

**(NEW GRADUATE INITIATIVES)****PROPOSAL PROCEDURES CHECKLIST**

Academic units should adhere to the following procedures when requesting new curricular initiatives (degrees, concentrations or certificates).

**Obtain the required approval from the Office of the Provost to move the initiative forward for internal ASU governance reviews/approvals.**

- Establishment of new curricular initiative requests; degrees, concentrations, or certificates
- Rename requests; existing degrees, concentrations or certificates
- Disestablishment requests; existing degrees, concentrations or certificates

**Submit any new courses that will be required for the new curricular program to the Curriculum ChangeMaker online course approval system for review and approval.**

- Additional information can be found at the Provost's Office Curriculum Development website: [Courses link](#)
- For questions regarding proposing new courses, send an email to: [courses@asu.edu](mailto:courses@asu.edu)

**Prepare the applicable proposal template and operational appendix for the proposed initiative.**

- New degree, concentration and certificate templates (contain proposal template and operational appendix) can be found at the Provost's Office Curriculum Development website: [Academic Programs link](#)

**Obtain letters or memos of support or collaboration. (if applicable)**

- When resources (faculty or courses) from another academic unit will be utilized
- When other academic units may be impacted by the proposed program request

**Obtain the internal reviews/approvals of the academic unit.**

- Internal faculty governance review committee(s)
- Academic unit head (e.g. Department Chair or School Director)
- Academic unit Dean (will submit approved proposal to the [curriculumplanning@asu.edu](mailto:curriculumplanning@asu.edu) email account for further ASU internal governance reviews (as applicable, University Graduate Council, CAPC and Senate)

**Additional Recommendations** - All new graduate programs require specific processes and procedures to maintain a successful degree program. Below are items that the Graduate College strongly recommends that academic units establish after the program is approved for implementation.

**Set-up a Graduate Faculty Roster for new PhD Programs** – This roster will include the faculty eligible to mentor, co-chair or chair dissertations. For more information, please go to [http://graduate.asu.edu/graduate\\_faculty\\_initiative](http://graduate.asu.edu/graduate_faculty_initiative).

**Establish Satisfactory Academic Progress Policies, Processes and Guidelines** – Check within the proposing academic unit and/or college to see if there are existing academic progress policies and processes in place. If none have been established, please go to [http://graduate.asu.edu/faculty\\_staff/policies](http://graduate.asu.edu/faculty_staff/policies) and scroll down to the **academic progress review and remediation processes** (for faculty and staff) section to locate the reference tool and samples for establishing these procedures.

**Establish a Graduate Student Handbook for the New Degree Program** – Students need to know the specific requirements and milestones they must meet throughout their degree program. A Graduate Student Handbook provided to students when they are admitted to the degree program and published on the website for the new degree gives students this information. Include in the handbook the unit/college satisfactory academic progress policies, current degree program requirements (outlined in the approved proposal) and provide a link to the Graduate College Policies and Procedures website. Please go to [http://graduate.asu.edu/faculty\\_staff/policies](http://graduate.asu.edu/faculty_staff/policies) to access Graduate College Policies and Procedures.

**Check Box Directions** – To place an “X” in the check box, place the cursor on the left-side of the box, right click to open the drop down menu, select **Properties**, under **Default value**, select **Checked** and then select **Ok**.



ARIZONA STATE UNIVERSITY  
PROPOSAL TO ESTABLISH A NEW GRADUATE DEGREE

This template is to be used only by programs that have received specific written approval from the University Provost's Office to proceed with internal proposal development and review. A separate proposal must be submitted for each individual new degree program.

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**DEGREE PROGRAM**

**College/School(s) offering this degree:** College of Technology and Innovation (CTI)

**Unit(s) within college/school responsible for program:** Engineering

**If this is for an official joint degree program, list all units and colleges/schools that will be involved in offering the degree program and providing the necessary resources:** N/A

**Proposed Degree Name:** Master of Science in Manufacturing Engineering

**Master's Degree Type:** MS: Master of Science

**Proposed title of major:** Manufacturing Engineering

**Is a program fee required?** Yes  No

**Requested effective term: Spring and year:** 2014  
(The first semester and year for which students may begin applying to the program)

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**PROPOSAL CONTACT INFORMATION**  
(Person to contact regarding this proposal)

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**Name:** Scott Danielson

**Title:** Associate Dean

**Phone:** 480-727-1185

**email:** [sdanielson@asu.edu](mailto:sdanielson@asu.edu)

**DEAN APPROVAL**

This proposal has been approved by all necessary unit and College/School levels of review, and the College/School(s) has the resources to offer this degree program. I recommend implementation of the proposed degree program. *(Note: An electronic signature, an email from the dean or dean's designee, or a PDF of the signed signature page is acceptable.)*

**College Dean name:** Mitzi Montoya  
*(Please see attached email of approval)*

**College Dean Signature** \_\_\_\_\_ **Date:** \_\_\_\_\_

**College Dean name:**  
(if more than one college involved)

**College Dean Signature** \_\_\_\_\_ **Date:** \_\_\_\_\_

**ARIZONA STATE UNIVERSITY  
PROPOSAL TO ESTABLISH A NEW GRADUATE DEGREE**

This proposal template should be completed in full and submitted to the University Provost's Office [mail to: [curriculumplanning@asu.edu](mailto:curriculumplanning@asu.edu)]. It must undergo all internal university review and approval steps including those at the unit, college, and university levels. A program **may not** be implemented until the Provost's Office notifies the academic unit that the program may be offered.

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**DEGREE PROGRAM INFORMATION**

**Master's Type:** Master of Science  
**(E.g. MS, MA, MAS, PSM, or other)**

**Proposed title of major:** Manufacturing Engineering

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**1. PURPOSE AND NATURE OF PROGRAM:**

**A. Brief program description –**

This program being proposed is an evolution of the existing Manufacturing Engineering Technology concentration under the MS in Technology degree within the College of Technology and Innovation (CTI). This existing program provides the CTI with a strong foundation for the new program with its outstanding laboratories, faculty and alumni base in many of the manufacturing operations within the metropolitan area and region. (As the new program is started and students enroll, the MS in Technology concentration will be disestablished.)

As suggested above, the new program is strongly based on the existing MSTECH concentration and its courses. However, the program will continue to evolve, in part to reflect the establishment of the new BS in Manufacturing Engineering and the unique aspects of engineering education at the Polytechnic campus. Manufacturing engineering draws upon two distinct bodies of knowledge, manufacturing processes (e.g., how materials are altered in either shape or properties) and the processes of manufacturing (e.g., manufacturing systems and management), in a synergistic manner. These foundations cut across most manufacturing industries. Thus, this combination of topics is embedded in the proposed MS in Manufacturing Engineering program where students are allowed to follow their interests by developing deeper expertise in either manufacturing processes or the processes of manufacturing.

The MS in Manufacturing Engineering program consists of a core set of courses designed to provide all students with advanced knowledge of manufacturing fundamentals and an introduction to systems engineering. The expertise developed in the core curriculum supports student focus areas building on existing unit faculty strengths, including CNC machining, electronics manufacturing, and manufacturing management. Reflective of the approach taken to engineering education in the undergraduate program, the program incorporates a relevant project, required of all students in this degree program, within the focus area courses. The degree will offer a thesis, applied project or capstone course option. Each of these options is designed to engage students with real-world applications of manufacturing engineering at an advanced level.

**B. Will concentrations be established under this degree program?**  Yes  No  
**(Please provide additional concentration information in the operational appendix – number 5A.)**

**2. PROGRAM NEED - Explain why the university should offer this program (include data and discussion of the target audience and market).**

The consistent enrollment of 15-20 master degree students in the existing MSTECH concentration in Manufacturing Engineering Technology demonstrates the need for a program focused on manufacturing engineering at the graduate level. But, a MS in Manufacturing Engineering is perceived as more marketable and desirable than the existing MSTECH concentration. The current

US administration is placing a renewed emphasis on manufacturing and the revitalization of manufacturing within the USA (see <http://www.whitehouse.gov/the-press-office/2012/07/17/fact-sheet-white-house-advanced-manufacturing-initiatives-drive-innovati> ). Conversations with Universities in foreign countries have included interest in a manufacturing degree via a “3+2” offering. Thus, the CTI believes there is a regional need and international market for the proposed degree. Also, there is no other graduate degree within Arizona that has manufacturing in its title.

This program directly supports the continued development of applied engineering programs on the Polytechnic campus, while simultaneously supporting the design aspirations of the New American University (e.g., access and variety meeting the needs of students and society). The College of Technology and Innovation (CTI) fields programs to address important and relevant industry and society challenges. Manufacturing is an industry segment that needs advanced education opportunities for its engineers that will help them compete in a global environment where low cost manufacturing is typically done elsewhere. The establishment of an MS in Manufacturing Engineering program recognizes the need for specialization within the broader engineering education framework, provides a path forward for development of meaningful and significant progress on solutions to manufacturing challenges. The current strengths of the CTI in manufacturing engineering in a project environment will be leveraged via this new MS in Manufacturing Engineering program.

**3. IMPACT ON OTHER PROGRAMS -** Attach any letters of collaboration/support from impacted programs. (see Checklist coversheet)

While the Ira A. Fulton Schools of Engineering offers a variety of excellent discipline-specific Master of Science degrees, the proposed program provides an alternative path towards engineering graduate education. The proposed program will utilize a core-emphasis area structure with a focus on manufacturing engineering problems. Thus, CTI believes this program will not compete with the Ira A. Fulton Schools of Engineering programs, rather it will provide a complementary approach to engineering-related graduate education. An email documenting the Ira A. Fulton Schools of Engineering’s position with respect to this degree proposal is attached.

**4. PROJECTED ENROLLMENT -** How many new students do you anticipate enrolling in this program each year for the next five years? Please note, The Arizona Board of Regents (ABOR) requires nine masters and six doctoral degrees be awarded every three years. Thus, the projected enrollment numbers must account for this ABOR requirement.

The numbers below are based on the current enrollment in the MSTECH Manufacturing concentration. The CTI believes that current students, especially those just beginning their studies, may wish to switch to the new degree.

<b>5-YEAR PROJECTED ANNUAL ENROLLMENT</b>					
<b>Please utilize the following tabular format.</b>	<b>1<sup>st</sup> Year</b>	<b>2<sup>nd</sup> Year</b> (Yr 1 continuing + new entering)	<b>3<sup>rd</sup> Year</b> (Yr 1 & 2 continuing + new entering)	<b>4<sup>th</sup> Year</b> (Yrs 1, 2, 3 continuing + new entering)	<b>5<sup>th</sup> Year</b> (Yrs 1, 2, 3, 4 continuing + new entering)
Number of Students Majoring (Headcount)	8	16	20	25	30

**5. STUDENT LEARNING OUTCOMES AND ASSESMENT:**

**A. List the knowledge, competencies, and skills** students should have attained by graduation from the proposed degree program. (You can find examples of program Learning Outcomes at <http://www.asu.edu/oue/assessment.html>).

See the table below

- B. Describe the plans and methods to assess** whether students have achieved the knowledge, competencies and skills identified in the Learning Outcomes. (You can find examples of assessment methods at (<http://www.asu.edu/oue/assessment.html>)).

Assessment will be accomplished through course work, written materials produced by the students, and oral examinations/defense of the student's work for those pursuing the thesis or applied project option.

Objective	Outcome	Courses Supporting Outcomes	Assessment Method
Engineering Proficiency	Students will have ability to apply engineering knowledge to solve realistic manufacturing engineering problems	All	Final exams in the classes, student portfolios, project reports (in the case of the applied project or capstone project report) or defense of the disquisition.
Systematic Approach to Manufacturing Problems	Students will apply a systematic approach and modern manufacturing strategies to complex manufacturing problems.	Selected manufacturing core and focus area courses	Final exams in the classes, student portfolios, defense of disquisition or applied project or capstone project reports
Depth in Manufacturing	Students will demonstrate a mastery of topics in their chosen manufacturing area of expertise	Courses in manufacturing topics and capstone/project /thesis work	Final exams in the classes, student portfolios, defense of disquisition or applied project or capstone project reports.
Demonstration of Competence	Students will carry out a project, the completion of which meaningfully contributes to relevant challenges in manufacturing engineering practice	Thesis/individual applied project or capstone course	Written disquisition, defense of disquisition, feedback from industrial partners, applied project or capstone project report

- 6. ACCREDITATION OR LICENSING REQUIREMENTS (if applicable):** Provide the names of the external agencies for accreditation, professional licensing, etc. that guide your curriculum for this program, if any. Describe any requirements for accreditation or licensing.

None

**7. FACULTY, STAFF, AND RESOURCE REQUIREMENTS:**

**A. Faculty**

- i. Current Faculty** - List the name, rank, highest degree, area of specialization/expertise and estimate of the level of involvement of all current faculty members who will teach in the program.

Name	Rank	Degree	Specialization	Involvement 1=Teach; 2=Teach + Advise; 3=Teach, Advise, Admin
Ann McKenna	Assoc. Prof.	Ph.D.	Mechanical Engineering/Design	3
Chell Roberts	Professor	Ph.D.	Industrial Engineering	3
Angela Sodemann	Asst. Prof.	Ph.D.	Manufacturing/Mechanical Engineering	2

Jennifer Bekki	Asst. Prof.	Ph.D.	Industrial Engineering	2
Scott Danielson	Assoc Prof	Ph.D.	Mechanical/Manufacturing Engineering	3
Dale Palmgren	Assoc Prof	Ph.D.	Manufacturing/Mechanical Engineering	2
Sharon Lewis	Senior Lecturer	Ph.D.	Industrial Engineering	2
Mark Henderson	Professor	Ph.D.	Mechanical Engineering/Design	2
Bradley Rogers	Assoc Prof	Ph.D.	Mechanical Engineering	2
Thomas Sugar	Assoc. Prof.	Ph.D.	Mechanical Engineering	2
Sangram Redkar	Asst. Prof.	Ph.D.	Mechanical Engineering	2
John Robertson	Professor	Ph.D.	Electrical Engineering/Semiconductor Manufacturing	2
Jerry Gintz	Senior Lecturer	M.S.	Manufacturing	2
Trian Georgeou	Senior Lecturer	M.S.	Manufacturing	2
Micah Lande	Asst. Prof.	Ph.D.	Design/Mechanical Engineering	2

- ii. **New Faculty** - Describe the new faculty hiring needed during the next three years to sustain the program. List the anticipated hiring schedule and financial sources for supporting the addition of these faculty members.

None required in addition to the current planned hiring.

- iii. **Administration of the program** - Explain how the program will be administered for the purposes of admissions, advising, course offerings, etc. Discuss the available staff support.

Admission applications will be received, checked and distributed by a CTI staff member assigned to the graduate programs. An admissions committee, including faculty members representing various disciplines in the department, will review applications and make admission recommendations. A senior faculty member, on a rotating basis, will chair the graduate admissions committee and serve as the graduate program coordinator. Overall administrative responsibility for the program resides with the Department Chair, currently Dr. Ann McKenna.

- B. Resource requirements needed to launch and sustain the program:** Describe any new resources required for this program's success such as new staff, new facilities, new library resources, new technology resources, etc

None are needed.

## 8. COURSES:

- A. Course Prefix(es):** Provide the following information for the proposed graduate program.

- i. Will a new course prefix(es) be required for this degree program?

Yes  No

- ii. If yes, complete the [Course Prefixes / Subjects Form](#) for each new prefix and submit it as part of this proposal submission.

- B. New Courses Required for Proposed Degree Program:** Provide course prefix, number, title, and credit hours and description for any new courses required for this degree program.

No new courses are needed

**APPENDIX  
OPERATIONAL INFORMATION FOR GRADUATE PROGRAMS**

(This information is used to populate the [Graduate Programs Search](#)/catalog website.)

**1. Provide a brief (catalog type - no more than 150 words) program description.**

Manufacturing engineering draws upon two distinct bodies of knowledge, manufacturing processes (e.g., how materials are altered in either shape or properties) and the processes of manufacturing (e.g., manufacturing systems and management). This combination of topics is embedded in the MS in Manufacturing Engineering program and students can follow their interests by developing deeper expertise in either manufacturing processes or the processes of manufacturing. The degree provides advanced technical content to help students prepare for career transitions and improve company competitiveness. The program consists of a core set of courses designed to provide all students with advanced knowledge of manufacturing fundamentals and an introduction to systems engineering. The expertise developed in the core curriculum supports student focus areas building on existing unit faculty strengths, including automation, additive and subtractive manufacturing processes (including CNC machining), modeling and simulation, electronics manufacturing, and manufacturing management. A thesis, applied project or capstone course option is offered.

**2. Campus(es) where program will be offered:**

*(Please note that Office of the Provost approval is needed for ASU Online campus options.)*

**ASU Online only (all courses online)**

**All other campus options (please select all that apply):**

Downtown                       Polytechnic  
 Tempe                                 West

**Both on-campus and**  **ASU Online (\*)** - (Check applicable campus from options listed.)

(\*) Please note: Once students elect a campus option, students will not be able to move back and forth between the on-campus (in-person) or hybrid options and the ASU Online campus option.

**3. Admission Requirements:**

**Degree:** Minimum of a Bachelor's or master's degree in what fields, or a closely related field from a regionally accredited College or University.

An earned U.S. bachelor's degree or higher from a regionally accredited institution or the equivalent of a U.S. bachelor's degree from an international institution that is officially recognized by that country in engineering, physical sciences, mathematics or similar.

**GPA:** Minimum of a 3.00 cumulative GPA (scale is 4.0=A) in the last 60 hours of a student's first bachelor's degree program. Minimum of 3.00 cumulative GPA (scale is 4.0 = A) in the applicable Master's degree. Modify or expand if applicable.

The applicant must have maintained a "B" (3.00 on a 4.00 scale) grade point average (GPA) in the last 60 semester hours or 90-quarter hours of undergraduate coursework. If the applicant does not meet the minimum GPA requirements, the application may still be considered. In certain cases, demonstrated aptitude through professional experience or additional post-baccalaureate education will be considered.

**English Proficiency Requirement for International Applicants:** The English proficiency requirements are the same as the Graduate College requirement. (see Graduate College requirement [http://graduate.asu.edu/admissions/international/english\\_proficiency](http://graduate.asu.edu/admissions/international/english_proficiency)):  **Yes**                       **No**



If the student is from a country whose native language is not English (regardless of where they may now reside), they must provide proof of English proficiency. Acceptable proof is as follows: TOEFL score of at least 550 (PBT) or 80 (iBT), IELTS overall band score of at least 6.5, or Pearson Test of English (PTE) score of at least 60.

If applicable, list any English proficiency requirements that are supplementary to the Graduate College requirement.

**Foreign Language Exam:**

Foreign Language Examination(s) required?  Yes  No

If yes, list all foreign languages required:

**Required Admission Examinations:**  GRE  GMAT  Millers Analogies  None required  
(Select all that apply.)

**Letters of Recommendation:**  Yes  No

**4. Application Review Terms (if applicable Session):** Indicate all terms for which applications for Admissions are accepted and the corresponding application deadline dates, if any:

- Fall (regular)      Deadline (month/year): April 15<sup>th</sup>
- Session B              Deadline (month/year):
  
- Spring (regular)      Deadline (month/year): November 1<sup>st</sup>
- Session B              Deadline (month/year):
  
- Summer I      Deadline (month/year): March 15<sup>th</sup>
- Summer II      Deadline (month/year):

**5. Curricular Requirements:**

(Please expand tables as needed. Right click in white space of last cell. Select "Insert Rows Below")

**5A. Will concentrations be established under this degree program?**  Yes  No

**5B. Curricular Structure:**

<u>Required Core Courses for the Degree</u>			<u>Credit Hours</u>
<b>(Prefix &amp; Number)</b>	<b>(Course Title)</b>	<b>(New Course?) Yes or No?</b>	<b>(Insert Section Sub-total)</b>
			<b>12</b>
EGR 525	Lean Systems	No	<b>3</b>
EGR 520	Principles of Systems Engineering	No	<b>3</b>
MET 501 (or IEE 572)	Statistical Quality Control Applications (or Design Engineering Experiments)	No	<b>3</b>
MET 515	Manufacturing Simulation	No	<b>3</b>
<b><u>Elective or Research Courses</u></b> <i>(as deemed necessary by supervisory committee)</i>			<b><u>Credit Hours</u></b>



(Prefix & Number)	(Course Title)	(New Course?) Yes or No?	(Insert Section Sub-total)  12-15
<p style="text-align: center;"><b><u>Elective Courses</u></b> (as deemed necessary by supervisory committee)</p> <p>A minimum of 12 credit hours in the focus area, depending on whether the student chooses the capstone course option, the applied project option or the thesis option.</p> <ol style="list-style-type: none"> <li>1. If taking the capstone course option, the student will take 18 additional credit hours of course work, <b>12 of which will be in the focus area, a three credit hour capstone course and its prerequisite (EGR 530).</b></li> <li>2. If taking the applied project option, the student will complete the <b>12 credit hours in the focus area, a three credit hour elective course, and a three credit hour applied project course.</b></li> <li>3. If taking the thesis option, the student will complete the <b>12 credit hours in the focus area</b> (includes research credit hours) <b>and 6 credit hours of thesis.</b></li> </ol> <p>The degree curriculum requires a minimum 12 credit hour focus area selected by the student and supervisory committee. Focus areas are flexible and may come from graduate level courses, both within and outside of the CTI, the student qualifies to take.</p>			
<p style="text-align: center;"><b><u>Culminating Experience</u></b> <i>E.g. - Capstone course, applied project, <u>thesis (masters only – 6 credit hours)</u> or <u>dissertation (doctoral only – 12 credit hours)</u> as applicable</i></p> <p>In keeping with the CTI approach to engineering education, all students will complete a project. However, the type of project will vary depending on the option selected by the student. Thus, one of the following options is required of all students.</p>			<b><u>Credit Hours</u></b> (Insert Section Sub-total) <b><u>3-6</u></b>
EGR 599 Thesis			6
EGR 593 Individual Applied Project			3
EGR 570 Capstone Design (course involving a group project related to the student's focus area)			3
<p style="text-align: center;"><b><u>Other Requirements</u></b> <i>E.g. - Internships, clinical requirements, field studies as applicable</i></p>			<b><u>Credit Hours</u></b> (Insert Section Sub-total)
<p><b><u>For doctoral programs</u></b> – when approved by the student's supervisory committee, will this program allow 30 credit hours from a previously awarded master's degree to be used for this program? If applicable, please indicate the 30 credit hour allowance that will be used for this degree program.</p>			
<b>Total required credit hours</b>			<b>30</b>

- List all required core courses and total credit hours for the core (required courses other than internships, thesis, dissertation, capstone course, etc.).
- Omnibus numbered courses cannot be used as core courses.
- Permanent numbers must be requested by submitting a course proposal to Curriculum ChangeMaker for approval. Courses that are new, but do not yet have a new number can be designated with the prefix, level of the course and X's (e.g. ENG 5XX or ENG 6XX).

## 6. Comprehensive Exams:

**Master's Comprehensive Exam (when applicable), please select the appropriate box.**  
**Not applicable.**

**(Written comprehensive exam is required)**

- Oral comprehensive exam is required – in addition to written exam
- No oral comprehensive exam required - only written exam is required

- 7. For Doctoral Degrees that require a dissertation, submission of a written dissertation prospectus and its oral defense are required. (Please include any required timelines for defense of the prospectus.) It is expected that the submission of a written dissertation prospectus and its oral defense will take place no later than the end of the fourth year.**

Not applicable.

- 8. Allow 400-level courses:**  **Yes**  **No** (No more than 6-credit hours of 400-level coursework can be included on a graduate student plan of study.)

- 9. Committee:** Required Number of Thesis or Dissertation Committee Members (must be at least 3 including chair or co-chairs):

Three committee members, at a minimum, are required for the thesis track. Applied project track or capstone tracks do not require a committee.

- 10. Keywords** (List all keywords that could be used to search for this program. Keywords should be specific to the proposed program.)

Manufacturing Engineering, manufacturing, sustainability, engineering systems, innovation, design, projects, applied engineering, automation, additive manufacturing, CNC machining, electronics manufacturing, prototyping, product development, remanufacturing, semiconductor

**11. Area(s) of Interest**

A. Select one (1) primary Area of Interest from the list below that applies to this program.

- |   |  |
|---|--|
| <input type="checkbox"/> Architecture, Construction & Design    | <input checked="" type="checkbox"/> Engineering & Technology |
| <input type="checkbox"/> Artistic Expression & Performance      | <input type="checkbox"/> Environmental Issues & Physical Sci |
| <input type="checkbox"/> Biological Sciences, Health & Wellness | <input type="checkbox"/> Interdisciplinary Studies           |
| <input type="checkbox"/> Business, Management & Economics       | <input type="checkbox"/> Languages & Cultures                |
| <input type="checkbox"/> Communication & Media                  | <input type="checkbox"/> Law & Justice                       |
| <input type="checkbox"/> Computing & Mathematics                | <input type="checkbox"/> Social Science, Policies & Issues   |
| <input type="checkbox"/> Education & Teaching                   |  |

B. Select any additional Areas of Interest that apply to this program from the list below.

- |  |  |
|--|--|
| <input type="checkbox"/> Architecture, Construction & Design         | <input type="checkbox"/> Engineering & Technology            |
| <input type="checkbox"/> Artistic Expression & Performance           | <input type="checkbox"/> Environmental Issues & Physical Sci |
| <input type="checkbox"/> Biological Sciences, Health & Wellness      | <input type="checkbox"/> Interdisciplinary Studies           |
| <input checked="" type="checkbox"/> Business, Management & Economics | <input type="checkbox"/> Languages & Cultures                |
| <input type="checkbox"/> Communication & Media                       | <input type="checkbox"/> Law & Justice                       |
| <input type="checkbox"/> Computing & Mathematics                     | <input type="checkbox"/> Social Science, Policies & Issue    |
| <input type="checkbox"/> Education & Teaching                        |  |

**From:** [Mitzi Montoya](#)  
**To:** [Scott Danielson](#)  
**Cc:** [Mitzi Montoya](#); [Chell Roberts](#)  
**Subject:** Re: MS in Manufacturing Engineering Proposal Approval  
**Date:** Friday, February 22, 2013 7:06:51 PM

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## Approved

*Mitzi M. Montoya  
Arizona State University  
Sent from my DROID*

Scott Danielson <[Scott.Danielson@asu.edu](mailto:Scott.Danielson@asu.edu)> wrote:

Dean Montoya,

I am asking for your approval on the attached proposal for a MS in Manufacturing Engineering to be offered in the College of Technology and Innovation at the Polytechnic campus. Your approval is needed before I can send the proposal forward to the Provost's office.

Your approval indicates that the proposal has been approved by the Department and College levels of review and the College has the resources to offer this degree program. Thus, you recommend implementation of the proposed degree program.

Thank you.

Scott Danielson, Ph.D., P.E.  
Associate Dean for Academic Programs  
College of Technology and Innovation  
Arizona State University  
480-727-1185

**From:** [James Collofello](#)  
**To:** [Scott Danielson](#)  
**Cc:** [Chell Roberts](#)  
**Subject:** RE: MS in Manufacturing Engineering Proposal  
**Date:** Monday, March 04, 2013 1:45:26 PM

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Scott,

The Fulton Schools of Engineering does not have any concerns with this proposal.

jim

James S. Collofello  
Associate Dean of Academic and Student Affairs  
Professor of Computer Science and Engineering  
School of Computing Informatics and Decision Systems Engineering  
Ira A. Fulton Schools of Engineering  
Arizona State University

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**From:** Scott Danielson  
**Sent:** Wednesday, February 20, 2013 1:51 PM  
**To:** James Collofello  
**Cc:** Chell Roberts  
**Subject:** MS in Manufacturing Engineering Proposal

Jim,

Attached please find a synopsis of the CTI MS in Manufacturing Engineering proposal. There are no new courses being proposed at this point, it will build off the existing manufacturing or engineering courses within the CTI.

Please let me know if the FSE has any objections or concerns about the degree. Thank you.

Scott

Scott Danielson, Ph.D., P.E.  
Associate Dean for Academic Programs  
College of Technology and Innovation  
Arizona State University  
480-727-1185