Proposal to the Senate Educational Policy Committee

PROPOSAL TITLE: Establish a Graduate Concentration in Computational Science and Engineering

SPONSORING UNIT: Professor Narayan Aluru, Director, Computational Science and Engineering and Kritzer Professor in Mechanical Engineering, 217-333-1180, aluru@illinois.edu

COLLEGE CONTACT: William Buttlar, Associate Dean, Office of Graduate, Professional and Online Programs, College of Engineering, 265-4561, buttlar@illinois.edu

BRIEF DESCRIPTION:

This proposal requests the establishment of a graduate concentration in Computational Science and Engineering (CSE) in the College of Engineering. The proposed graduate concentration will replace the existing non-transcriptable interdisciplinary CSE PhD Graduate Certificate (i.e., graduate specialization in CSE). This specialization has been very successful and is designed to provide graduate students with a solid foundation in problem-solving using computation as a major tool for modeling complicated problems in science and engineering and is available to students enrolled in participating departments. As such, there should be no added overhead or changes in class size, enrollment, teaching loads, and student-faculty ratio as a consequence of this proposal.

The CSE graduate concentration is comprised of 16 graduate credit hours. The curriculum consists of a) 8 hours of core coursework in topics relevant to scientific computing drawn from a menu of courses; and b) 8 hours of application coursework from available list of approved courses. In addition, the student’s graduate thesis must have a significant computational component, and the thesis committee must include at least one CSE-affiliated faculty member. Non-thesis master’s students are required to complete a 4-hour independent study/capstone project with CSE-affiliated faculty. The independent study project must focus on computational work.

JUSTIFICATION:

Computation is widely considered as the "third pillar" of science, alongside theory and experiment. The field of Computational Science and Engineering is inherently interdisciplinary, requiring expertise in advance computing technology as well as in one or more applied disciplines. The CSE program at the University of Illinois has been offering graduate specialization (CSE Graduate Certificate) for almost two decades. The purpose of the CSE graduate specialization is to foster interdisciplinary, computationally oriented research among all fields of science and engineering, and to prepare students to work effectively in such
environments. There are over 66 peer institutions (including MIT, Stanford, Cornell, UT Austin, Michigan and Purdue) that offer such graduate specialization in the form of an MS, graduate minor, and certificates. MIT, for example, has recently moved to a transcripted specialization that shows up both in the student diploma and transcript.

The move to a transcripted concentration is very compelling to graduate students and has been requested numerous of times by students to have this concentration on their transcript. In addition, as a service unit, the transition to a graduate concentration will provide us with a program code that will allow us to properly track students’ progress, provide them with guidance, and efficiently generate relevant statistics related to our graduate specialization. Currently, this is very challenging with the existing non-transcriptable certificate structure and lack of formal tracking in banner. In terms of expected enrollments, we anticipate that the current departments participating in the graduate certificate program (Table 1) will all opt-in to the graduate concentration proposed here, since the only difference lies in how the students will be honored upon completing the program requirement (i.e., certificate vs. transcripted recognition on their transcript). Once this proposal is approved to allow the concentration to be transcripted, CSE will discontinue the non-transcriptable certificate option.

Table 1. Departments participating in the current, non-transcriptable graduate certificate program.

<table>
<thead>
<tr>
<th>Aerospace Engineering</th>
<th>Computer Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural and Biological Engineering</td>
<td>Electrical and Computer Engineering</td>
</tr>
<tr>
<td>Astronomy</td>
<td>Industrial and Enterprise Systems Engineering</td>
</tr>
<tr>
<td>Atmospheric Sciences</td>
<td>Materials Science and Engineering</td>
</tr>
<tr>
<td>Bioengineering</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Biophysics and Computational Biology</td>
<td>Mechanical Science and Engineering</td>
</tr>
<tr>
<td>Chemical and Biomolecular Engineering</td>
<td>Nuclear, Plasma and Radiological Engineering</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Physics</td>
</tr>
<tr>
<td>Financial Engineering</td>
<td>Geography &amp; GIS</td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
<td>Statistics</td>
</tr>
</tbody>
</table>

**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?

      No additional support is needed. The proposed curriculum for the CSE graduate concentration will replace the existing non-transcriptable certificate program, which has been in place for about 2 decades. No new courses are being proposed to support this curriculum.

   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?
Not applicable. As stated earlier, the proposed graduate concentration aims at replacing our existing, non-transcriptable certificate program, which has been in place for about 2 decades.

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.

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

NA.

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.

   No changes in this area as CSE already offers this concentration as a non-transcriptable certificate program to on-campus students.

   b. Please address the impact on course enrollment in other units and provide an explanation of discussions with representatives of those units.

   Students enrolled in the CSE graduate concentration will enroll in preexisting courses offered by our affiliated departments and focusing on scientific computing and its application. We anticipate the enrollment to the program will be consistent with the trends currently existing in the certificate program and hence we do not expect there to be any significant change in class size, teaching load, or faculty-student ratios.

   c. Please address the impact on the University Library, computer use, laboratory use, equipment, etc. (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.)

   Those admitted to this concentration will be current University of Illinois graduate students. Therefore, there would be no additional impact beyond what is already accounted for in the typical graduate student population.

   Proposed Effective Date: Fall 2015

   Statement for the Programs of Study: See Appendix A
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:

[Signature]
Unit Representative: 4/14/15
Date:

[Signature]
College Representative: Date:

[Signature]
Graduate College Representative: Date:

[Signature]
Council on Teacher Education Representative: Date:
APPENDIX A: Graduate Concentration Curriculum

1. **Core Courses (8 hours):** Complete two courses from the list below. *A complete list of CSE core courses is found here:* [https://cse.illinois.edu/courses/](https://cse.illinois.edu/courses/)

   - CSE 401 | CS 450 | ECE 491 | MATH 450 – Numerical Analysis
   - CSE 402 | CS 420 | ECE 492 – Parallel Programming
   - CSE 408 | ECE 408 | CS 483 – Applied Parallel Programming
   - CSE 510 | CS 555 | MATH 552 – Numerical Methods for PDEs
   - CSE 527 | CS 519 – Scientific Visualization

2. **Application Coursework (8 hours):** Complete two courses from the list below. The application coursework must be distinct from the core courses (no double counting is allowed). A complete list of CSE application courses is found here: [https://cse.illinois.edu/courses/](https://cse.illinois.edu/courses/)

   **NUMERICAL COMPUTING**
   - CSE 401 | CS 450 | ECE 491 | MATH 450 – Numerical Analysis
   - CSE 414 | CS 473 | MATH 473 – Fundamental Algorithms
   - CSE 441 | ECE 490 – Introduction to Optimization
   - CSE 510 | CS 555 | MATH 552 – Numerical Methods for PDEs
   - CSE 511 | CS 556 – Iterative and Multigrid Solvers
   - CSE 512 | CS 554 – Parallel Numerical Algorithms
   - CSE 513 | CS 558 – Topics in Numerical Analysis
   - CSE 515 | CS 573 – Algorithms
   - CSE 517 | TAM 574 – Advanced Finite Element Methods

   **POWER SYSTEMS, CONTROL, AND SIGNAL AND IMAGE PROCESSING**
   - CSE 441 | ECE 490 – Introduction to Optimization
   - CSE 543 | ECE 547 – Topics in Image Processing
   - ECE 513 – Vector Space Signal Processing
   - ECE 558 – Digital Imaging

   **COMPUTER SOFTWARE, HARDWARE, AND GRAPHICS**
   - CSE 402 | CS 420 | ECE 492 – Parallel Programming
   - CSE 422 | CS 433 – Computer System Organization
   - CSE 423 | CS 423 – Operating Systems Design
   - CSE 426 | CS 427 – Software Engineering I
   - CSE 427 | CS 418 – Interactive Computer Graphics
   - CSE 429 | CS 428 – Software Engineering II
   - CSE 521 | ECE 511 – Computer Architecture
   - CSE 522 | CS 533 – Parallel Computer Architecture
   - CSE 527 | CS 519 – Scientific Visualization

   **SOLID MECHANICS**
   - CSE 450 | TAM 470 – Computational Mechanics
   - CSE 451 | ME 471 | AE 420 – Finite Element Analysis
   - CSE 517 | TAM 574 – Advanced Finite Element Methods
   - CSE 551 | CEE 570 – Finite Element Methods
   - CSE 552 | CEE 576 – Nonlinear Finite Elements
   - ME 570 – Nonlinear Solid Mechanics Design
TAM 598 – Computational Nonlinear Dynamics

FLUID MECHANICS
CSE 450 | TAM 470 – Computational Mechanics
CSE 461 | AE 410 – Computational Aerodynamics
CSE 560 | TAM 570 – Computational Fluid Mechanics
CSE 561 | ME 554 – Computational Process Modeling
CSE 566 | ATMS 502 – Numerical Fluid Dynamics
CSE 412 | ME 412 – Numerical Thermo-Fluid Mechanics

PHYSICS AND MATERIALS SCIENCE
CSE 485 | MSE 485 | PHYS 466 – Atomic Scale Simulations
MSE 498AF – Computational Material Science & Engineering
AE 598MMM – Multi-scale Modeling of Materials

ELECTRONICS AND ELECTROMAGNETICS
CSE 530 | ECE 540 – Computational Electromagnetics
CSE 532 | ECE 552 – Numerical Circuit Analysis

BIOLOGICAL, CHEMICAL, AND ATMOSPHERIC SCIENCES
CHEM 470 – Computational Chemical Biology
CSE 564 | CEE 534 – Surface Water Quality Modeling
CSE 565 | CEE 557 – Groundwater Modeling
CSE 566 | ATMS 502 | CS 505 – Numerical Fluid Dynamics
CSE 568 | ATMS 530 – Global Atmospheric Modeling

OTHER RELATED FIELDS
CSE 428 | STAT 428 – Statistical Computing
CSE 440 | STAT 440 – Statistical Data Management
CSE 448 | STAT 448 – Advanced Data Analysis
CSE 525 | STAT 525 – Computational Statistics
CSE 531 | STAT 530 – Bioinformatics
CSE 542 | STAT 542 – Statistical Learning
Stat 430 S1G: Big Data Analysis Foundation
CEE 598 SDO – Structural Design Optimization
CEE 528 – Construction Data Modeling
Appendix B: Statement for the Programs of Study

Computational Science and Engineering Concentration
The heart of Computational Science and Engineering is to develop innovative ways of solving engineering and scientific problem using computation as a tool. This new form of science compresses the development process in engineering and engenders knowledge discovery with a new paradigm in many areas because it enables “virtual experiments” and helps focus physical experiments to reduce or eliminate trial-end-error laboratory-based approaches. Further, it teaches students to solve complex problems with prevailing computer technology.

The CSE graduate concentration is designed to provide graduate students with a solid base in problem-solving using computation as a major tool for modeling complicated problems in science and engineering. This concentration requires students to complete 16 graduate credit hours, which is outlined below. Courses taken toward this concentration will count towards the student’s graduate degree.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Required Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td><strong>Core Course Work</strong>: Complete two courses (4-hours each) from the list below.</td>
</tr>
<tr>
<td></td>
<td>• CSE 401</td>
</tr>
<tr>
<td></td>
<td>• CSE 402</td>
</tr>
<tr>
<td></td>
<td>• CSE 408</td>
</tr>
<tr>
<td></td>
<td>• CSE 510</td>
</tr>
<tr>
<td></td>
<td>• CSE 527</td>
</tr>
<tr>
<td>8</td>
<td><strong>Computing Elective (CSE Application Courses)</strong>: Complete two courses (4-hours each) from the approved list. The application coursework must be distinct from the core courses (no double counting is allowed).</td>
</tr>
<tr>
<td>16</td>
<td><strong>Total Hours</strong></td>
</tr>
</tbody>
</table>

Additional Requirement

**MS and PhD Thesis Requirement**: The graduate thesis must have a significant computational component, and the thesis committee must include at least one CSE-affiliated faculty.

**MS, Non-thesis Requirement**: Must complete a 4-hour independent study/Capstone Project course, where the project is supervised by a CSE-affiliated faculty. The independent study project must comprise sufficient computational work, to be designed in consultation with the faculty supervisor overseeing the independent study.

For more information regarding the Computational Science and Engineering (CSE) Graduate Concentration, visit the Computational Science and Engineering website, or contact the CSE Office at 217-333-3247 or cse@cse.illinois.edu.
Applicants will follow the established university procedures for indicating their interest in this concentration. The student’s home department will jointly review with CSE their application and background and provide students with details on the concentration’s courses and requirements. Graduate students are responsible for ensuring that they have the appropriate background for any courses in which they enroll. The CSE program coordinators will be available to discuss courses and prerequisites with students considering this concentration. At the conclusion of the student’s degree, the CSE office will work with the student’s home department to review concentration course progress and certify that the requirements for this concentration have been met.
PROPOSAL TITLE (Same as on proposal): Establish a Graduate Concentration in "Computational Science and Engineering"

PROPOSAL TYPE (select all that apply below):

A. ☑ Proposal for a NEW or REVISED degree program. Please consult the Programs of Study Catalog for official titles of existing degree programs.

1. Degree program level:
   - [ ] Graduate
   - [ ] Professional
   - [ ] Undergraduate

2. ☐ Proposal for a new degree (e.g. B.S., M.A. or Ph.D.):

   Degree name, “e.g., Bachelor of Arts or Master of Science”: _____

3. ☑ Proposal for a new or revised major, concentration, or minor:
   - [ ] New or [ ] Revised Major in (name of existing or proposed major): _____
   - ☑ New or [ ] Revised Concentration in (name of existing or proposed concentration):
     Computational Science and Engineering
   - [ ] New or [ ] Revised Minor in (name of existing or proposed minor): _____

4. ☐ Proposal to rename an existing major, concentration, or minor:
   - [ ] Major
   - [ ] Concentration
   - [ ] Minor

   Current name: _____
   Proposed new name: _____

5. ☐ Proposal to terminate an existing degree, major, concentration, or minor:
   - [ ] Degree
   - [ ] Major
   - [ ] Concentration
   - [ ] Minor

   Name of existing degree, major, or concentration: _____

6. ☐ Proposal involving a multi-institutional degree:
   - [ ] New
   - [ ] Revision
   - [ ] Termination
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
March 26, 2015

Professor Narayana Aluru, Director
Computational Science & Engineering
2270 DCL
MC-278

Dear Narayana,

Our department supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

David G. Cahill
Willett Professor and Head
April 14, 2015

Dear Narayana,

Our program supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Emily Ziegler
Assistant Director
Master of Science in Financial Engineering
University of Illinois

3252 Digital Computer Lab, MC-273
1304 W. Springfield Ave.
Urbana, IL 61801
P 217.300.5603 | F 217.333.1486 | ekrickl@illinois.edu | www.msfe.illinois.edu

MS Financial Engineering
Facebook | Twitter | LinkedIn | |
April 3, 2015

Professor Narayana Aluru
Director of Computational Science & Engineering
3265 Beckman Institute, MC-251

Dear Narayana,

Our department supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Philippe Geubelle
Bliss Professor and Head
March 31, 2015

Prof. Narayana Aluru  
Dept. of Mechanical Science and Engineering  
University of Illinois, Urbana-Champaign

Dear Narayana,

The Dept. of Physics supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

[Signature]

S. Lance Cooper  
Associate Head for Graduate Programs  
Professor of Physics  
Department of Physics  
University of Illinois, Urbana-Champaign  
(217) 333-2589
April 10, 2015

Dear Mohamed,

Our department supports Computational Science and Engineering moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Gregory S. Girolami
Chemistry Department Head
March 19, 2014

Dear Narayana,

The Atmospheric Sciences department supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Robert M. Rauber
Professor and Head
April 6, 2015

Professor Narayana Aluru
Director, Computational Science and Engineering
Kritzer Professor of Mechanical Engineering
3265 Beckman Institute
MC – 251

Dear Narayana,

Our department supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Rashid Bashir
Head, Bioengineering
Abel Bliss Professor of Engineering
April 14, 2015

Dear Professor Aluru,
The Center for Biophysics and Computational Biology supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Taekjip Ha, Director
Center for Biophysics and Computational Biology
April 7, 2015

Prof. Narayana Aluru
Director, Computational Science and Engineering
University of Illinois

Dear Narayana,

The Astronomy department supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Brian D. Fields,
Professor and Chair of Astronomy
April 14, 2015

Dear Narayana,

Our department supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student's transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Ramavarapu Sreenivas
Associate Head for Graduate Studies
April 7, 2015

Dear Narayana,

Our department supports Computer Science and Engineering moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Paul J.A. Kenis
William H. and Janet G. Lycan Professor and Head
April 14, 2015

Dear Professor Aluru,

The Department of Geography and Geographic Information Science (GGIS) supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to future GGIS students who complete this concentration.

Sincerely yours,

Sara McLafferty
Professor and Department Head
April 04, 2015

Professor Narayana Aluru  
Director  
Computational Science and Engineering

Dear Professor Aluru:

The Department of Computer Science supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Chandra Chekuri, Professor  
Director of CS Graduate Programs
March 31, 2014

Dear Narayana,

The Department of Mathematics supports the proposal for CSE to move their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. Mathematics PhD students are increasingly seeking employment in positions which involve significant computation and data analytics, and the CSE certificate will be a benefit to our students who complete this concentration.

Sincerely,

Matthew Ando
Professor and Chair
April 3, 2015

Professor Narayan Aluru
Director, Computational Science and Engineering
and Kritzer Professor in Mechanical Engineering

Dear Professor Aluru,

The Department of Statistics supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This will be a benefit to our students who complete this concentration.

Sincerely,

Douglas G. Simpson
Professor and Chair
March 27, 2015

Narayana Aluru, Professor  
Director, Computational Science and Engineering

Dear Narayana,

The ECE department supports CSE’s intent to change the existing Graduate Certificate Option in Computational Science and Engineering to a Graduate Concentration with transcript recognition. We expect that transcript recognition will make the CSE program more attractive to our students and that this will result in more students electing to participate in the CSE program.

Sincerely,

[Signature]

Steven Franke, Professor  
Associate Head for Graduate Affairs  
Department of Electrical and Computer Engineering  
s-franke@illinois.edu
March 30, 2015

Dear Dr. Aluru,

Our department supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student's transcript. This will be a great benefit to our CEE students who complete this concentration. Please feel free to contact me if you have any additional questions.

Sincerely,

[Signature]

Professor Jeffery Roesler, Ph.D., P.E.
Department of Civil and Environmental Engineering
Associate Head and Director of Graduate Studies and Research
Subject: Fwd: CSE program
Date: Thursday, April 9, 2015 at 3:57:28 PM Central Daylight Time
From: Mohamed Mohamed (sent by mohamed.mohamed33@gmail.com
< mohamed.mohamed33@gmail.com >)
To: McElroy, Rhonda Kay

-------- Forwarded message --------
From: "Uddin, Rizwan" <rizwan@illinois.edu>
Date: Apr 9, 2015 3:46 PM
Subject: CSE program
To: "Aluru, Narayana R" <aluru@illinois.edu>
Cc: "Mohamed, Mohamed Y" <mohamed@illinois.edu>, "Stubbins, James F"
<jstubbin@illinois.edu>, "Singer, Clifford E" <csinger@illinois.edu>

April 9, 2015
Dear Narayan,

Regarding recent CSE effort to change the CSE certificate program,
NPRE department supports CSE moving their non-transcriptable certificate program to a transcriptable
concentration that will appear on student’s transcript. This will be a benefit to our students who complete this
concentration.

Regards

Rizwan Uddin
Associate Head of Academic Programs
NPRE
Dear Narayana,

The department of Agricultural and Biological Engineering supports Computational Science and Engineering (CSE) moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student's transcript. This will be a benefit to our students who complete this concentration.

Regards,

K.C. Ting

K.C. Ting, Ph.D., P.E.
Professor and Head
Department of Agricultural and Biological Engineering
University of Illinois at Urbana-Champaign
338 Agricultural Engineering Sciences Building, MC-644
1304 West Pennsylvania Avenue
Urbana, Illinois 61801
Phone: 217-333-3570
"Empower with Knowledge and Wisdom (kW) for Life"

From: mohamed.mohamed33@gmail.com [mailto:mohamed.mohamed33@gmail.com] On Behalf Of Mohamed Mohamed  
Sent: Wednesday, March 25, 2015 3:44 PM  
To: Ting, Kuan Chong  
Cc: Zhang, Yuanhui; Aluru, Narayana R  
Subject: Fwd: Replacing CSE non-transcribable Certificate with transcriptable Concentration (Agricultural and Biological Engineering Certificate)

Dear K.C Ting,

The Computational Science and Engineering (CSE) unit

intends to change the existing non-transcribable Graduate Certificate Option to a transcriptable concentration that will appear on student’s transcript. We have submitted a proposal to the CoE to move the existing CSE graduate specialization to transcriptable concentration. We were asked to supply letters (or emails) from each department that is eligible to offer this concentration to their students. I have attached a simple template letter that you can use. We will discontinue the non-transcribable Graduate Certificate Option once this proposal is approved and participating departments opt-in.

Kind regards,

M

Mohamed

PhD
"Our greatest fear should not be of failure but of succeeding at things that don't really matter"

— Francis Chan

"Simplicity is the ultimate sophistication"

— Leonardo da Vinci
Subject: Fwd: Replacing CSE non-transcriptable Certificate with transcriptable Concentration (MechSE)
Date: Tuesday, March 31, 2015 at 10:36:38 AM Central Daylight Time
From: Mohamed Mohamed (sent by mohamed.mohamed33@gmail.com <mohamed.mohamed33@gmail.com>)
To: McElroy, Rhonda Kay

----------- Forwarded message -----------
From: Jacobi, Anthony M <a-jacobi@illinois.edu>
Date: Tue, Mar 31, 2015 at 8:40 AM
Subject: RE: Replacing CSE non-transcriptable Certificate with transcriptable Concentration (MechSE)
To: "Mohamed, Mohamed Y" <mohamed@illinois.edu>, "Aluru, Narayana R" <aluru@illinois.edu>

Dear Narayana,

MechSE supports CSE moving their non-transcriptable certificate program to a transcriptable concentration that will appear on a student’s transcript. This change will benefit our students working in CSE.

Sincerely,

Anthony M. Jacobi, Interim Associate Head of Graduate Programs & Research  
Kritzer Distinguished Professor, Mechanical Science & Engineering  
Co-Director ACRC -- An NSF-founded research center  
University of Illinois  
1206 West Green Street  
Urbana, IL 61801 USA

217/333-4108 office  
217/244-6534 fax  
217/649-3162 mobile

I may make you feel, but I can’t make you think. –Ian Anderson