



**Middle Tennessee State University  
Board of Trustees  
Academic Affairs, Student Life, and  
Athletics Committee**

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November 15, 2022  
9:00 am

MEC Meeting Room – 2<sup>nd</sup> Floor  
Miller Education Center  
503 East Bell Street  
Murfreesboro, Tennessee 37130





**Middle Tennessee State University  
Board of Trustees**

**Academic Affairs, Student Life, and Athletics Committee**

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November 15, 2022  
9:00 am

**AGENDA**

Call to Order and Opening Remarks

Roll Call

Approval of Minutes (Action) .....[Tab 1](#)

Approval of Appointment of Chair of Excellence (Action).....[Tab 2](#)

Approval of Degrees under Consideration (Action) .....[Tab 3](#)

    Master of Science in Occupational Innovation and Effectiveness

    Master of Science in Legal Studies

MTSU Online Report (Information) .....[Tab 4](#)

Performance Metrics (Information) .....[Tab 5](#)

Enrollment Report (Information).....[Tab 6](#)

Athletics Report (Information).....[Tab 7](#)

Closing Remarks

Adjournment





**Middle Tennessee State University  
Board of Trustees**

**Academic Affairs, Student Life, and Athletics Committee**

**Action Item**

DATE: November 15, 2022

SUBJECT: **Minutes of the August 16, 2022  
Academic Affairs, Student Life, and  
Athletics Committee Meeting**

PRESENTER: Pam Wright  
Committee Chair

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**BACKGROUND INFORMATION:**

The Academic Affairs, Student Life, and Athletics Committee met on August 16, 2022. Minutes from the meeting are provided for review and approval.



**MIDDLE TENNESSEE STATE UNIVERSITY  
BOARD OF TRUSTEES**

**ACADEMIC AFFAIRS, STUDENT LIFE, AND ATHLETICS COMMITTEE  
MINUTES**

The Academic Affairs, Student Life, and Athletics Committee met on Tuesday, August 16, 2022, in the Miller Education Center Meeting Room at Middle Tennessee State University.

**Call to Order**

Committee Chair Pam Wright called the meeting to order at 9:05 a.m. and asked everyone to pause for a moment of silence to honor fellow Trustee Darrell Freeman.

**Roll Call**

Board Secretary James Floyd called the roll. The following Committee members were in attendance: J.B. Baker, Pete DeLay, Steve Smith, Chris Karbowski, Pam Wright, Rick Cottle, Drew Carpenter, Keith Huber, and Chris Massaro. Trustees Tom Boyd and Joey Jacobs were absent. A quorum was declared.

President Sidney A. McPhee; Mark Byrnes, University Provost; Joe Bales, Vice President for University Advancement; Andrew Oppmann, Vice President for Marketing and Communications; Yvette Clark, Interim Vice President for Information Technology and Chief Information Officer; Deb Sells, Vice President for Student Affairs and Vice Provost for Enrollment and Academic Services; Kathy Thurman, Associate Vice President for Business and Finance; Diane Snodgrass, Interim Chief Audit Executive; James Floyd, University Counsel and Board Secretary; and Kim Edgar, Assistant to the President and Chief of Staff, were also in attendance.

**Approval of Minutes - Action**

The first agenda item was approval of the minutes from the May 24, 2022, Academic Affairs, Student Life, and Athletics Committee meeting. Trustee Karbowski moved to approve the minutes from the May 24, 2022, meeting, and Trustee Delay seconded the motion. A voice vote

was taken, and the motion to approve the minutes from the May 24, 2022, meeting of the Academic Affairs, Student Life, and Athletics Committee passed unanimously.

### **Approval of Expedited Tenure - Action**

Provost Byrnes presented for expedited tenure the recently appointed chair of the Department of Psychology, Dr. Nancy Stone, who began employment at MTSU on August 1, 2022.

Trustee DeLay moved to approve expedited tenure for the candidate. Trustee Baker seconded the motion. A voice vote was taken, and the motion to approve expedited tenure passed unanimously.

### **Tenure Process - Information**

At the Committee's request, Provost Byrnes gave a presentation on the tenure process. Tenure track and tenured faculty are responsible for teaching, research, service, curriculum development, student mentoring, and shared governance, all of which are central functions to the academic mission. Non-tenurable faculty are focused on teaching and are not expected to focus on research or governance.

Policy 204 Tenure details the process. Tenure application is typically made in the faculty member's sixth year of employment at the University after five years of compiling their record of teaching, research, and service achievements in an online platform. The application is reviewed by the faculty member's department chair, department committee, college committee, dean, vice provost, provost, and president before coming to the Board of Trustees for final approval.

Trustee Karbowski asked if the process is audited. Provost Byrnes said that his office looks at every record and how each moved through the process to ensure the recommendation of every level was reported accurately in the online platform. President McPhee added that he and his staff also take time review each record to make sure that the University is not put into a position where there is an issue with the process. The courts defer the decisions for tenure and promotion to the faculty except in cases where processes were not followed.



Trustee DeLay asked how the percentage of tenured faculty has evolved as curriculum changed, and Provost Byrnes responded that it has been stable, between 55-60%, for the last decade and referred to the charts showing percentage tenured from the group hired in Fall 2016 and another slide showing percentage tenured from the group hired 2012-2016. He also showed a graph comparing MTSU to other locally governed institutions.

President McPhee asked Provost Byrnes to discuss the tenure appeals process and the Board's role. Tenure candidates can submit a rebuttal at each level of review up to the dean and can file a formal appeal of the provost's decision to the president. If the candidate is not happy with the president's decision, then they can appeal to the Board of Trustees.

Trustee Baker asked if there was a schedule for the tenure process. Provost Byrnes responded that each Spring his office posts a calendar of the next academic year's tenure review deadlines.

Trustee Wright asked if our percentages are consistent with our peers. Provost Byrnes said we would not know the percentages of candidates achieving tenure at other institutions. President McPhee added that while he was Executive Vice Chancellor at the Tennessee Board of Regents, his office was responsible for the tenure process for all the universities and community colleges, and MTSU was consistent with the other institutions.

#### **Post-Approval Monitoring Report - Information**

Provost Byrnes reminded the Committee that we report to THEC the progress of degree programs for five years after they are approved, and the projected benchmarks are our best estimates provided as part of our new program proposal. Also, there are a variety of steps to be taken when a program does not meet its benchmarks. President McPhee added that we have eliminated programs in the past, and the Board has been notified of those, such as business education.

#### **Enrollment Update - Information**

Vice President Deb Sells distributed a handout and reported that application, admission, and enrollment numbers across the state and country have been unprecedented. Although we are ahead by 25% admitted, we are only 3% ahead for enrolled (freshman) students. Transfer

numbers will be a problem (7.9% down) because of the number of students enrolled in community colleges declined. Overall undergraduate enrollment decreased about 3.27%. Graduate enrollments are suffering due to the current economic and employment situation (10.5% down). We purged fewer students compared to last year. With the Trustee's assistance, \$15,000 was dispersed to 33 students who would have otherwise lost classes.

President McPhee added that we have been the number one transfer institution in the State of Tennessee for 10 to 15 years with about 52% of student enrollment from transfer students, but since community college enrollment has declined, it directly impacts us. The good news is the interest in MTSU seen by the number of applications is historically high, and first-time freshman enrollment is up. We have been discussing corporate partnerships and other initiatives to mitigate the decline in community colleges.

Vice President Sells said we will look at these numbers in retrospect and compare with other schools. Chairman Smith agreed and said he looks forward to seeing numbers from community colleges and other institutions at the next Board meeting. He also asked if we help students who do not qualify for MTSU go to community college. Vice President Sells explained the MTSU Promise agreement we have with eight community colleges.

Trustee Baker asked about campus housing. Vice President Sells said that we provided housing for everyone on waiting lists and continue to work with hardship cases. She added that as the Murfreesboro market is getting tighter, more students are wanting to live on campus.

President McPhee stated that MTSU would have had the same problem as UT if we required freshmen to live on campus, and plans are being developed for additional housing on campus. Recruiting for next year commences tomorrow with the first True Blue Tour.

### **Athletics Report - Information Item**

Athletics Director Chris Massaro shared that last year we graduated 48 student athletes, and five student athletes earned graduate degrees. The NCAA graduation success rate for the last two years has been 93%, and we think we will shatter that school record this year with thanks to the

collaborative efforts of our coaches, student athletes, academic advisors, and tutors. We were the highest ranked finisher in Conference USA for the Learfield Cup, an award based on postseason success. We look forward to the groundbreaking for the new tennis outdoor facility which launches the Build Blue Campaign. At the end of football season, we will break ground on the student athlete performance center. Two other items of interest, the 50<sup>th</sup> anniversary of Title IX celebrating a tremendous history of women's athletics. Also, the 50<sup>th</sup> anniversary of the Murphy Center with celebrations planned.

Trustee Cottle asked how many student athletes MTSU has. Athletics Director Massaro responded approximately 350-400.

Trustee Baker asked about fundraising efforts. Athletics Director Massaro said they had two visits last week, and he is very pleased with the work of the new hires in the department.

### **Adjournment**

Committee Chair Wright adjourned the meeting at 10:07 a.m.

Respectfully submitted,  
Academic Affairs, Student Life, and Athletics Committee





**Middle Tennessee State University  
Board of Trustees**

**Academic Affairs, Student Life, and Athletics Committee**

**Action Item**

DATE: November 15, 2022

SUBJECT: **Appointment of Chair of Excellence  
and Expedited Tenure**

PRESENTER: Mark Byrnes  
Provost

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**BACKGROUND INFORMATION:**

The Robert E. and Georgianna West Russell Chair of Excellence Chairholder is charged with continuous enhancement of the engineering/technology programs; development and maintenance of adequately diversified areas of study to ensure a multidimensional student body in terms of experience, interest, and abilities; active involvement of faculty members in industry programs to ensure the continuous improvement of cutting-edge skills, relevance, and immediacy of the materials they impart to the student body; underscore Middle Tennessee State University as the institution of choice for those wishing to pursue excellence in manufacturing.

Attached for your review and approval is the recommendation by the Dean, Provost, and President to appoint Dr. Ahad Nasab as Chairholder of The Robert E. and Georgianna West Russell Chair of Manufacturing Excellence with expedited tenure.



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**MEMORANDUM**

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**To:** Sidney A. McPhee, President  
Mark Byrnes, University Provost

**From:** Greg Van Patten, CBAS Dean *PGVP*

**Date:** November 1, 2022

**Subject:** Appointment of Dr. Ahad Nasab as Russell Chair of  
Manufacturing Excellence

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With this memo, I formally request the appointment of Dr. Ahad Nasab as Professor and Chairholder in the Russell Chair in Manufacturing Excellence, and I recommend approval of the appointment by the Board of Trustees. The position is a 12-month faculty position, and we would like to offer Dr. Nasab a base annual salary of \$127,000 with a stipend of \$23,000 for as long as he remains the chairholder.

Dr. Nasab earned his Bachelor of Science from California State University, Northridge in Mechanical Engineering and then earned both his M.S. and Ph.D. in Mechanical Engineering at Georgia Institute of Technology. He spent four years as a Postdoctoral Associate and Research Scientist at the University of Tennessee Space Institute Center for Laser Applications. His work there focused on Air Force and Army projects that included electromagnetic railgun launchers, space ion propulsion mechanisms, magneto-plasma dynamics, and laser welding.

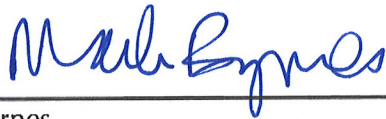
Following his stint at UTSI, Dr. Nasab began a 25-year appointment in the Department of Engineering Technology at MTSU, where he was tenured and eventually promoted to professor. In 2015, Dr. Nasab was recognized for his outstanding performance with the MTSU Excellence in Teaching Award. He served as the inaugural Director of the Mechatronics Engineering B.S. program at MTSU until 2018, when he was appointed Department Head and Burkett Miller Chair of Excellence for the Engineering Management and Technology Department at University of Tennessee, Chattanooga. During his time at UTC, Dr. Nasab has also served as a member Cranston Pearce Center, whose mission is to provide management and technology consulting services to public and private organizations within the region.

Dr. Nasab has published more than 30 refereed journal articles and conference proceedings. He has consulted or served as technical advisor for numerous organizations,

including NASA Marshall, Mahle/Tennex, Nissan, Bridgestone, Volkswagen, Siemens Technical Academy, QualFab, Calsonic Kansei, and Power Avenue Corporation. Dr. Nasab's connections and experience working with the manufacturing sector, will provide an excellent foundation for the next Russell Chair of Excellence. This experience will allow him to serve as a mentor and example for the Engineering Department's junior faculty members whom he has expressed a desire to assist in establishing similar connections of their own.

I encourage you to approve Dr. Nasab's appointment as Professor and Chairholder in the Russell Chair in Manufacturing Excellence and to send it forward to the MTSU Board of Trustees.

APPROVED:

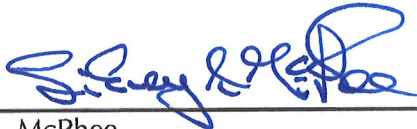


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Mark Byrnes  
University Provost

11-3-22

Date



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Sidney A. McPhee  
President

11/4/22

Date



# Ahad S. Nasab

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## Education

Post-Doc	Applied Physics	UTSI- Center for Laser Applications	1987 - 1991
Ph.D.	Mechanical Engineering	Georgia Institute of Technology	1987
M.S.	Mechanical Engineering	Georgia Institute of Technology	1981
B.S.	Mechanical Engineering	California State University, Northridge	1980

## Research Interests

Industry 4.0, Mechatronics in Healthcare, Collaborative Robotics, Laser processing of ferrous and non-ferrous alloys. Thermodynamic studies of space propulsion devices. Radiative and transport properties of high-temperature gases.

## Professional Experience

### **Burkett Miller Chair of Excellence**

University of Tennessee, Chattanooga, 2018 - present

As the chairholder, I assist the UTC community in understanding the importance of technology; identifying and nurturing the development of technology; and assisting with the transfer of that technology to the marketplace in ways which foster economic development. I have developed working relationship with numerous major manufacturers in different sectors such as Volkswagen, Gestamp, TVA, McKee Foods, Branch Technology, Wright Brothers, Brozelco, Fillauer Orthotics, and others. These relationships result in research projects, lectureships assistantships, and donations.

I have designed and created the first fully equipped 'MakerSpace' called Collaboratory at the UTC College of Engineering and Computer Science.

### **Director, Pierce Cranston Center**

University of Tennessee, Chattanooga, 2018 - present

The Cranston Pearce Center for Applied Engineering serves its clients in a comprehensive manner by drawing upon the talents of faculty, students, and associates in many disciplines. Services are provided on a contracted basis, either short-term or long-term. Such activity may be in the form of training, research and development, operational support, testing, report preparation, marketing, or organization development. We work with many companies that provide training and research services to manufacturers and service providers as a team to make sure Chattanooga stays the hub for manufacturing and transportation in the Southeast region. Peak Performance Inc. is one of the latest additions to the portfolio of this center.

### **Chair, Department of Engineering Management & Technology**

University of Tennessee, Chattanooga, 2018 - present

As the Chair of the department which houses Engineering Management, Construction Management, and Mechatronics Technology, I oversee the staff of 19 faculty and \$1.1M operating budget. I founded the Mechatronics Technology BAS program at UTC which aligns well with AAS programs at Tennessee community colleges. As of today, I have initiated nine articulation agreements with TN community colleges while expanding the Mechatronics program from 5 students to

90 students in two years with the addition of more than \$500K in lab equipment for this program. While many colleges and program enrollment were adversely affected by COVID, my department has grown from 160 students to 360 students during the past two years. We have doubled the production of student credit hours with no additional faculty lines added to the department. The department has increased its online course offering by 300% making it one of the most popular programs for working individuals.

### **ABET Program Evaluator – Mechanical Engineering (EAC) and Mechanical Engineering Technology (ETAC) – 2019-present**

#### **Director, Mechatronics Engineering**

Middle Tennessee State University, 2013 – 2018

As a founding member and the director of the Mechatronics Engineering degree program at MTSU, I was involved in writing the initial proposal for establishment of the program, designing all the courses (20+) in the program, hiring five new faculty for the program, and establishing strong industry relationships for monetary and employment support. I trained new faculty on Systems Approach teaching methods, obtained Level 3 Siemens Mechatronics certification for the program, designated MTSU as the international Siemens Level 3 teacher training center starting 2018, prepared students to take FE exam (100% passing rate in 2018), initiated and implemented all processes necessary for a successful ABET EAC review process (ABET visit found NO deficiencies or weaknesses), advised and mentored all students (300+) enrolled in the program, mentored all the Mechatronics faculty, scheduled the courses/labs for all courses in Mechatronics, and secured NSF scholarship grants (\$614 K) for freshmen in Mechatronics. I took a group of students to Siemens Technical Academy every summer, showcased MTSU Mechatronics program in many National, State, County, and local events, continuously modified and improved the courses, worked with other departments (Physics, Computer Science, and Math) to establish courses suited for Mechatronics students, received nearly \$1M in equipment and facilities, and placed 100% of our graduates in Automation Industry in Middle Tennessee area and other States.

#### **Coordinator/Professor, Mechanical Engineering Technology**

Middle Tennessee State University, 2000 – 2013

#### **Coordinator/Professor, Electromechanical Engineering Technology**

Middle Tennessee State University, 1995 - 2000

#### **Technical Director**

Power Avenue Corp, 2005 – 2010

Power Avenue Corp was involved in designing and marketing PEM type hydrogen fuel cells. As the technical director of the company, I was responsible for patent management, legal protection of patents, communication with the company scientists and the prototype facilities, in Schwabach, Germany, and helped with technical content of company literature.

#### **Research Scientist**

UT Space Institute, 1987 – 1991

I served as a research scientist at the Center for Laser Applications of UTSI. I worked on many advanced Air Force and Army projects such as Electromagnetic Railgun launchers, Space Ion propulsion, Magneto-Plasma Dynamics (MPD), and Laser Welding.

### **Instruction Areas**

Over the last 30+ years, I have taught many courses in the Mechanical, Electro-mechanical, and Mechatronics areas at UTC, MTSU, and UT Space Institute. The following is a partial list of courses taught at both graduate and undergraduate levels.

Methods of Research (graduate)  
Analytical Methods in Engineering Technology (graduate)  
Mechanical and Electrical Systems in Construction  
Engineering Fundamentals  
Engineering Design  
Statics / Dynamics / Mechanics of Materials  
Electrical Circuits / Digital Circuits  
Fluid Mechanics / Fluid Power  
Kinematics and Machine Design  
Environmental Control and Design  
Thermodynamics / Heat transfer  
Robotics

### **TEACHING AWARD – 2015 MTSU Excellence in Teaching Award**

#### **Engineering Consulting / Advising / Services**

State of Tennessee – Department of Education – Mechatronics, 2016-2021

As a member an advisory group of Mechatronics experts, we are helping the TN DOE design Mechatronics curriculum tracks for Tennessee high schools. This involves course content design as well as developing assessment tools.

Siemens Technical Academy – Mechatronics Certification, 2014 - 2018

I worked with Siemens Technical Academy to define and refine the Level 3 certification content and exam. I have been working with other U.S. universities to help them establish Mechatronics programs at the bachelor degree level.

Motlow State Community College, Mechatronics Advisory Board member, 2015 - present

Chattanooga State Community College, Mechatronics Advisory Board member, 2018 - present

Cleveland State Community College, Mechatronics Advisory Board member, 2019 – present

UTC – member of Chattanooga Mayor Workforce Development Taskforce

UTC – Provost’s AdHoc Committee on Faculty Evaluation

UTC – Chancellor’s COVID Taskforce

UTC – Faculty in Residence

NASA Marshall, 2004

I was selected by NASA to participate in the ASEE summer faculty internship program at NASA Marshall, in Huntsville, AL. My research project involved using Excimer lasers to extract elements from Martian soil. I Later collaborated with NASA Marshall on Friction Stir Welding

Mahle/Tennex Industries, 2001 (7 months)

As the first faculty intern in industry, I worked at Mahle filtration for two semesters to help the company with engineering and process flow problems. I designed an entirely new 60-ft long stacking/de-stacking system to significantly impact the level of work-in-progress. I also designed an injection mold change-over system. The stacker system has already been duplicated at more than 20 locations in Murfreesboro, Troy, and Santa Catarina, Mexico.

QualFab Supply Co., March 2003

Studied the viscosity of a certain brand of paint and its flow through a new roller. Modelling and experimentation were conducted, and a report was submitted.

Calsonic Kansei, 2003 – 2007

Consulting on manufacturing process of condenser units and automotive A/C systems.

### **Member of the Following Professional Societies**

American Society of Mechanical Engineers – ASME, Associate Member  
American Society of Heating Refrigeration and A/C Engineers – ASHRAE  
Institute of Electrical and Electronics Engineers – IEEE  
American Institute of Aeronautics and Astronautics – AIAA  
American Society for Engineering Education – ASEE

### **External/Internal Funding – Research, Equipment, Education, Scholarship**

*The following is a list of funded grants that I have been involved in as PI, Co-PI, or a major contributor.*

Radiative Properties of Non-LTE Plasmas, National Science Foundation, 12/83 – 6/86, \$155,185  
Laser Thermal Propulsion, AFSOR, 9/86 – 8/89, \$283,337  
Experimental and Theoretical Studies of Arcs in Railguns, US Army, 9/86 – 8/89, \$1,659,965  
Laser Welding of Inconel, CASP, 4/89 – 8/90, \$50,000  
Picosecond Laser Breakdown Thresholds in gases, Air Force Office of Scientific Research, 9/89 – 1/91, \$452,714  
SSME Path Leak Detection, NASA, 11/89 – 1/92, \$259,200  
Railgun Plasma Armatures, US Army, 12/89 – 8/92, \$2,160,853  
Arc-jet Space Thrusters, NASA, 3/90 – 9/92, \$125,000  
A Novel Technique for Establishing a New Scale for Argon Transition Probabilities, MTSU Foundation, \$3,085  
Non-Equil. Transport Properties of Multi-Comp. Plasmas, MTSU Foundation (MTSU-F), 6/92 – 9/92, \$4,250  
Welding of Inconel Super-alloy: Effect of Pulse Duty Cycle, MTSU-F, 11/92 – 8/93, \$2,174  
Application of Monte-Carlo Radiation Heat Transfer to Propulsion Thrusters, MTSU-F, 6/94-9/94, \$4,508  
Transport Properties of Hydrazine for Propulsion, MTSU-F, 6/93 – 9/93, \$4,250  
Image Transform of Arc Plasma and Laser Sustained, MTSU-F, 6/95-9/95, \$4,782  
Technology Tools for Engineers of the Future, MTSU-F, 6/97-10/97, \$5,123  
NSF CSEM (with others in CSCI, Math, and ET&IS), NSF, 9/99 – 9/01, \$100,000/yr  
NASA Summer faculty fellowship, NASA-MSFC, 6/04-9/04, \$15,000  
Friction Stir Welding of Aluminum, NSF, 6/07 – 9/07, \$20,000  
Hydrogen Fuel Cell – Silicon as fuel (STEPMT), 6/08 – 9/08, \$20,000  
Radial Impact Excavation System – not funded, NASA, 2009, \$99,700  
Lunar Excavation System Feasibility studies, NASA Space Grant, 2009 – 2011, \$30,000  
FirstSTEP – Wheel-hub motor power management, NSF, Summer 2012, \$30,000  
FirstSTEP – Feasibility Study of communications in robotics, NSF, Summer 2013, \$30,000  
FirstSTEP – Mechatronics - System's Approach, NSF, Summer 2014, \$30,000  
Special Projects Award – Robotino, MT-Foundation, 9/2014, \$16,500  
S-STEM Mechatronics Scholarships, NSF, 4/2015 – 4/2018, \$614,000  
FirstSTEP – Mechatronics - 3 DOF Delta Robots, NSF, Summer 2015, \$30,000  
Improving Fundamental courses in Engineering, TBR, 2015-2016, \$43,000  
Technology Access Fee – Process Automation Module, M-TAF, 6/2015, \$150,000

Tennessee Board of Architectural and Engineering Examiners, TBAEE, 6/2016, \$15,000  
Tennessee Board of Architectural and Engineering Examiners, TBAEE, 6/2017, \$16,000  
Corner Stone Automation Systems- VA Healthcare, VA Health, 1/2018, \$30,000 Pending  
Siemens Technical Academy – Level 3 Workshop, Siemens, 1/2018, \$75,000, Pending  
S-STEM Scholarship – Mechatronics – Extension, NSF, 4/2018-4/2019, \$125,000

#### **UT- Chattanooga**

- 1) “Utilizing a Musculoskeletal Model for EMG Controlled Balance Platform for Low Back Pain Rehabilitation.” RESTORE CENTER PILOT PROJECT PROGRAM, Stanford University (SU) , October 1, 2020 Principal Investigator: Erkan Kaplanoglu, Investigators: Misagh Mansouri Boroujeni, Ahad Nasab. (Not funded)
- 2) “Design and Control of Tire Recycling Machine” Tennessee Department of Environment and Conservation Lead Principal Investigator: Erkan Kaplanoglu Principal Investigator : Ahad Nasab September 5, 2021 (Not funded)
- 3) “Design and Control of EMG Supported Pneumatic Actuated Balance Board” Biomedical Research Initiation Collaborative Program (BRIC), University of Tennessee Chattanooga and the Erlanger/UTCOM Lead Principal Investigator: Erkan Kaplanoglu Principal Investigators: Ahad Nasab, Max Jordon, Jeremy Bruce (Funded: \$23,000) (January 2020)
- 4) Collaborative Research: Integrating Tomorrow’s Technology into today’s Mechatronics Education: \$200,000, NSF, under review
- 5) Collaborative Research: Establishment of a Certification Exam in Tennessee for the Occupation Mechatronics Technician: \$288,000, NSF, not-funded.

#### **Publications** - in Refereed Scientific and Technical Journals and Conference Proceedings

Ulkir, O., Akgun, G., Nasab, A., & Kaplanoglu, E. (2021). Data-driven predictive control of a pneumatic ankle foot orthosis. *Advances in Electrical and Computer Engineering*, 21(1), 65-74.  
doi:<http://dx.doi.org/10.4316/AECE.2021.01007>

Kaplanoglu, E., Nasab, A., Jordon, M., Bruce, B., Young, M., and McDowell, J., "The Real-Time Control of An Active Balance Board with An EMG Monitoring System For Rehabilitation". *ReSEARCH Dialogues Conference proceedings*. <https://scholar.utc.edu/research-dialogues/2021/presentations/2>. April 12, 2021

Kaplanoglu, E., Nasab, A., Erdemir, E., Young, M., Dayton N., “Hand Gesture Based Motion Control of Collaborative Robot in Assembly Line” 7th International Conference on Engineering and Emerging Technologies (ICEET 2021) 27-28 October 2021

Kaplanoglu, E., Nasab, A., Max J., Jeremy, B., “ A Study for Rehabilitation Robotics for Lower Back Pain Prevention” CRMA Environment, Health & Safety Summit November 3, 2021

E. Mohamed, K. H. Tantawi, A. Pemberton, N. Pickard, M. Dyer, E. Hickman, K. Thompson, E. Kaplanoglu, A. Nasab, “[Real Time Gesture-Controlled Mobile Robot using a Myo Armband](#)” , Proceedings of the 2nd African International Conference on Industrial Engineering and Operations Management, Harare, Zimbabwe, December 7-10, 2020

L. Miao, A. Nasab, W. Boles, “An Indoor Bocce Game Played by Autonomous Robots”, Proceedings of Annual ASEE Conference, Columbus, OH, 2017

V. Bedekar, A. Nasab, W. Boles, "Improvements in Learning Experience by Adopting Student-Centered Teaching Practices", American Society of Engineering Education Annual Conference, Seattle, WA 2015

A. Nasab, F. Shahrokhi, R. Guarnaccio, "Hydrogen Fuel Cells - Applications", Proceedings of the Low Carbon Earth Summit, LCES 2011, Dalian, China, 19-26 Oct 2011.

A. Nasab, M. Manchuz, "Pulsejet Propulsion System Revisited", American Society of Engineering Education Annual Conference, Pittsburgh, PA, 2008

W. Abrha, A. Nasab, "Application of Lean and Six Sigma to the Healthcare Industry", American Society of Engineering Education Annual Conference, Pittsburgh, PA, 2008

F. Shahrokhi, A. Nasab, R. Guarnaccio, "Building Hydrogen Economy Based on Sand and Water", Proceedings of the International Hydrogen Congress and Exhibition, IHEC 2007, Istanbul, Turkey, 13-15 July 2007.

A. Nasab, S. Kaparthi, "Infrared Communication for Controlling a Robot", Proceedings of the ASEE Annual Conference and Exposition, Honolulu, HI, June 2007

A. Nasab, "In-situ Resource Utilization of Martian Soil to Extract Basic Elements", Final Technical Report, Science Directorate, NASA-Marshall, Huntsville, AL 2004

A. Nasab, "Merits of Faculty Internship in Industry", Proceedings of ASEE Annual Conference and Exposition, Nashville, TN, June 2003

A. Nasab, W. Boles, "Learning Robotics through Participation in National Design Contests", Proceedings of ASEE-SE Annual Regional Conference, Macon, GA, April 2003

A. Nasab, F. Foroudastan, "Faculty Internship in Industry", Journal of Industry and Higher Education, p. 367-369, Oct. 2001.

A. Gutow and A. S. Nasab, "Flexor Tendon Repairs Augmented with Internal Dermal Splints", 52nd Annual Meeting – American Society for Surgery of the Hand. 1998

A. Nasab, M. K. Mathis, and D. Stucky, "University Cogeneration Initiative as a Class Project Opportunity", Proceedings of the ASEE Annual Conference and Exposition, Milwaukee, WI. June 1997

A. Nasab, M. K. Mathis, and D. Stucky, "Lighting Energy Auditing", Proceedings of the ASEE Annual Conference and Exposition, Milwaukee, WI. June 1997

W. Ruyten, A. Sedghinasab (Nasab), T. Moeller, D. Keefer, R. Rhoads, "Comparison of Experimental and Numerical Results for an Argon Arcjet", Proceedings of the 28th Joint Propulsion Conference, AIAA 92-3105, July 1992.

D. Keefer, A. Sedghinasab (Nasab), N. Wright, and Q. Zhang, "Laser Propulsion Using Free Electron Lasers", AIAA Journal, Vol. 30, No. 10, p. 2478, 1992.

R. Crawford, D. R. Keefer, and A. Sedghinasab (Nasab), "Railgun Hybrid Armatures, Experimental Results and Performance Characteristics", IEEE Transactions of Magnetics, Vol. 27, No.1, p. 240, 1991.

D. R. Keefer, A. Sedghinasab (Nasab), and R. Crawford, "Simultaneous In-Bore Rail and Insulator Spectra from a Railgun Plasma Armature", IEEE Transactions on Magnetics, Vol. 27, No.1, p. 217, 1991.

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**Middle Tennessee State University  
Board of Trustees**

**Academic Affairs, Student Life, and Athletics Committee**

**Action Item**

DATE: November 15, 2022

SUBJECT: **Approval of Degrees Under Consideration  
MS, Occupational Innovation and Effectiveness  
MS, Legal Studies**

PRESENTER: Mark Byrnes  
Provost

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**BACKGROUND INFORMATION:**

Per THEC Policy A1.0 New Academic Programs: Approval Process, “Prior to submitting a letter of notification to THEC, an institution must have received institutional governing board approval of the proposed program” (see A1.0.5A Institutional Governing Board Approval). The following academic programs are under consideration. Pending the approval of the governing board and results of feasibility studies, the university may submit a Letter of Notification to THEC.

**Master of Science in Occupational Innovation and Effectiveness**

Housed in University College at Middle Tennessee State University, this 30-hour online program will allow for credentialed professional development at the graduate level. Students will select three, 9-hour focus areas from a variety of options such as Leadership, Operations Research (Analytics/Survey), Diversity in the Workplace, and other similar topics vital to today’s workplace environment. The program’s director will consult with faculty, businesses, non-profits, and others to keep focus blocks current and to match them with industry needs.



Courses for the MS, Occupational Innovation and Effectiveness will be offered during 6-week terms each semester, allowing for maximum flexibility for professionals who may want to take one class at a time while earning multiple credits during the time of a traditional 16-week semester. At the culmination of the program, students will complete a 3-hour capstone which will allow them to reflect upon the new skills they have mastered and implement the skills into their professional portfolio.

### **Master of Science in Legal Studies**

The College of Media and Entertainment and the Jones College of Business at Middle Tennessee State University (MTSU) are seeking to create a Master of Science in Legal Studies (MSLS) in partnership with the Nashville School of Law (NSL). The program would be composed of three tracks: General Business; Compliance; and Entertainment.

The degree, to be awarded by MTSU, will consist of 30 credit hours, 12 of which will be completed and transferred from NSL. The MSLS is a degree for mid-level professionals working in detail-oriented fields (i.e., banking and financial services, entrepreneurship, consulting, entertainment) who seek formal knowledge related to contract formation, litigation, and employment law, as well as other upper-level specialized materials. The MSLS is not recommended for prospective or existing lawyers.

According to a feasibility study conducted by Hanover Research for MTSU, promising demand trends in the Southeast region indicate that this program is viable. The degree program will physically be located on the campus of NSL. Details related to tuition and fees, financial aid, faculty workload, etc., will be detailed in the longer degree proposal and a memorandum of agreement or similar document. Local authorization will allow MTSU staff to take steps needed to ensure compliance with all SACSCOC accreditation standards.





**Middle Tennessee State University  
Board of Trustees**

**Academic Affairs, Student Life, and Athletics Committee**

**Information Item**

DATE: November 15, 2022

SUBJECT: [MTSU Online Report](#)

PRESENTER: Mark Byrnes  
Provost

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**BACKGROUND INFORMATION:**

An overview of MTSU Online programs and courses.





**Middle Tennessee State University  
Board of Trustees**

**Academic Affairs, Student Life, and Athletics Committee**

**Information Item**

DATE: November 15, 2022

SUBJECT: **Performance Metrics**

PRESENTER: Mark Byrnes  
Provost

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**BACKGROUND INFORMATION:**

The annual update of MTSU Performance Metrics.





**FLUID**

**APPLICATION/ADMISSION ACTIVITY**

	YTD	YOY	3-yr Goal
Freshman applications received for Fall 2022	12,996	14.62%	1%/year
Freshmen admitted for Fall 2022*	9,432	20.61%	1%/year
<i>*Note: The number of admitted students withdrawing submitted applications was down by 157 students, a decrease of 12%.</i>			
Transfer applications received for F		-8.06%	1%/year
Transfer students admitted for Fall 2022		-7.99%	1%/year
Graduate applications received for Fall 2022	2,135	-6.2%	33%
Graduate students enrolled for Fall 2022	2,648	-10.7%	33%

**ATHLETICS**

	FY 2021	FY 2022	Goal
BRAA giving	\$1,048,029	\$1,058,745	\$1.25M by 2023
Total giving	\$2,124,935	\$8,853,961	\$5.5M by 2023

**ATHLETICS**

	FY 2019	FY 2020	FY 2021
Football attendance	14,253	5,833*	12,351
Men's basketball attendance	3,453	903*	3,502
Women's basketball attendance	3,571	291*	3,189
<i>*Covid-19 restrictions in place</i>			

**MARKERS**

**ENROLLMENT**

	Fall 2020	Fall 2021	Fall 2022	3-yr Goal
Full-time equivalent enrollment	17,900	16,805	16,076	1%/year
Total headcount	22,080	20,857	20,086	1%/year
Freshmen enrolled	3,075	2,738	2,779	1%/year
Transfers students enrolled	1,879	1,752	1,604	1%/year
Avg. ACT score of entering class	23.23	22.87	22.74	N/A
Avg. high school GPA of entering class	3.59	3.64	3.63	N/A

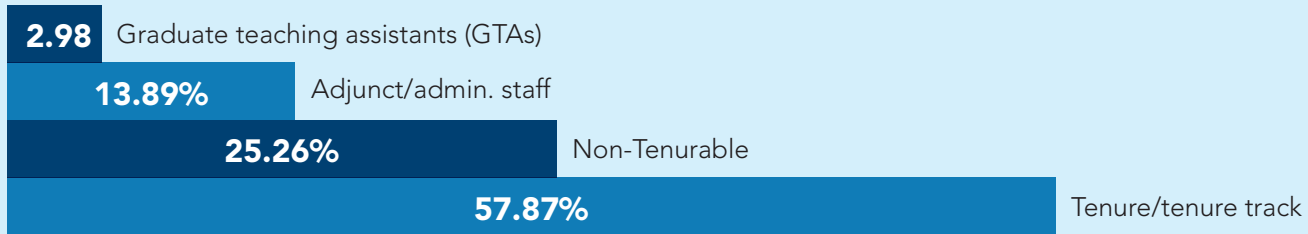
**ACADEMICS**

	AY 2019-20	AY 2020-21	AY 2021-22	5-yr Goal
Six-year graduation rate	57.4%	59.2%	59.8%	60% by 2025
<b>Degrees awarded</b>				
Bachelor's	4,039	3,916	3,783	N/A
Master's/Education Specialist	783	722	874	N/A
Doctoral	56	46	51	N/A
Research, Service, Sponsored Programs	\$10,308,370	\$11,752,201	*	\$11,219,300
<i>*Note: Data comes from THEC and is not yet available.</i>				

	Fall 2020	Fall 2021	Fall 2022	5-yr Goal
Freshman retention	78.4%	74.1%	75.7%	80% by 2025
Graduate retention	85.8%	82.0%	84.4%	87% by 2025

## ACADEMICS (CONTINUED)

Credit hours taught by faculty type



## TUITION AND DEBT

Undergraduate tuition (12 credit hours)	FY 2021	FY 2022	FY 2023
MTSU	\$3,600	\$3,672	\$3,672
University of Tennessee	\$5,666	\$5,666	\$5,666
University of Memphis	\$4,104	\$4,176	\$4,176
Graduate tuition (9 credit hours)			
MTSU	\$4,473	\$4,698	\$4,698
University of Tennessee	\$5,734	\$5,734	\$5,734
University of Memphis	\$4,608	\$4,689	\$4,689
% of Pell-eligible students	Fall 2019	Fall 2020	Fall 2021
MTSU	43.6%	49.1%	48.8%
University of Tennessee	27.5%	29.4%	27.6%
University of Memphis	45.5%	50.0%	50.0%
	May 2020	May 2021	May 2022
Avg. debt of MTSU undergraduates at graduation	\$24,305	\$23,256	\$23,542
% of undergraduates with debt at graduation	56%	53%	51%

## ATHLETICS

	Cohort 2013	Cohort 2014	Cohort 2015
Graduation Success Rate	92%	93%	94%
Academic Progress Rate	968	983	988
Total revenues	FY 2020	FY 2021	FY 2022
MTSU	\$34.8M	\$31.2M	\$36.0M
Conference USA (Rice didn't release info)	\$35.05M	\$32.34M	N/A
Institutional support (% of total)			
MTSU	34%	34%	34%
Conference USA (Rice didn't release info)	26%	28%	N/A
Private support (% of total)			
MTSU	5%	3%	5%
Conference USA (Rice didn't release info)	11%	10%	N/A

## ADVANCEMENT

	FY 2020	FY 2021	FY 2022
Number of donors	7,607	6,701	7,615
Total annual support	\$10,797,630	\$11,063,633	\$17,225,172
	1-year	10-year	20-year
Investment return as of June 2022	-9.1%	+7.6%	+6.9%



**Middle Tennessee State University  
Board of Trustees**

**Academic Affairs, Student Life, and Athletics Committee**

**Information Item**

DATE: November 15, 2022

SUBJECT: **Enrollment Report**

PRESENTER: Deb Sells  
Vice President for Student Affairs and  
Vice Provost for Enrollment and Academic Services

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**BACKGROUND INFORMATION:**

Deb Sells, Vice President for Student Affairs and Vice Provost for Enrollment and Academic Services, will provide an overview of Fall 2022 freshman and transfer enrollment.





**Middle Tennessee State University  
Board of Trustees**

**Academic Affairs, Student Life, and Athletics Committee**

**Information Item**

DATE: November 15, 2022

SUBJECT: **Athletics Report**

PRESENTER: Chris Massaro  
Athletics Director

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**BACKGROUND INFORMATION:**

Athletics Director Chris Massaro will provide an update on Middle Tennessee Athletics including the latest Academic Progress Rate (APR).