Eastern Michigan University
Vocational Technical Endorsement

April 10, 2007

Endorsement Program Summary

A. Philosophy, rationale, and objectives

The mission of the Eastern Michigan University vocational technical endorsement (VT) is to give candidates specific knowledge about teaching the nature, applications, uses, and consequences of technology in grade 9-12 educational settings. The faculty members engage students in using knowledge and skills to develop their technical teaching abilities, and to increase their ability to teach students to use, manage and understand technology. The vocational technical endorsement is consistent with Eastern Michigan University's College of Education goals that teacher educators produce knowledgeable professionals who are caring, reflective decision-makers in a culturally diverse and technological society.

The vocational technical endorsement consists of 10 credit hours of technical preparation concentration in one of the following specific endorsement areas, in addition to the required 6 vocational curriculum credits. Candidates who hold a secondary provisional certification, complete the required 16 credit hours of technical preparation, including the required 6 credits of vocational curriculum development, management of vocational programs, safety and ethical issues, and instruction in work-based learning, and have a minimum of 4,000 hours of employment experience in an approved occupational area, will qualify for a secondary grades 9-12 Vocational Technical (VT) endorsement on the Michigan Secondary Provisional teaching certificate in their qualifying occupational subject area.

Endorsement areas include:

<u>Arts & Communications Pathway:</u>

CIP Code Endorsement Area

10.0202 – Radio and Television Broad. Tech.

10.0301 – Graphic Communications

50.0401 – Visual Communications Tech.

<u>Engineering, Manufacturing, and Industrial Technology Pathway:</u>

CIP Code Endorsement Area

15.0607 – Plastics Engineering Technology/Tech.

15.1301 – Drafting and Design Tech.

46.0000 – Construction Trades

47.0101 – Electrical/Electronics Equipment Installation & Repair General

47.0603 – Collision Repair Technician

47.0604 – Automobile Technician

47.0607 – Airframe Technology

47.0608 – Power Plant Technology

47.0613 – Medium/Heavy Truck Tech.

48.0501 – Machine Tool Operation/Mach. Shop

48.0508 – Welding, Brazing, and Soldering

49.0101 – Aeronautics/Aviation/Aerospace S & T

The goals of the vocational technical endorsement are:

Candidates for the vocational technical endorsement will produce individuals who can participate in, and adapt to a technological society. Consistent with their abilities, interests, and needs, these candidates will:

1. Acquire general skills and knowledge from areas of liberal arts, science and mathematics which will assist them in studying and solving problems in technology;
2. Develop insight, understanding and skills in the application of technological concepts and systems in a selected occupational area;
3. Develop critical thinking, problem-solving and decision-making abilities involving the application of technical resources and procedures;
4. Acquire pedagogical skills, attitudes and values to be an effective teacher of vocational education, including how to develop, manage, and evaluate those programs and their school laboratories;
5. Develop creative abilities, positive self-concepts and individual potentials through experiences in vocational education; and
6. Utilize specialized technical knowledge to teach students specific technical job skills so as to be able to enter the job market upon completion of high school.

The objectives of the vocational technical endorsement describe specific student outcomes. Candidates for this endorsement will:

1. Plan and conduct activity-oriented laboratory instruction with 9-12 grade students that reinforce abstract concepts and concrete experiences to provide the "know-how" and "ability-to-do" required for problem solving in technical or trade areas;
2. Provide instruction for male and female students from a wide range of populations, abilities, and needs, including the exceptional learner, the disadvantaged, and those with physical, mental, or emotional handicaps, and bilingual or bicultural backgrounds;
3. Properly select and utilize various forms of educational technology, such as computers and video systems to enhance both individual and group instruction and learning;
4. Demonstrate and teach occupational and environmental safety as required in the laboratory and workplace;
5. Establish support groups for instructional programs, including advisory committees and student associations;
6. Identify program standards, utilize those standards and make appropriate program revisions;
7. Understand the role of vocational education in American education;
8. Describe the larger technological context for all students in trade and industrial areas;
9. Demonstrate in-depth occupational skills and knowledge, and work attitudes required of the specialist in a trade or industrial area;
10. Plan, organize, manage, and evaluate a program of instruction in vocational education; and
11. Plan, organize, and manage an instructional facility especially designed for learning activities in vocational education.

B. Candidates' Sample Courses of Study

*Courses in the endorsement area (10 Credits)
BMMT 200 Principles of Career and Technical Education (3 Credits)
BMMT 363 Curriculum for Business Services and Technology (3 Credits)
*Work Experience (4,000 hours)
*Note: Michigan Occupational Competency Assessment Center (MOCAC) may be taken for partial fulfillment of either the coursework or work experience requirement, but not both.

The vocational technical endorsement is designed to prepare teacher candidates, holding a secondary provisional certificate, with specialized occupational skills to be effective teachers of their occupational area in 9-12th grade vocational programs. The endorsement consists of 16 semester hours that typically involves the application of transfer credit in an occupational subject area from a community college, four-year institution, or industrial/technical institute. Courses obtained from these institutions may be transferred to EMU for inclusion in the vocational endorsement program. Included in the coursework will be the

required 6 credits of vocational curriculum development, management of vocational programs, safety and ethical issues, and instruction in work-based learning. Qualification for the vocational technical endorsement also requires that the candidate have completed a minimum of 4,000 hours of employment experience in an occupation that represents their area of qualification for the teaching endorsement. Therefore, this endorsement is well suited to accommodate the interests, knowledge and skills of adults with experience in the work world.

In addition to the 10 semester-hour content-specific area, candidates must take 6 credits of vocational curriculum development, management of vocational programs, safety and ethical issues, and instruction in work-based learning. These subject areas are covered in the BMMT 200 Principles of Career and Technical Education and BMMT 363 Curriculum for Business Services and Technology, which are required in the endorsement. The BMMT 363 course includes methods of instruction, as well as assessment methods, in a vocational classroom. This course will also include field experiences for students through working with student groups, and the implementation of lesson plans. As a part of the course instruction, technology will be utilized to assist with student learning. These subject areas are discussed in depth from: using pedagogy and methods of delivery, understanding learning styles, and assessing students according to best practices and content standards. In addition, students participate in class activities relative to the development of behavioral objectives, standards, lesson plans, and rubrics to ensure all aspects of delivering effective instruction and assessment are included in the teacher candidate's portfolio.

Studies in the occupational areas (area of concentration) may be completed at a community college or technical institute and transferred to Eastern Michigan University. Those credits are evaluated by a faculty member in the vocational technical endorsement following admission of the candidate to the university. A maximum of 10 semester-hours in the occupational area may be applied. Another option for the candidate, if they do not have formal occupational training with earned credit from a community college or technical institute, is to complete the appropriate occupational competency examination offered through the Michigan Occupational Competency Assessment Center (MOCAC) in Big Rapids, Michigan. With passing scores on that comprehensive examination, the candidate is awarded 10 semester-hours of credit toward the concentration area of the endorsement.

The 4,000 hours of work experience requirement must be completed on either a full-time or part-time basis. That experience must be of a "recent and relevant" nature and verified by appropriate documentation. If the candidate lacks work experience toward this endorsement, the candidate may take and pass the appropriate examination through the MOCAC, which will apply the approved amount of work experience toward the endorsement. Any lacking experience not covered by the MOCAC exam will need to be completed through direct industry experience or through Cooperative work experience. The MOCAC examination may NOT count toward both work experience and semester hours.

C. Assessing Students' Work

During the field experience portion of BMMT 200 students are required to prepare a "teacher-centered activity" including lesson plan and at least one follow-up activity to assess students' learning. This "teacher-centered activity and assessment will be delivered in a vocational setting with age relevant students. Then the teacher candidates will also be required to provide feedback to the cooperative teacher and course instructor of how the assessment instrument was develop to assess the activity. In addition, students will also be required to analysis this assessment according to the various learning styles and abilities within the class.

The BMMT 363 course includes methods of instruction, as well as assessment methods, in a vocational classroom. Time will be spent ensuring teacher candidates can development meaningful Primary Trait Analysis used to create a variety of Rubrics. These rubrics will be used to measure authentic assignments such as: journals, portfolios, projects, and papers. Teacher candidates will also develop a paper-pencil assessment within a module plan.

This course will also include field experiences for students through working with student groups and organizations, and the implementation of lesson plans. As a part of the course instruction, technology will

be utilized to assist with students' learning. Teacher candidates will also be required to complete a research paper in the development and assessments of students in a school to work setting. In addition, students are required to complete a "professional development activity." This activity must be directly related to each individual's content area.

D. Field Experience

The "pre-student teaching" associated with BEDU 200 and BEDU 363 is completed within a vocational setting. Students do self-placement and complete the required activities stated earlier. Teacher candidates create and deliver three different lessons; (a) inductive lesson, (b) deductive lesson, and (c) cooperative lesson. Each lesson must be delivered to an active audience and then an "assessment" must be given to evaluate the students' progress. The teacher candidate will prepare an analysis of the assessment. All analyses are shared with the Cooperating Teacher and course instructor. When possible, students will be placed in a vocational setting for student teaching.

Syllabi

See appendix