NAVAJO TECHNICAL UNIVERSITY
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ABET Committee Meeting Minutes	**Attendees**: ✓ Dr. Monsuru Ramoni, Associate Professor of Industrial Engineering ✓ Dr. Gholam Ehteshami, Professor of Chemical Engineering Technology ✓ Dr. Sundaram Arumugam, Assistant Professor of Electrical Engineering ✓ Anusuya Velligiri, Assistant Professor of Building Information Modeling ✓ Dr. Osama Fakron, Assistant Professor of Engineering Technology ✓ Tsosie Schneider, Assistant Professor of Information Technology ✓ Dr. Olanrewaju Johnson, Associate Professor of Environmental Engineering ✓ Dr. Tarique Khan, Assistant Professor of Advanced Manufacturing Engineering Technology ✓ Dr. Frank Stomp, Associate Professor of Computer Science ✓ Dr. Mahmoud Darwich, Adjunct Professor of Information Technology ✓ Darrik Lee, Technical instructor of Energy Systems ✓ Mahbubar Rahman, Assistant Professor of Engineering Technology ✓ Dr. Casmir Agbaraji, Dean of Undergraduate Studies
Date:	Friday, October 6, 2023
Start Time:	11:45 a.m.
End Time:	1:04 p.m.
Location:	SUB 231/Zoom

I. Call to Order
Dr. Agbaraji called the meeting to order at 11:45 a.m.

II. Approval of Agenda
Dr. Johnson moved to approve the agenda. Tsosie seconded the motion.

III. Approval of Meeting Minutes
     A. September 1, 2023

Dr. Ehteshami moved to accept the meeting minutes of September 1, 2023, seconded by Tsosie.

IV. Program Audit Form (PAF)
     A. Corrections of Errors of Fact for AMET, ChE, EE, ET, IE, and IT

Institutional Support, Concern: There is no high turnover for department chairs for the School of Engineering, Math, and Technology because Dr. Ehteshami was the department chair for seven (7) years from August 2016 to August 2023. He handed the department chair position to Dr. Frank Stomp in August 2023.

V. Criterion 1: Students
     A. Course Sequencing
     B. A Grade of "C" or better to proceed to a course that requires a prerequisite
     C. Prerequisite Waivers

D. Course Substitutions
E. Revise Electrical Engineering Curriculum – Consistent Degree Checklist
F. Student Advising

VI. **Criterion 3: Student Outcomes**
   A Review of Student Outcomes for the Engineering Technology Programs (AMET, ChE, and ET) by faculty and Engineering Advisory Board
   B. Conduct assessment based on program outcomes and not course outcomes

Student outcomes for the engineering technology programs were shared with the engineering faculty, and they will be presented to the engineering advisory board members for approval.

VII **Criterion 4: Continuous Improvement**
   A. Provide Evidence of Continuous Improvement for AMET, ChE, EE, ET, IE, and IT in Capstones and Projects for EE and other programs

Regarding continuous improvement, the faculty agreed to work on improving student program outcomes and performance indicators the student scored less than 80%.

Advanced Manufacturing Engineering
Evaluation and Actions
A six-year program assessment schedule has been established.

SLO 3a: An ability to communicate effectively with a range of audiences.
Evaluation and Actions
Dr. Dey recommended buying Writing Science by Joshua Schimel for advanced engineering students, to improve their writing skills.

It would be a clever idea to invite guest speakers to the engineering classes, to discuss technical writing strategies.

Chemical Engineering
SLO 3a: An ability to communicate effectively with a range of audiences.
Evaluation and Actions
Dr. Dey recommended buying Writing Science by Joshua Schimel for chemical engineering students, to improve their writing skills.

It would be a promising idea to invite guest speakers to chemical engineering classes, to discuss technical writing strategies.

Electrical Engineering
SLO 1a: An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. Students did not use appropriate mathematical principles.
Evaluation and Actions
Increase in-class mathematical assignments to ensure that students master the concepts.

SLO 2b: To apply engineering design and an ability to produce solutions that meet specified needs.
Evaluation and Actions
Dr. Arumugam suggested adding video lectures to the electrical engineering program.

Encourage students to use scientific calculators to solve problems in class.

SLO 3a: An ability to communicate effectively with a range of audiences.
Evaluation and Actions
Dr. Dey recommended buying Writing Science by Joshua Schimel for electrical engineering students, to improve their writing skills.

It would be a promising idea to invite guest speakers to electrical engineering classes, to discuss technical writing strategies.

SLO 4: An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments,
Evaluation and Actions
Dr. Arumugam recommended incorporating engineering and professional ethics courses into the electrical engineering program.
Add video lectures.

Engineering Technology
SLO 3a: An ability to communicate effectively with a range of audiences.
Evaluation and Actions
Dr. Dey recommended buying Writing Science by Joshua Schimel for engineering technology students, to improve their writing skills.

It would be a clever idea to invite guest speakers to the engineering classes, to discuss technical writing strategies.

Industrial Engineering
SLO 2i: To apply engineering design and an ability to produce solutions that meet specified needs. Select appropriate techniques.
There was no second equipment to compare the scanning electron microscope (SEM) results.
Evaluation and Actions
Dr. Agbaraji recommended that an atomic force microscope (AFM) be purchased to compare students' material characterization results.

SLO 3a: An ability to communicate effectively with a range of audiences.
Evaluation and Actions
Dr. Dey recommended buying Writing Science by Joshua Schimel for industrial engineering students, to improve their writing skills.

It would be a clever idea to invite guest speakers to the engineering classes, to discuss technical writing strategies.

SLO 5c: An ability to function effectively on a team. Students did not communicate well in teams.
Evaluation and Actions
Dr. Agbaraji recommended that faculty meet with students at least once a week for projects and capstones, to ensure there is no breakdown in communication among the team members.

Information Technology
SLO 3: Communicate effectively in a variety of professional contexts.

Evaluation and Actions

Tsosie suggested increasing the amount of group projects given to IT students.

Dr. Dey recommended buying Writing Science by Joshua Schimel for IT students, to improve their writing skills.

SLO 6: Apply computer science theory and software development fundamentals to produce computing-based solutions.

Evaluation and Actions

Increase rigor in 300 and 400-level courses for IT students.

VIII. Criterion 5: Curriculum

    A. Review of Engineering Technology Programs by Advisory Board (AMET, ChE, and ET)

    B. Include Engineering Standards in Capstones and Projects for EE and other programs.

    C. Revise Electrical Engineering Curriculum

      Lab Courses

    D. IE 224L: Design and Manufacturing Processes Lab, 1 credit hour

    E. IE 231L: Rapid Prototyping Lab, 1 credit hour

    F. ME: 354L: Fluid Dynamics Lab, 1 credit hour

      List of Technical Electives for Engineering Technology

    G. IE: 343: Design and Manufacturing Processes II

    H. IE: 380: Project Management

    I. ME: 353: Fluid Dynamics

IT Curriculum

Tsosie recommended removing Calculus I and II from the IT curriculum and teach discrete math and statistics since calculus is required for computer science instead.

IX. Criterion 6: Faculty

    A. Insufficient Number of Advanced Manufacturing Faculty

    B. Insufficient Number of Chemical Engineering Faculty

    C. Insufficient Number of Engineering Technology Faculty

    D. New IT Curriculum

    E. PEOs and SLOs for IT

X. Criterion 8: Institutional Support

    A. Insufficient Number of Electrical Engineering Faculty

    B. Professional Development for IT Faculty

    C. Program Budget for Training and Professional Development for IT faculty

XI. APPM, I.E.5.b.: Lab Safety

    A. Fab Lab

    B. Energy Systems Lab

    C. Electrical Engineering Lab

    D. Chemical Engineering Lab

    E. Environmental Engineering Lab

    F. Develop step-by-step processes for training technicians and interns by **October 30, 2023**

    G. Document number of people certified

XII. Next Meeting Date
The next meeting is scheduled for November 3, 2023, at 1:30 p.m.

XIII. Adjournment
Dr. Arumugam moved to adjourn the meeting at 1:04 p.m. Dr. Rahman seconded the motion.