

## **ESTABLISHMENT OF A NEW PROGRAM FOR THE BACHELOR OF SCIENCE IN WELDING AND METALLURGICAL ENGINEERING TECHNOLOGY**

### **Recommendation**

It is recommended that the Board of Governors establish a new degree program, the Bachelor of Science in Welding and Metallurgical Engineering Technology (BS WMET), in the College of Engineering effective Fall 2020.

### **Background**

The demand for Welding and Metallurgical Engineering Technology graduates at the Bachelor of Science level is growing and the Division of Engineering Technology (ET) would like to offer a BS in Welding and Metallurgical Engineering Technology (BS WMET) degree. This program will be an upper two-year program. All Engineering Technology programs are upper two-year programs in Engineering Technology at Wayne State University. Surrounding community colleges will be the feeder schools into this 4-year program.

### **Program Description**

Metallurgy and Welding are two technologies that both have their roots in the Industrial Revolution, where the joining of metals began with the forge welding of pig or wrought iron. Because of their fundamental nature, these technologies are intertwined. The ability to develop and join metals has made immeasurable contribution to the transportation, aerospace, agricultural and defense industries.

The BS WMET program will bring together the theoretical and practical aspects of welding and metallurgy to provide industry with graduates proficient in both areas. Since this is an upper 2-year program, students are expected to complete their lower 2-yr welding or similarly named programs at one of the surrounding community colleges then transfer to WSU to complete a 4-yr BS WMET degree.

### **Admissions Requirements**

The BS WMET degree program is designed to admit students who satisfy the general undergraduate admission requirements of the University and have an associate degree or equivalent course work in a preparatory program such as welding technology or closely related disciplines. A minimum grade point average (GPA) of 2.5 is required for admission into the program. Students with a GPA of 2.0 to 2.5 may be admitted as Pre-Engineering Technology students, and may be transferred into the BS WMET program upon successful completion of pre-calculus (MAT 1800) and physical science courses, with a GPA of 2.5 or above. A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

### **Curriculum Requirements**

BS WMET degree requires a minimum of 121 credits including the University General Education Requirements.

### **Graduation Requirements**

Candidates for the BS WMET degree must earn a minimum of 121 credits including all program and University General Education Requirements and attain a minimum 2.0 GPA.

### **Program Administration**

Administration of the BS degree will be integrated with the current Division administration of its existing engineering technology degree programs. A special advisory council of ET faculty along with faculty with metallurgical background from Mechanical Engineering and Chemical Engineering will meet on a more frequent basis to perform more detailed reviews of the program and report their findings to the department faculty.

### **Budget and Resource Requirements**

Most of the courses are based on the existing classes offered within the Engineering Technology and Mechanical Engineering units. There are 8 new courses to be developed, some requiring laboratory. We have the necessary space for these laboratories along with some equipment. We are working with industry partners and alumni to acquire the rest of the equipment. Also, some of our community college partners are interested in us offering some of these courses on their campuses.

### **Approvals**

The proposal was approved by the faculty of the Division of Engineering Technology, the Academic Operations Committee of the College of Engineering, the Dean of the College of Engineering, and the Provost.