Program Review (12-11-2020)
UW-Green Bay Electrical Engineering Technology

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The **Electrical Engineering Technology BS** is part of the **Resch School of Engineering**, housed in the **College of Science, Engineering, and Technology** led by **Dean John Katers**.

General and Overview

1. Describe your program's most significant opportunities and significant challenges. (Narrative)

One of the Electrical Engineering Technology program's most significant opportunity is the plan to work with NWTC and offer the BS on the UW-Green Bay Marinette campus. With companies like Fincantieri Marine, a major shipbuilder that was recently awarded a contract from the US Navy to build the constellation class guided missile frigate in Marinette, there will be employment opportunities for engineering disciplines for the next decade and beyond. Fincantieri is very enthusiastic about partnering with UW-Green Bay and NWTC's existing technical associate degree programs to offer the Electrical ET degree in Marinette.

The Green Bay campus's best opportunity is to continue growing the number of majors that serve the needs of the surrounding manufacturing community and to reinforce this by adding the Electrical Engineering BS starting this fall. This new major will likely cause an initial decrease in the number of Electrical Engineering Technology students, but over the next few years the numbers will re-balance.

The Electrical Engineering Technology program's most significant challenge is resources. We currently have two tenured faculty and one full time lecturer, but this is not enough to cover the curriculum on the UW-Green Bay campus and we require overloads and ad-hocs. UW-Green Bay is also phasing in an Electrical Engineering BS on the UW-Green Bay campus in the fall 2021 semester. To fully support these programs on the Green Bay campus will require at minimum two additional Electrical Engineering faculty lines. At least one more full-time engineering position will be needed on the Marinette campus. If the collaboration with NWTC works as planned, not much additional lab equipment will be needed. But, several years ago, NWTC Green Bay campus's collaboration with UWGB's Engineering Technology programs did not work as anticipated, so we had to identify lab space and purchase equipment to run all of our labs on the Green Bay campus. If this history repeats itself, significant funds (on the order of at least $70,000) will be needed to purchase equipment and adequate lab spaces on the Marinette campus will have to be identified. In addition, adding new engineering programs increases the demand for Mathematics. Due to the departure of the only tenure track Math faculty member we had in Marinette, there are currently inadequate math faculty there to cover growing programs. Electrical Engineering Technology students will also require one semester of Physics and there are no Physics faculty in Marinette.

2. What are some things that would help make your program and its students more successful? (Narrative)

   There is an already funded plan to expand the Electrical Engineering labs on the Green Bay campus to support the planned Electrical Engineering BS and these new lab spaces will serve the Engineering Technology majors very well. So, what we really need are additional faculty to fully staff the existing major and the new Electrical Engineering major. In addition, some returning adult students might benefit from evening classes, but with the majority of our students being traditional (high school to university), who prefer day time classes, we would need to offer more than one section of many classes and we lack the resources to do so. Many of our students would also benefit from additional tutoring in Mathematics, Physics, Chemistry, and fundamental Engineering classes.

3. What are some program accomplishments worth highlighting? (Narrative)

   Only three years after its launch, the Electrical ET program had its first graduate in May 2017. Since then, there have been twenty-six program graduates with 100% success in job placement and one student accepted into a PhD program in Electrical Engineering. Dr. Maruf Hossain was awarded the UW System Innovator of the Year Award in 2019 for his work in vertical axis wind turbine systems. In addition, there are thirteen industry funded scholarships that are awarded to Engineering Technology students annually.

4. Have there been any significant changes that have affected your program? (Narrative)

   UW-Green Bay will launch a BS in Electrical Engineering in the fall 2021 semester and we anticipate that this will be accompanied by an initial decline in Electrical Engineering Technology majors. This decline is expected to stabilize over a few semesters when students who find four semesters of Calculus daunting, switch back to Electrical ET, which requires just two semesters of Calculus. There will always be flux between the two degrees. The curriculum is also in the process of major revision, which is discussed below.

5. Where do you want your program to be 5 to 7 years from now? (Narrative)

   In five years, we would like the ElecET program to sustain at least sixty majors at either UWGB's Green Bay campus or Marinette campus. We also plan to continue our transfer relationship with NWTC, FVTC, and other regional technical colleges to offer the Associate to BS completion option. We will continue to work with regional industries to offer internship and post-graduate employment for students. We are currently in the process of applying for ABET accreditation with a site visit planned for September 2021 and accreditation granted in Spring 2022. This latter was pushed back a year by ABET due to concerns of conducting a site visit in Fall 2020 during the pandemic. In five years, we also plan to have a BS in Electrical engineering with at least 100 majors and within seven years preliminary discussion of starting a graduate program in Electrical Engineering.

Demand

All data in this area is provided with the materials. (Graduates, majors, minors, etc.) This space is for any commentary you would like to apply to that material. (Narrative)

Internal

1. Program goals (Mission, vision, learning outcomes; present as narrative/lists)

The **Electrical Engineering Technology** program has the **Student Learning Outcomes** listed below. These are determined by ABET, the accreditation agency for engineering programs. Each of these outcomes is assessed annually in an upper level required course and an annual review of this assessment drives curricular changes in the lower level curriculum.

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
2. an ability to design systems, components, or processes meeting specific needs for broadly-defined engineering problems appropriate to the discipline;
3. an ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. an ability to function effectively as a member as well as a leader on technical teams.

The **Electrical Engineering Technology** also has the following **Program Educational Objectives**, which are what we want students to have achieved within five years of graduation:

1. Program graduates will secure and maintain employment in appropriate EET positions industry-wide and perform all functions assigned to an electrical engineering technologist.
2. Graduates will apply their knowledge of mathematics, science, engineering technology, and computing to identify, analyze, and solve problems pertaining to design, development, and implementation of electronic systems.
3. Graduates will exhibit a desire for life-long learning through higher education, technical training, teaching, membership in professional societies, and other developmental activities and will achieve positions of increased responsibility through these activities.
4. Graduates will demonstrate high levels of oral and written communication skills, critical thinking, responsibility and ethical behavior, teamwork and appreciation for diversity, and leadership in their careers.

2. Curriculum development (Lists, brief narrative if appropriate)

The Electrical Engineering Technology program is in the process of significant curricular revision. The current and proposed curricula are given below. The number of required credits increased by a total of four. The new curriculum separates the lecture and lab components of the Electrical Circuits 1 and 2 courses and shifts them from a freshman fall/spring to a freshman fall/sophomore spring periodicity. ET 206, Chemistry for Engineers will now be required to promote student success in the Fundamental of Engineering exam required for professional license, but Physics 104/202 will not be required as the material is redundant to material learned in ENGR 348, Electromagnetic Fields and Applications and other courses. The lab components of several other courses (Electronic Devices, Digital Electronics, and Microcontrollers and PLCs) have also been separated from the lecture component. The revised curriculum allows students to complete 3 elective courses.

Current Electrical ET curriculum	New Electrical ET curriculum
ET 101 Intro. To ET (2 cr)	ET 101 Intro to ET (2 cr)
ET 105 Fundamentals of Drawing (3 cr)	ET 105 Fund of Drawing (3 cr)
ET 130 Basic Electrical Circuits I (3 cr)	ENGR 120 Elec Circuits I (3 cr)
	ENGR 121 Elec Circuits I lab (1 cr)
ET 131 Basic Electrical Circuits II (3 cr)	ENGR 210 Elec Circuits 2 (3 cr)
	ENGR 211 Elec Circuits 2 lab (1 cr)
ET 142 Introduction to Programming (3 cr)	ET 142 Intro to Programming (3 cr)
ET 150 Codes, Safety, and Standards (2 cr)	ENGR 224 Elec Codes, Safety, Stand (2 cr)
ET 232 Semiconductor Devices (3 cr)	ENGR 222 Electronic Devices (3 cr)
ET 233 Linear Circuits (3 cr)	ENGR 223 Elec Devices lab (1 cr)
ET 240 Microcontrollers & PLCs (3)	ENGR 328 Microcontrollers and PLCs (3 cr)
	ENGR 329 Microcon. And PLC lab (1)
ET 250 Signals and Systems (3 cr)	ET 250 Cont. Signals and Linear Sys. (3 cr)
ET 311 Digital Electronics (3 cr)	ENGR 310 Digital Logic Design (3 cr)
	ENGR 311 Dig. Logic Design lab (1 cr)
ET 324 Motors and Drives (3 cr)	
ET 340 Advanced PLCs (3 cr)	ET 340 Advanced PLCs (3 cr)
ET 342 SCADA (3 cr)	ET 342 SCADA (3 cr)
ET 344 Ind. Electronics and Control (3 cr)	ENGR 424 Power Electronics (3 cr)
ET 346 Electric Power Systems (3 cr)	ENGR 346 Electric Power Systems (3 cr)
ET 348 Electromag. Fields and Apps (3 cr)	ENGR 348 Electromag Fields and Apps (3 cr)
ET 350 Data Comm. and Protocols (3 cr)	ET 350 Data Comm. and Protocols (3 cr)
ET 360 Project Management (3 cr)	ET 360 Project Management (3 cr)
	ET 206 Chemistry for Engineers (4 cr)
	ENGR 320 Energy Conversion (3 cr)
	ENGR 321 Energy Conversion lab (1 cr)
ET 400/ET 410 Internship/capstone (3 cr)	ET 400/ET 410 Internship/Capstone (3 cr)
ET/ENGR/Math electives (7 cr total)	3 ET/ENGR electives* (9 cr total)

*ENGR 414 Power System Analysis and Protection, ENGR 402 Advanced Technologies in Smart Cities, ENGR 415 Solar and Alternate Energy, ENGR 428 Wireless Networks, ET 498 Special Topics in Electrical ET

3. Connections to other programs (Lists, brief narrative if appropriate)

   The Resch School of Engineering will start a new BS in Electrical Engineering in Fall 2021. The following ET or ENGR courses, which are named in the last section, will be common to both programs:
   ET 105, ENGR 120 and 121, ET 142, ENGR 210 and 211, ET 206, ENGR 224, ENGR 222, ENGR 223, ENGR 320 and 321, ENGR 310 and 311, ENGR 348, ENGR 342, ENGR 328 and 329, ENGR 346, ENGR 424.

4. Number of courses offered (Overall number provided in materials. Chairs: short commentary if appropriate. Provide a sub-grouping of various modalities by percentage. For example, what percentage of your program is available online, hybrid, etc.?)

   The Electrical Engineering Technology BS requires 26 core courses/labs and there are 5 elective courses from which students select three. Some courses are also required of Electrical ET, Environmental ET, and Mechanical Engineering.

   The modality breakdown is:
   In-person: 25 required courses plus 4 electives (93.5%)
   On-line: 2 required courses (ENGR 224 and ET 400) and 1 elective (ENGR 402) (9.7%)

   In the future, more courses may be offered on-line or hybrid to meet program needs. The rapid move to on-line instruction during Covid has demonstrated that we can teach more on-line than we believed we could. However, in-person instruction is by far the best mode for labs and highly quantitative classes.

5. Diversity of students, faculty, and curriculum (Overall number provided in materials. Chairs: short commentary if appropriate; provide examples from curriculum if appropriate.)

   Electrical ET has three faculty members, two tenured and one lecturer): Md Maruf Hossain (associate), Md Upal Mahfuz (associate), and Taskia Khan (lecturer). While this is too small a number to be statistically significant, we can say that 1/3 of the faculty is female and all represent a non-Caucasian ethnicity (south or southeast Asia).

   Between 2017 and 2020, 26 students graduated from the program. Their demographics are presented in Table 1 below. Not surprisingly for engineering, all identified as male. Over one-half came to UWGB as transfer students with Associate degrees from technical colleges, primarily NWTC, with whom we have transfer agreements. This is reflected in the number of graduates 25 years of age or older.

Table 1: Diversity of Elec ET Graduates 2017-2020

N=26 graduates	number	percent
Gender Identity		
Male	26	100
Female	0	
First generation college graduate	13	50
Age range		
20-24	9	34.6
25 and older	17	65.4

6. Gen Ed, FYS/GPS, CCIHS (Lists)

The Engineering Technology and Engineering programs contribute the following general education courses:

WE: ENGR 211, ET 360, and ET 400
FYS/GPS: ENGR 198 (not required) – 2 different topics offered
Capstone: ET 400 ET Internship/ET 410 Capstone
Natural Sciences: ET 206 Chemistry for Engineers
Sustainability: ENGR 202 Intro to Smart Cities
Humanities: ENGR 260 Intro to Engineering Ethics

CCIHS: ET 101, ET 105

7. Program support and staffing (Chairs: History, trends, and future needs. Depending on program, could be connected to accreditation.)

As stated above, the Electrical ET program is staffed by three full time positions (Associate Professors, Md Upal Mahfuz and Md Maruf Hossain, and lecturer, Taskia Khan), with additional needs being met by two ad-hoc instructors (Nic Zeitler, and Wes Schroeder). Currently we need one more faculty to meet the curricular needs of Electrical Engineering tech, but with the Electrical Engineering BS starting in the Fall 2021 semester, a minimum of two additional faculty will be needed to fully staff both programs and at least one full time faculty member will be needed to offer the BS on the Marinette campus.

The RSE budgetary chair and the Engineering discipline chair have been the same person, Patricia Terry, since RSE split from NAS. This fall, Jagadeep Thota was elected to a three-year term as Engineering discipline chair (2020-2023) and Patricia Terry was re-elected RSE Budgetary chair through August 2024.

Program support is provided by two program assistants shared between Human Biology, NAS and RSE, although one of these primarily serves NAS and Human Biology. Additional support for RSE comes from the program assistant in the dean's office.

8. Cost per credit hour (TBD)

All Engineering and Engineering Technology declared majors pay a differential tuition of $700 per semester for those within the plateau (12-18 credits). Those taking fewer than 12 credit hours, pay an additional 58.33 per credit hour. This differential tuition applies to all credit hours, not just ET or ENGR ones, and students are required to declare their major prior to registering for the spring semester of their freshman year. If they wish to apply for ET or ENGR scholarships, they must declare the major in their first semester at UW-Green Bay (freshman or transfer students). The Engineering and Engineering Technology programs rely on this tuition revenue to cover faculty and equipment costs.

External

1. Outreach: student/faculty partnerships, collaborations, participation with organizations or individually (Lists)

The Engineering/ET programs have an advisory board that includes over forty organizations, who may participate in one or multiple disciplines. The Electrical ET program advisory board includes organizations such as NWTC, FVTC, Faith Technologies, Fincantieri, Generac, Georgia-Pacific, Johnson Controls, NEW ERA, Paper Converting Machine Corporation, and Werner Electric.

2. Contributions to regional infrastructure (Lists)

UWGB Electrical Engineering faculty sit on advisory boards for NTWC's Automation Engineering Technology, Electro-Mechanical Technology, and Electrical Engineering Technology Associate's programs and engineering faculty also serve on the NEW ERA advisory board and the NEW Manufacturing board.

3. Scholarly activity of faculty (Lists that are not all-inclusive; maybe seek to highlight the different areas/types of activity)

Electrical Engineering

Upal Mahfuz: Bio-inspired Communication Technology

A. O. Nasif and M. U. Mahfuz, **"Spatial Nanomechanical Communications Based on State Transitions,"** *IEEE Transactions on Nanobioscience*, vol. 19, no. 3, pp. 457-467, July, 2020, DOI: 10.1109/TNB.2020.2986299.

M. U. Mahfuz, **"Design and Development of a SCADA Course for Engineering Undergraduates,"** in *Proc. 2020 IEEE Integrated STEM Education Conference (ISEC)*, July 30 – August 1, 2020, NJ, USA, pp. 1-8 (virtual event).

M. U. Mahfuz, **"Internet of Medical Things,"** book chapter, in *Encyclopedia of Wireless Networks,* Editors: Shen, Xuemin (Sherman), Lin, Xiaodong, Zhang, Kuan, by Springer Nature Switzerland, 2019, pp. 1-5, DOI: 10.1007/978-3-319-32903-1_231-1, ISBN 978-3-319-78263-8.

Mohammad Upal Mahfuz, Ahmed O. Nasif, **Md Maruf Hossain**, and Md Abdur Rahman, *"Integration of Renewable Energy Resources in the Smart Grid: Opportunities and Challenges,"* which is included in the book '*Transportation and Power Grid in Smart Cities: Communication Networks and Services'* in Section 3: Renewable Energy Resources and Microgrid in Smart Cities, Chapter -11. John Wiley, UK, 2018.

(09/2019 - present) Guest Editor, *IEEE Transactions on Nanobioscience* Special Issue: "Recent Advances in Molecular Communication: Applications and Experiments"

TPC Co-chair, the 12th EAI International Conference on Bio-inspired Information and Communications Technologies (BICT 2020), July 7-8, 2020, Shanghai, P. R. China.

Special Session Co-chair, on "*Advances in the Smart Cities Technologies*" at the 17th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON 2020), June 24-27, 2020, in Phuket, Thailand.

Special Session Co-chair, on "*Recent Advances in Wireless Body Area Network*" at the IEEE Region 10 Symposium (TENSYMP 2020), June 5-7, 2020, in Dhaka, Bangladesh.

Maruf Hossain: Integration of Renewable Energy (Wind Turbines) into Power Grids

Md. Shamim Reza, Fahmid Sadeque, **Md Maruf Hossain**, Amer M. Y. M. Ghias, and Vassilios Agelidis, "*Three-Phase PLL for Grid-Connected Power Converters Under Both Amplitude and Phase Unbalanced Conditions*," IEEE Transactions on Industrial Electronics, vol. 66, no. 11, pp. 8881-8891, November 2019.

Md. Shamim Reza, **Md Maruf Hossain** and Amer M. Y. M. Ghias, "*Open-Loop Approach for Robust Detection of Selective Harmonic in Single-Phase System,"* IEEE Transactions on Industrial Informatics, January 2019.

Md. Shamim Reza, **Md Maruf Hossain** and Vassilios Agelidis, *"Fast and Accurate Frequency Estimation in Distorted Grid Using Three Samples Based Algorithm,"* IET Generation, Transmission & Distribution, Volume 13, Issue 18, September 2019, pp. 4242-4248.

WiSys Innovation Grant (Phase-2): "Unified Vertical Axis Wind Turbine Power Generator," for 2019-2020. Amount: $ 38,338.00. PI: Md Maruf Hossain. Status: **Awarded**

Accepted Patent: Md Maruf Hossain, Mohd. Hasan Ali, "Wind Generator System with Multiple Turbines," US patent number: 9,599,092, 21 March 2017.

Student Success

1. High-impact practices and individualized-learning opportunities (Some data provided; lists and/or brief narrative)

   All Engineering Technology students are required to complete a capstone high impact experience with the majority of students completing an internship with an appropriate company or industry. In the past three years Electrical ET students have worked for companies such as Paper Converting Machine Corporation, Faith Technologies, Kohler, CCI Telecommunications, Foth, and Fusion Integrated Solutions. Students who are not employable off campus (foreign students with specific student visas) complete an individualized instruction opportunity with a faculty member, usually undergraduate research. For example, students have performed undergraduate research on vertical axis wind turbine energy integration. Students are not limited to one experience. They may complete an internship and engage in undergraduate research. Students also complete a number of classes with a lab component, including Digital Electronics, Linear Circuits, Semiconductor Devices, and Microcontrollers and Programmable Logic Circuits, where they learn to use and apply the modern tools of engineering design and measurement.

   UW-Green Bay has an active Engineering club that schedule industry tours and invites guest speakers from industry and professional organizations, such as the American Society for Electrical Engineers and the Wisconsin Society of Professional Engineers to visit and discuss their companies. Engineering students may also participate in UWGB's Rocketry club to design, build, and launch rockets.

2. Retention (TBD. Note: if program-level data is not provided, maybe list some things your program does that you believe aid in retention.)

   The Electrical ET program achieves high retention rates by keeping class sizes under 24-30 students, providing state-of-the-art lab experiences, offering individualized advising, and very high quality instruction (Dr. Maruf Hossain gets 10/10 on student-professor relationship and learning course content for almost all of his classes!).

Mission Relevant

1. Relevance to mission (Narrative or lists as appropriate)

   Electrical Engineering Technology

   Starting with the **UW-Green Bay select mission**, the **Program Educational Objectives,** (PEOs), listed in this document under program goals, align well with, "provides a problem focused educational experience that promotes critical thinking and student success." PEO 1 reflects promoting student success because securing and maintaining employment in the field

of study after graduating is a clear measure of success and PEO 3 states that students will achieve positions of increased responsibility, which also comes from success in the workplace. PEOs 2 and 4 specifically speak to a "problem focused education" and "promotes critical thinking." The nature of the engineering technology degree is to be hands-on, applied, and problem focused. "The culture and vision of the University reflect a deep commitment to diversity and inclusion," is met by PEO 4, which emphasizes appreciation for diversity and teamwork. Ethical behavior also supports inclusivity. "Community based partnerships" are one foundation of UW-Green Bay's engineering programs and this is reflected in PEO 1, maintaining employment, and PEO 3, membership in professional societies. The "commitment to educational opportunity at all levels" is supported by PEO 3's goal that graduates will exhibit a desire for life-long learning. The mission states a commitment to a University that promotes access, career success, cross discipline collaboration, cultural enrichment, economic development, entrepreneurship, and environmental sustainability is included in all four PEOs. PEO 1 supports the economic development of the northeast Wisconsin region, which is the industrial base of the state of Wisconsin. The need for graduates with engineering degrees is very high and supplying these is critical to the state's economic future. PEO 2 speaks to entrepreneurship because solutions to modern day problems rely on novel, multi-discipline approaches. PEOs 3 and 4 address career success directly through "positions of greater responsibility" and "leadership" and indirectly through "high levels of oral and written communication skills, responsibility and ethical behavior, teamwork and appreciation for diversity" because career success requires all of these skills.

The **core mission** of the university reflects not just the student experience, but also how the entire university operates within itself and in the greater community. PEOs met by the core mission are outlined in the table below. Those that are operational in nature and are the responsibility of administration, faculty, and staff are noted.

UW-Green Bay Core Mission	Electrical ET Program Educational Outcome
1. Offer associate and baccalaureate degree level and selected graduate programs within the context of its approved select mission.	Program graduates will secure and maintain employment in appropriate EET positions industry-wide and perform all functions assigned to an electrical engineering technologist. (PEO 1)
2. Offer an environment that emphasizes teaching excellence and meets the educational and personal needs of students through effective teaching, academic advising, counseling, and through university-sponsored cultural, recreational, and extracurricular programs.	This is the responsibility of the university administration, faculty, and staff.

3. Offer a core of liberal studies that support university degrees in the arts, letters, and sciences, as well as for specialized professional/technical degrees at the associate and baccalaureate level.	Program graduates will secure and maintain employment in appropriate EET positions industry-wide and perform all functions assigned to an electrical engineering technologist. (PEO 1) Graduates will apply their knowledge of mathematics, science, engineering technology, and computing to identify, analyze, and solve problems pertaining to design, development, and implementation of electronic systems. (PEO 2) Graduates will demonstrate high levels of oral and written communication skills, critical thinking, responsibility and ethical behavior, teamwork and appreciation for diversity, and leadership in their careers. (PEO 4)
4. Offer a program of pre-professional curricular offerings consistent with the university's mission.	Program graduates will secure and maintain employment in appropriate EET positions industry-wide and perform all functions assigned to an electrical engineering technologist. (PEO 1)
5. Expect scholarly activity, including research, scholarship and creative endeavor, that supports its programs at the associate and baccalaureate degree level, its selected graduate programs, and its approved mission statement.	This applies to faculty, but undergraduate research opportunities are also created by faculty scholarship. Graduates will apply their knowledge of mathematics, science, engineering technology, and computing to identify, analyze, and solve problems pertaining to design, development, and implementation of electronic systems. (PEO 2)
6. Promote the integration of the extension function, assist University of Wisconsin-Extension in meeting its responsibility for statewide coordination, and encourage faculty and staff participation in outreach activity.	This applies to faculty, staff, and curriculum.
7. Participate in inter-institutional relationships in order to maximize educational opportunity for the people of the state effectively and efficiently through the sharing of resources.	This does not apply to PEOs, but is met via transfer agreements with regional technical colleges (NWTC, FVTC, LTC, NTC, MATC) and College Credit in High School opportunities.

8. Serve the needs of women, minority, disadvantaged, disabled, and nontraditional students and seek racial and ethnic diversification of the student body and the professional faculty and staff.	This is a mission for operation of the university. The Resch School of Engineering is meeting this via a diverse faculty and scholarship opportunities to support students.
9. Support activities designed to promote the economic development of the state.	Program graduates will secure and maintain employment in appropriate EET positions industry-wide and perform all functions assigned to an electrical engineering technologist. (PEO 1)

2. Cultural enrichment (Narrative or lists as appropriate)

Engineering/Engineering Technology does not directly provide cultural enrichment, but this discipline has a diverse faculty that includes three female faculty (including the Budgetary chair) to help promote inclusion and cultural diversity by example.

3. Access (Does the program have any agreements with other institutions? For example, a transfer agreement with a technical college.)

The **Electrical Engineering Technology BS** has transfer agreements with the following regional technical colleges for students who have completed the following associate degrees.

Northeast Wisconsin Technical College
- Automation engineering technology
- Electro-mechanical technology
- Electrical engineering technology
- Electronics
- Utilities engineering technology

Fox Valley Technical College
- Automated manufacturing systems technology
- Electrical engineering technology
- Electro-mechanical engineering technology
- Electronic engineering technology

Lakeshore Technical College
- Electro-mechanical technology
- Energy management technology
- Wind energy technology

Moraine Park Technical College
Mechatronics

Madison Area Technical College
Electrical engineering technology
Electronics

North Central Technical College
Electromechanical technology

UW-Green Bay's Engineering Technology programs also participate in CCIHS with Bayport HS (Howard-Suamico ISD), Preble HS (Green Bay ISD), Pulaski HS (Pulaski ISD), and West DePere HS (DePere ISD).