

# BOARD OF TRUSTEES ACADEMIC AND STUDENT AFFAIRS COMMITTEE MEETING

August 17, 2017 Bell Hall 260

#### MINUTES

# AGENDA ITEM 1-ROLL CALL, CALL TO ORDER, OPENING COMMENTS

The Academic and Student Affairs Committee met on August 17, 2017, in Bell Hall 260. Chair Barbara Fleming called the meeting to order at 8:03 a.m.

Chair Fleming asked Kae Carpenter, Secretary, to call the roll. The following members were present:

- Dr. Melissa Geist
- Mr. Nick Russell
- Capt. Barry Wilmore

Other board members and members of the public were also in attendance.

# AGENDA ITEM 2-APPROVAL OF MINUTES

Chair Fleming asked if there were any recommendations or changes to the minutes. With no recommendations of changes, Dr. Melissa Geist moved that the Committee approve the June 15th Academic and Student Affair Committee Minutes as presented. Captain Barry Wilmore seconded the motion. The motion carried unanimously.

# AGENDA ITEM 3 - APPROVAL OF POLICY 217 (STUDENT ACADEMIC MISCONDUCT)

Chair Fleming discussed some of the recommended changes to Policy 217, as proposed by the Board at the June 16 Academic and Student Affairs Committee meeting. Such changes included an addition of the phrase "absent good cause" as well as a lengthened time frame for response from the students.

Dr. Mark Stephens, Provost and Vice President for Academic Affairs, discussed that since the last Academic and Student Affairs Committee Meeting, he had met with a small group of faculty, including the Chair of the University Academic Misconduct Committee, and three student representatives. They reviewed the changes suggested by the board, as well as other suggestions provided by faculty and students, and made the requested changes.

Captain Wilmore moved to recommend approval of Policy 217 to the Board and to place it on the Board's regular agenda. Dr. Geist seconded the motion. The motion carried unanimously.

Chair Fleming asked for input from the Board's student representative, Mr. Nick Russell. Mr. Russell stated that he was very pleased with the policy, as amended.

#### AGENDA ITEM 4 - PROVOST'S REPORT

Dr. Stephens updated the board on exciting things happening on campus in regards to Academic Affairs. He discussed the recruitment efforts of admissions counselors, which attended a total of 484 college fairs and high school visits. He also discusses positive enrollment numbers and the increasing number of new freshman and transfers, as well as the rising retention numbers. Dr. Stephens also discussed how the record breaking graduating class of 2017 could impact enrollment numbers.

Dr. Stephens mentioned that International student enrollment is down, but that Tennessee Tech is making every effort to recruit international students.

Captain Wilmore asked if the lower number of international students is a local or nationwide problem. Dr. Stephens responded that it is a nationwide issue.

Chair Fleming asked who or what the rising enrollment numbers can be attributed to, at which point Dr. Leslie Crickenberger, Associate Vice President for Enrollment Management and Student Success, was invited to speak. Dr. Crickenberger discussed how they have had a lot of one-on-one communication with students, and intentional follow-up with interested students. Dr. Crickenberger also attributed a portion of the increased number of applications with Tennessee Tech's contract with Noel-Levitz.

Mr. Purna Saggurti asked if the increase in applications and admits cost Tennessee Tech more in regards to scholarships. Dr. Crickenberger responded that they have spent less in scholarships this year and have brought in more students who are paying.

Dr. Geist asked for clarification and Dr. Crickenberger explained that Tennessee Tech has spent less in scholarships for the 2017-2018 year than was spent in the 2016-2017 year. Chair Fleming inquired as to whether these were traditional students and Dr. Stephens confirmed that they were primarily traditional students.

#### Additional items discussed included:

THEC's approval of the College of Fine Arts.

Renovations of Kittrell and Bartoo Hall.

Intention to break ground on a Poultry Science Center in April of 2018, with an estimated completion date toward the middle to end of fall 2018.

There were 774,440 visitors to the library this academic year.; the highest gate count to date, with 9,633 laptop checkouts.

Transition of IDEA evaluations to online format this fall (up until this point, more than half of the IDEA evaluations were done on paper). (Individual Development Educational Assessment - which is the students' evaluations of their professors).

Piloting the CCTST (California Critical Thinking Skills Test) (Senior Exit Exams) tests in an online format for the College of Business and the College of Education.

SACSCOC Substantive Change Review September 26-28.

The College of Education's Accrediting body, the Council for the Accreditation of Educator Preparation, also known as CAEP, visit on April 8-10.

Roane State Community College, Oak Ridge Hybrid Approach – There have been discussions to extend Tennessee Tech's existing 2+2 program in Elementary Ed to other high demand programs. The programs currently being investigated are RN to BSN, Secondary Ed in STEM, Business (Management or Finance), Engineering Technology (Mechatronics).

Even though these were very recently approved programs (at the June 15<sup>th</sup> Board meeting) Doctor of Nursing Practice has 8 admitted students, Master of Accountancy has 11 admitted.

# AGENDA ITEM 5 - DISCUSSION OF CURRENT RECOGNITION PROGRAMS

Dr. Stephens discussed the awards that are given to students, as well as faculty and staff, as requested by the Board at the June 15<sup>th</sup> Academic and Student Affairs Committee Meeting.

The compiled Student Award Recognitions list contains 56 student awards that are given out at both the department level and the university level.

The compiled Faculty and Staff Award Recognitions list contains 39 awards, many of which have multiple award recipients and have a monetary value that ranges from \$200 to \$3,000.

Dr. Stephens recommended the valued accomplishments of students, faculty and staff be recognized at each Academic Student Affairs Committee meeting.

Discussion was made regarding whether awards are being presented appropriately. Dr. Oldham offered to gather a group to examine the recognition system presently in place.

# AGENDA ITEM 6 - PRESENTATION ON DIGITAL AND DISTANCE EDUCATION

Dr. Patrick Wilson, Associate Vice President of Online and Distance Education, presented on the potential offering of additional online courses and adult education in an effort to increase access to a high quality education from Tennessee Tech. The needs of adult students vary from those of traditional students in that flexibility is desired. This market of adult students would be a growth opportunity for Tech as it currently trails other universities that offer more choices.

Additional discussion was made regarding the cost and revenue of adding additional online programs and the interest shown by faculty as well as members of the community. Dr. Geist mentioned the importance of resources being in place prior to securing additional online courses to ensure adequate coverage by instructors. Also, in her experience not all adults prefer online courses. Dr. Geist made a recommendation to consult with other institutions who offer these programs to learn how the courses were implemented.

Dr. Wilson shared how tuition is assigned in the eCampus program and evaluated the financial impact. Some Tennessee universities no longer participate in the collaborative eCampus program and have built internal programs. Dr. Wilson recommended Tech offer programs internally.

Mr. Jones shared his support and questioned whether a vote should be introduced for this topic given it is on the President's list of goals for the upcoming year. The committee did not seek a motion; however, Chair Fleming asked for a progress report at future committee meetings.

Additional discussion was made regarding the strategic plan for online courses including the consideration of the longevity of eCampus curriculum in association with the Tennessee Board of Regents.

Dr. Geist requested a list of faculty at Tech who have taught online courses. Chair Fleming agreed it would be beneficial to ask those faculty their perspective.

#### AGENDA ITEM 7 - OTHER BUSINESS

There was no other business.

#### AGENDA ITEM 8 - ADJOURNMENT

There being no further business, the meeting adjourned at 9:19 a.m.

Approved,

Barbara Fleming, M.D.

Chair



# **Agenda Item Summary**

Date: M	larch 22, 2018							
Agenda	Agenda Item: Letter of Notification for M.S. in Engineering Management							
	Review	Action	No action required					

PRESENTER(S): Dr. Mark Stephens, Interim Provost

**PURPOSE & KEY POINTS:** Academic Affairs wishes to submit a Letter of Notification to THEC, proposing a Master of Science program as an addition to graduate level programs of study in the department of Engineering Management in the College of Engineering. THEC policy requires Board approval of the Letter.



# **Letter of Notification**

DATE OF SUBMISSION: February 20, 2018

INSTITUTION: Tennessee Technological University

**College of Engineering** 

TITLE OF PROGRAM: Master of Science in Engineering Management

CIP CODE: 15.1501

ACADEMIC PROGRAM LIAISON: Dr. Jessica Oswalt

**Assistant Dean for Assessment** 

**College of Engineering** 

931-372-3260

joswalt@tntech.edu

TARGET DATE FOR BOARD APPROVAL: Spring 2018

PROPOSED DATE OF IMPLEMENTATION: Fall 2018

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#### **PURPOSE AND NATURE OF PROGRAM**

The Master of Science in Engineering Management (MSEMgt) is an interdisciplinary program of study offered collaboratively by the College of Business and the College of Engineering. The degree is designed to provide early-career engineering and related technical professionals with leadership and management knowledge, skills, and tools for advancing their job performance and the performance of the organizations that employ them. The focus of the program is on the management of technology-based projects and technical people and firms, and the goal is to combine the application of business theory with the best practices in engineering. The program content is applicable to technical professionals in state and federal agencies, small businesses, and large corporations. Academic components of the program include the applicable and appropriate use of a variety of quantitative tools for decision making, the effective supervision of organizational personnel, and project and process management, including but not limited to risk management, resource allocation, and systems engineering. Courses will be taught by expert faculty in both related fields.

#### MISSION AND MASTER PLAN ALIGNMENT

#### **Tennessee Tech University's Mission**

The proposed Master of Science in Engineering Management degree aligns very well with the vision and mission of Tennessee Technological University (TTU) as the State's comprehensive university known for offering high-quality programs in engineering and business disciplines that produce graduates in an area of state and national need.

TTU's vision includes "providing academic, economic and cultural leadership in the region and producing practical, ready-to-work graduates from a broad range of academic disciplines prepared to excel in a technologically driven world" (www.tntech.edu/about/mission). The MSEMgt degree program is designed to provide graduates with leadership and management skills applicable in their technology-focused jobs and industries.

TTU's mission "as the state's only technological university is to provide leadership and outstanding programs in engineering, the sciences, and related areas that benefit the people of Tennessee and the nation." The mission also specifies that the University provides "strong programs" in business, among other areas, and "is committed to the life-long success of students in its undergraduate, master's, specialist, and doctoral granting programs through high-quality instruction and learning experiences" (www.tntech.edu/about/mission). Thus, the engineering management master's degree program, offered collaboratively by the College of Business and College of Engineering and designed to fit the needs of working technical professionals, fits well within TTU's mission.

The missions of both the College of Engineering and College of Business align with the proposed degree offering. The College of Engineering's mission to "graduate innovative engineers who

solve technological challenges to meet societal needs" is directly supported with the addition of the MSEMgt degree program (www.tntech.edu/engineering/strategicplan/). Likewise, the College of Business's mission, which is in part to "provide an educational foundation that enables its students to become successful, ethical organization and business leaders" (www.tntech.edu/cob/about/), is furthered with the addition of this degree program.

TTU's Flight Plan, the current strategic plan, states that one of the goals is to "increase the total number of graduate and doctoral programs, with new offerings in high demand fields," particularly STEM fields (https://www.tntech.edu/flightplan/key-priorities/new-graduate-programs). The creation of a new degree in engineering management helps to achieve this goal. Another TTU goal is in the area of teaching quality and encourages programs and faculty to "utilize appropriate technologies inside and outside the classroom that provide efficient communication channels and promote creative learning opportunities" (www.tntech.edu/flightplan/key-priorities/technology-in-teaching). This includes upgrading the information technology infrastructure and online learning. The online Master of Science in Engineering Management degree further advances the University's efforts in those areas.

#### **Tennessee Higher Education Master Plan**

As stated in the Tennessee Higher Education Master Plan 2015-2025, "the state continues to acknowledge the critical need for academic programs of distinction at the graduate and professional level to fully address Tennessee's economic development, workforce, and research needs" (www.tn.gov/assets/entities/thec/attachments/MasterPlan2025.pdf). The MSEMgt degree is aligned with the Tennessee Higher Education Master Plan because it is a graduate program with a curriculum specifically designed to address engineering workforce needs. The needs were identified via comprehensive surveys, as described in the following section, to determine interest and curricular needs of potential students and employers.

#### **FEASIBILITY STUDY**

The College of Engineering conducted surveys of alumni, employers, and advisory board members in July-August of 2016. All surveys were conducted using Qualtrics software with respondent anonymity and opt-out provisions. Tables summarizing the survey questions and results are available in Appendix A through Appendix C. The survey responses overwhelmingly supported the decision to develop a Master of Science in Engineering Management degree program and provided the perspective of potential students and employers on their preferred focus for the program.

#### **Potential Student Interest**

The program being developed is an engineering management Master of Science degree, and engineering management master's programs are generally targeted at engineers in their early careers. Therefore, 2,050 TTU College of Engineering alumni who had graduated within the previous ten years were surveyed for their interest. Table 1 below summarizes some of the results from the survey, which had 234 respondents for an 11.4% response rate. Appendix A provides more detailed results from the alumni surveys.

**Table 1. Alumni Survey Results** 

Survey Question	Top Responses	Percentage of Responses
Level of interest in an engineering management master's degree program (Table A-2*)	Somewhat interested (107 respondents), or strongly interested (71 respondents)	82.4%
Primary interest in the offerings of an engineering management graduate program (Table A-3*)	Enrolling in an engineering management master's degree program offered by TTU (87 respondents), or taking engineering management courses from TTU (57 responses)	67.0%
Preferred specialties of interest (Table A-4*)	Project management	76.3%
Preferred certifications of interest (Table A-5*)	Project Management Professional (PMP)	86.0%
Preferred method of degree delivery (Table A-6*)	Asynchronous online	69.4%

<sup>\*</sup>Tables are in Appendix A.

The survey showed a high level of interest from TTU engineering graduates in an engineering management master's program from TTU with significant interest in courses preparing the student to pass the certification exam as a Project Management Professional. This popular and internationally recognized certification is offered by the Project Management Institute. (Slightly greater interest (88.5%, reported in Appendix A, Table A-5) was shown for a certification as a Professional Engineering Manager, a certification offered by the American Society for Engineering Management, but this certification did not receive strong support in the surveys of advisory board members and employers.)

Since the survey was sent only to recent TTU engineering graduates, the significant interest expressed by respondents in the degree program is a strong indicator that an attractive program offered by TTU would have an immediate and sustainable enrollment that could be financially self-supporting.

#### **Local and Regional Need/Demand**

Members of four TTU advisory boards were surveyed to gain an understanding of local and regional need and demand, as well as support for the College of Engineering to offer this degree program. The survey was sent to 84 members of the advisory boards for the College of Engineering and Departments of Civil and Environmental Engineering, Electrical and Computer Engineering, and Mechanical Engineering. A total of 43 advisory board members responded to the survey for a 51.2% response rate. Table 2 below summarizes the results from this survey, and Appendix B provides more detailed results.

**Table 2. Advisory Board Members Survey Results** 

Survey Question	Top Responses	Percentage of Responses
Level of member support for an engineering management master's degree program (Table B-2*)	Somewhat supportive or strongly supportive	95.0%
Preferred specialties of interest (Table B-3*)	Project management	70.0%
Preferred certifications of interest (Table B-4*)	Project Management Professional (PMP)	95.0%
Alignment of an engineering management master's degree with the College of Engineering mission (Table B-5*)	Somewhat supportive or strongly supportive	90.0%

<sup>\*</sup>Tables are in Appendix B.

The advisory board survey results showed strong support for the degree program. Like the alumni survey, the results indicated that project management would be a highly valued emphasis in the program.

# **Employer Need/Demand**

The College of Engineering obtained a list of 205 employers from the TTU Office of Career Services. Employers on the list had either been involved in recruiting TTU engineers at one or more TTU Career Fairs or in recruiting engineers through Career Services within the previous two years. From the 205 employers, there were 103 respondents, for a 50.2% response rate. The major survey results from these employers are summarized in Table 3 below, and Appendix C provides further details.

**Table 3. Employers Survey Results** 

Survey Question	Top Responses	Percentage of Responses
Level of employer support for an engineering management graduate program (Table C-2*)	Somewhat supportive or strongly supportive	86.3%
Primary employer interest in the offerings of an engineering management graduate program (Table C-3*)	Students taking selected courses or students enrolled in a degree program	77.7%
Preferred specialties of interest (Table C-4*)	Project management	69.7%
Preferred certifications of interest (Table C-5*)	Project Management Professional (PMP)	90.9%
Preferred method of degree delivery (Table C-6*)	Asynchronous online	60.0%

<sup>\*</sup>Tables are in Appendix C.

The excellent response rate by employers of TTU engineers and their expressed support for an engineering management degree program or courses provide strong indications of the viability of the Master of Science in Engineering Management degree program. The interest in project management also matched the preferred interests of alumni and advisory board members reported in the two previous surveys.

#### **Other Evidence of Need**

The results reported for the TTU surveys are aligned with the results of other surveys and with anecdotal evidence from discussions with alumni and employers. In recent years several of our engineering advisory boards have recommended, and our alumni have requested, that we develop a Master of Science in Engineering Management degree to meet the needs of engineering professionals.

Previous surveys by other organizations have typically found that a large percentage of engineers, perhaps as many as two-thirds, have jobs with management responsibilities. In a 2008 survey by Deloitte & Touche LLP that was sponsored by the American Society for Mechanical Engineers (ASME) [1], over half of the 1900 responding engineers reported that their jobs "required management skills," and fifty-five percent of those engineers had immediate plans to undertake management-focused professional development such as certification programs and advanced degrees. The Deloitte & Touche survey included chemical, electrical, mechanical, and other engineering disciplines. (See Appendix D for an ASME-focused summary of the survey results.) The survey findings led ASME to develop a certification program for engineering management.

A recent survey for a University of Tennessee at Knoxville (UTK) Master's thesis found that 64% of 57 UTK engineering management program alumni had received financial support from their employers for their degree program [2], another indication that employers value an engineering management education. This survey also found that, although completion of the engineering management degree did not guarantee salary increases, about half of the respondents had received a promotion after obtaining their degree [2]. Almost all (54 of 57 respondents) cited the "non-tangible benefits" of personal development (learning and achieving) as valuable [2].

It is difficult to draw conclusions from the Bureau of Labor Statistics (BLS) online *Occupational Outlook Handbook* employment projections for engineering managers because of the variety of fields in which engineering managers are employed. Table 4 below provides a summary of growth projections for various engineering management-related categories from the BLS online data repository [3-6]. The weighted average projected growth percentage is 8.6% for the management categories shown, which exceeds the projected 7% growth rate average for all occupations. It seems reasonable that engineering management positions might grow at a rate higher than the average of 7% because engineering positions are expected to grow at a combined rate of 8.3% [7]. These statistics provide further support for the sustainability of the degree program.

Table 4. Employment Projections for Engineering Managers and Related Occupations

	.	Employment,	Projected	Change, 2016-26		
Occupational Title		2016	Employment, 2026	Percent	Numeric	Reference
SOURCE: U.S. Bur	eau of	Labor Statistics	, Employment ខ	Projection	ns program	ı
Architectural and engineering managers	11- 9041	180,100	190,000	6	9,900	[3]
Industrial production managers	11- 3051	170,600	169,700	-1	-900	[4]
General and operations managers	11- 1021	2,263,100	2,468,300	9	205,200	[5]
Computer and information systems managers	11- 3021	367,600	411,800	12	44,200	[6]
Engineers	17- 2000	1,681,000	1,820,300	8.3	139,300	[7]

It appears that the Master of Science in Engineering Management degree has significant interest from potential students, support from employers and advisory board members, and projections of future growth. In this era of accelerating technological change, the Tennessee Tech College of Engineering seeks to offer this degree to advance the skills of engineering professionals who will then use those skills to improve the management of technical organizations.

#### **Future Sustainability**

Letters of support from government and industry employers are submitted in Appendix E of this letter of notification. These letters show support for the degree program from a wide variety of employers and provide further evidence of its future sustainability.

#### **PROGRAM COSTS AND REVENUES**

The Colleges of Engineering and Business, as well as the Division of Digital and Distance Education, will utilize resources presently available to develop, launch, and initially support the efforts of a Master of Science in Engineering Management. The Division of Digital and Distance Education employs experts at instructional design and online course management, trained in best practices for online pedagogy and structure. The College of Business also has considerable experience and expertise with online programs (e.g., the distance MBA program).

The program is 100% online so no additional physical resources will be needed. Current technologies will be utilized and supported through the collection of Technology Access Fees and tuition. College of Engineering faculty, external subject matter experts, and College of Business faculty will develop the content for courses not already offered on campus. Existing faculty and adjuncts will be utilized for initial offerings, with adjuncts and one additional full-time faculty hired through program revenues. Administrative, student support services, and recruiting activities will utilize current resources until the degree becomes self-supported financially. Financial projections (in Appendix F) suggest the program will be self-sustaining and able to hire staff as early as the second year of enrollment.

Program enrollments used in the financial projections are shown in Table 5. Initial enrollments will be cohort-based with the cohort beginning each fall semester.

**Table 5. Enrollment Projections** 

Cohorts	Number of Students Enrolled					
	2018-19	2019-20	2020-21	2021-22	2022-23	
Cohort 1 begins	15	15				
Cohort 2 begins;		20	20			
cohort 1 graduates						
Cohort 3 begins;			25	25		
Cohort 2 graduates						
Cohort 4 begins;				25	25	
Cohort 3 graduates						
Cohort 5 begins;					25	
Cohort 4 graduates						
Total number enrolled	15	35	45	50	50	

#### **EXISTING PROGRAMS IN TENNESSEE**

According to the Tennessee Higher Education Commission website (http://thec.ppr.tn.gov/THECSIS/Research/Research.aspx?TabID=API+Search), only one public institution, University of Tennessee at Chattanooga (UTC), offers a Master of Science in Engineering Management (CIP Code 15.1501.00) degree program. However, the University of Tennessee at Knoxville and the University of Tennessee Space Institute (UTSI) offer a concentration in engineering management as an option in the Master of Science in Industrial Engineering degree program. The TTU MSEMgt degree is planned as online program, and the UTC program and UTK/UTSI concentration both offer online options. However, it appears that neither the UTC program nor the UTK/UTSI concentration requires both core business and

engineering courses, so the proposed TTU program has different content and represents a different approach.

Among private institutions in Tennessee, Christian Brothers appears to offer the only Master of Science in Engineering Management degree, and an online option is available. Again, the Christian Brothers program content does not require both core business and engineering courses and thus differs from the proposed TTU degree.

#### **REFERENCES**

- [1] Marino, Gregory N., "Management Skills Crucial for Engineering Success." March 2011. (Adapted from "Certified to Lead" by Gregory N. Marino, for *Mechanical Engineering*, August 2009.) Accessed on February 27, 2018, at http://www.asme.org/careereducation/articles/certification/management-skills-crucial-for-engineering-success.
- [2] Majdalani, Inna, "Benefits of Obtaining an Advanced Degree in Engineering Management." Master's Thesis, University of Tennessee, 2014. Accessed on February 27, 2018, at <a href="http://trace.tennessee.edu/utk\_gradthes/2831">http://trace.tennessee.edu/utk\_gradthes/2831</a>.
- [3] Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Architectural and Engineering Managers. Accessed on February 27, 2018, at <a href="https://www.bls.gov/ooh/management/architectural-and-engineering-managers.htm">https://www.bls.gov/ooh/management/architectural-and-engineering-managers.htm</a>.
- [4] Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Industrial Production Managers. Accessed on February 27, 2018, at <a href="https://www.bls.gov/ooh/management/industrial-production-managers.htm">https://www.bls.gov/ooh/management/industrial-production-managers.htm</a>.
- [5] Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Top Executives. Accessed on February 27, 2018, at https://www.bls.gov/ooh/management/top-executives.htm.
- [6] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Computer and Information Systems Managers. Accessed on February 27, 2018, at https://www.bls.gov/ooh/management/computer-and-information-systemsmanagers.htm.
- [7] Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Employment by Detailed Occupation. Accessed on March 1, 2018, at <a href="https://www.bls.gov/emp/ep">https://www.bls.gov/emp/ep</a> table 102.htm.

#### **APPENDIX A: ALUMNI SURVEY RESULTS**

Table A-1. Alumni Survey Response Rate

Group	Number	Number of	Number with	Response
	Surveyed	Responses	Permission	Rate
Alumni	2050	234	230	11.4%

Table A-2. Level of Alumni Interest in an Engineering Management Graduate Program

Which of the following best describes your level of interest in an engineering management graduate program?

Answer:	%	Count
Strongly disinterested	1.9%	4
Somewhat disinterested	6.0%	13
Neither interested or disinterested	9.7%	21
Somewhat interested	49.5%	107
Strongly interested	32.9%	71
Total	100%	216
Total strongly or somewhat interested	82.4%	178

Table A-3. Primary Alumni Interest in an Engineering Management Program at TTU

Which of the following best describes your interest in the offerings of an engineering management graduate program?

Answer: I am	%	Count
Currently enrolled in an engineering management graduate program at another institution.	3.3%	7
Interested in enrolling in a Master's degree program in engineering management from Tennessee Tech.	40.5%	87
Interested in taking graduate courses in engineering management from Tennessee Tech.	26.5%	57
Interested in taking graduate courses in another field from Tenn. Tech.	8.8%	19
Not interested in a graduate program in engineering management now or in the near future.	20.9%	45
Total	100%	215
Total interested in enrolling in degree program or taking courses	67.0%	144

# **APPENDIX A: ALUMNI SURVEY RESULTS (continued)**

# Table A-4. Primary Specialties of Alumni Interest

In which of the following specialties are you most interested. Choose up to three specialties of interest.

Answer	%	Count
Project Management	76.3%	119
General Engineering Management	48.7%	76
Process Improvement (e.g., Lean Six Sigma)	38.5%	60
Manufacturing Engineering Management	35.9%	56
Construction Engineering Management	27.6%	43
Systems Engineering	25.6%	40
Industrial Engineering	8.3%	13
Healthcare Management Engineering	3.2%	5
Other (please describe)	3.2%	5
Total	100%	156

Table A-5. Professional Certifications of Alumni Interest

If the engineering management program offered courses in preparation for professional certification, which of the following certifications would be of interest to you?

Certification	Project Management Professional		Professional Engineering Manager		Lean Six Sigma Green Belt	
Answer:	%	Count	%	Count	%	Count
Strongly disinterested	0.6%	1	0.6%	1	2.6%	4
Somewhat disinterested	1.3%	2	1.3%	2	6.4%	10
Neither interested or disinterested	12.1%	19	9.0%	14	29.9%	47
Somewhat interested	38.9%	61	46.5%	73	28.7%	45
Strongly interested	47.1%	74	42.0%	66	32.5%	51
Total		157		156		157
Total strongly or somewhat interested	86.0%	135	88.5%	139	61.1%	96

# **APPENDIX A: ALUMNI SURVEY RESULTS (continued)**

# Table A-6. Alumni Preferred Form of Instructional Delivery

Which form of instructional delivery would work best for you?

Answer	%	Count
On campus classes in Cookeville	1.9%	3
On campus classes elsewhere (please list)	4.5%	7
Synchronous online delivery (access required at set times)	8.3%	13
Asynchronous online delivery (access at your convenience)	69.4%	109
Hybrid delivery (limited on campus classes mixed with online modules)	15.3%	24
Other (please describe)	0.6%	1
Total	100%	157

Table A-7. Alumni Preferred Schedule

Which schedule would work best with yours?

Answer	%	Count
A semester consists of 15 weeks. Up to four courses may be taken at a time.	20.0%	31
A semester consists of two class sessions, each 7 weeks long. Only one course is taken at a time.	46.5%	72
Courses may be started anytime and completed within 15 weeks of start date.	33.5%	52
Total	100%	155

#### APPENDIX B: ADVISORY BOARD MEMBERS SURVEY RESULTS

Table B-1. Advisory Board Member Survey Response Rate

Group	Number	Number of	Number with	Response
	Surveyed	Responses	Permission	Rate
Advisory Board Members	84	43	41	51.2%

Table B-2. Advisory Board Members Survey

Which of the following best characterizes your level of support for an engineering management graduate program?

Answer:	%	Count
Strongly unsupportive	0.0%	0
Somewhat unsupportive	0.0%	0
Neither supportive or unsupportive	5.0%	2
Somewhat supportive	35.0%	14
Strongly supportive	60.0%	24
Total	100%	40
Total strongly or somewhat supportive	95.0%	38

Table B-3. Primary Specialties with Advisory Board Support

For which of the following specialties are you most supportive in developing a graduate program. Choose up to three.

Answer	%	Count
Project Management	70.0%	28
General Engineering Management	55.0%	22
Manufacturing Engineering Management	35.0%	14
Systems Engineering	35.00	14
Construction Engineering Management	22.5%	9
Process Improvement (e.g. Lean Six Sigma)	22.5%	9
Industrial Engineering	2.5%	1
Other (please describe)	2.5%	1
Healthcare Management Engineering	0.0%	0
Total	100.0%	40

# APPENDIX B: ADVISORY BOARD MEMBERS SURVEY RESULTS (continued)

# Table B-4. Professional Certifications with Advisory Board Support

If a graduate engineering management or other program offered courses leading to professional certification, please indicate your support for each of the following certifications.

Certification	Project Management Professional		Professional Engineering Manager			x Sigma n Belt
Answer:	%	Count	%	Count	%	Count
Strongly disinterested	2.5%	1	2.6%	1	2.6%	1
Somewhat disinterested	0.0%	0	0.0%	0	12.8%	5
Neither interested or disinterested	2.5%	1	15.4%	6	33.3%	13
Somewhat interested	37.5%	15	35.9%	14	38.5%	15
Strongly interested	57.5%	23	46.2%	18	12.8%	5
Total		40		39		39
Total strongly or somewhat interested	95.0%	38	82.1%	32	51.3%	20

Table B-5. Alignment of Engineering Management Graduate Degree with College Mission

How well is the mission of the College supported by a decision to offer a master's program in engineering management for engineering professionals in industry?

Answer:	%	Count
Strongly unsupportive	0.0%	0
Somewhat unsupportive	0.0%	0
Neither supportive or unsupportive	10.0%	4
Somewhat supportive	35.0%	14
Strongly supportive	55.0%	22
Total	100%	40
Total strongly or somewhat supportive	90.0%	36

#### **APPENDIX C: EMPLOYER SURVEY RESULTS**

Table C-1. Employers Survey Response Rate

Group	Number	Number of	Number with	Response
	Surveyed	Responses	Permission	Rate
Employers	205	103	101	50.2%

# Table C-2. Level of Employer Support for an Engineering Management Graduate Program

Which of the following best describes your level of support for an engineering management graduate program?

Answer:	%	Count
Strongly unsupportive	0.0%	0
Somewhat unsupportive	5.5%	4
Neither supportive or unsupportive	8.2%	6
Somewhat supportive	50.7%	37
Strongly supportive	35.6%	26
Total	100%	73
Total strongly or somewhat interested	86.3%	63

Table C-3. Primary Employer Interest in an Engineering Management Program at TTU

Which of the following best describes your interest in the offerings of an engineering management graduate program?

Answer	%	Count
Employees from this organization are enrolled in a graduate degree program in engineering management at an institution other than TTU.	9.7%	7
This organization has an interest in employees enrolling in a Master's degree in engineering management from Tennessee Tech.	33.3%	24
This organization has an interest in employees taking selected courses from a graduate program in engineering management.	44.4%	32
This organization is more interested in employees taking graduate courses in fields other than engineering management.	11.1%	8
This organization is not interested in employees enrolling in a graduate program in engineering management now or in the near future.	1.4%	1
Total	100%	72
Total with interest in graduate degree program or selected courses	77.7%	56

# **APPENDIX C: EMPLOYERS SURVEY RESULTS (continued)**

# Table C-4. Primary Specialties of Employer Interest

In which of the following specialties is your organization most interested? Choose up to three.

Answer	%	Count
Project Management	69.7%	46
Construction Engineering Management	37.9%	25
Process Improvement (e.g., Lean Six Sigma)	33.3%	22
Systems Engineering	33.3%	22
General Engineering Management	31.8%	21
Manufacturing Engineering Management	28.8%	19
Industrial Engineering	9.1%	6
Healthcare Management Engineering	9.1%	6
Other (please describe)	3.0%	2
Total responding to this question	100%	66

Table C-5. Professional Certifications of Employer Interest

If the engineering management program offered courses that prepared your employees for professional certification, which of the following would be of interest to you?

Certification	Manag	ject gement ssional	Professional Engineering Manager  Lean Six Sig Green Bel		•	
Answer:	%	Count	%	Count	%	Count
Strongly disinterested	0.0%	0	0.0%	0	3.0%	2
Somewhat disinterested	3.0%	2	6.1%	4	9.1%	6
Neither interested or disinterested	6.1%	4	15.2%	10	27.3%	18
Somewhat interested	51.5%	34	42.4%	28	34.8%	23
Strongly interested	39.4%	26	36.4%	24	25.8%	17
Total		66		66		66
Total strongly or somewhat interested	90.9%	60	78.8%	52	60.6%	40

# **APPENDIX C: EMPLOYERS SURVEY RESULTS (continued)**

# **Table C-6. Employer Preferred Form of Instructional Delivery**

Which form of instructional delivery would work best for your employees?

Answer	%	Count
On campus classes in Cookeville	3.1%	2
On campus classes elsewhere (please list)	6.2%	4
Synchronous online delivery (access required at set times)	9.2%	6
Asynchronous online delivery (access at student's convenience)	60.0%	39
Hybrid delivery (limited on campus classes mixed with online modules)	20.0%	13
Other (please describe)	1.5%	1
Total	100%	65

**Table C-7. Employer Preferred Schedule** 

Which schedule would work best for your employees?

Answer	%	Count
A semester consists of 15 weeks. Up to four courses may be taken at a time.	20.0%	13
A semester consists of two class sessions, each 7 weeks long. Only one course is taken at a time.	35.4%	23
Courses may be started anytime and completed within 15 weeks of start date.	44.6%	29
Total	100%	65

#### **APPENDIX D: REPORT ON DELOITTE & TOUCHE 2008 SURVEY**



#### APPENDIX D: REPORT ON DELOITTE & TOUCHE 2008 SURVEY (continued)

Management Skills Crucial for Engineering Success One is an impending shortage of engineers. Another is globalization, its impact on local employment, and the need to implement quality and standardized management training in emerging markets. The third concern involved the complexity of innovation. Companies need managers well-versed in the disciplines of both technology and business to remain successful in a world where product innovation is increasingly becoming a matter of multidisciplinary, international, and often multicultural collaboration. With this in mind, it is all the more critical to identify the next generation of engineer-managers to lead companies through current and emerging challenges. [Adapted from "Certified to Lead" by Gregory N. Marino, for Mechanical Engineering, August 2009.] Share ASME in f y = + 0 http://www.asme.org/career-education/articles/certification/management-skills-crucial-for-engineering-success 2/2

# **APPENDIX E: LETTERS OF SUPPORT**

Letters of support are included from the following organizations.

- Appalachian BioScience
- Eastern Plating
- Ficosa North American
- General Motors
- Hankook Tire America Corp.
- Southern Company
- Tenneco
- Tennessee Chamber of Commerce
- Tennessee Department of Transportation
- Tennessee Valley Authority
- Top Five Corp.



Dr. Joaquin Jimenez Appalachian BioScience 120 Industrial Park Lane

Dear Dr. Jessica Oswalt,

As the CSO of Appalachian BioScience, I am writing this letter in support of Tennessee Technological University's proposal to develop an online Master of Science in Engineering Management Degree that is being submitted to the Tennessee Higher Education Commission.

Date: 12/7/2017

Appalachian BioScience prides itself on diversifying knowledge and expertise by cross training all our employees in processes within monoclonal antibody production. This generates a complex network of skills that is necessary for maintaining a highly competitive environment for the generation of commercially viable product in the expanding biological industry.

Currently, our company employs eight laboratory personnel and five are Tennessee Tech alumni, of which two are chemical engineers. One intern is also a TTU chemical engineering PhD candidate. These engineers have shown experience in project management, communication, critical thinking skills, and the ability to work as part of a team. They displayed these attributes by starting up a research and development laboratory from ground up. They exceeded expectations, yet there is a need for more effective management skills beyond the scope of their undergraduate degree. This could be corrected with an additional master's degree in engineering management.

Of the research associates, each one has the ability to become internal principal investigator. The two current principal investigators, a cellular biologist and a chemical engineer, are responsible for each project's preparation, execution, and documentation to fall within its deadline and budget. These responsibilities mimic the requirements that fall on most professional engineers. The master's degree can be used as training for all research associates who wish to become highly efficient principle investigators.

Furthermore, the flexibility of having an online master's degree program creates a unique style of learning by allowing the employee to continue working while perusing higher education. The company benefits by having an employee that is actively developing skills in management without experiencing the loss of valuable laboratory personal. In the future, this online master's program can serve as a foundation for an online doctoral program.

As the CSO of Appalachian BioScience, I highly support the online Master of Science in Engineering Management Degree program at Tennessee Technological University.

Respectfully,

Dr. Joaquin Jimenez

Chief Scientific Officer (CSO) Appalachian BioScience



FAX: 423.625.0328

December 4, 2017

#### To Whom It May Concern:

Too often are college graduates, and even experienced professionals, behind the curve because of a lack of management skills or experience managing people. With technical/scientific degrees focusing more and more on the core fundamentals of the chosen discipline it is imperative for these individuals to have a pathway to gain the management-focused skills needed to be relevant for a job opportunity, and/or succeed in their line of work.

With this in mind, Eastern Plating greatly supports, and understands, the need for an Engineering Management program to assure that these hard-working individuals can further their education and enter the workforce with all of the skills needed to succeed.

Sincerely,

Michael D. Mullanev. Jr.

President,

Eastern Plating, LLC



#### 30870 Stephenson Highway, Madison Heights, MI 48071 U.S.A. Telephone (248) 307-2230 - Fax (248) 307-2244

December 12, 2017

CEE Department, Box 5015 Tennessee Tech University Cookeville, TN 38505

Attention: Jessica Oswalt, PhD, Bharat Soni, PhD

Subject: Master of Science in Engineering Management degree

Dear Jessica:

Ficosa North America is excited to see TTU considering a Master of Science in Engineering Management degree program. We have and planning to fill technical positions filled by graduates of Tennessee Tech. Those students come well prepared for the positions they apply for, with a good deal of practical education that can be utilized quickly after beginning work here at Ficosa North America

Many careers in Ficosa start of as Engineer, with right amount of experience and business acumen, they evolve to other functions such as Purchasing, Program Management, Finance, Account Management roles. As many of the professions develop from Technical Skill Set to Business Skill Set to Human capital Skill set. It makes a perfect sense for a graduate program in management and finance.

In some cases, the position may not directly require "management" skills, but requires intimate knowledge of management techniques. For example, the team follows a complex schedule involving 32 phases of the project and a multitude of vendors supplying equipment that must be fully integrated to the equipment we design. In those cases intimate understanding of the program schedules and how each phase or supplier affects the program. Understanding how to manage those details becomes a critical need in our business.

We look forward to working with Tennessee Tech on the development of this program.

Sincerely

Vice President of Engineering

Ficosa North America

Thota



December 22, 2017

Dr. Jessica Oswalt, PHD CCE Department, Box 5015 Tennessee Tech University Cookeville, TN 38505

RE: Letter of Support for Proposed Master of Science in Engineering Management Degree

Dear Dr. Oswalt:

This letter is to indicate our support of the proposed Master of Science in Engineering Management degree. It is our experience that engineers need management skills beyond the technical training they receive in their undergraduate degree. The proposed degree should support the goal of combining business theory with best practices in engineering which will better prepare engineers for application in the business world, enabling them to manage teams, engineering functions, and organizations.

If you have any questions or need additional information, feel free to contact me.

Sincerely,

Melissa J. Garland

HR Manager

General Motors - Spring Hill Manufacturing

Melissa.i.garland@gm.com

(931) 384-1257



#### Hankook Tire America Corp.

333 Commerce St., Suite 600 Nashville, TN, 37201 TEL 615-432-0700 FAX 615-242-8709 TOLL FREE TEL 1-800-HANKOOK FAX 1-800-TIRES-OK hankooktire.com/us

December 6, 2017

CEE Department, Box 5015 Tennessee Tech University Cookeville, TN 38505

Attention: Jessica Oswalt, PhD

Subject: Master of Science in Engineering Management degree

Dear Jessica:

Hankook Tire is pleased that Tennessee Tech University is considering a Master of Science in Engineering Management degree program. As a global leader in tire manufacturing, our company is strongly interested in any efforts to bolster Tennessee's workforce. That starts with our institutions of higher education.

Hankook Tire recently began production at our first North American tire manufacturing plant in Clarksville, Tennessee. Our company is hungry for highly trained employees, from entry-level hourly workers to technically savvy engineers and supervisors. It is of utmost importance for us to hire manufacturing personnel who not only have a high level of expertise, but are also equipped with the soft skills necessary to thrive in a multicultural environment.

Our highly automated machinery requires deep understanding of production processes, confidence in problemsolving and unflappable leadership skills. This program would produce future industry leaders with those attributes and more.

As Tennessee grows and thrives, we support Tennessee Tech's quest to equip the next generation of workers who will carry us further forward.

Sincerely,

Wes Boling Public Relations Manager Hankook Tire America Corp.



Steve Wilson 600 N 18th Street BIN 14N-8199 Birmingham, AL 35203 205-257-5678 smwllson@southemco.com

Dr. Jessica Oswalt CEE Department, Box 5015 Tennessee Tech University Cookeville, TN 38505

Dear Dr. Oswalt

#### SUBJECT: Support for the development of an M.S. in Engineering Management.

Southern Company is pleased to learn about your proposal to develop and implement a Master of Science in Engineering Management program at Tennessee Tech University.

Many engineering graduates from Tennessee Tech University work for Southern Company or one of our subsidiaries. These engineers fill vital positions in groups such as Power Delivery, Generation, and R&D and the technical work they perform is outstanding. To be even more successful, these engineers must also learn critical project management and customer-centric skills. Often, these skills are learned on the job and enable them to work well in highly functionalized organizations where external parties are engaged on most projects.

These skills become even more essential as an engineer looks to advance their career and take on additional responsibilities. Ensuring that a project is not only technically sound, but also on budget and on schedule are critical to achieving success. Knowing how that project feeds organizational and corporate success is also essential.

The focus on engineering management aligns well with Southern Company's interest in retaining the best engineers possible that can, in turn, continue our tradition of providing high reliability to our customers at low rates. We share your enthusiasm for this project and wish you well in its development and implementation.

Sincerely.

Steve Wilson General Manger, R&D Southern Company

Southern Company:

With more than 9 million customers and nearly 44,000 megawatts of generating capacity, and 1,500 billion cubic feet of combined natural gas consumption and throughput, Southern Company (NYSE: SO) is America's premier energy company serving the Southeast through its subsidiaries. Southern Company brands are known for energy innovation, excellent customer service, high reliability and retail electric prices that are below the national average.

Kimberly Williams
Executive Director, Global Quality
Tenneco
645 East Broad Street
Smithville, TN 37166
12/7/17

Jessica Oswalt, PhD CEE Department, Box 5015 Tennessee Tech University Cookeville, TN 38505

#### Dear Dr. Oswalt:

I am writing this letter on behalf of Tenneco to indicate our support of Tennessee Tech University's new program emphasis of a Master of Science degree in Engineering Management. Tenneco prefers to recruit top talent in the technical fields and we will be interested in the graduates from this program. The focus on program and project management is a critical need in the automotive industry. Our future employees need to have exposure and expertise in these areas to be successful.

Please feel free to contact me via email at <a href="mailto:Kwilliams1@tenneco.com">Kwilliams1@tenneco.com</a> or by phone at 931-580-7404 for any further required information.

Best Regards,

Kimberly Williams Executive Director, Global Quality



November 29, 2017

Dr. Jessica Oswalt CEE Department, Box 5015 Tennessee Tech University Cookeville, Tennessee 38505

Dear Dr. Oswalt:

On behalf of the Tennessee Chamber of Commerce & Industry, we write to note our support for Tennessee Tech University and their efforts to develop a **Master of Science in Engineering Management degree** to meet the needs of engineering professionals. As industry demands evolve engineers need management skills beyond the technical training that they receive in their undergraduate degrees.

Tennessee is making great strides to enhance our climate for industry and manufacturing and the needs and demands for this program are evident. A 2008 Deloitte & Touche engineer survey completed by almost 1,000 engineers noted that their jobs required management skills, and fifty-five percent of those planned to undertake management-focused professional development such as certification programs and advanced degrees. In addition, three 2016 surveys—of TTU engineering alumni, employers, and advisory board members—resulted in support for an MS in Engineering Management degree expressed by more than 80% of the respondents in each category. Project Management was the preferred focus of the degree by all respondents.

We further understand the proposed M.S. in Engineering Management will be an online, collaborative degree between the College of Business and College of Engineering with the goal of combining the application of business theory with best practices in engineering. In addition, the academic components of the program will include the applicable and appropriate use of a variety of quantitative tools for decision making, the effective supervision of organizational personnel, and project and process management, including but not limited to risk management, resource allocation, and systems engineering. Courses will be taught be expert faculty in both colleges. Tennessee Tech University officials note the engineering management degree will be a professional program for those individuals who wish to lead technology projects as well as to manage teams, engineering functions, and organizations.

We encourage your approval of this degree program and please do not hesitate to contact us if you should have any questions.

Sincerely,

Bradley Jackson President and CEO

A. Boly Julian

Tennessee Chamber of Commerce & Industry

414 Union Street, Suite 107 | Nashville, TN 37219 | 615.256.5141 Telephone | 615.256.6726 Fax | www.tnchamber.org | www.tnmfg.org



# STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

BUREAU OF ENGINEERING SUITE 700, JAMES K. POLK BUILDING 505 DEADERICK STREET NASHVILLE, TENNESSEE 37243-1402 (615) 741-0791

JOHN C. SCHROER

BILL HASLAM GOVERNOR

December 7, 2017

Jessica Oswalt, PhD CEE Department, Box 5015 Tennessee Technological University Cookeville, TN 38505

Dear Dr. Oswalt:

Thank you for the detailed information on Tennessee Technological University's development of a Master of Science in Engineering Management degree. We are excited to hear of TTU's proposal to offer a graduate study which focuses on the management side of engineering. The Tennessee Department of Transportation's workforce is composed of a large majority of civil engineers, whom are responsible for developing, preserving, and maintaining the state transportation system. We feel a program such as this could enhance the professional competencies of our engineering staff.

Please accept this letter of support for the proposed program.

If you should need any additional information or support, please contact me at 615-741-0791 or at Paul.Degges@tn.gov.

Sincerely,

Paul D. Degges, P.E.

Deputy Commissioner / Chief Engineer

PDD/PH/jc

#### Oswalt, Jessica

From: Brinkworth, Gary Scott <gsbrinkworth@tva.gov>

Sent: Tuesday, January 16, 2018 12:06 PM

Soni, Bharat To: Oswalt, Jessica Cc:

Subject: letter of support - engineering management degree

Bharat: I apologize for dropping the ball on this request from November ..... Joe Hoagland passed it along to me and I marked it for follow up action and then clearly did not do that ..... TVA is very interested in supporting the development of this new degree program at TTU; the skills you are seeking to develop in this program will be critical to the success of TVA and its local power company partners in the future. In fact, TVA has recently agreed to collaborate with EPRI in thinking about the educational challenges of workforce recruitment and retention in the evolving electric utility industry. I think this program for engineering management provides an additional valuable skill that will help in that overall effort. Please let me know how TVA can help support the development of this graduate level program ..... and sorry again about missing the deadline for the letter.

#### Gary S. Brinkworth, P.E.

Director, Enterprise Research & Technology Innovation Enterprise Relations & Innovation

Tennessee Valley Authority 1101 Market St. Chattanooga, TN 37402

423-751-2193 (w) 850-597-6873 (m) gsbrinkworth@tva.gov













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Nov. 28, 2017

To whom it may concern,

We strongly support the development of the Master of Science in Engineering Mgmt. degree program being considered. The ability to combine strong engineering skills with a management emphasis will be of great benefit for industry. In my professional experience I have seen this need for quite some time. We strongly support this effort.

Jeff McCay

President Top Five Inc.

**APPENDIX F: FINANCIAL PROJECTIONS** 

udget	Item		7	2018-19		2019-20		2020-21	- 3	2021-22		2022-23
I				- 1								
i i	= Er	ter data in yellow cells		-		-	-		-		-	
ssum	ntion						-		_		-	
		fees per UG cr-hr (est. 3% increase pr yr)	\$	-	S	- 2	\$		s		\$	
		fees per GRAD cr-hr (est. 3% increase pr yr)	\$	565	\$	582	\$	599	\$	617	\$	6
		(faculty & staff)		35%		35%		35%		35%		3
<sup>d</sup> Fac	culty 8	s staff annual salary increase		2%		2%		2%		2%		- 10
* Tot	tal nu	mber of courses taught per year		6		11		- 11		11		
9 Tot	tal nu	mber of students enrolled		15		35		45		50		
h Av	erage	number of TTU cr-hr taken per student per yr		18.0		16.7		16.7		16.5		16
										1000000		
REV												
1		Total tuition & fees	\$	152,550	\$	340,441	\$	449,556	\$	509,347	\$	524,6
TO	TAL	REVENUES	\$	152,550	\$	340,441	\$	449,556	\$	509,347	\$	524,6
-												
			_				_		_		_	
-		TURES										
A.	One-l	ime Expenditures										
+		New/renovated space	\$		\$		\$		\$		\$	
+	-	Equipment	\$		\$	3,000	\$		\$		\$	
_		Other	\$		\$		\$	- 8	\$		\$	
1		Total one-time expenditures	\$	+.	\$	5,500	\$	- 1	\$		\$	
-	$\perp$						_		_		_	
В.		rring Expenditures	_				_		_		_	
+	Pers	onnel					-		-		-	
+		Faculty (Existing and New)			_	440.000				****		
+	$\vdash$	<sup>4</sup> Total Salary (Avg 9-month of \$100,000 with 2% annual raise)	1.77	60,000		112,200	_	114,444	\$	116,733	\$	119,0
	_	<sup>c</sup> Benefits	\$	and the second	\$	39,270	_	40,055	\$	-	\$	41,6
+		Total Faculty	\$	81,000	\$	151,470	\$	154,499	\$	157,589	\$	160,7
+		Support Staff					_				_	
+		Administrative Associate II (CoE)				100.0		72545000		100000		
+		<sup>d</sup> Annual salary (12-month with annual raise)	\$	25,000	\$		\$	100000	\$		\$	27,0
_		% Effort		25%		25%		25%		25%		2
		Total Salary - Administrative Associate II	\$	6,250	\$	6,375	\$	6,503	\$	6,633	\$	6,7
		<sup>c</sup> Benefits	\$	2,188	5	2,231	\$	2,276	\$	2,321	\$	2,3
		Total Support Staff	\$	8,438	\$	8,606	\$	8,778	\$	8,954	\$	9,1
			-							100500		
		Graduate Teaching Assistants										
		Stipends		- 7								
		Number of full-time GA's		0.0		0.0		0.0		0.0		(
		Annual stipend per student	\$		\$		\$	1200	\$		\$	
$\top$		Total stipend per year	\$	L.	5	-	\$	-	\$	-	\$	
		Tuition & Fees Paid			Ť							
		Cr-hrs per student per year (fees paid)		0		0		0		0		
		<sup>b</sup> Tuition & fees per student per yr	s		5		\$		s		\$	
+		Total Graduate Assistants	-		\$	_	\$		\$	-	\$	
+		Total Graduate Assistants	9		9	-	4	-	4	-	4	
+	0	rating					_		_		-	
+	ope			200		500		500		F0.0		
+		Printing, Copying, Mailing	\$	500		500	550	500		500		5
-		Equipment and Supplies	\$	1,000		1,000		1,000		1,000		1,0
1		Travel	\$	2,000	\$	5,000	\$	5,000	\$	5,000	\$	5,0
		Other	\$	*	\$	-	\$		\$		\$	
		Total Operating	\$	3,500	\$	6,500	\$	6,500	\$	6,500	\$	6,5
		VERNETURES		92,938		172,076		169,778		173,043		176,3
TO	TAL	EXPENDITURES	_	32,330		112,010	_	103,770	_	113,043	-	110,0



# **Agenda Item Summary**

Date: March 22, 2018								
Agenda Item: Program Modifications for EdS in Counseling & Psychology								
<b>3</b> , 3.								
	Review	Action	No action required					

PRESENTER(S): Dr. Mark Stephens

**PURPOSE & KEY POINTS:** This modification will allow students to pursue additional licensure or specialization in counseling fields with an additional 18 hours of course work and obtain an EdS degree if they have already completed a 60 hour Master's program of study.

#### **MEMORANDUM**

TO:

Graduate School Executive Committee

VIA:

FROM:

Education Leadership Committee Surface Barry Stein, Chairperson, Department of Counseling & Psychology

DATE:

April 24, 2017

Approved by TTU

SUBJECT:

Graduate Catalog Change for Ed.S.

**Graduate School Executive Committee** 

Date Approved in Committee: 7/11/17

The Department of Counseling & Psychology proposes the following catalog changes for the Ed.S. degree requirements.

### **Current Catalog Wording:**

# Degree Requirements for the Ed.S. Degree

A minimum of 30 semester hours beyond the master's degree is required. At least 15 semester hours must be taken in courses numbered at the 7000 level; no courses below the 6000 level shall be counted for credit unless written approval is obtained from the student's advisory committee, the chairperson of the department in which the student is majoring, and the Director of Graduate Studies.

In the Department of Counseling and Psychology, a maximum of three (3) semester hours of departmentally approved 5000-level credit may be included in a Specialist in Education Degree program of study.

#### **Research Component**

Laboratory and/or Field Experience-3 semester hrs

Independent Study Project-3 semester hrs

#### **Course Substitutions**

Course Substitutions are allowed upon approval of the graduate advisory committee, department chair/director, and dean of the college.

## **Proposed Catalog Wording:**

# Degree Requirements for the Ed.S. Degree

A minimum of 30 semester hours beyond the master's degree is required. At least 15 semester hours must be taken in courses numbered at the 7000 level; no courses below the 6000 level shall be counted for credit unless written approval is obtained from the student's advisory committee, the chairperson of the department in which the student is majoring, and the Director of Graduate Studies.

In the Department of Counseling and Psychology, a maximum of three (3) semester hours of departmentally approved 5000-level credit may be included in a Specialist in Education Degree program of study.

Upon approval from the student's advisory committee, up to twelve (12) credit hours from a previously earned 60 hour master's degree program, can be counted toward the Ed.S. degree.

### **Research Component**

Laboratory and/or Field Experience-3 semester hrs

Independent Study Project-3 semester hrs

#### **Course Substitutions**

Course Substitutions are allowed upon approval of the graduate advisory committee, department chair/director, and dean of the college.

### Justification:

This will allow students to pursue additional licensure or specialization in the counseling fields with an additional 18 hours of course work and obtain an Ed.S degree if they have already completed a 60 hour Master's program of study.

Effective Spring, 2018

V. Financial Impact: NONE



# **Agenda Item Summary**

Date. March 22, 2010							
Agenda Item: Change in GMAT Waiver Requirements for Master of Accountancy							
Review	Action	No action required					

PRESENTER(S): Dr. Mark Stephens, Interim Provost

**PURPOSE & KEY POINTS:** Academic Affairs wishes to change the current GMAT waiver requirements for Master of Accountancy in order to aid in the admission of potential students.

#### **MEMORANDUM**



TO: College of Business Graduate Committee

VIA:

Dr. Julie Pharr Committee Chair

FROM:

Dr. Richard Rand, Chair

Department of Accounting an

DATE: November 14, 2017

SUBJECT: Motion for Change in GMAT Waiver Policy for Master of Accountancy

#### **MOTION:**

Current Policy: Applicants may request to waive the standardized test requirement if they have completed an advanced terminal degree or master's degree with a substantial quantitative component. This waiver is not guaranteed and the request must be made in writing.

Proposed Change to Current Policy: The Accounting Department moves to allow the MAcc admission committee to waive the GMAT requirement for any student who requests a waiver and meets the following requirements:

- The student holds a BSBA from Tennessee Tech University with a major in accounting (or has
  completed 85% of the coursework for the degree and 70% of the coursework for the major) and
  has an overall GPA of 3.2 or better and a GPA in their upper division accounting course work of
  3.2 or greater, or
- The student holds a degree from an AACSB business program with a major in accounting (or has completed 85% of the coursework for the degree and 70% of the coursework for the major) and has and overall GPA of 3.4 or greater and a GPA in their upper division course work of 3.4 or greater.

The waiver is not guaranteed and must be preceded by a Waiver Request Form (see attached proposed online form) that has been completed by the student.

#### Reason:

It is not uncommon for accounting masters programs to offer students waivers of standardized test scores when students meet other criteria that indicate their ability to be successful in the program. Three of our closest competitor schools (MTSU, UT-K, and Belmont) offer admission pathways that do not require the GMAT to be considered for admission to their Master of Accounting programs. We have already lost students to competitor schools precisely because of our GMAT requirement, which costs students \$250 to take. We respectfully request passage of this policy change.

Effective: Immediately beginning with applications for Fall 2018 admissions.

Approved by T T U

Graduate School Executive Committee

Date Approved in Committee: 2/6/18

# Tennessee Tech University Master of Accountancy

	Request for Waiver of Standardized Test Requirement				
	I am requesting waiver of the standardized test requirement for applying to the Master of Accountancy at Tennessee Tech for the following reason (check which one applies):				
If you	already hold a degree:				
	I have earned a BSBA degree with a major in Accounting from Tennessee Tech University with an overall GPA of 3.2 or better and a GPA in my upper division accounting hours of 3.2 or better.				
0	I have earned an undergraduate degree with a major in Accounting from an AACSB accredited business program other than Tennessee Tech University with an overall GPA of 3.2 or better and a GPA in my upper division accounting coursework of 3.2 or better.				
If you	are still completing a degree:				
0	I am an Accounting major at Tennessee Tech University and am pursuing a BSBA degree. I have completed at least 70% (15 semester hours) of the upper division accounting semester hours required for the degree and I currently have at least a 3.2 GPA in that coursework. In addition, I have completed at least 85% (102 semester hours) of the semester hours of coursework toward the BSBA degree and currently have at least a 3.2 GPA in all my college coursework.				
٥	I am an Accounting major in an AACSB accredited business program other than Tennessee Tech University. I have completed at least 70% upper division accounting semester hours required for the degree and I currently have at least a 3.4 GPA in that coursework. In addition, I have completed at least 85% of the semester hours of coursework toward the undergraduate business degree and currently have at least a 3.4 GPA in all my college coursework.				
Studen	t Name Date				



# Agenda Item Summary

<b>Date:</b> March 22, 2018							
Agenda Item: Informational Items							
	Review	Action	$\boxtimes$	No action required			
PRESEN	NTER(S): Dr. Mark S	tephens, Interim Provos	it				
	SE & KEY POINTS: g items:	Provost will provide info	ormational	updates to the Committee regarding the			
	THEC Approved Letter of Notification for PhD in Counseling & Supervision						
	Changes to MA Admission Requirements in Counseling & Psychology						
	Concentration Name	e Change in English					
	New Concentration in English						



MIKE KRAUSE Executive Director

# STATE OF TENNESSEE HIGHER EDUCATION COMMISSION

PARKWAY TOWERS, SUITE 1900 NASHVILLE, TENNESSEE 37243-0830 (615) 741-3605 FAX: (615) 741-6230 BILL HASLAM Governor

TO:

President Philip B. Oldham

Tennessee Technological University

FROM:

Mike Krause 🦊

SUBJECT:

Tennessee Technological University

Letter of Notification: Counseling and Supervision (PhD)

DATE:

February 6, 2018

In accordance with THEC policies, colleges and universities are required to submit Letters of Notification for authorization to proceed with developing proposals for new academic programs. The THEC Financial Projection Form for the proposed program must accompany the letter of notification to plan. Upon THEC approval to proceed with developing proposals, institutions should do so in a manner consistent with THEC policies and criteria.

Proposed programs must document relevance to institution's mission, provide enrollment, graduation and financial projections, document employer and student demand, describe the anticipated evaluation process, and certify that the proposed program will not unnecessarily duplicate existing offerings at other Tennessee public institutions. The proposal must ensure faculty sufficiency, existence of student support resources, and adequacy of library, space, equipment, and technology.

I approve Tennessee Technological University' Letter of Notification (LON) to plan the Doctor of Philosophy in Counseling and Supervision program. As the institution develops the New Academic Program Proposal (NAPP), all concerns identified in the LON evaluation must be addressed in a separate document and/or clearly referenced in the NAPP. It is understood that the proposed program will be in accordance with the institutional mission and will meet *Tennessee Public Agenda for Higher Education 2015-2025* degree completion and workforce development objectives.

The LON projects implementation of an approved Doctor of Philosophy in Counseling and Supervision program in Fall 2019. Please be advised that the approval and the attached LON evaluation will be posted on the THEC website for public disclosure.

cc: Dr. Mark Stephens Dr. Barry Stein Betty Dandridge Johnson



# Tennessee Higher Education Commission Letter of Notification Evaluation February 6, 2018

Academic Program, Degree Designation: Counseling and Supervision, PhD

Proposed CIP Code: 13.1101 (Counselor Education/School Counseling and Guidance Service Definition: A program that prepares individuals to apply the theory and principles of guidance and counseling to the provision of support for the personal, social, educational, and vocational development of students, and the organizing of guidance services within elementary, middle and secondary educational institutions. Includes instruction in legal and professional requirements, therapeutic counselor intervention, vocational counseling, and related sociological and psychological foundations.

**Proposed Implementation Date:** Fall 2019

Time Period Posted on Website for Public Comment: January 5-19, 2018

Criteria	Comments
Letter of Support from President/Chancellor	The LON is accompanied by a cover letter from President Oldham stating on December 11, 2017 the Tennessee Tech Board of Trustees approved the proposal for development.
President/Chancellor	<ul> <li>TTU proposes a 60 SCH counseling and supervision doctoral program to provide advanced educational opportunities for counselors. The program will build upon the current CACREP approved Clinical Mental Health Counseling (concentration) MA program which documents expertise in one of the four of eight specialty areas as the masters level upon which to build.</li> <li>Healthy productivity of Master's program with 5-year average of 25 graduates. The MA program has five concentrations (1) Case Management &amp; Supervision (2) Clinical Mental Health Counseling, (3) Educational Psychology, (4) School Counseling PreK-12, and (5) School Psychology.</li> <li>CACREP accreditation reaffirmed for an 8-year cycle (through</li> </ul>
	<ul> <li>March 2023) for the Clinical Mental Health Counseling MA program.</li> <li>Letters of support from practicum and internship placement sites will need to accompany any developed proposal.</li> <li>It would be beneficial for the developers to compare the</li> </ul>
Overall Comments	proposed programs to those at the following institutions at comparable peer/aspirational institutions: Boise State University, Idaho State University, Oakland University (MI), Sam Houston State University, Texas A & M University – Corpus
	Christi, and University of Texas Rio Gande Valley.
Purpose and Nature of	The proposed program will provide currently licensed or
Program	license eligible mental health professional and school guidance

Tennessee Tech University Counseling & Supervision, PhD Program

	counselors with instruction in advanced therapeutic techniques as well as teaching and supervision experience within licensure programs in the department.
Alignment with State Master Plan and Institutional Mission	The institutional mission and strategic plan are not elaborated beyond graduate enrollment growth and completion. Additional information will need to be provided with the NAPP submission.
	Feasibility Study
Student Interest	■ TTU conducted study of feasibility in which current students, alums, and members of the ACA listserv were polled for interest. Each of these groups expressed strong interest to justify a program if approved for a small program of 10 new students per year. Enrollments projections are used to calculate revenue.
	<ul> <li>There is no PhD program in Counseling and Supervision located in a predominately rural community in Tennessee.</li> <li>The proposal speaks to addressing the needs of school counselors, substance abuse counselors, mental health counselors, and marriage and family therapists as well as to addressing the shortage of trained counseling educators. As each of these populations have different needs and while falling under CACREP, each should be explored independently to add more focus to this seemingly broad program through</li> </ul>
Local and regional need	their additional accrediting/certifying bodies.
Employer need/demand	■ The BLS and OOH supports the need for mental health counselors and marriage and family therapists and faster than average growth. It fails to speak to the needs for those at the doctoral level. It would be beneficial to compare enrollment and graduation data at UM and UTK as well as other publics within the Southeast with the TTU projections. It would also be good to know where graduates are being placed.
Future sustainable	The demand is substantial and is unlikely to go away as the mental health care needs continue to expand. Letters of support are offered by community mental health professionals
need/demand	but not organizations.
An elling the bull bull to be	
Supporting Documentation of Costs Met through Internal Reallocation or Other Sources	The first year will require institutional reallocation of which the source of support is not stated. The source of the institutional reallocation must be provided. Tuition and fees will cover the partial deficit and beginning with year 2 the program will be supported solely through tuition and fees based on an anticipated enrollment of 23.
Other Sources	anticipated enrollment of 23.

Tennessee Tech University Counseling & Supervision, PhD Program

THEC Financial Projection Form	The projections need to incorporate any additional accreditation fees past year four to include a second program in addition to the Masters in Clinical Mental Health. One additional faculty member is projected. This seems very low as there is substantial work entailed with a doctoral program teaching, practice and dissertation demands. SACSCOC requires a program coordinator which necessitates administrative fees and support be added.
	<ul> <li>According to the submitted documentation, one new faculty member is needed along with adjuncts to release faculty in the clinical mental health program to teach in the PhD. There is no discussion of the need to develop new courses or a sense of identity for the proposed program's students. There will need to be documentation that practicum placements are available and the existing faculty have sufficient broad ranging expertise to teach deliver the doctorate to such a range of mental health fields.</li> <li>CACREP states "The academic unit has faculty resources of</li> </ul>
Institutional Capacity to Deliver the Proposed Program	appropriate quality and sufficiency to meet the demands of the program. For entry-level programs, the academic unit must employ a minimum of three full-time core counselor education program faculty members who teach in the entry-level program. Core counselor education program faculty may only be designated as core faculty at one institution" (p. 7-8). Further, it states that all core faculty "must have degrees in Counselor Education" (p.8). They anticipate hiring adjunct and releasing the regular faculty to teach in the doctoral program. Without having those faculty identified, it is not possible to ascertain if they meet CACREP requirements or if additional faculty would be needed.
	■ UTK and UoM both have CACREP approved programs. TTU attempts to make a case that Trevecca Nazarene's program is too costly. In reality, using the 2017-2018 tuition rate as a stable predictor for a 60 SCH program and assuming it is a 3 year completion, TTU's projected costs would be \$42,687 (based on tuition reported on the THEC FP) while Trevecca at \$799/SCH, costs \$52,734. Given that time to degree at three years is highly aggressive for a doctoral program, four or more years is more likely. Adding in the 4 <sup>th</sup> year tuition, TTU's proposed program would cost \$5285 more than Trevecca Nazarene.
No Unnecessary Duplication	<ul> <li>On page 4, updates to the governing board language is needed.</li> <li>The LON was posted on the THEC website from lanuary 5-19</li> </ul>
Public Comments	<ul> <li>The LON was posted on the THEC website from January 5-19, 2018 and no comments were submitted.</li> </ul>
	Tennessee Tech University

Tennessee Tech University Counseling & Supervision, PhD Program

Institution	Tennessee Tech	Univ of Memphis	UT Knoxville	
CIP Code	08.13.1101.00	08.13.1101.00	08.13.1102.00	
CIP Code Title	Counselor Education School Counseling and Guidance Services	Counselor Education School Counseling and Guidance Services	College Student Counseling and Personnel Services	
Academic Program	EDUC PSYCH & COUNSELOR EDUC	COUNSELING	COLLEGE STUDENT PERSONNEL	
Degree	Master's (MA)	Doctoral (EdD)	Doctoral (PhD)	
2011-2012	36	3	2	
2012-2013	23	1	2	
2013-2014	26	1	2	
2014-2015	16	4	2	
2015-2016	24	5	5	
5 Year Average	25	3	3	

Tennessee Tech University
Counseling & Supervision, PhD Program

Approved by T T U

Graduate School Executive Committee

Date Approved in Committee: 2/16/18

#### MEMORANDUM

TO: Graduate School Executive Committee

VIA: Teacher Education Committee

VIA: College of Education Executive Leadership Council

FROM: Dr. Barry Stein, Chair

Department of Counseling and Psychology

DATE: October 10, 2017

RE: Proposed changes to admission policy statement

### Current Statement with Changes in Red:

### Admission Requirements Counseling & Psychology:

#### Master of Arts Degree Admission Criteria

Students pursuing graduate study in the Department of Counseling and Psychology can select from among several concentrations that are designed to lead to licensure in the State of Tennessee or that lead to nonlicensure degrees.

#### Admission Criteria:

The department offers admission to applicants who appear to have the highest potential for graduate study and who have the disposition to be successful in their concentration. The recommended minimum admission requirements are:

- 1. A bachelor's degree from an accredited institution (required).
- Satisfactory undergraduate grade point average, usually a minimum of 2.75 on a 4.0 scale.
- Enough undergraduate training in psychology to do graduate work in the chosen concentration.
- 4. Three acceptable letters of recommendation for graduate study from faculty members or other persons who have adequate knowledge of the applicant's professional qualities or potential for success as a graduate student.
- 5. A score of 146 (new format) on the verbal portion, and 140 (new format) quantitative portions of the General Record Examination (GRE) along with a 4.0 score on the analytical writing portion.

Satisfying recommended minimal standards, however, does not guarantee your admission. Admission decisions are based on departmental review, using a combination of factors, including an interview to evaluate relevant dispositions for professionals in the chosen concentration.

Students may be admitted with provisional status if they do not meet all of the criteria above but do meet the minimum requirements of the graduate school and are approved for provisional status by the departmental admissions committee. Provisional status will limit students to a maximum of nine hours before the departmental admissions committee makes a recommendation for full admission. To advance from provisional to full admission a student must earn a 3.0 QPA on the nine semester hours of graduate study in the concentration and be approved by the departmental admissions committee.

### **Evidence of English Language Proficiency**

All applicants from countries in which the official language is not English are required to submit evidence of proficiency in English equivalent to level 9 in FLS.

Form A1:5C



# **Policy A1.5 Academic Actions Notification** Form A1:5C: Name Change of an Existing Concentration

**Reporting Schedule Notification Dates:** X May 15 for all actions approved between Jan 1 and April 30 \_ Aug 15 for all actions approved between May 1 and July 31 Jan 15 for all actions approved between Aug 1 and Dec 31 Institution: Tennessee Tech University 10 Digit Program CIP Code (XX.XX.XXXX.XX): 15.23.0101.00 Academic Program Title: English Degree Designation: B. A. Current Concentration Title: Writing/Language/Genre New Concentration Title: Creative Writing Institutional or Governing Board Approval Date (month/year): \_\_\_\_\_ implementation Date (month/year): \_\_ Provide a brief rationale for the concentration name change. In practical usage, the concentration as it previously existed was never called "the Writing/Language/Genre concentration." Other changes in the concentration have augmented the creative writing component and this now aligns with the recently adopted M.A. level concentration in Creative Writing. This coincides with the creation of a "Rhetoric and Language" concentration that allows us to de-emphasize that focus in this concentration **Chief Academic Officer Signature** (electronic signature acceptable)

Date

Form A1:5D



# **Policy A1.5 Academic Actions Notification**

Form A1:5D: Establish a New Concentration within an Existing Academic Program

Reporting Schedule Notification Dates:	
Jan 15 for all actions approved between Aug 1 and Dec 31	
Institution: Tennessee Tech University	
10 Digit Program CIP Code (XX.XX.XXXX.XX): 15.23.0101.00	
Academic Program Title: English	Degree Designation: B. A.
New Concentration Title: Rhetoric and Language	
Institutional or Governing Board Approval Date (month/year):	
Implementation Date (month/year):	
Provide a brief rationale for the new concentration and how it will academic program.	l contribute to the overall
This concentration creates a new possible field of study in English previously confusing and disjointed "Writing/Language/Genre" coas simply "Creative Writing." This new concentration allows stude their undergraduate educations that can be continued in graduat Rhetoric and Composition, both thriving fields in many graduate developing aspects of general English training in fields concerned deployment of language.	encentration, leaving that ents to lay a foundation in te studies in Linguistics or programs, as well as
Chief Academic Officer Signature (electronic signature acceptable)	Date