

EAST TENNESSEE STATE UNIVERSITY
BOARD OF TRUSTEES
ACADEMIC, RESEARCH, AND STUDENT SUCCESS COMMITTEE
NOVEMBER 2020 MEETING

9:15 – 10:30 am ET
Friday
November 13, 2020

Telephonic Meeting

AGENDA

I. Call to Order

II. Roll Call

ACTION ITEMS (20 minutes)

III. [Revised Academic Calendar – Spring 2021 - Bishop](#)

IV. [Letter of Notification \(LON\) Regarding the Establishment a Masters of Science in Orthotics and Prosthetics - Bishop](#)

INFORMATION AND DISCUSSION ITEMS (30 minutes)

Research

V. [Research Foundation Reorganization - Noland](#)

VI. [ETSU Health Update: Ballad MOU and ETSU/Ballad Coordinating Council – Block/Linville](#)

GENERAL INFORMATION ITEMS

VII. Committee Discussions

- General Discussion

VIII. Other Business

IX. Adjournment

EAST TENNESSEE STATE UNIVERSITY
BOARD OF TRUSTEES

ACTION ITEM

DATE: November 13, 2020

ITEM: Revised Academic Calendar – Spring 2021

COMMITTEE: Academic, Research, and Student Success

RECOMMENDED ACTION: Approve

PRESENTED BY: Wilsie S. Bishop
Senior Vice President for Academics and Interim Provost

The spring 2021 academic calendar has been adjusted as a result of the COVID-19 pandemic and the institution's continued efforts to safeguard the health of ETSU students, faculty, staff and visitors. University Council approved a revised academic calendar earlier this week for the Spring 2021 semester that reflects an adjustment to Spring Break. Highlights of the calendar include:

- The Spring 2021 semester will begin January 19 as originally planned. (ETSU will be closed Monday, January 18 in observance of Martin Luther King Jr. Day)
- Spring Break will not take place March 15-21; rather, those five days will be dispersed throughout the semester. Classes will not meet Thursday and Friday, Feb. 18-19; Monday and Tuesday, March 15-16; and Wednesday, April 14. As always, the university will remain open during Spring Break.
- The university will be closed in observance of Good Friday on Friday, April 2. Classes will not meet that day and all offices will be closed.
- The 2020-21 Winter Session will be held Dec. 16, 2020 to January 10, 2021 as originally planned.
- All other events and deadlines listed on the calendar will remain as scheduled.

The Quillen College of Medicine and Gatton College of Pharmacy will continue to follow their own academic calendars for the upcoming semester.

MOTION: I move that the Board of Trustees adopt the resolution, approving the alterations as outlined in the meeting materials.

RESOLVED: Upon the recommendation of the University Council, the Senior Vice President for Academics, and the President, the Board of Trustees approves the alterations to the academic calendar for the Spring 2021 semester as outlined in the meeting materials.

EAST TENNESSEE STATE UNIVERSITY
BOARD OF TRUSTEES

ACTION ITEM

DATE: November 13, 2020

ITEM: Letter of Notification (LON) Regarding the Establishment of a Masters of Science in Orthotics and Prosthetics

COMMITTEE: Academic, Research, and Student Success Committee

RECOMMENDED ACTION: Approve

PRESENTED BY: Wilsie S. Bishop
Senior Vice President for Academics and Interim Provost

The Letter of Notification (LON) for the Master of Science of Orthotics and Prosthetics (MSOP) is the first step in a series of East Tennessee University Board of Trustees (ETUBT) review protocols necessary for establishing a new academic program. The LON has been approved through the ETSU Academic Approval process, including approval by Academic Council and Office of the President. Pending Board of Trustee approval, the LON will be forwarded to the Tennessee Higher Education Commission (THEC), where it will be posted for public comment. At a future Board meeting, the proposal to establish the degree (pending development and intervening approvals) will return to the ETSUBT for approval. Implementation of this academic program is anticipated to be in the Summer of 2022, pending the post-LON THEC approval process.

The College of Clinical and Rehabilitative Health Sciences (CCRHS) proposes to establish a program of study that leads to a Master of Science degree in Orthotics and Prosthetics. This academic program will prepare students, in consultation with physicians and other rehabilitation members, to design and fit orthoses for patients with disabling conditions of the limbs and/or spine and prostheses for patients who have partial or total absence of a limb or significant superficial deformity. Content areas include but are not limited to biomechanics, pathomechanics, kinesiology, pathology, neuroanatomy, materials science, diagnostic imaging, patient analysis and measurement, assistive/restorative technology and engineering applications, diagnostic and definitive fitting and alignment, postoperative management, and patient counseling and follow-up. Professional standards set by the American Orthotic and Prosthetic Association require a master's degree for entry into the labor market. Graduates with this degree are eligible to seek board certification and licensing as an Orthotist or Prosthetist practitioner.

This degree would be the first degree of its kind in the state of Tennessee and surrounding Appalachia, and it would be one of the few graduate programs in Orthotics and Prosthetics

offered by a public institution in the nation. The geographic location of East Tennessee State University and the absence of any graduate Orthotics and Prosthetics programs in Tennessee combine to create an ideal environment for a high-quality program of study that prepares individuals for career opportunities in this growing field.

The Master of Science in Orthotics and Prosthetics will add both breadth and depth to existing programs in CCRHS and enhance the overall medical program portfolio at ETSU. This program will build on the university's mission to "provide strong, comprehensive educational, research, and service programs in the health sciences that advance the health and wellness of people throughout Tennessee and Southern Appalachia and of rural populations around the world." This program will also enhance new and existing partnership opportunities. CCRHS has a close affiliation with Mountain Home Veterans Administration Medical Center through existing programs in physical therapy, audiology, and speech-language pathology. There is high interest in collaborating with the VA to establish this program which will serve the need of combat veterans who have suffered limb loss.

Attachments:

- Letter of Notification
- THEC Financial Projections Form

MOTION: I move that the Academic, Research and Student Success Committee recommend adoption of the following Resolution by the Board of Trustees:

RESOLVED: The Letter of Notification (LON) Regarding the Establishment of a Masters Degree in Orthotics and Prosthetics (MSOP) is approved by the Board, as outlined in the meeting materials. The University is directed to submit the LON with the decision of the Board to the Tennessee Higher Education Commission for its consideration.



EAST TENNESSEE STATE UNIVERSITY

Letter of Notification

Proposed Academic Program Name and Degree Designation

Master's Degree in Prosthetics and Orthotics

Proposed Academic Program Concentrations

None

Proposed CIP Code, Title, and Definition

51.2307 Orthotist/Prosthetist

A program that prepares individuals, in consultation with physicians and other rehabilitation members, to design and fit orthoses for patients with disabling conditions of the limbs and/or spine, and prostheses for patients who have partial or total absence of a limb or significant superficial deformity. Includes instruction in biomechanics, gait analysis, pathomechanics, kinesiology, pathology, neuroanatomy, materials science, diagnostic imaging, patient analysis and measurement, impression taking, model rectification, assistive/restorative technology and engineering applications, product finishing, diagnostic and definitive fitting and alignment, power devices, postoperative management, and patient counseling and follow-up.

Proposed Implementation Date

Summer 2022

Proposed Delivery

Traditional

Academic Program Liaison

Dr. Wilsie S. Bishop
Interim Provost



EAST TENNESSEE STATE UNIVERSITY

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EAST TENNESSEE STATE UNIVERSITY

A. Proposed Program Name, Degree Designation and CIP Code:

Prosthetics and Orthotics, Master's Degree, 51.2307

B. Proposed Concentrations

None

C. Proposed Implementation Date:

Summer 2022

D. Anticipated Delivery:

Traditional

E. Academic Program Liaison (APL):

Wilsie Bishop
Interim Provost
204 Dossett Hall
P.O. Box 70733
Johnson City, TN 37614
(423) 439-4219
bishop@etsu.edu

F. Background Concerning Academic Program Development

The College of Clinical and Rehabilitative Health Sciences (CCRHS) currently houses the Doctorate of Physical Therapy (DPT) program and currently has submitted a Letter of Notification to implement a Doctorate of Occupational Therapy (OTD) program. Developing the Master's in Prosthetics and Orthotics (P&O) program provides a full complement of physical rehabilitation programs that are offered within our college. With the current focus in health

care on team-based care and ETSU's emphasis on interprofessional education and collaborative practice, the P&O program adds both breadth and depth to our existing programs and builds on the university's mission to "provide strong, comprehensive educational, research, and service programs in the health sciences that advance the health and wellness of people throughout Tennessee and Southern Appalachia and of rural populations around the world." Additionally, CCRHS has a close affiliation with Mountain Home Veterans Administration Medical Center with our physical therapy, audiology, and speech-language pathology programs. There is high interest in collaborating with the VA to establish a P&O program to serve the need of combat veterans who have suffered limb loss. We have met with Congressman Phil Roe, former Chairman and current Vice-Chairman of the Veterans Affairs Committee, who fully supports this new academic program (please see his letter of support, Appendix E, p. 37). As guests of Congressman Roe, Dean Don Samples and Associate Deans Lynn Williams and Andy Clark toured the Prosthetics and Orthotics Clinic, 3D Medical Applications Center, and the Biomechanics Research Lab at Walter Reed National Military Medical Center in December 2018 (see Appendix A, pp. 20-23). Congressman Roe also arranged for us to meet with Dr. Kenneth Jones, Director of Associated Health Education and Dr. Jason Highsmith, National Program Director for Clinical Orthotist & Prosthetist Service, U.S. Department of Veterans Affairs in Washington, D.C. We discussed collaboration between ETSU and the VA in establishing P&O residencies. They are enthusiastic and supportive of the proposed P&O program at ETSU. We continue to conference with them as we are moving forward in the development of our proposal.

G. Purpose and Nature of the Proposed Academic Program

The College of Clinical and Rehabilitative Health Sciences proposes to establish a program of study that leads to a clinical master's degree in Prosthetics and Orthotics (P&O). The American Orthotics and Prosthetics Association describes the field of orthotic care to include, but is not limited to, patient evaluation, orthosis design, fabrication, fitting and modification to treat limb loss for purposes of restoring physiological function and/or cosmesis. The P&O health care professional is formally educated and trained to blend technical and clinical skills to care for patients who have neuromuscular and musculoskeletal disorder and/or patients who have a partial or total absence of a limb. Providing custom or pre-fabricated external prostheses and orthoses is unique to the P&O profession.

Professional standards set by the American Prosthetics and Orthotics Association require a master's degree for entry into the labor market. Graduates with this degree are eligible to seek board certification and licensing as a Prosthetic and Orthotics practitioner. This degree would be the first degree of its kind in the state of Tennessee and surrounding Appalachia, and it would be one of the few graduate programs in P&O offered by a public institution in the US.

Graduates of the Prosthetics and Orthotics program will be candidates for employment in a wide range of clinical, educational, and community settings. Currently Tennessee is underserved in prosthetics and orthotics health services (Projections Central, 2019). The geographic location of East Tennessee State University and the absence of any graduate

Prosthetics and Orthotics programs in Tennessee combine to create an ideal environment for a high quality program of study that prepares individuals for career opportunities in this growing field.

H. Alignment with State Master Plan and Institutional Mission

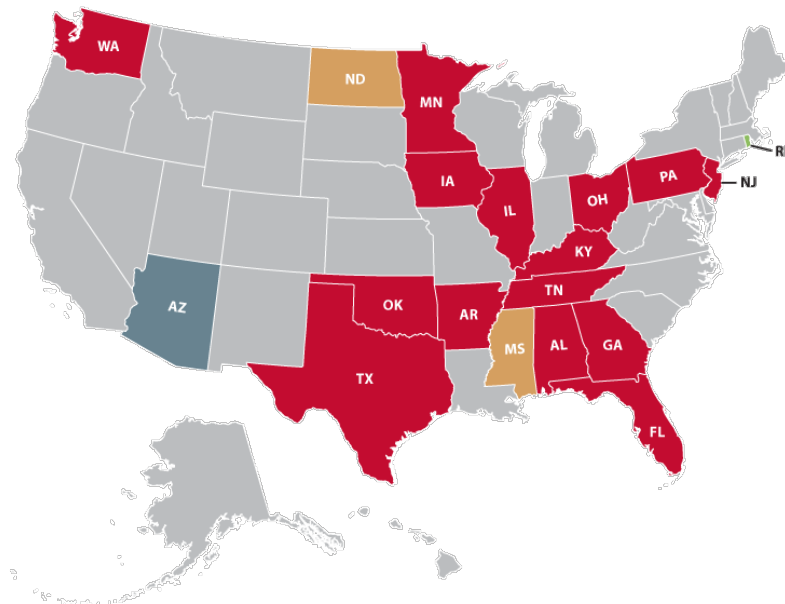
The Master Plan for Tennessee Postsecondary Education 2015-2025 calls for a statewide strategic development of higher education programs that increases the educational attainment levels of Tennesseans; addresses the state’s economic development, workforce development, and research needs; and calls for institutional mission differentiation to realize statewide efficiencies through institutional collaboration, minimized redundancy, a focus on location, and research.

The proposed P&O degree meets the State Master Plan to increase the educational attainment levels of Tennesseans by creating a graduate degree program for immediate entry into Tennessee projected labor categories, provides state of the art rehab care, and contributes to research needs of health and interdisciplinary service.

Prepare Graduates for Fastest Growing Labor Categories	Data supportive of the State Master Plan comes from the Bureau of Labor and Statistics, which projects that the need for orthotists and prosthetists is projected to grow 22% from 2016 to 2026, much faster than the average for all occupations. The demand for P&O professionals is similarly projected to increase in Tennessee with an estimated 22% job growth. Please refer to Appendix C (p. 26) for data from Burning Glass, an analytics software company that provides real-time data on labor market trends.					
	Examination of the supply and demand for P&O practitioners between 2016-2025 is provided below from the Dobson/DaVanso workforce demand projections. As these data indicate, there is a supply/demand imbalance that reflects a clear shortage of workers that is projected to continue to increase between 2016 and 2025.					
	2016			2025		
Category	Demand of Providers	Supply of Credentialed Providers	Demand to Supply Ratio	Demand of Providers	Supply of Credentialed Providers	Demand to Supply Ratio
Orthotists	3,731	3036	1.3	4000	2109	1.9
Prosthetics	1217	1880	0.7	1305	1376	0.9
Prosthetics & Orthotics	1525	1680	0.9	1635	1401	1.2
Sub-Total	6474	6274	1.0	6940	4887	1.4

The intent of the Focus Act was to empower universities that were former TBR institutions. Of these universities, ETSU is in the best position to impact the regional market and access the southeast high market need. Without a P&O program in the state of Tennessee, the entire workforce of TN P&O practitioners has been educated outside of the state.

The Tennessee Prosthetics and Orthotics Association (TSOP) has worked with Tennessee legislators to create state licensing criteria, and Tennessee is one of only 15 states in the US requiring a license for work. Licensure enables Prosthetics and Orthotics practitioners to open private practices and allow insurance carriers to provide patient coverage for rehabilitation and dispersion of Durable Medical Equipment (DME). This will open up a substantial market that includes children, veterans, victims of trauma, senior citizens, and those in correctional facilities. Fifteen states grant licensure for orthotists and prosthetists, while two additional states have regulatory requirements that professionals be certified by either American Board of Certification (ABC) or Board of Certification (BOC) of Prosthetics and Orthotics. Although neither certification nor state licensure is required to render O&P services in the remaining 35 states and the District of Columbia, only custom-fabricated devices provided by state licensed orthotists and prosthetists, or American Board of Certification of Prosthetics and Orthotics (ABC) and/or Board of Certification (BOC) certified orthotists and prosthetists who practice in non-licensure states, are eligible for Medicare reimbursement. The figure below shows the 15 states in red that require licensure, of which Tennessee is one.



<p>Increased Need for Rehabilitation</p>	<p>Data supports the State Master Plan to prepare Tennesseans with highly trained P&O graduates who are better equipped to provide state of the art rehabilitative care and contribute to the research needs of the healthcare community. Specifically, According to the US Census Bureau, there is a concern with the increasing number of patients requiring orthotic or prosthetic care and the ability of the present number of certified orthotists and prosthetists to meet that demand. The large baby-boom population is aging, and orthotists and prosthetists will be needed because both diabetes and cardiovascular disease, the two leading causes of limb loss, are more common among older people (Bureau of Labor Statistics). Data supports the State Master Plan to prepare Tennesseans with highly trained P&O professionals who are equipped to provide state of the art rehabilitative care and contribute to the research needs of the healthcare community.</p>
<p>Focus on Inter-disciplinary Education and Collaboration</p>	<p>Data supports the need to provide students with an option to obtain a degree with an interdisciplinary focus and options for collaboration. Healthcare systems are changing, and the healthcare professionals of the future will need to function as part of an interprofessional team. In the proposed P&O curriculum, collaboration will occur within the University between Physical Therapy and the College of Medicine with joint classes planned throughout the curriculum with each of these departments. In addition, there are interprofessional resources and options for both academic and research interactions between this program and PT, Counseling, Social Work, Nursing, and Medicine. The interprofessional curriculum proposed for this P&O program will provide graduates with expertise in each of these key areas (refer to summary information on Student Interest, p. 10). Data from a recent survey conducted among current ETSU college students interested in healthcare also supports development of a degree with interdisciplinary focus (see Appendix D, pp. 29). The majority of those surveyed (67%) indicated they were definitely or somewhat interested in applying to a P&O program at a university that has an interprofessional education (IPE) program with opportunities to learn with students enrolled in other health care programs (i.e., medicine, nursing, pharmacy, PT, etc.)</p>

Institutional Mission

The proposed Masters of Prosthetics and Orthotics degree aligns with the mission and vision of East Tennessee State University, the Academic Health Sciences Center, and the goals of the College of Clinical and Rehabilitative Health Sciences. ETSU’s mission statement highlights the need to “provide strong, comprehensive educational, research, and service programs in the health sciences that advance the health and wellness of people throughout Tennessee and Southern Appalachia and of rural populations around the world.” The strategic plan for the Masters of P&O addresses the promise of ETSU’s mission and its commitment to excellence in

teaching, research, and public service in the health sciences through its inclusion with well-established and fully-accredited graduate programs in physical therapy, speech-language pathology, audiology, and nutrition as well as accredited undergraduate programs in engineering, radiography, and cardiopulmonary science.

The vision of East Tennessee State University is *developing a world-class environment to enhance student success and improve the quality of life in the region and beyond*. In addition, the University mission includes having *a wide array of educational and research programs and clinical services including a comprehensive Academic Health Sciences Center*. A core value of the University is *efficiency which is achieved through wise use of human and financial resources*. (ETSU Website and Strategic Plan 2016-2026 approved by the Board of Trustees 3-27-17)

Based on the East Tennessee State University Mission, Vision and Strategic Plan as outlined above, the proposed Masters of P&O degree will meet the following objectives:

- Creates a graduate degree program that will contribute to and benefit from the educational and research programs and clinical services available through the Academic Health Sciences Center.

The focus of the ETSU Academic Health Sciences Center includes developing *critical thinking, problem-solving, and diagnostic and treatment skills* as well as educating health professionals *who can work as part of a collaborative care team of professionals to provide the most comprehensive and efficient care possible* (ETSU Academic Health Sciences Center website). Adding a masters in P&O will help to further promote the comprehensive nature of rehabilitation education at East Tennessee State University. The addition of a masters of P&O to the current degrees available in Physical Therapy, Speech-Language Pathology, Audiology, Social Work, Medicine, Nursing, Pharmacy, Engineering, and Clinical Psychology will provide a well-rounded array of clinical career options. Curriculum promoting interprofessional education will assist in developing graduates better prepared to join a collaborative team of health care professionals and innovations of design with engineering.

- Contributes to regional stewardship and wise use of human and financial resources by providing students with an opportunity to obtain a degree at a lower cost than those offered at surrounding private institutions.

Providing an option for P&O degree at a public university makes the degree more financially feasible for many students in this region (see Appendix D, p. 30). Only 38% of P&O degree conferrals in 2017 were from a public university.

In addition to overall tuition costs being lower at a public institution than a private university, East Tennessee State University offers scholarships to assist with decreasing the financial burden of out-of-state tuition. The George L Carter Scholarship awards up

to \$14,000 per year for full-time graduate students who reside within a 250 mile radius of ETSU, and the Sidney G. Gilbreath Scholarship awards up to \$11,000 per year for full-time graduate students who reside beyond the 250 mile radius of ETSU.

As one of the colleges comprising the ETSU Academic Health Sciences Center, goals of the College of Clinical and Rehabilitative Health Sciences include: *To create an academic and clinical culture that encourages service to diverse and underserved populations; encourage collaborative research for students and the community addressing long-term clinical and rehabilitative health needs across the lifespan and health care spectrum; and to promote scholarship and mentoring that supports evidence-based practice and life-long learning* (ETSU Academic Health Sciences Center website and CCRHS website).

The proposed Masters of P&O degree meets the goals of the College of Clinical and Rehabilitative Health Sciences in the following ways:

- Provides students with options for clinical experiences and service to diverse and underserved populations in order to better prepare them to provide rehabilitative services for these populations.

The proposed curriculum will include a number of clinical experiences in a variety of healthcare settings. Students will be prepared to provide clinical expertise in the art and science of prosthetic and orthotics to a wide range of patients. Students within the program will have opportunities to participate in service activities with various population groups. Partnership with regional, state, and national facilities will provide students with a wide range of professional learning experiences. The College of Clinical and Rehabilitative Health Sciences currently has affiliation agreements with >350 facilities for clinical experiences with other rehabilitation professionals. The university will utilize and build on these resources to fulfill clinical education experiences for the P&O program.

- Creates a graduate degree with a curriculum that addresses rehabilitative health needs across the lifespan and supports evidence-based practice and life-long learning.

Courses within the curriculum will address assessment and provision of care for patients across the entire lifespan. Opportunities for collaboration in academic settings, clinical practice, and scholarship are available throughout the curriculum. Content regarding literature review and assessment of evidence for clinical practice will be included. In addition, emphasis will be placed on establishing a platform for professional development of students within the program which will extend throughout their careers.

I. Institutional Capacity to Deliver the Proposed Academic Program

The capacity of the university, college, and department to deliver the proposed Masters of P&O degree within existing and projected resources is positive based on both external and internal data. Externally, three sources of data support enrollment capacity and sustainability: (1) student interest survey data in which 60% indicated interest in a P & O program if offered at ETSU; (2) employer survey data in which 100% agreed there is a need for an OT program in the region that offered a public option; and (3) Burning Glass data regarding location quotient, which is the ratio of the area concentration of occupational employment to the national average concentration. According to the BLS, the location quotient for states bordering Tennessee are less than one, indicating occupation is less prevalent in the area than the national average and therefore growing regional and national demand for orthotists and prosthetists. The program will be located in the Department of Rehabilitative Sciences, which includes a recently launched undergraduate degree in rehabilitative health sciences (RHSC). Similar to the RHSC degree program implemented in fall 2018, we will implement recruitment strategies that are comprehensive, aggressive, meaningful, and relevant to the targeted populations (high school students, community college transfers and degree completion students, and previously enrolled adult learners). Additionally, our recruitment plan will market to and recruit from a minority population and individuals located within medically underserved communities. Data from our first year of the RHSC program indicate that our recruitment strategies have been highly successful. We predicted an enrollment of 26 students in Year 1 and by the end of the academic year we had exceeded that by 142% with 63 students. As of November 2019, enrollment has exceeded 100 students who have declared the RHSC major. It is therefore projected that the proposed Masters of P&O degree program will have a positive net gain on overall enrollment at the institution. The proposed program will bring in undergraduate students (freshman and transfers), who may not otherwise attend ETSU to complete their undergraduate degree and apply for admission to the Masters of P&O degree. In addition, we anticipate that students who receive their undergraduate degrees at other institutions will apply for admission to the Masters of P&O degree at ETSU. Students in good standing in the RHSC program will have the opportunity for early acceptance to secure a seat in the Masters of P&O degree, thereby incentivizing incoming freshman and transfer students to enroll at the institution as undergraduates.

Internally, the college has institutional capacity to deliver the Masters of P&O degree with the required instructional capacity and student support. Tuition and health science fee revenue plus institutional reallocation funded from the college's carryover and contingent funding will support implementation of the program in hiring the required faculty. Additionally, existing faculty within the RHSC program and some shared curriculum with Physical Therapy and the developing OTD program will provide additional instructional support and capacity to deliver the Masters of P&O degree.

J. Need for Program: Feasibility Study

A comprehensive study was conducted to evaluate the feasibility of offering a master’s degree in prosthetics and orthotics with the final report for the study attached as Appendix B. Pertinent findings are provided below.

<p>Student Interest</p>	<p>To gage the student interest at ETSU for a proposed Masters P&O program, a student survey was sent to over 1,000 ETSU undergraduate students in 2018 (1,069 ETSU undergraduate students registered as minors within the College of Clinical and Rehabilitative Health Science in Pre-PT, Pre-OT, Pre-CDIS, Allied Health, and Rehab Sciences, in addition to students in Psych, Human Services, Pre-Health, Exercise Science, and Public Health). A summary of the results are included in Appendix D (pp. 29) and presented below:</p> <ul style="list-style-type: none">• A total of 70 student responses were received. The majority of the respondents were seniors (35%) followed by freshmen (28%) and juniors (23%).• 60% of students indicated interest in pursuing a master’s degree in a P&O program if offered at ETSU. Only 17% were “definitely not” interested in a P&O program.• 88% of respondents expressed the definite preference of a public education over a private option for graduate school option because of lower tuition rates.• 67% of students expressed interest in applying to a P&O program with emphasis in interprofessional education (IPE) and opportunities to learn with students enrolled in other health care programs, such as medicine, PT, nursing, pharmacy, etc.• 70% of students reported interest in matriculating into a P&O program if they were not accepted into their first degree of choice. <p>The student survey results confirm strong ETSU student interest in this program of study. These data are commensurate with data from the Bureau of Labor Statistics and Burning Glass that the projected job growth is expected to grow much faster than the average for all occupations.</p> <p><u>Competitor Analysis:</u> There are no graduate level Prosthetic and Orthotic programs in the state of Tennessee. The absence of a Master’s degree in Tennessee prevents Tennesseans from seeking an affordable, in-state option to complete their education. In order for students matriculating from undergraduate programs to seek employment as a Prosthetic and</p>
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	<p>Orthotic practitioner, they currently need to continue their education out of state.</p> <p>In the Southeast, there are only three institutions that offer a master’s in Prosthetic and Orthotics degree: Alabama, Florida, and Texas, making the Academic Common Market a possibility for students from other states.</p>
<p>Employer Need and Demand</p>	<p><u>Labor Market Analysis:</u> Prosthetics and Orthotics practitioners and related professionals will meet a positive labor market outlook over the next 10 years. P&O occupations in Tennessee are projected to grow at a faster rate (22%) than the projected growth for all occupations in the state between 2016 and 2026. Similarly, regional and national labor projections support a positive Prosthetics and Orthotics employment climate.</p> <p>Market demand for Prosthetic and Orthotic practitioners in the region is high. The Bureau of Labor Statistics’ (BLS) most recent estimates suggest that orthotists and prosthetists held approximately 8,500 full-time jobs in 2012 and that by 2022 the job prospect for these providers is projected to increase to 11,500 or by 36 percent. The provision of orthoses appears to be the primary driver of our overall demand and supply projections for the P&O profession. Of the total demand for P&O services of 19,126 providers, orthoses services account for almost 92 percent of all demand (17,574 providers). Furthermore, the BLS estimates that there are 10,964 providers delivering orthoses services in 2016.</p> <p><u>Program Demand Forecast:</u> ETSU would be the first higher education institution in Tennessee to offer Prosthetics and Orthotics at the graduate level. Student demand continues to grow as Prosthetics and Orthotics practitioners are being employed to address an expanding number of physical health issues. Prosthetic and Orthotics practitioners are increasingly employed at veteran centers, oncology centers and skilled nursing facilities.</p> <p>ETSU Survey: A survey instrument was sent to nine P&O professionals in the area to assess need in master’s Prosthetics and Orthotics programs. A summary of the results are included in Appendix D (pp. 32-35) and are presented below:</p> <ul style="list-style-type: none"> • Three employer responses were received, which was a 33% response rate.

- 100% of respondents strongly agreed that there is a need for certified Prosthetists and Orthotists in the area.
- 100% of regional employers agreed or strongly agreed that it is difficult to hire certified P&O practitioners.
- 100% strongly agreed that it is difficult to hire P&O professionals with interprofessional experience.
- 100% indicated they would be interested in offering clinical internships to ETSU P&O students.

Below is a list of regional employers, along with ETSU President Brian Noland, Congressman Roe and Dean Depew, who have provided letters of support for the proposed P&O program (see Appendix E, pp. 36-45).

Company	Official	Official Title
ETSU	Dr. Brian Noland	President
U.S. Congress	Dr. Phil Roe	Chairman, Veterans Affairs Committee
Mountain Home VA Medical Center	Dr. Colleen Noe	Associate Director of MHVAMC
Mountain Home VA Medical Center	Mr. John Brothers	Certified Prosthetist and Orthotist (CPO)
Holston Medical Group	Dr. Alan Meade	Director of Rehabilitation Services
TalkBack Pediatric Therapy	Mr. Jon L. Morris	Vice President
Victory Orthotics & Prosthetics	Mr. Zach Smith	Certified Prosthetist and Orthotist (CPO)
Excel Prosthetics & Orthotics	Mr. Chad McCracken	Certified Prosthetist and Orthotist (CPO)
ETSU College of Business and Technology	Dr. Dennis Depew	Dean

These letters of support, along with the survey reports from local employers and practitioners, indicate enthusiastic support for a P&O program that will address a need in Tennessee to offer this degree, especially within an interprofessional team-based college.

<p>Local and Regional Need/Demand</p>	<p>Regional demand for P&O practitioners is higher than the national average. According to the Bureau of Labor Statistics, a 22% projected employment growth increase is expected in Tennessee between 2018 and 2026. Additionally, location quotients provide relevant employment information. The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. According to the BLS, the location quotient for states bordering Tennessee are less than one, indicating the occupation is less prevalent in the area than the national average. A total of seven bordering states, including VA, NC, KY, GA, MS, AR, and MO, have a location quotient below 1, which is well below the national average https://www.bls.gov/oes/current/oes291122.htm#(9)</p> <p>It is not surprising, then, that P&O programs in closest proximity to ETSU, per their website, have a 100% job placement rate at the time of graduation. Increased regional need indicates there is an increased demand for P&O students who are qualified to meet that need. According to NCOPE, the accreditation body for P&O, the aggregate program data indicate that the trends in enrollment continue to increase from year to year. These trends are expected to continue to rise.</p> <p>Given the regional and national need, it is critical that more qualified students enter P&O programs to assure access to quality care for individuals with amputations and orthopedic impairments. Without a state option for students to pursue this degree, all current P&O practitioners in Tennessee have had to obtain their degree outside the state.</p>
<p>Future Sustainable Need and Demand</p>	<p>Two aspects of the proposed program support the future sustainable need and demand for graduates of this program. One aspect is associated with the changing demographics. A second aspect is connected to the innovative curriculum of the proposed program that focuses on interprofessional practice with occupational therapy (developing program), physical therapy and medicine as well as the university's emphasis on interprofessional education with all health science programs. Each of these aspects is described below.</p> <p><u>Changing Demographics:</u> A number of health trends are contributing to an increased demand for P&O practitioners. According to the American Academy of Orthotists and Prosthetists, these health trends include an increase in diabetes (15.3 million new cases in the U.S. since 1980); heart disease (projected more than a 26% increase by 2030); and obesity (rising with an increase of more than 22% since 1960). The proportion of the population that is at risk for peripheral vascular disease (PVD) and</p>

amputation is expected to increase significantly by the year 2020. The incidence of diabetes and diabetes-related amputation also continues to increase. The number of Americans with diagnosed diabetes is projected to increase 165% by 2050. Of all amputations, 50-70% are diabetes related.

Additionally, with an aging population of 72 million Americans predicted to be in the 65+ age group by 2030, the demand for P&O practitioners is expected to continue. The highest percentage of amputations due to disease occur in the 61-70 year age group, which creates a large proportion of the population at continued risk for those diseases/disabilities requiring orthotic/prosthetic care.

Coupled with these health and aging trends, almost 25% of P&O practitioners are 55 years or older and likely to retire in the next 10 years. This will leave a significant gap for new student applicants to enter the profession.

Innovative Curriculum: Healthcare systems are changing, and the healthcare professionals of the future will need to function as part of an interprofessional team. This proposed degree fosters the application of the four core competencies of interprofessional collaborative practice (roles and responsibilities of health professions, teams and teamwork, ethics, and interprofessional communication). These core competencies are the foundation of ETSU's Interprofessional Education Program, which includes graduate programs from all of the five health science colleges (Clinical and Rehabilitative Health Sciences, Medicine, Nursing, Pharmacy, and Public Health). ETSU is nationally recognized for its IPE Program and recently received the 2018 U.S. Public Health Services Award in Washington, DC from the Interprofessional Education Collaborative (IPEC). In addition to the health sciences, the P&O program will also incorporate coursework within the ETSU Biomedical Engineering Technology program. This IPE emphasis is especially valuable in a P&O program which requires a unique combination of skills. According to the Academy of Orthotists and Prosthetists, the P&O profession is a "blend of science, art, technology, creativity, and healthcare."

Finally, the Burning Glass report's key findings and program demand forecast for P&O nationally provide substantial support for the future sustainable need and demand for the proposed P&O program (Appendix C, pp. 26-28).

- **Student interest and demand are growing with national conferral volumes increasing 151% between 2013 and 2017.** In order to meet

	<p>the state’s projected employment growth between over the next ten years, additional graduates are needed each year.</p> <ul style="list-style-type: none"> • Competitive saturation is low for the P&O degree. ETSU would be the first institution in Tennessee to have a P&O program. With only 12 P&O programs in the country, there would not be another program within 400 miles.
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K. Existing Programs Offered at Public Institutions

There are no P&O programs within the state of Tennessee. According to the National Commission on Orthotic and Prosthetic Education (NCOPE), there are 12 accredited Prosthetics & Orthotics programs currently accepting students across the United States (Refer to: <http://www.ncope.org/accredited/practitioner/>)

These programs are listed in the table below.

Institution	Location	School Type	Program
Alabama State College of Health Science	Montgomery, AL	public	Master's Degree in Orthotics & Prosthetics
California State University USUDH Orthotic & Prosthetic Education Center	Los Alamitos, CA & La Jolla, CA	public	Master's Degree in Orthotics & Prosthetics
Loma Linda University School of Allied Health Professionals	Loma Linda, CA	private	Master's Degree in Orthotics & Prosthetics
University of Hartford Masters Science Prosthetics and Orthotics	Hartford, CT	private	Master's Degree in Orthotics & Prosthetics
Florida International University College of Engineering & Computing	Miami, FL	public	Master's Degree in Orthotics & Prosthetics
Northwestern University Prosthetic orthotic Center	Chicago, IL	private	Master's Degree in Orthotics & Prosthetics
Eastern Michigan University	Ypsilanti, MI	public	Master's Degree in Orthotics & Prosthetics
Concordia University	St. Paul, MN	private	Master's Degree in Orthotics & Prosthetics Consortium with Century College
University Pittsburgh School Health & Rehabilitation Science	Pittsburg, PA	public	Master's Degree in Orthotics & Prosthetics

Baylor College of Medicine School Allied Health Science	Houston, TX	private	Master's Degree in Orthotics & Prosthetics
University of Texas Southwestern Medical Center Orthotics and Prosthetics Program	Austin, TX	public	Master's Degree in Orthotics & Prosthetics
University of Washington School of Medicine and Division of O&P	Seattle, WA	public	Master's Degree in Orthotics & Prosthetics

While about half of these programs are housed in public universities, Burning Glass data indicates that the market share of degree conferrals from public universities is only 38%. Therefore, greater public institution participation is needed to meet the market demand. Of these programs, only two are in the southeast. The closest programs to ETSU are over 400 miles away (University of Pittsburgh and Alabama State University). There is clearly a need for additional P&O programs in the U.S., particularly within the southeast.

According to the American Board for Certification (ABC) in Orthotics and Prosthetics:

- There are currently 74 ABC accredited facilities in Tennessee which are accredited to disperse and fit patients with *orthotics*. These do provide patient care.
- There are currently 77 ABC accredited facilities in Tennessee which are accredited to disperse and fit patients with *prosthetics*. These do provide patient care.
- There are currently 100 ABC certified orthotic practitioners and 100 ABC certified prosthetic practitioners in the state of TN.

Based on these statistics, a P&O program at ETSU would be well placed and would provide an opportunity for certified prosthetists and orthotists working in the state of Tennessee to receive their education in the state.

L. Program Costs and Revenues

The following section provides details on program cost and revenue for the proposed Master’s Degree in Prosthetics and Orthotics at East Tennessee State University (see THEC Financial Projection Form). Seven year projections have been calculated with a 3% annual increase where appropriate. Expenses will begin in year one with the addition of a Program Director, equipment, and other expenses associated with the accreditation process (i.e., consultant pay and travel reimbursement). Tuition and fee revenue will begin in year two pending the implementation of the accreditation process. Institutional reallocations will be necessary in the first two years, and will come from the College of Clinical and Rehabilitative Health Sciences. There will be no federal grants, private grants, nor gifted funds for the establishment of this

program. As can be seen from the subsequent data, the proposed prosthetics and orthotics program will have revenue that exceeds expenditures by the second year.

Expenses

One-Time Expenditures		
Item	State reason for expenditure	Total Expenditure
New/Renovated Space	This degree will require special facilities with renovation or new space for classrooms, labs and faculty offices. These do not include shared lecture spaces with other departments.	\$250,000
Equipment	This degree will require special equipment. Some equipment can be shared with occupational therapy, physical therapy and the IPE facilities. Specific equipment needs include lab tools, machines, and supplies.	\$500,000
Library	This degree will not require special holdings at the library, as they are currently part of their capabilities.	\$0
Consultants	Consultants for internal and external reviews.	\$ 10,000
TOTAL	One-time Expenditures	\$ 760,000
Recurring Expenditures		
Item		Total for Years 5
Administration and Faculty Salary	<p>Program Director will be hired in Y1 at \$90,000 annual salary at a 3% increase annually</p> <p>One faculty starting in Y1, second faculty starting in Y2, and another .5 FTE faculty (shared between departments) will start in Y2. Faculty annual salary of \$90,000 at a 3% increase.</p>	\$1,298,890
Administration and Faculty Benefits	<p>Program Director \$30,350 annual benefits in Y1 with a 3% increase</p> <p>Faculty benefits will be \$30,350 annually increased 3% each year.</p> <p>Note: Benefits are calculated as follows: 20% of salary + \$12,350</p>	\$438,016
Support Staff Salary	Support staff start in Y2 at \$40,000 annually increased 3% each year	\$212,365
Support Staff Benefits	Support staff benefits will be \$20,350 annually increased 3% each year	\$108,041
Operating	Travel: \$4,000 in Y1, \$7,000 Y2, \$8,000 subsequent years	1,135,501

	Accreditation Dues: \$5,000 Y1 (initial accreditation), \$2,000 subsequent years University Administration: Starting in Y2 at 30% of Total Program Revenue Supplies: starting Y2 at \$35,000 annually	
TOTAL	Reoccurring Expenditures	\$3,192,813

Projected Enrollments

Enrollment is based on an initial cohort of 14 full-time students. The projected number of graduates is 13, which assumes a 95% retention rate (5% attrition rate) from the first year of the program to the third year.

Year 1	Year 2	Year 3	Year 4	Year 5
14	27	27	27	27

Revenues

Item		Total Revenue Five Years
Tuition and Fees (tuition)	Maintenance fees projected beginning Y2 with a 3% increase Fees: AHSC \$50 credit + Lab Supplies \$60 credit= \$110 per credit per students Tuition and fees are calculated at the current rates multiplied by 3% on annual basis multiplied by number of student and credit hours.	\$3,026,084
Institutional Reallocations	Institutional reallocations will be needed in the planning year and year one of program implementation, provided by the ETSU College of Clinical and Rehabilitative Sciences	\$885,753
Grants	N/A	\$0
TOTAL	Revenues	\$4,632,353

Expenditure/Revenue Summary

Year	Expenditure	Revenue
Planning	\$889, 350	\$889, 350

1	\$516,322	\$516,322
2	\$612,128	\$612,128
3	\$628,241	\$628,241
4	\$644,839	\$644,839
5	\$661,933	\$661,933

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Standards and Guidelines for the Accreditation of Educational Programs 7/13/2017.

Appendix A: Walter Reed National Military Medical Center



Mr. John Witherspoon
Senior Legislative Assistant
Rep Phil Roe (R-TN), Chairman HVAC

Thursday, 6 December 2018

- 1300** **OFFICIAL PARTY ARRIVES**
The Historic Tower Plaza / Building 1
Greeted by: COL Rod Gonzalez, MC, USA, Chief of Staff, WRNMMC
Mr. Don Champion, Legislative Director, WRNMMC
- 1305** **WALKING TOUR – 3D MEDICAL APPLICATIONS CENER**
President Zone / Building 1 / Fourth Floor
Peter Liacouras, PhD, Director of Services, 3D Medical Applications Center, WRNMMC
- 1330** ***TRANSITION TO AMERICA ZONE, BUILDING 19***
- 1335** **WALKING TOUR- MILITARY ADVANCED TRAINING CENTER**
America Zone / Building 19 / First Floor
LTC Keith Myers, Deputy Chief, Department of Rehabilitation, WRNMMC
David Laufer, Service Chief, Orthotics & Prosthetics Service, WRNMMC
- 1430** **OFFICIAL PARTY DEPARTS**



Walter Reed National Military Medical Center Bethesda, MD

3D Medical Applications Center

The 3D Medical Applications Center (3D MAC) at Walter Reed National Military Medical Center provides Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) for the fabrication of medical models and custom implants, provides technical support for virtual treatment planning, and provides image captures in support of patient treatment, graduate medical/dental education and research.



The 3D MAC is able to use CAD and CAM in a wide variety of methods, including:

- **Rapid Prototyping** can be accomplished in a variety of methods with a variety of material. Plastics, metals, infused powders and even multiple materials can all be Rapid Prototyped to suit needs for models, guides, devices and custom implants.
- **Stereolithography** is an additive manufacturing process using a vat of liquid UV-curable photopolymer "resin" and a UV-laser to build parts one layer at a time. On each layer, the laser beam traces a cross-section pattern on the surface of the liquid resin. Exposure to UV-laser light cures and solidifies the pattern traced on the resin and adheres it to the layer below. The models are generally clear or solid in color. Anatomical landmarks can be "colored" within the model by manipulating the exposure times.
- **3D Printing** consists of an inkjet printing system using a Z Corp printer. The printer creates the model one layer at a time by spreading a layer of powder and then inkjet printing a binder into the cross-section of the part. The process is repeated until every layer is printed. This technology is the only one that allows for the printing of full color prototypes. Our models are also infused with a resin to be stone-like in durability.
- **Electron beam melting (EBM)** is a type of additive manufacturing for metal parts. The technology manufactures parts by melting metal powder layer per layer with an electron beam in a high vacuum. Unlike some metal sintering techniques, the parts are fully dense, void-free, and extremely strong. The materials are jetted in ultra-thin layers onto a build tray, layer by layer, until complete. Each layer is cured immediately, producing models that can be handled and used immediately, without post-curing

Main Services:

- **Orthopaedic Reconstruction:** Orthopedic services include the fabrication of surgical models in a variety of different materials to plan surgical procedures. In consultation with our biomedical engineers and technicians, surgical cutting, positioning and bending guides can be developed and fabricated, all customized to each individual situation.
- **Research and Development:** The 3D Medical Applications Center has the software and designers to support the medical center's research and special needs. Aside from medical models, devices can be fabricated to help with patient needs in occupational therapy and daily activities as well as concept models. Computer aided design software can be used to bring concepts to a working physical model. Whether it is a stand to hold a test tube at a specific angle or design of a handle on a cane to accommodate a patient, 3D MAC can provide the full spectrum design services.
- **Dental Surgery / Implants:** Models can be fabricated that indicate anatomical features such as the lingual nerve for better viewing of the proposed surgical area for orthognathic surgery, tumor resections, or dental Implant placement. Surgical guides for cutting, drilling, positioning, and bending of bones, plates and dental implants can be fabricated for any surgical plan.
- **Craniofacial Reconstruction:** Craniofacial services include the fabrication of surgical models in a variety of different materials to plan the surgical procedures. In consultation with our Biomedical Engineers and technicians, surgical cutting, positioning and bending guides can be developed and fabricated.



Walter Reed
National Military
Medical Center

MILITARY ADVANCED TRAINING CENTER

From Injury to Independence

Dedicated to the care and rehabilitation of America's sons and daughters recovering from injuries sustained in service, the Military Advanced Training Center (MATC) is a state-of-the-art facility located at the Walter Reed National Military Medical Center. Wounded, Ill and Injured Service Members, Retirees and Family Members use sophisticated prosthetics and cutting-edge athletic equipment to confirm pre-injury capabilities as they restore their sense of selves.

The MATC uses a Sports Medicine model which offers much of the same sports and exercise equipment as found at the finest sports rehabilitation training rooms across the country. Many of the same fitness drills practiced by professional athletes are replicated by the Service Members to work on core strength, balance and stability.

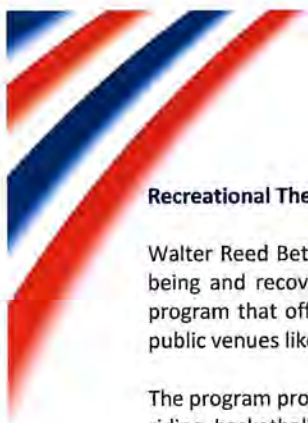
The total focus of MATC's expert staff is to match the drive and determination of these service members— build their strength, skills and confidence and return them to the highest level of physical, emotional and psychological functional ability. A major goal of the MATC is to enable the Service Members to make their own choices and not let their futures be dictated by the injuries sustained.

We serve active duty, retired and family members. Appointments are made by referral from the Amputee Clinic held by the Physical Medicine and Rehabilitation Service.

Amputee Physical and Occupational Therapy

The MATC is setting world-class standards of care and providing the leading edge in rehabilitative as well as prosthetic care. The comprehensive effort of rehabilitation is where physical and occupational therapists follow the Service Members from their initial evaluations through their discharge from the hospital, course of outpatient rehabilitation and return to active duty or civilian life.

The Prosthetics Service, offering a full range of prosthetic and orthotic services, uses state of the art advanced prosthetic limb technology for design, milling, and production of prosthetic devices. Prosthetic devices are manufactured and fit and adjusted in the Orthotics and Prosthetics Service which is adjacent to the MATC to enable the Prosthetists to work closely with the physical and occupational therapists to ensure the best possible fit and utilization of the prosthetic devices.



Recreational Therapy & Adaptive Sports

Walter Reed Bethesda recognizes the importance of recreational and adaptive sports to well-being and recovery. The Recreational Therapy staff coordinates a community re-integration program that offers a wide variety of experiences outside the clinic setting, including trips to public venues like shopping areas, movie theaters, restaurants and museums.

The program provides adaptive sports activities such as scuba diving, therapeutic horseback riding, basketball, cycling, running and golf, which allow the patients to be challenged and help provide meaning and purpose. Additionally the MATC offers a Service/Therapy Dog program, which is coordinated for the facility to make referrals for patients who request a service animal.

Computer Assisted Rehab Environment (CAREN)

One of ten of its kind in the world, the CAREN provides a safe, controlled setting where patients can work on balance, coping with stress, using new prosthetics and other skills necessary to achieve functional real-life goals. Using specialized cameras and computers linked to sensors on their bodies, recovering Service Members interact with a virtual world projected onto a life-sized curved screen by shifting their weight on a motion platform with an embedded treadmill. More than 70 scenarios enable recovering Service Members to perform virtual activities such as steering a boat through buoys in a lake or replicate running up and down trails in woods, or walking through city streets without fear of falling.

Center for Performance and Clinical Research (CPCR)

The Gait Lab of the Center for Performance and Clinical Research (CPCR) uses sophisticated motion analysis equipment (27 infra-red cameras, reflective markers and six force plates) to quantify the patients' movement. The information gained through motion analysis helps care providers to evaluate or modify physical therapy programs and prosthetic and orthotic components. The ultimate goal is to facilitate improvement of functional tasks such as walking, running and jumping.



**Walter Reed
National Military
Medical Center**



Appendix B: Program Development and Implementation Timeline



Complete by	Task	Activities
Mar 2019	LON	Finalize Budget Access Burning Glass data Get Letters of Support Finalize LON
Mar 2019	Consultant	Hire external consultant
Apr 2019	Space	Meet with Dean Block, Jeremy Ross, Colleen Noe
Apr 2019	VA affiliation	Talk with Colleen Noe, John Brothers (MHVAMC); Jason Highsmith (VA)
Apr 18, 2019	Academic Council	Submit LON to ETSU Academic Council: present on Apr 25
Sum-Fall 2019	NAPP	Develop syllabi
Fall 2019	NAPP	Learning Outcomes Program Requirements Academic Standards Curriculum Map Assessment and Evaluation Library Source Review Communication Plan Program of Study Recruitment Plan: Diversity Budget (Faculty Resources, Facilities and Equipment Accreditation Faculty Vitae

Sept 2019	Board of Trustees	Submit LON
Nov 2019	THEC	Reviews LON: approval is good for 2 years
February 2020	NAPP	Enter into Curriculog
March 2020	College Curriculum Committee	Submit NAPP Attend curriculum meetings
Sept 2020	Graduate Curriculum Council	Submit NAPP Attend curriculum meetings
Summer 2020	State Building Commission	Approval to build P&O Lab
Fall 2020	NCOPE	Work on Candidacy Application
Fall 2020	THEC	Site Visit
Nov 2020	Academic Council	Approve NAPP
Jan 2021	ETSU President	Approve NAPP
Feb 2021	Board of Trustees	Approve NAPP
March 2021	NCOPE	Submit Candidacy Application
April 2021	THEC	Submit NAPP Present to Commissioners
TBD	SACS	Substantive Change Prospectus Site Visit
Spring 2022	NCOPE	Site Visit
Summer 2022	Program Implemented	First Class Admitted

Appendix C: Burning Glass Report

Data from Burning Glass Technologies (an analytics software company that provides real-time data on labor market trends), was obtained for Prosthetics and Orthotics. The following is the full report of the employment potential, competitive landscape, and market alignment.

The key findings and program demand forecast for the P&O program in the southeast and nationally provide substantial support for the future sustainable need and demand for the proposed P&O program.

- **Student interest and demand are growing with national conferral volumes increasing 151% between 2013 and 2017.** In order to meet the state's projected employment growth between over the next 10 years, additional graduates are needed each year. P&O graduates will meet a positive labor market outlook over the next 10 years.
- **Competitive saturation is low for the P&O degree.** ETSU would be the first institution in Tennessee to have a P&O program. With only 12 P&O programs in the country, there would not be another program within 400 miles. Trends in the current competitor market indicate a need for a public and more affordable option for students.

Program Insight and Labor Insight

Labor Market Research Tools for Academic Program Development and Assessment



Understanding the labor market is key to successful academic planning. Make data-driven program decisions quickly, easily, and accurately with Program and Labor Insight.

Labor Market Research and Liberal Arts

Burning Glass's research tools enable higher education administrators to understand how liberal arts offerings can continue to nurture the mind and spirit of liberal arts students through a well-rounded education while also ensuring that students graduate with a repertoire of skills and skill-sets that will improve their job and career prospects upon graduation.

By coupling particular, field-specific skills and skill-sets with the baseline skills that form the foundation of liberal arts teachings, ETSU leaders can design and build a curriculum that continues to deliver on the core ideals of a liberal arts education, while at the same time aligning educational pathways to the jobs and careers that will ensure student success.

In many cases, students can acquire these additional skill-sets through "co-curricular" offerings – Burning Glass will enable ETSU to understand how to craft the right learning at the right time to the right segments of the university.



Contact:
Ian Vogler
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glass.com
603-703-8929

Understand the Demand for Graduates in the Area

Burning Glass reveals high demand jobs in any given region, including education and experience requirements. Our tools list the largest and most active employers in any area, informing efforts to bolster partnership and internship opportunities.

Align Programs with Employer Needs

Burning Glass identifies the skills and certification levels that will give students a competitive advantage when searching for jobs. This skill-level information helps educational organizations determine how well their proposed programs align with the market and identify any gaps in staff, capital, or technology in building the optimal curricula.

Anticipate Students' Employment Potential

The Employment Potential dashboard within Program Insight provides income data predicting the earning potential of graduating students as they enter the workforce and after several years' experience.

Assess the Competitive Landscape

An understanding of the market's capacity to support additional enrollments is crucial to implementing a new program. Program Insight uses IPEDS data analysis to help monitor the competition, visualize trends in degree conferrals, and develop differentiation in program strategy.

VALIDATE: COMPETITIVE LANDSCAPE

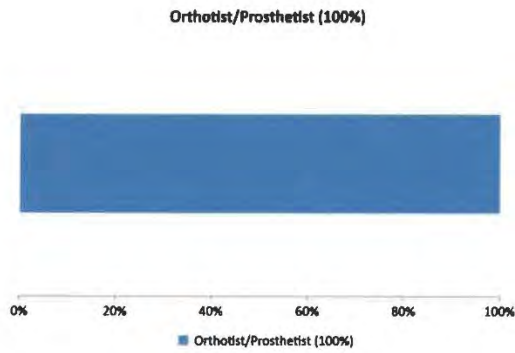
PROJECT CRITERIA

Validate	Programs
Location	Nationwide
Degree Level	Master's degree
Time Period	2/1/2018 - 1/31/2019
Selected Programs	Orthotist/Prosthetist (51.2307)
Career Outcomes mapped to Selected Programs of Study	Orthotist / Prosthetist

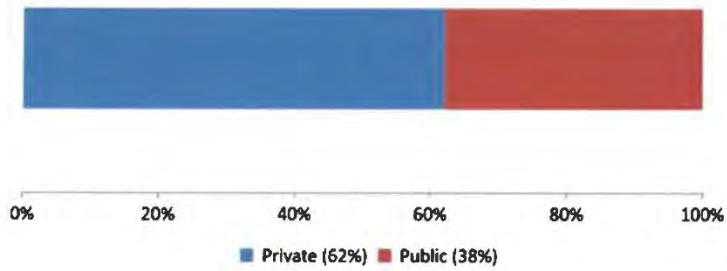
OVERVIEW

	#	% Change (2013-2017)
Degrees Conferred	216	151%
Number of Institutions	12	71%
Average Conferrals by Institution	18	50.00%
Median Conferrals by Institution	16	45.50%

MARKET SHARE BY PROGRAM



MARKET SHARE BY INSTITUTION TYPE



Institution Type	Conferrals	Market Share (%)
	(2017)	
Private	134	62.04%
Public	82	37.96%

TOP 10 INSTITUTIONS

Institution	School Type	Market Share (2017)	Market Share Change	Conferrals (2017)	Conferrals Change (2013-2017)
Northwestern University	Private	21.30%	21.30%	46	100.00%
University of Hartford	Private	14.81%	2.02%	32	190.90%
Loma Linda University	Private	11.11%	11.11%	24	100.00%
Baylor College of Medicine	Private	8.80%	8.80%	19	100.00%
University of Pittsburgh-Pittsburgh Campus	Public	8.80%	-14.46%	19	-5.00%
Eastern Michigan University	Public	7.41%	-20.50%	16	-33.30%
University of Texas Southwestern Medical Center	Public	6.94%	-7.01%	15	25.00%
Concordia University-Saint Paul	Private	6.02%	6.02%	13	100.00%
University of Washington-Seattle Campus	Public	5.56%	-4.91%	12	33.30%

Georgia Institute of
Technology-Main
Campus

Public 5.56% -6.07% 12 20.00%

Occupational Skills for Orthotist / Prosthetist



Click a segment to explore more skills

Top Distinguishing skills by demand

Skill	Salary Premium	Job Postings Requesting Skill (All States)
Healthcare Common Procedure Coding System (HCPCS)		62
Etiology		57
Amputation		37
Podiatry		36

Related Jobs ¹

Table View





Education Solutions™

Driving Successful Career Outcomes





Education Solutions™

Intuitive Research Software that Drives Success

Education Solutions, which includes Program Insight™, Labor Insight™ and Career Insight™, provides advanced labor market research and career outcomes information that helps institutions uncover their unique value when creating programs and engaging students. By using Burning Glass Technologies' superior insight, organizations will engage students with impactful curricula, increase student completion, achieve higher placement rates, and help students learn and master the exact skills they need to successfully enter the job market. With Education Solutions, institutions will:

- Build innovative, cutting-edge programs
- Increase the school's reputation and rankings
- Deliver meaningful curricula that enhance the students' employability
- Outpace the competition
- Increase revenues through higher enrollment and graduation rates



Institutions can enrich their environment by...

- Building a successful academic plan
- Aligning with the local job market
- Understanding competitive factors
- Guiding curriculum decisions to match needed skills
- Identifying partnership and investment opportunities

The latest labor market information and analysis from the most trusted name in jobs data

Increased enrollment and student success are just a click away



Program Insight™

Executive Insights Delivered Quickly

Program Insight enables administrators to make data-driven program decisions quickly, easily, and affordably. Whether validating a decision to launch a new program or assessing the contents and targeting of an existing one, the product helps drive the administrators' decision process using trusted information. Educators can walk through a step-by-

step process to determine how well the proposed degree or certificate program lines up with current and projected demand, saving hours of time and preventing unnecessary costs from occurring.



Labor Insight™

Comprehensive Analysis that Delivers Results

Labor Insight provides the most in-depth, accurate portrayal of current and future job market needs targeted to a specific region. With this product, administrators can dive deep into data analysis to identify new opportunities for program development, see how a curriculum aligns with employer demands,

and find partner organizations to ensure long-term student success. The software uses patented technology and advanced analytic tools to understand real-time demand for specific job titles, employers, skills, credentials, salaries, and more.



Career Insight™

Driving Successful Student Placement

Career Insight improves lead generation and conversion by presenting prospective learners with personalized career recommendations through integration with education provider websites. A custom-built recommendation engine takes into account a learner's skillset and career priorities, and identifies pathways to desired career outcomes via provider programs.

Allow Education Solutions to drive institution success today!



To learn more about Education Solutions:

+1 (617) 227-4800
sales@burning-glass.com
BurningGlass.com

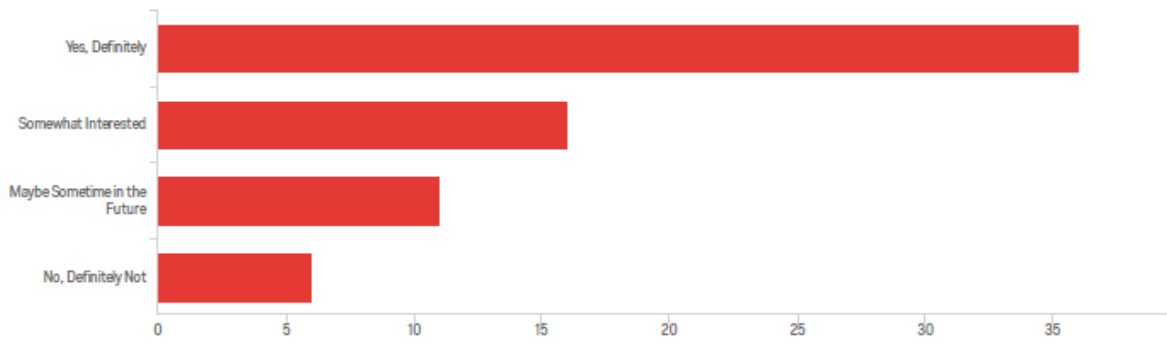


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Appendix D: Feasibility Studies: Student and Employer Surveys

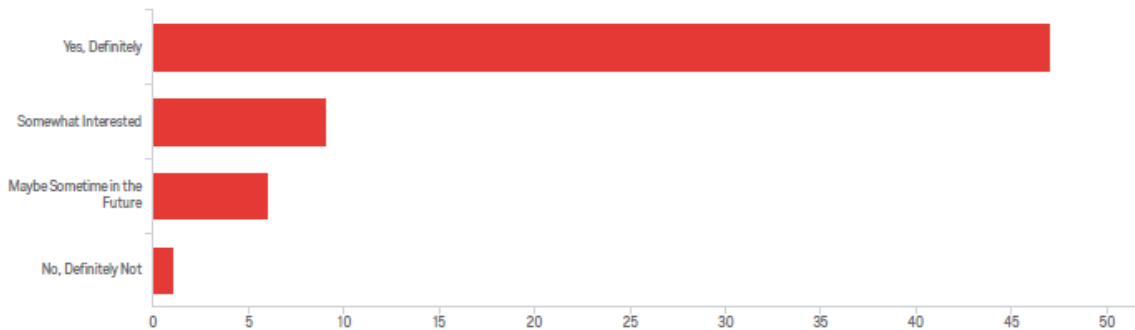
Students

Q3 - I am interested in pursuing a graduate degree.



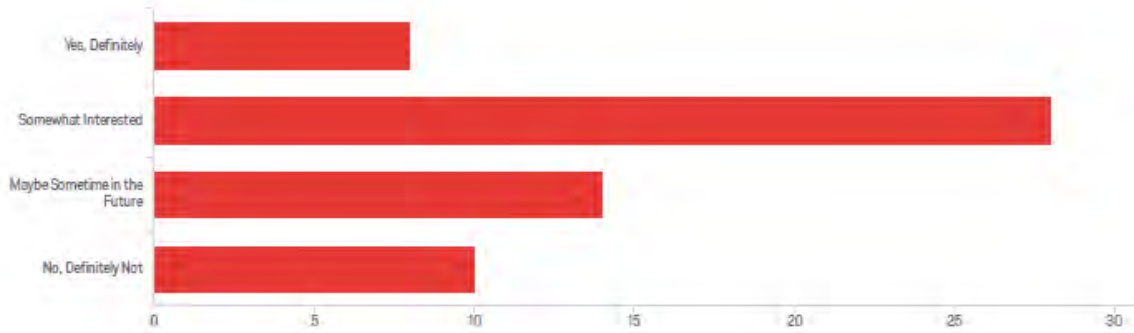
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I am interested in pursuing a graduate degree.	1.00	4.00	1.81	1.00	0.99	69

Q4 - I am interested in pursuing a graduate degree in a health care related field.



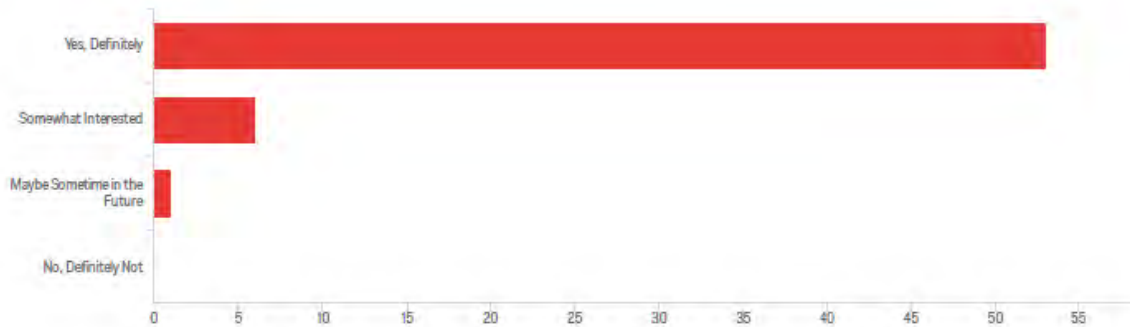
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I am interested in pursuing a graduate degree in a health care related field.	1.00	4.00	1.38	0.72	0.52	63

Q5 - I would be interested in a P&O master's degree program if offered at ETSU.



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I would be interested in a P&O master's degree program if offered at ETSU.	1.00	4.00	2.43	0.92	0.85	60

Q6 - I would prefer to attend a public university rather than a private university because of lower tuition.

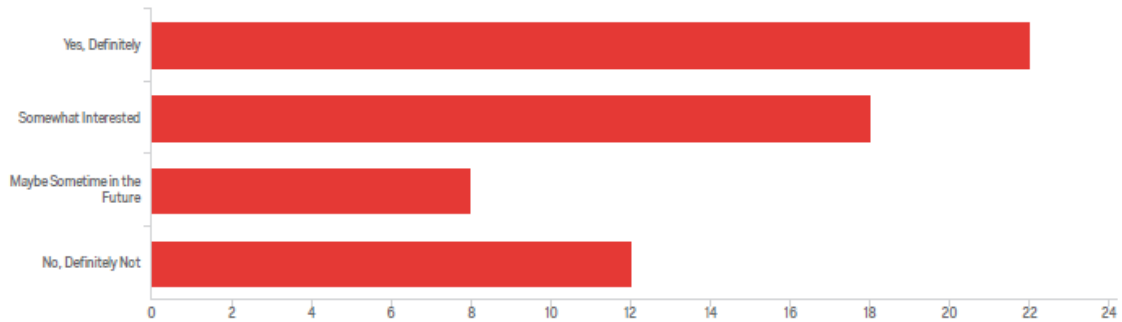


#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I would prefer to attend a public university rather than a private university because of lower tuition.	1.00	3.00	1.13	0.39	0.15	60

Q7 - I am interested in applying to a P&O program at a university that has an IPE

program with opportunities to learn with students enrolled in other health care programs

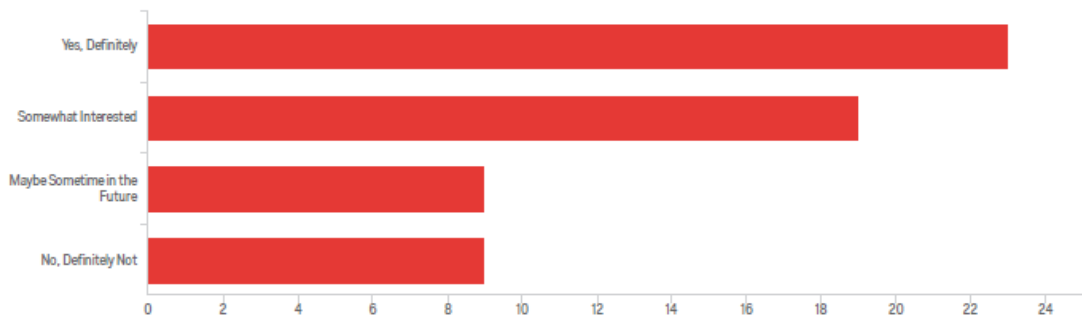
(i.e. medicine, nursing, pharmacy, PT, OT, etc.).



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I am interested in applying to a P&O program at a university that has an IPE program with opportunities to learn with students enrolled in other health care programs (i.e. medicine, nursing, pharmacy, PT, OT, etc.).	1.00	4.00	2.17	1.13	1.27	60

Q8 - I would be interested in a P&O master's program if I didn't get accepted into my first

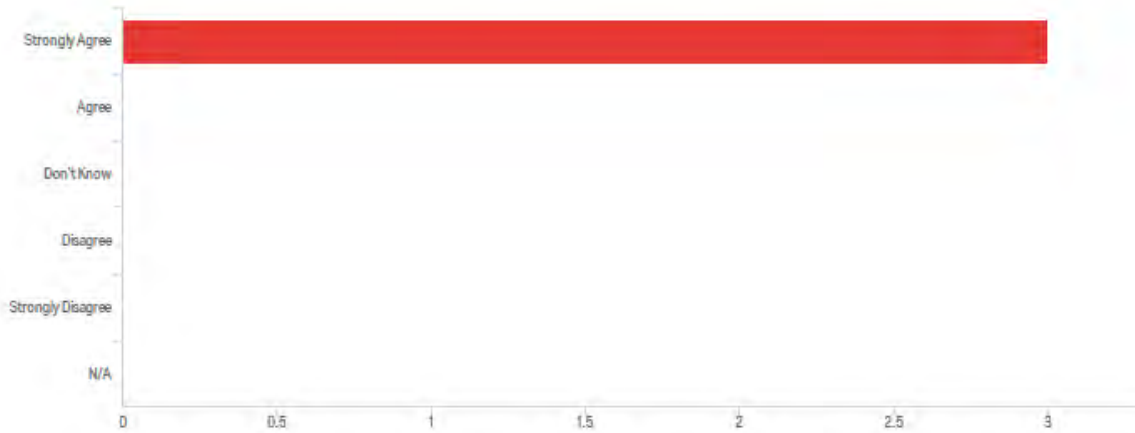
choice degree program (e.g. DPT, SLP, AuD, etc.).



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I would be interested in a P&O master's program if I didn't get accepted into my first choice degree program (e.g. DPT, SLP, AuD, etc.).	1.00	4.00	2.07	1.06	1.13	60

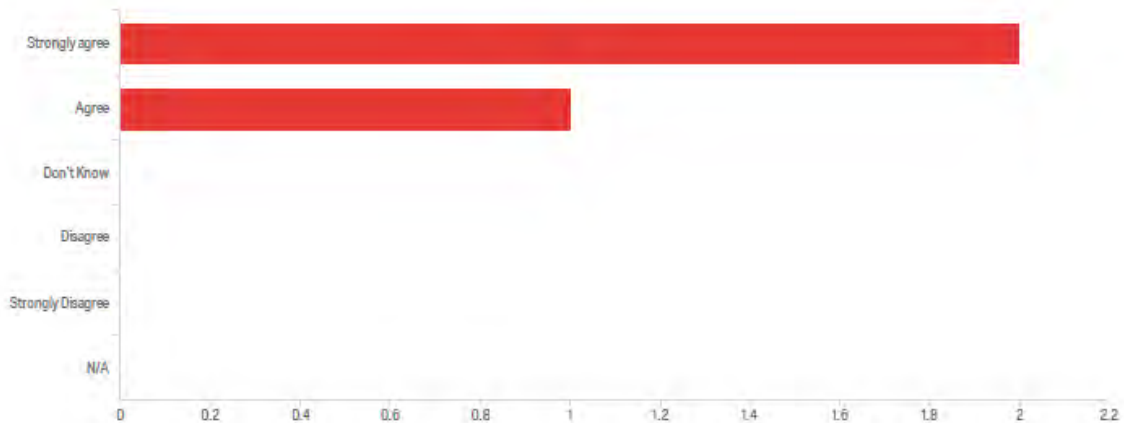
Employer Survey

Q2 - There is a need for certified Prosthetists and Orthotists (CPO).



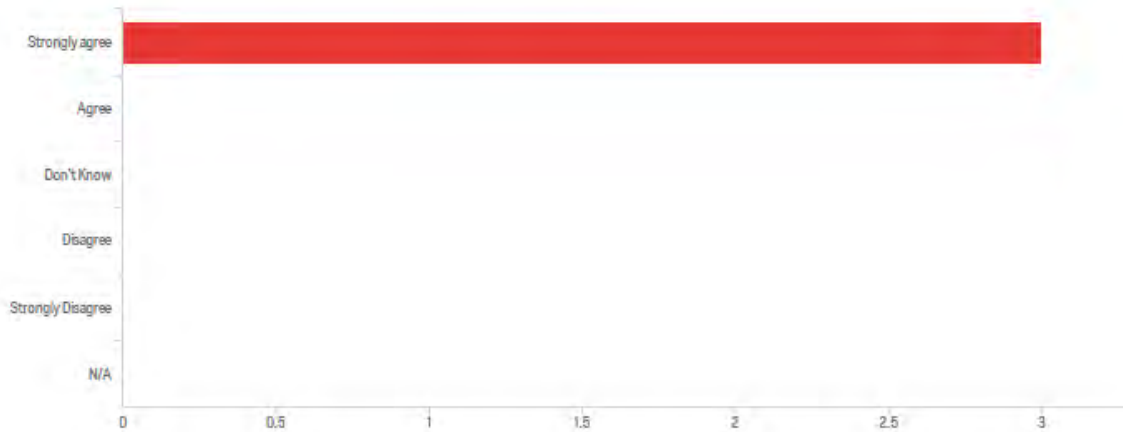
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	There is a need for certified Prosthetists and Orthotists (CPO).	1.00	1.00	1.00	0.00	0.00	3

Q3 - There is a need for certified Prosthetists (CP).



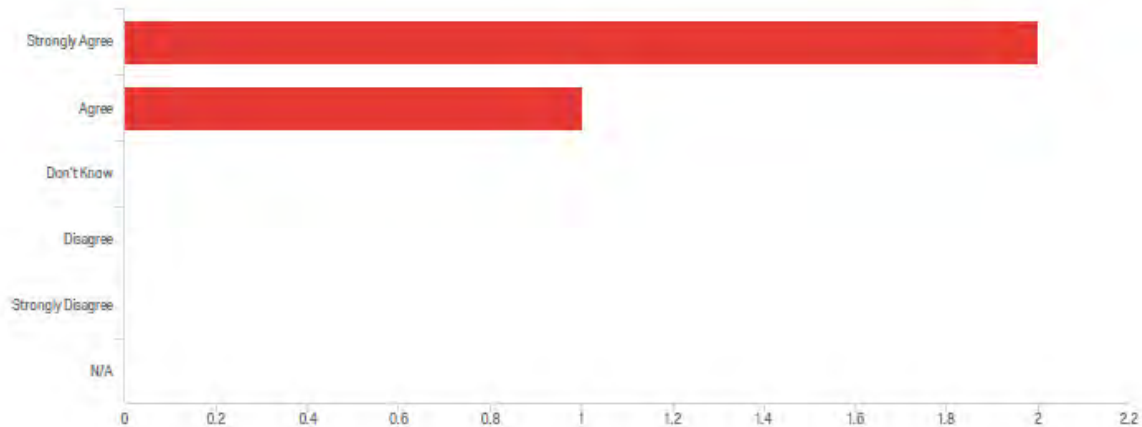
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	There is a need for certified Prosthetists (CP).	1.00	2.00	1.33	0.47	0.22	3

Q4 - There is a need for certified Orthotists (CO).



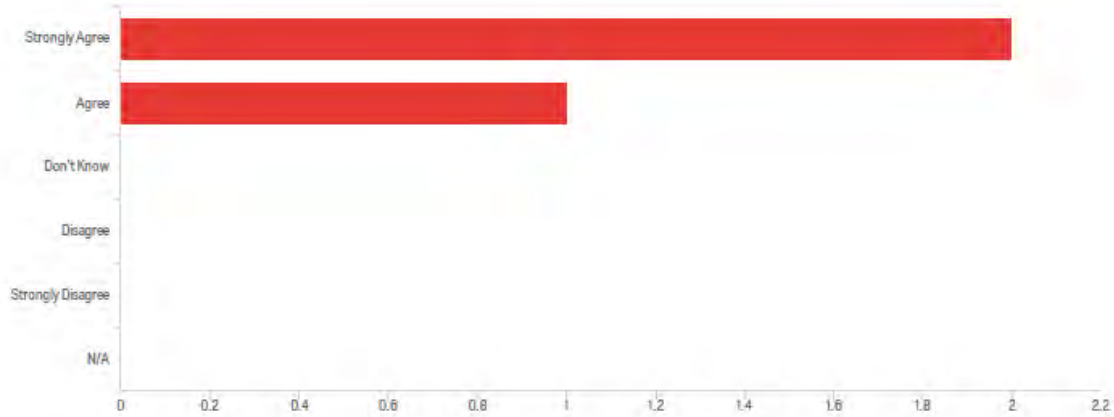
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	There is a need for certified Orthotists (CO).	1.00	1.00	1.00	0.00	0.00	3

Q5 - It is difficult to hire CPOs who have a background in interprofessional and team-based care.



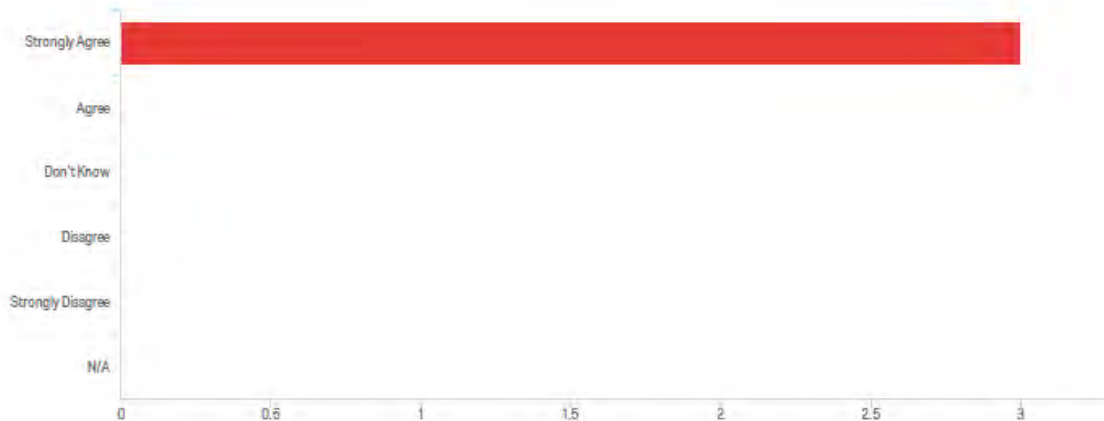
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	It is difficult to hire CPOs who have a background in interprofessional and team-based care.	1.00	2.00	1.33	0.47	0.22	3

Q6 - It is difficult to hire CPs who have a background in interprofessional and team-based care.



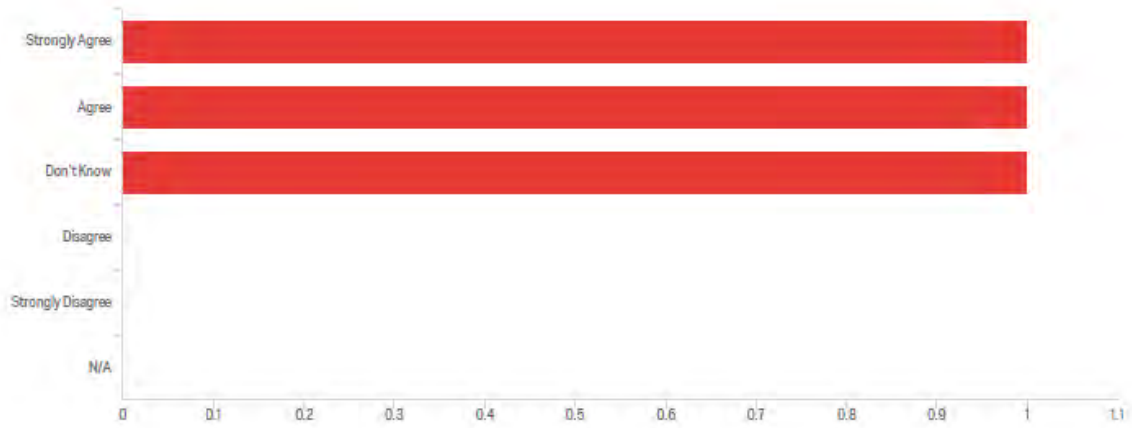
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	It is difficult to hire CPs who have a background in interprofessional and team-based care.	1.00	2.00	1.33	0.47	0.22	3

Q7 - It is difficult to hire COs who have a background in interprofessional and team-based care.



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	It is difficult to hire COs who have a background in interprofessional and team-based care.	1.00	1.00	1.00	0.00	0.00	3

Q10 - I would be interested in offering small clinical internships if ETSU developed the P&O master's degree.



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	I would be interested in offering small clinical internships if ETSU developed the P&O master's degree.	1.00	3.00	2.00	0.82	0.67	3

Appendix E: Letters of Support

Dr. Brian Nolan, President of East Tennessee State University

Dr. Phil Roe, U.S. Congress, 1st District, Chairman of Veteran's Affairs

Dr. Colleen Noe, Associate Director, Mountain Home Veterans Administration Medical Center

Mr. John Brothers, Certified Prosthetist and Orthotist, Mountain Home Veterans Administration
Medical Center

Dr. Alan Meade, Director of Rehabilitation Services, Holston Medical Group

Mr. Jon Morris, Vice President, TalkBack Pediatric Therapy

Zac Smith, Certified Prosthetist and Orthotist, Victory Orthotics & Prosthetics

Chad McCracken, Certified Prosthetist and Orthotist, Excel Prosthetics & Orthotics

Dr. Dennis Depew, Dean of the College of Business and Technology, ETSU



East Tennessee State University
Office of the President

Box 70734 • Johnson City, Tennessee 37614-1710 • (423) 439-4211 • Fax: (423) 439-4004

September 23, 2019

Mike Krause
Executive Director
404 James Robertson Parkway
Suite 1900
Nashville, TN 37243

RE: Letter of Notification for a Master of Science (MS) in Prosthetics and Orthotics

Dear Executive Director Krause:

In accordance with THEC Policy A1.0, I am submitting a Letter of Notification for establishing a Master of Science (MS) in Prosthetics and Orthotics degree at ETSU. The ETSU Board of Trustees approved the letter of notification and financial projections (attached) at its September 20, 2019 board meeting. The LON addresses the criteria for review as outlined Sections 1.0.2A1 and 1.0.2A2.

Sincerely,

A handwritten signature in blue ink that reads "B. Noland".

Brian Noland
President

Enclosures (1)

cc: Betty Dandridge Johnson, THEC Chief Academic Officer
Wilsie S. Bishop, ETSU Senior Vice President for Academics/Interim Provost
Donald A. Samples, ETSU Dean College of Clinical and Rehabilitative Health Sciences

DAVID P. ROE
1ST DISTRICT, TENNESSEE
VETERANS' AFFAIRS
CHAIRMAN
EDUCATION AND THE WORKFORCE

Congress of the United States
House of Representatives
Washington, DC 20515-4201

COUNTIES:
CARTER
COCKE
GREENE
HAMBLEN
HAWKINS
JEFFERSON
JOHNSON
SEVIER
SULLIVAN
UNICOI
WASHINGTON

December 14, 2018

Dr. Don Samples
Dean and Professor
College of Clinical and Rehabilitative Health Science
East Tennessee State University
Lamb Hall
Box 70643
Johnson City, TN 37614

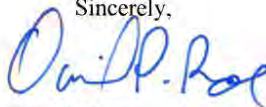
Dear Dean Samples:

I am writing this letter in support of a Master of Science degree in Prosthetics and Orthotics (P&O) you are proposing in your College of Clinical and Rehabilitative Health Sciences at East Tennessee State University (ETSU). There is a national shortage of prosthetic and orthotic practitioners, and with the two leading causes of limb loss, diabetes and cardiovascular disease so common in our aging population, their services are needed now more than ever as Americans continue living longer. The Bureau of Labor Statistics projects the need to employ orthotists and prosthetists will grow 22 percent from 2016 to 2026. Currently there are only 13 accredited P&O programs in the country.

East Tennessee boasts a variety of healthcare providers for both civilian and veteran populations. Knowing the future healthcare needs of the veteran population and the wonderful care Mountain Home VA Medical Center provides, it seems to me that a P&O program at ETSU could offer some mutually beneficial opportunities in future partnerships. This is just one of the many potential benefits I could see to having a program such as this, which would fit the mission of ETSU to train health care providers to serve the citizens of Northeast TN while helping to ensure high quality providers are available in our area.

I am hopeful that the P&O program at the College of Clinical and Rehabilitative Health Sciences will receive approval. I look forward to this program's implementation so that East Tennesseans continue to receive the best possible healthcare.

Sincerely,



David P. Roe, M.D.
Member of Congress

KINGSPOINT HIGHER EDUCATION CENTER
205 REVERE STREET
KINGSPOINT, TN 37660
PHONE: 423-347-8161
FAX: 423-247-0119

WASHINGTON
336 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
PHONE: 202-225-6356
FAX: 202-225-6714

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www.roe.house.gov

ON THE CAMPUS OF WALTERS STATE
1609 WALTERS STATE CC DRIVE, SUITE 4
MORRISTOWN, TN 37813
PHONE: 423-254-1400
FAX: 423-254-1403



DEPARTMENT OF VETERANS AFFAIRS
James H. Quillen VA Medical Center
PO Box 4000
Mountain Home, Tennessee 37684

TENNESSEE Outpatient Clinics: Knoxville Lafayette Morristown Rogersville Sevierville
VIRGINIA Outpatient Clinics: Bristol Jonesville Marion Norton Vansant

October 18, 2018

In Reply Refer To: 621/001

Dr. Donald Samples, EdD, RRT, RPSGT
Dean and Professor
College of Clinical and Rehabilitative Health Sciences
East Tennessee State University
Johnson City, TN 37614

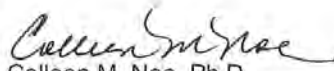
Dear Dr. Samples:

This letter is provided in support of a Master of Science in Prosthetics and Orthotics in the College of Clinical and Rehabilitative Health Sciences at East Tennessee State University (ETSU). The James H. Quillen VA Medical Center has a long history of partnership with many different Departments at ETSU. This collaboration will provide enhanced prosthetic and orthotic services to our Nations Veterans as well as provide quality education in a growing field with limited academic programs. Additionally, this program will fill a gap in healthcare services in East Tennessee.

The VA and the College of Clinical and Rehabilitative Health Sciences have a long and successful partnership through Audiology, Speech-Language Pathology, Physical Therapy, Clinical Nutrition and Social Work. This partnership would be a welcome addition to the ETSU – VA partnership.

For an additional information or questions, please contact me at (423) 926-1171, extension 7557 or at Colleen.No@va.gov.

Sincerely,


Colleen M. Noe, Ph.D.
Associate Director

**Department of
Veterans Affairs**

Memorandum

Date: October 30, 2018
From: John Brothers
Subj: Master of Science in Prosthetics and Orthotics
To: Don Samples
Thru: College of Clinical and Rehabilitative Health Services

The James H. Quillen VAMC is currently working on a proposal to establish and prosthetic and orthotic lab. One challenge that we anticipate is recruiting well trained and qualified prosthetists and orthotists. With the very limited number of certified education programs around the country for this discipline, recruitment can often be difficult. Establishing an academic program that would provide individuals with the opportunity to receive a Masters of Science in Prosthetics and Orthotics could be very beneficial to the Prosthetic and Orthotic industry.

As a certified Prosthetist/Orthotist, I have experienced the lack of qualified individuals in the industry. I have also experienced the lack of programs available to provide the educational opportunities needed.

The James H. Quillen VAMC would welcome the opportunity to work in conjunction with the East Tennessee State University on the possibility of establishing a joint prosthetic/orthotic lab and assisting in clinical educational opportunities. The VAMC proposed lab would be fully accredited by the American Board of Certification for Prosthetics and Orthotics and plans on offering residency positions.

We look forward to the opportunity for collaboration of this program and making an impact on the Prosthetic/Orthotic community.

John P. Brothers, CPO



4205 Hillsboro Road, Suite 317
Nashville, Tennessee 37215
615/269-5312
FAX: 615/297-5852
Email: tpta@tptatn.com

Dr. Don Samples, EdD, RRT, RPSGT
Dean and Professor
College of Clinical and Rehabilitative Health Sciences
East Tennessee State University
P. O. Box 70282
Johnson City, TN. 37614

Dear Dr. Samples:

On behalf of Holston Medical Group of the Tri-Cities, TN region as well as the Tennessee Physical Therapy Association, I would like to take this opportunity to lend my complete support for the potential new program of the Occupational Therapy Doctorate (OTD) and the Prosthetics & Orthotics program at East Tennessee State University. Wow, what a tremendous compliment to add to the College of Clinical and Rehabilitative Health Sciences that essentially completes the overall picture of all rehabilitative health science disciplines being represented in this entire community.

In my opinion, the two programs would certainly prepare students for entrance into two distinct, needed professional health care degrees in clinical areas such as Occupational Therapy and in Prosthetics/Orthotics for our community. The degrees for both would be labeled at the highest level of each of those disciplines. I am aware that Milligan College has the Master's Degree in Occupational Therapy (MSOT), but this is a private college. For ETSU to offer a Doctoral Degree in Occupational therapy, I believe it would be more cost effective and affordable for students to pursue this profession at a State College. It behooves ETSU to bring these programs on board that would certainly complement what is currently being provided at CCRHS in physical therapy, speech-language pathology, audiology, social work, and many others. I believe it would also provide students an opportunity to make decisions as to whether they would like to work in the different aspects of Occupational Therapy, whether that would be in the area of Hands/Upper Extremity/Orthopedics, or in Neurological Adults/Pediatrics, or in Geriatrics, or in the Psychology realm. The need is certainly there. As a Director of Rehab Services for a Multidisciplinary Physician Group, we are in need of OTs in our Rehab Clinics as we find them extremely valuable to the Rehab Team. The programs would provide students an opportunity to choose from two of the most interesting health care fields of choice.

I am also very much in favor of supporting a Prosthetics/Orthotics Program to this community as we do not have one close to the area. This would be a first for our area and that's exciting. I could certainly imagine the current clinics in our community working ever so closely and collaboratively with Prosthetist and Orthotist clinicians to enhance the care of patients in need of these services. Employment of orthotists and prosthetists is projected to grow 22% from 2016 to 2026, much faster than the average for all occupations. However, because it is a small occupation, the fast growth will result in only about 1,700 new jobs over the 10-year period. It is interesting to find that there are few states that have the Practitioner Programs. They have one

school in their states, except in Texas and California who has two programs. Tennessee does not have a program currently at all and this would be a first for our State. The large baby boom population is aging, and O & Ps will be needed because both diabetes and cardiovascular disease, two leading causes of limb loss, are more common among older people.

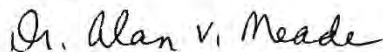
The OTD and P & O Programs would prepare students entering a specific field that is currently in need not only in the U.S., but definitely in our community. These particular two areas are a “must,” because they belong in the traditional Medical Model and complete the Rehabilitation Team.

The programs would prepare potential healthcare professionals for patient interviews, a significant variety of treatment procedures and protocols in each discipline; provide the clinician with the foundation of technology and science behind each discipline. It will provide each person the knowledge of specific clinical work and also the quality and productivity standards behind each health care discipline.

The programs will provide a valuable addition and will complete the Rehabilitative Team of Providers in the College of Clinical Rehabilitative Health Sciences. As part of the Adjunct Faculty at ETSU in the Doctor of Physical Therapy Program, as well as the Chapter President of the Tennessee Physical Therapy Association, I am extremely excited about this opportunity as I believe it will serve to provide the education and preparation for those who are choosing clinical and rehabilitative positions and careers in Occupational Therapy and in Prosthetics/Orthotics for not only in our area, but also across the U.S.

If I can be of further assistance in this matter, please do not hesitate to contact me. Thank you for allowing me to comment on this great opportunity for ETSU.

Sincerely,



Dr. Alan V. Meade, PT, DScPT, MPH
Director of Rehabilitation Services at HMG
Chapter President—Tennessee Physical Therapy Association
Adjunct Faculty in the ETSU DPT Program
Work Phone: 423-578-1562
alan.meade@myhmg.com
almeadep@charter.net



October 31st, 2018

Dr. Don Samples
Dean and Professor
College of Clinical & Rehabilitative Health Sciences
East Tennessee State University
Johnson City, TN 37614

Dear Dr. Don Samples,

I am writing to express my support for the new proposed Master's in Prosthetics and Orthotics degree through ETSU College of Clinical and Rehabilitative Health Sciences. As a member of the community and a business owner who services patients in need of Prosthetics and Orthotics, I can say that the ongoing need to recruit qualified candidates into the profession of Prosthetics is crucial to maintain a qualified workforce in our region. This would be a great partnership going forwards. I wish you the best of luck in moving forward with the program and if I can be of any assistance, please don't hesitate to ask.

Sincerely,

A handwritten signature in black ink, appearing to read "Jon L. Morris", written over a light blue horizontal line.

Jon L. Morris
Vice President/Business Manager
TalkBack Pediatric Therapy



December 15, 2018

Dr. Don Samples
ETSU College of Clinical & Rehabilitative Health Sciences
P.O. Box 70282

Dear Dr. Don Samples,

I am writing to express my support for the new proposed Master's in Prosthetics and Orthotics degree through ETSU College of Clinical and Rehabilitative Health Sciences. I feel that this degree will help identify and train candidates for the profession. As a member of the community and a business owner of a Prosthetics and Orthotics, I can say that the ongoing need to recruit qualified candidates into the profession of Prosthetics is crucial to maintain a qualified workforce in our region. I wish you the best of luck in moving forward with the program and if I can be of any assistance, please don't hesitate to ask.

Sincerely,

A handwritten signature in blue ink that reads "Zach Smith". The signature is fluid and cursive, with the first name "Zach" being more prominent.

Zach Smith
2333 Knob Creek Road, #14
Johnson City, TN
(423) 461-3320



November 11 , 2018

Dr. Don Samples
Dean and Professor
East Tennessee State University
Johnson City, TN 37614

Office of Chad McCracken, MS, CPO
121 E. Ravine Rd, Suite 400
Kingsport, Tennessee 37660
423-732-7071
cmccracken@excel-prosthetics.com

Dear Dr. Don Samples,

I am writing to express my support for a Master's in Prosthetics and Orthotics degree through ETSU College of Clinical and Rehabilitative Health Sciences. As a Certified Prosthetist-Orthotist and office manager for a local provider, I can attest to the growing need for qualified practitioners in the region and within the profession.

As a student, I was required to leave the region to obtain education in this wonderful profession. The number of accredited O&P education programs in the nation is very limited, however O&P education is completely absent in the region which has one of the highest health care needs in the nation. Tennessee schools offer accredited professional education programs in all areas of health care including physician, nursing, pharmacy, and physical and occupational therapy; however, Orthotist/Prosthetist education is not offered within the State of Tennessee. The closest O&P education program is over 400 miles away. This creates a barrier to obtaining education to serve in this profession.

As operational manager for our local clinics, I have difficulty recruiting practitioners simply due to the lack of certified professionals. The number of people living with amputation is predicted to double in the next 30 years. The Bureau of Labor Statics estimates the need for O&P practitioners to increase 22% in the next decade (much higher than average), which will create a lack of qualified providers if our education programs fail to respond to the increasing demand for professionals.

Please consider adding this needed educational offering to your College. This is an opportunity consistent with your program's stated Mission, Vision and Goals to meet the needs of the community as well as the professionals that serve those needs. Thank you for taking the time to consider this request. Please contact me as desired to have a more personal conversation concerning this topic.

Kindest regards,

A handwritten signature in cursive script that reads "Chad McCracken".

Chad McCracken, MS, CPO



EAST TENNESSEE STATE
UNIVERSITY

PO Box 70699
Johnson City, TN 37614
P 423-439-5489
F 423-439-5274

College of Business and Technology
Office of the Dean

March 27, 2019

Dean Samples,

I am writing this letter in support of the development of a Master's degree in Prosthetics & Orthotics in the College of Clinical and Rehabilitative Health Sciences. As we discussed in our previous meeting, the faculty in the Biomedical Engineering Technology program in the College of Business and Technology is interested in teaching (or including your students) in a/the Computer Assisted Design and 3D Printing course as part of the proposed P&O curriculum. This is an exciting opportunity for our faculty to engage in interprofessional education within an applied field in the health sciences. I look forward to working with you and your faculty as your curriculum development progresses.

Regards,

A handwritten signature in black ink, appearing to read 'Dennis Depew'.

Dennis Depew, Dean
East Tennessee State University
College of Business and Technology

ETSU.EDU

**Tennessee Higher Education Commission
Attachment A: THEC Financial Projections
CCRHS ETSU
Orthotics & Prosthetics**

Seven-year projections are required for doctoral programs.
Five-year projections are required for baccalaureate and Master's degree programs
Three-year projections are required for associate degrees and undergraduate certificates.
Projections should include cost of living increases per year.

	Planning Year	Year 1	Year 2	Year 3	Year 4	Year 5
I. Expenditures						
A. One-time Expenditures						
New/Renovated Space	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -
Equipment	500,000	-	-	-	-	-
Library	-	-	-	-	-	-
Consultants	10,000	-	-	-	-	-
Travel	-	-	-	-	-	-
Other	-	-	-	-	-	-
Sub-Total One-time	\$ 760,000	\$ -	\$ -	\$ -	\$ -	\$ -
B. Recurring Expenditures						
Personnel						
Administration						
Salary						\$ -
Benefits						-
Sub-Total Administration	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Faculty						
Salary	\$ 90,000	\$ 272,700	\$ 280,881	\$ 289,307	\$ 297,987	\$ 306,926
Benefits	30,350	91,961	94,719	97,561	100,488	103,502
Sub-Total Faculty	\$ 120,350	\$ 364,661	\$ 375,600	\$ 386,868	\$ 398,474	\$ 410,429
Support Staff						
Salary		\$ 40,000	\$ 41,200	\$ 42,436	\$ 43,709	\$ 45,020
Benefits		20,350	20,961	21,589	22,237	22,904
Sub-Total Support Staff	\$ -	\$ 60,350	\$ 62,161	\$ 64,025	\$ 65,946	\$ 67,924
Graduate Assistants						
Salary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Benefits	-	-	-	-	-	-
Tuition and Fees* (See Below)	-	-	-	-	-	-
Sub-Total Graduate Assistants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operating						
Travel	\$ 6,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Dues	5,000	2,500	2,500	2,500	2,500	2,500
Utilities	-	20,000	20,000	20,000	20,000	20,000
University Administration	-	80,603	164,141	169,065	174,137	179,361
Other_Lab Supplies	-	25,000	25,000	25,000	25,000	25,000
Sub-Total Operating	\$ 11,000	\$ 138,103	\$ 221,641	\$ 226,565	\$ 231,637	\$ 236,861
Total Recurring	\$ 131,350	\$ 563,113	\$ 659,402	\$ 677,459	\$ 696,058	\$ 715,214
TOTAL EXPENDITURES (A + B)	\$ 891,350	\$ 563,113	\$ 659,402	\$ 677,459	\$ 696,058	\$ 715,214

***If tuition and fees for Graduate Assistants are included, please provide the following information.**

Base Tuition and Fees Rate	\$	-	\$	-	\$	-	\$	-
Number of Graduate Assistants	1	1	1	1	1	1	1	1

	Planning Year	Year 1	Year 2	Year 3	Year 4	Year 5
II. Revenue						
Tuition and Fees ¹	-	329,726	666,102	682,516	699,422	716,836
Institutional Reallocations ²	891,350	233,388	(6,700)	(5,057)	(3,365)	(1,622)
Federal Grants ³	-	-	-	-	-	-
Private Grants or Gifts ⁴	-	-	-	-	-	-
Other ⁵	-	-	-	-	-	-
BALANCED BUDGET LINE	\$ 891,350	\$ 563,113	\$ 659,402	\$ 677,459	\$ 696,058	\$ 715,214

Notes:

7 year total revenue/(loss)

(1) In what year is tuition and fee revenue expected to be generated and explain any differential fees. Tuition and fees include maintenance fees, out-of-state tuition, and any applicable earmarked fees for the program.

Tuition and fee revenue will be generated in year two of the program. Fees are \$110 per credit hour, which includes an Academic Health Science Center (AHSC) fee at ETSU at \$50.00 per credit hour for courses taught within the AHSC. An additional \$60 program fee per credit is included to cover costs of lab operations and supplies for the MSOP program. This course fee is earmarked for the college that generates the credit hours.

(2) Please identify the source(s) of the institutional reallocations, and grant matching requirements if applicable.

Institutional reallocations will be funded from the College of Clinical and Rehabilitative Health Sciences carryover and contingency funding.

(3) Please provide the source(s) of the Federal Grant including the granting department and CFDA(Catalog of Federal Domestic Assistance) number.

N/A

(4) Please provide the name of the organization(s) or individual(s) providing grant(s) or gift(s).

N/A

(5) Please provide information regarding other sources of the funding.

N/A

Master of Science in Orthotics and Prosthetics



EAST TENNESSEE STATE
UNIVERSITY

Outline

- Orthotics and Prosthetics (O&P)
- Needs Assessment
- Proposed Master of Science in O&P
- Budget & Enrollment
- Facilities

• Orthotics

- External device, intact body segment, transmits forces, provides therapeutic motion control to treat variety of body systems disorders – neurological (i.e., stroke, etc.), endocrine (i.e., diabetes, etc.), orthopedic (i.e., scoliosis, cranial deformity, etc.)

Stroke



Diabetes



Scoliosis



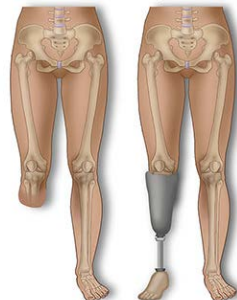
Cranial



• Prosthetics

- External device for absent limb segment, transmits forces, provides therapeutic motion control to treat limb absence due to traumatic or vascular limb amputation or congenital limb insufficiency

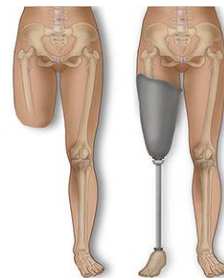
Below knee



Above elbow



Above knee

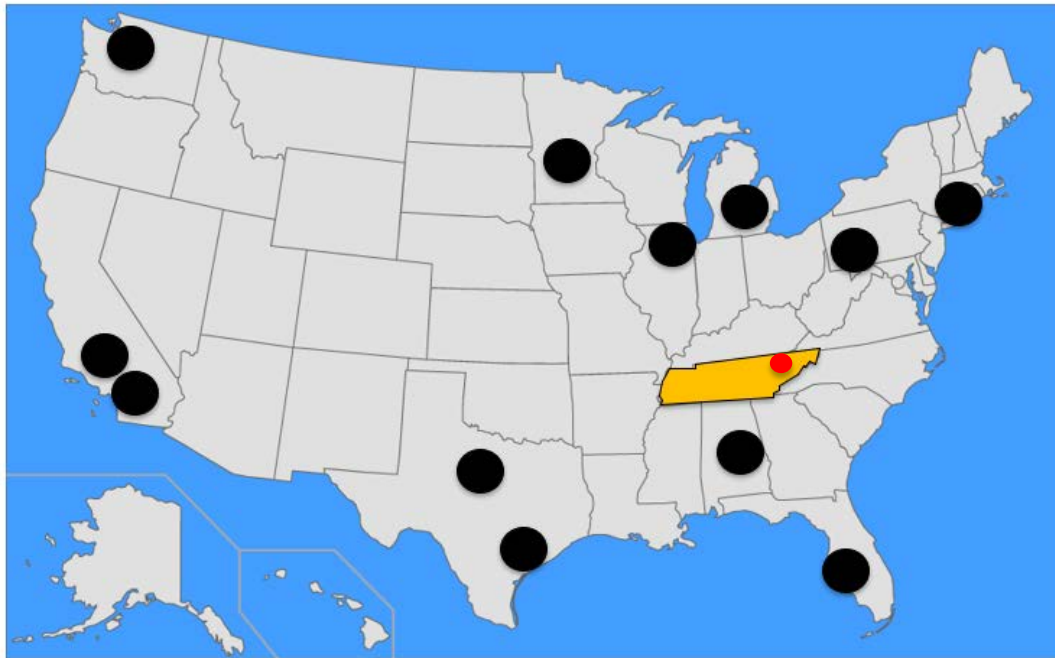


Rising Demand for O&P Providers

- Need for O&P practitioners in U.S. is projected to increase by 36% from 2012 (8,500) to 2022 (11,500)
(Bureau of Labor Statistics; 2015)
- Provision of orthoses is primary driver of overall demand projections (92% of all demand)
- Without more schools graduating more O&P providers, there will be a shortage of qualified workers (Dobson/DaVanso)

Need for Additional O&P Schools in Our Region

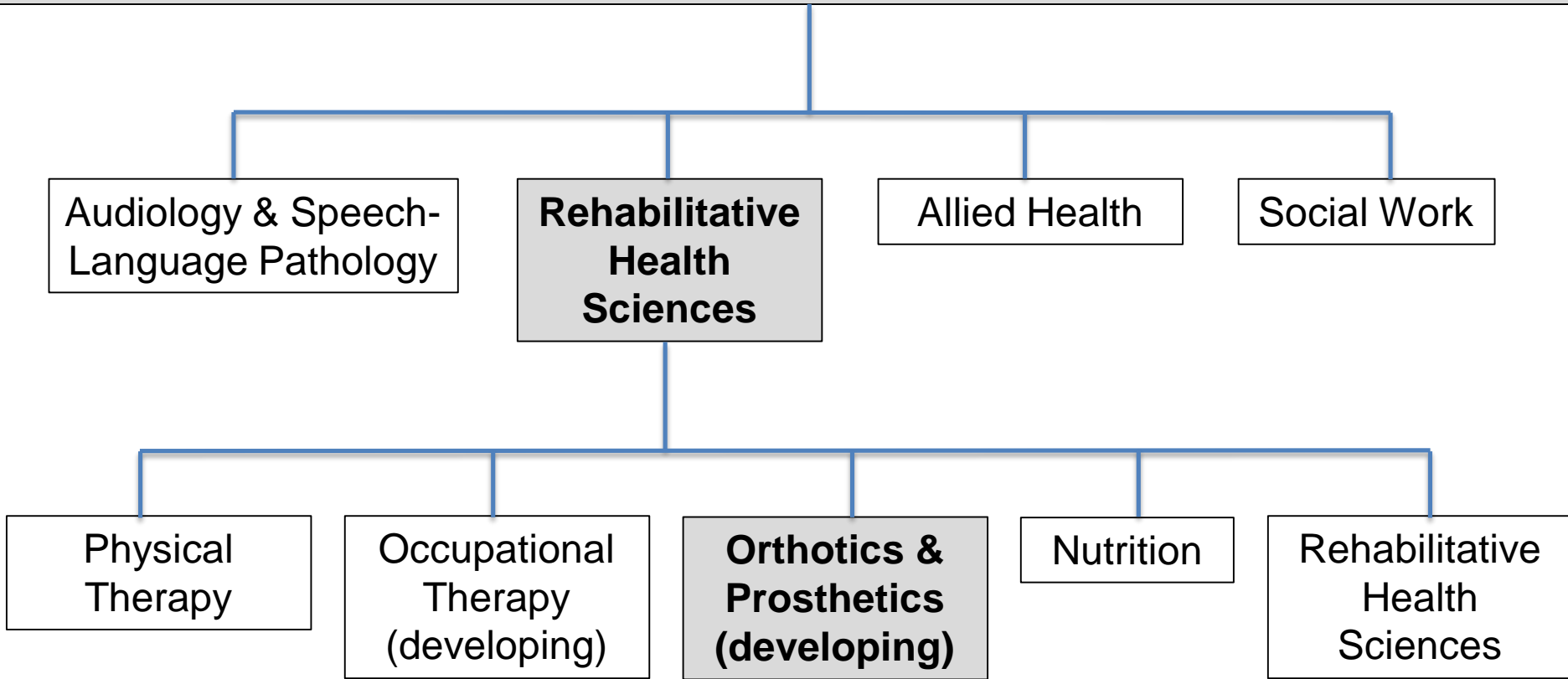
- Currently there are only 12 accredited O&P schools in the U.S.
(National Commission on O&P Education; 2020)
- No accredited O&P school in Tennessee
- No accredited O&P school within 400 miles of Johnson City, TN



Regional Demand and Benefits to Students

- Regional need indicates there is an increased demand for O&P students who are qualified to meet that need.
- Given the regional and national need, it is critical that more qualified students enter O&P programs to assure access to quality care for individuals with amputations, neuromuscular and orthopedic impairments.
- Without a state option (or any option in TN) for students to pursue this degree, all current O&P practitioners in Tennessee have had to obtain their degree outside the state.

College of Clinical & Rehabilitative Health Sciences



Proposed Master of Science in Orthotics and Prosthetics (MSOP) Degree

- 2 academic years
- Interdisciplinary curriculum that weaves evidence-based “best practice”
- 6 terms ([fall, spring, summer] x 2 years)
- 76 credit hours
- 14-15 students per cohort
- 3 full time faculty, 1 laboratory technician

Proposed MSOP Degree

- New curricular model will train **clinicians** in O&P with wider scope of practice
 - health care provider employing evidence-based practice, problem solver, collaborator, innovator
- Moving away from traditional model that trained **technicians** with narrow scope of practice
 - device supplier and fabricator

Costs and Projected Revenue

- Tuition and fee revenue will begin in Year One (2022) pending the implementation of the accreditation process.
- Institutional reallocations will be necessary for the planning year (2021) and Year One (2022) and will come from the College of Clinical and Rehabilitative Health Sciences.
- There will be no federal grants, private grants, nor gifted funds for the establishment of this program.
- Please refer to THEC Financial Projection Form for six-year cost and revenue projections.

Projected Enrollment

Year 1	Year 2	Year 3	Year 4	Year 5
2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
15	29	29	29	29



Facilities Planning for Proposed O&P Program

- Renovation of approximately 14,000 ft² space to house developing Orthotics and Prosthetics program and Occupational Therapy program
- Located one floor below existing Physical Therapy program in Building 2 on Veteran's Administration Campus

Facility Design



EAST TENNESSEE STATE UNIVERSITY
BOARD OF TRUSTEES

INFORMATION ITEM

DATE: November 13, 2020

ITEM: Research Foundation Reorganization

COMMITTEE: Academic, Research, and Student Success

PRESENTED BY: Brian Noland
President

A series of environmental factors provide the impetus for East Tennessee State University to reconsider its infrastructure and organization, considering an expanded role for research as the campus embarks upon the strategic visioning process entailed within the work of the Committee for 125.2. These factors include:

- The convergence of new opportunities and increased stakeholder expectations, especially among the Board of Trustees, that underscore the imperative for ETSU to improve the depth, breadth, and scope of its research enterprise
- The creation of Ballad Health, and the elements of the Certificate of Public Advantage (COPA) for the state of Tennessee and the Cooperative Agreement of the Commonwealth of Virginia mandate action
- The commitment by Ballad Health to make significant and annual investments in research at ETSU.

In March 2017, the ETSU Board of Trustees approved a new strategic master plan that endorsed a strategic vision for ETSU whereby it would provide a “world-class environment” that collectively requires the campus to define an over-arching vision for research and economic development that is responsive to the environmental factors cited above. Subsequent to this action, university leadership has engaged the services of multiple consultants who reviewed and assessed the research capacities of the institution. These consultants identified opportunities for enhancement, as well as existing areas of strength within the university. Relevant findings from these efforts include:

- Through the COPA, Ballad Health has identified needs and areas of competitive advantage based on extramural funding and ETSU should identify related areas of competitive advantage, advancing thematic or focused research goals.
- In order to attract new research staff to the region, ETSU must make enhancements to its existing laboratories and associated physical infrastructure. The ongoing research strategic plans should address start-up packages for new recruits which will become

imperative to recruiting top-notch researchers, especially those who already have demonstrated research competitiveness.

- ETSU has a generational opportunity to move forward with an enhanced research agenda in partnership with Ballad Health. Building a competitive research program is, however, a long-term process with many aspects that must be nurtured and supported with not only resources but policies, programs and personnel who are dedicated to advancing the ETSU specific agenda. Growing into the role of a research university will require increased faculty development and a realistic view of the competitive climate within agencies beyond Ballad Health that will be required to support research over time.
- Becoming a more research-oriented university can enhance ETSU's academic enterprise by providing greater learning opportunities for students, a greater national recognition of the depth of knowledge provided by the university and the opportunity for return on investment due, in part, to this enhanced reputation. Advancing translational research whereby research outcomes are brought into the clinical or other application environments can enhance the university's ability to address needs in a real-world setting. The ability to engage more deeply with regional communities and needs will also bring long-term benefits and enhance opportunities for economic development.
- Research universities nationwide recognize the symbiotic relationship between advanced research, regional needs and economic development. The research enterprise itself has major economic benefits by attracting (and spending) external dollars within the local economy with a positive return ratio documented by numerous studies. To advance to the patenting and licensing stage of intellectual property development and the potential royalties that accrue from this level of research can take many years to achieve.

In order to achieve the vision outlined in the 2016-26 strategic master plan, it is imperative that ETSU enhance its infrastructure in response to the new environmental factors, opportunities, and expectations from stakeholders that are enumerated above. To support this vision, staff is exploring opportunities that would yield an expanded and strategic role for the ETSU Research Foundation. As part of this effort, staff is exploring opportunities for the ETSU Research Foundation to coordinate the portfolio of currently disparate but ideally related ETSU organizations and facilities that include the Innovation Laboratory (I-Lab), the Tennessee Small Business Development Center (TSBDC), the Institute of Computation and Research and Data Science (CaRDS), Valleybrook, and Intellectual Property and Technology Transfer. In order for the Research Foundation to facilitate an appropriate organizational infrastructure for the research mission of the University in the future, it is imperative that it reflect a revised vision that displays: a more focused role in support of sponsored and externally funded research; revised by-laws to guide its future; and, the establishment of a new Board of Directors and Executive Director/CEO.

EAST TENNESSEE STATE UNIVERSITY
BOARD OF TRUSTEES

INFORMATION ITEM

DATE: November 13, 2020

ITEM: ETSU Health Update: Ballad MOU and the Coordinating Council

COMMITTEE: Academic, Research, and Student Success Committee

PRESENTED BY: William A. Block, Jr.
Vice President for Clinical Affairs and Dean of Medicine

David Linville
Executive Vice Provost for Academics and Health

The ETSU Ballad MOU provides a set of principles and operating guidelines to support the institutions' strategic relationship and to benefit the respective goals of Ballad, ETSU, and ETSU Health. The joint purpose and objectives of the agreement include:

- Educating and training current and future healthcare providers and related professionals in the region to possess the knowledge, skills, and abilities necessary to improve the health of the people living in the region;
- Improving the health of the region by addressing the leading health determinants and challenges of the region through an integrated and collaborative program of inter-professional education, research, clinical care, and community-based activities;
- Working together to provide, within the region, high quality, affordable, and accessible healthcare across the clinical spectrum and individual lifespan;
- Advancing the understanding of health and disease through research and translating these advances into improved healthcare delivery and effective community health improvement programs;
- Working toward the adoption and development of inter-operability of information, health records, clinical, and research platforms that effect goals set forth in the MOU to ensure clinical, financial and analytical data is available for patient care, research and quality improvement purposes.

A Coordinating Council with senior leadership from ETSU and Ballad ensures close and on-going collaboration, in addition to three sub-councils providing specific oversight in the areas of education, research, and clinical operations. Drs. Linville and Block give an update on the Coordinating Council and activities with Ballad for discussion.