. Please explain the rationale for changes. If the rationale involves accreditation requirements, please include specific references to those requirements.

## SIGNATURE ROUTING LOG

### General Information:

Proposal Type: Course  Program  Other

Change Administrative Reporting Structure of M.S. degree program in Manufacturing Systems Engineering from the College of Engineering to the Department of Mechanical Engineering


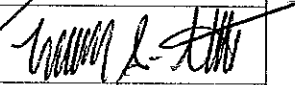
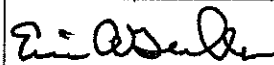
Proposal Name<sup>1</sup> (course prefix & number, pgm major & degree, etc.):

Proposal Contact Person Name: John Y. Walz Phone: 7-1687 Email: john.walz@uky.edu

### INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

### Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
Manufacturing Systems Engineering graduate faculty	8-30-13	Fazleena Badurdeen, DGS / 3-3252 / badurdeen@uky.edu	
Mechanical Engineering full-time faculty	10-14-13	L. Scott Stephens, Chair / 7-6336x80649 / lstephens@uky.edu	
Engineering Graduate Education Team	10-29-13	Eric Grulke / 7-6097 / eric.grulke@uky.edu	
		/ /	
		/ /	

### External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision <sup>2</sup>
Undergraduate Council			
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

### Comments:

<sup>1</sup> Proposal name used here must match name entered on corresponding course or program form.

<sup>2</sup> Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.