

**MIDLANDS TECHNICAL COLLEGE**  
**Assessment of Majors or Concentrations**  
**Contact: Charles Parker**  
**Director of Academic Planning and Reporting**

**Summary Statement of 2003-2004 Assessment Study**

Midlands Technical College (MTC) assesses specific majors on a three-to-five year cycle that is designed to coincide with the reaffirmation visit from external accreditation agencies. The assessment of majors determines the degree to which specific programs provide specialized knowledge, skills and attitudes leading to employment in the field or discipline and/or success in transfer to a senior-level program.

The program review process, which generates the assessment of majors, includes an analysis of the specific data elements identified to evaluate the effectiveness and efficiency of the academic programs offered at MTC. The effectiveness component of the process focuses on the learning outcomes, clients' satisfaction, and the vitality of each program. The efficiency component focuses on quantitative data that indicates the programs' cost, space utilization rate, and average size of course section taught.

In 2002-2003 the Computer Technology (CPT), Office Systems Technology (OST), Machine Tool Technology (MTT), Heating, Ventilation, Air Conditioning and Refrigeration (HVAC) and Human services (HUS) completed the program assessment process and developed recommendations for program improvement. In 2003-2004, these programs completed the following actions:

- Human Services surveyed students to determine the feasibility of conducting HUS evening or Saturday courses. Evaluation of the results revealed that there is not sufficient demand at this time.
- Human Services developed a Newsletter to keep new students, current students and alumni abreast of HUS activities.
- The Midlands Interagency Human Services Committee has been formed to address networking needs for HUS students as well as HUS professionals in general. This network was designed to not only secure employment for the two-year HUS graduates, but to provide an environment that supported their continued education. This has already resulted in several HUS employers contacting and hiring MTC HUS graduates. Additionally, relationships have been formed with 4-year institutions (Springfield College, Columbia College, Limestone, USC Beaufort) with the goal of ensuring a seamless transition.
- Human Services completed the evaluation of the New Student Orientation program and have implemented revisions for both HUS as well as Early Childhood Development (ECD) Student Orientations.
- HVAC coordinated with the MTC Social/Behavioral Science department to identify course(s) that will provide HVAC students identified workplace skill needs: interacting with co-workers and clients, conflict resolution, and business ethics.

- OST visited peer institutions and developed a new elective course (OST 255) that includes practical work experience in an approved office setting.
- Based on the DACUM results and the evaluation of the degree and certificate programs, OST faculty have developed numerous prerequisite and course revisions.
- OST, the Paralegal program and members of the legal profession evaluated the potential for a Legal Office Administrative Assistant program and has recommended that the initial focus be on the development of a certificate program.
- Machine Tool Technology secured Cooper Power Tools and FN Manufacturing membership on MET-TEC Teams (METalworking Technical Evaluation Committee) to certify students' projects to the National Institute for Metalworking Skills (NIMS) standards
- Machine Tool Technology faculty have partnered with the machine tool instructors at Spring Valley High School, Lexington Technology Center, and Fairfield County Career Center to help them achieve NIMS certification and curriculum development that should better prepare their Machine Tool students for entry into and successful completion of the MTC program.
- Machine Tool Technology Advisory Committee members have been involved with the Midlands Education and Business Alliance's Manufacturing Alliance committee to promote the program to prospective students.
- CPT developed an Introduction to Information Technology course which provides students with content and activities specifically designed to familiarize them with the daily tasks seen in a variety of IT career fields.

The college has established two objectives for the 2004-2005 action plan: continue to monitor the progress of program recommendations from completed program reviews and continue with the development of automated process to provide data to the program chairs on an annual basis.

### **Description of Assessment of the Major**

Assessment of the majors or concentrations in credit courses, through a complete program review process, is closely tied to the institutional effectiveness process at MTC. The program review outcomes are evaluated for consistency with the stated institutional mission and the results of the measures are used in conjunction with other institutional effectiveness measures to identify areas for institutional improvement. This review of Associate Degree programs is significant in that it evaluates and measures outcomes of the educational process, thereby assisting faculty and administrators in identifying areas in need of institutional improvement and providing a basis for the development of strategic and annual planning initiatives.

The program review process includes the analysis of identified effectiveness measures that indicate the effectiveness and efficiency of MTC's academic programs. These include: student goal achievement; mastery of capstone competencies; course progression; mastery of general education core competencies; success at senior institutions; current student, alumni (graduate) and employer satisfaction; employment in

field of study; annual unduplicated program/major headcount and FTE; advisory committee participation; program full-time/part-time faculty; faculty credentials; number of graduates; student retention in program; annual program cost; space utilization; and average section size. The Education Division has developed appropriate standards for each of these measures. The program faculty coordinate with the Assessment, Research and Planning (ARP) department to develop data for these measures and any other measures appropriate for the individual program being reviewed. The product of this comprehensive assessment is the identification of areas for improvement and development of strategies to improve them.

While the program review process uses qualitative data representing MTC student, alumni, advisory committee member, faculty, and administrator perspectives the major focus of the process is the analysis of students' learning outcomes and successes. This evaluation of student outcomes and successes reflects the mission of MTC as a teaching institution and the importance that the faculty, staff, and administration place on teaching excellence. The capstone competencies and the general education core components are representative of the data that indicates student learning outcomes and successes.

Capstone competencies are defined as stated expectation(s) of knowledge and skills in both occupational/technical and general education areas that a student demonstrates at the successful completion of a program. Capstone competencies serve as a major indicator of student outcomes, combining technical and general education knowledge and skills. Program faculty typically select one of the following methods of assessing capstone competencies: a capstone course, a capstone project, an internship, or a licensure examination and/or simulated licensure examination.

Mastery of the general education core component, evaluated in a separate report, indicates the degree of academic success experienced by associate degree students in the general education core course work. A variety of data is gathered on students' academic success in course work that represents a specific competency within each stated general education value. Student performance that does not meet the stated success criterion leads to an evaluation of the process, seeking explanation that might indicate a revision in the course(s) to better represent the specific competency.

In the program review process, data for a three-year period are reviewed to determine trends and help make recommendations for program improvement. The program recommendations derived a complete analysis of the quantitative and qualitative findings are linked to the institution annual and strategic planning process in terms of stated objectives and annual action strategies.

The tracking of program recommendations and follow-up action taken to ensure academic program improvement demonstrate the accountability built into the program review process at MTC. Through this annual activity of the assessment of majors or concentrations for specific programs and the generation of this report, the continued emphasis on institutional effectiveness through assessment is reinforced.

A formal presentation of the data, findings and recommendations is made to the Academic Vice-Presidents, the college's Executive Committee, and the MTC Commission. Feedback from this presentation maybe incorporated into the final findings and recommendations.

**Objective 1: Determine the feasibility of developing a “Desk Top Audit” interim program review process that will provide identified key data elements to individual programs.** In pursuing the feasibility of interim program review via “Desk Top Audits”, the main obstacle became an automated mechanism to produce the needed data in an effective and efficient manner. While this obstacle remains to some degree, as solutions to various elements were developed, it became obvious that this data should be provided to the program coordinators and other decision makers on an annual or even term basis.

**Objective 2: Continue the assessment of the Program Review process, practices and data elements to better match program and college needs.** The data elements required for each program review were assessed in collaboration with the two academic divisions to develop measures that are more meaningful for the reviewed departments. This resulted in the revision of several of the program review components. Programs were developed to provide the needed quantitative data from the new computer system.

**Objective 3: Continue to monitor the progress of program recommendations from completed program reviews.** The progress on the recommendations for the programs reviewed was monitored by the Department Chair for each reporting program. Each program provided written documentation of the progress made on accomplishing each priority recommendation. Progress reports on Program Review recommendations are also included in the MTC Report Card which is distributed college-wide.

### **2003-2004 Action Plan Objectives**

The Midlands Technical College 2004-2005 action plan to assess majors or concentrations consists of the following two objectives.

**Objective 1: Continue to monitor the progress of program recommendations from completed program reviews.**

**Objective 2: Continue with the development of automated process to provide data to the program chairs on an annual basis.**

## **EXECUTIVE SUMMARY**

### **Program: Human Services (HUS)**

#### **Description of Program/Background Information:**

Students completing the Human Services program are qualified to work in a variety of fields that require a basic understanding of the causes, nature and consequences of human behavior. Students will develop an understanding of how to assist others in managing their behavior in order to achieve their full potential in educational, social, therapeutic and vocational settings.

Career opportunities exist in youth services and mental retardation facilities, substance abuse and geriatric services, child development programs, and mental health units. There are also opportunities in the area of general social services. The background in behavioral science can be applied in a wide variety of areas. The choice of electives and field placements allowed in this curriculum permits students to prepare for specific interests in the areas in which they feel best suited to work.

The electives chosen by students to prepare them for certain specialties must be selected from the list of department electives found in the *Human Services Student Handbook*.

NOTE: This program is offered on the Airport Campus (day only) and Beltline Campus (evening only).

### **Important Findings**

#### **Strengths:**

1. Alumni and current students feel a strong connection to the program staff and faculty, to include the adjuncts. Both surveys indicated that this connection assists students with meeting their educational goals and, in many cases, inspires them to pursue goals not previously determined.
2. Graduates are successful at securing employment in their chosen field and most elect to continue their education at senior institutions. Several alumni reported earning master's degrees.
3. Employers report greater satisfaction with the skill levels including discipline-specific, general education, and professional.
4. The advisory board indicates satisfaction in terms of their role and responsibility. Members feel as if they have "added value" as opposed to being "token" participants.

### **Weaknesses:**

1. Students expressed dissatisfaction with the number of core human services courses that are offered each semester. Other comments include the need for offering human services courses in the evening on Airport Campus.
2. Students felt that not all information is being received or disseminated.
3. Barriers still exist for associate level Human Services graduates in the public sector in terms of employment.
4. Continued need to refine the advisement process to ensure proper placement in courses. Students are not taking courses in the semesters they are being offered. This can lead to having to go to the other campus the following semester at a time that is not convenient.

### **Priority Recommendations (See Recommendations Section for details):**

1. Although it is written in the catalogue as well as articulated to each student that the human services courses are offered on Airport Campus during the day and Beltline in the evening, many students continue to express dissatisfaction with the arrangement. To determine whether it is feasible to offer courses at different times, an interest survey will be conducted to determine need. This will allow the students' voices to be heard.

**Results:** Human Services surveyed students to determine the feasibility of conducting HUS evening or Saturday courses. Evaluation of the results revealed that there is not sufficient demand at this time.

2. A Human Services website has been developed. A newsletter is also being planned and will be disseminated quarterly to begin Fall 2003.

**Results:** Human Services has developed a Newsletter to keep new students, current students and alumni abreast of HUS activities and improve communications.

3. Continued meetings will be held with potential employers in the private and public sectors. Also, a proposal is being developed that proposes "continuum of education" which includes associate level graduates who go on to pursue their degrees in either social work or human services. This planned proposal will show the cost effectiveness of hiring an associate's level professional who commits to continuing their education with the understanding that they will be promoted upon securing their undergraduate degree.

**Results:** The Midlands Interagency Human Services Committee has been formed to address networking needs for HUS students as well as HUS professionals in general. This network was designed to not only secure employment for the two-year HUS graduates, but to provide an environment that supported their continued education.

This has already resulted in several HUS employers contacting and hiring MTC HUS graduates. Additionally, relationships have been formed with four 4-year institutions (Springfield College, Columbia College, Limestone, USC Beaufort) with the goal of ensuring a seamless transfer transitioning.

4. A relationship with the New Student Advisement Center has been established. New student packets are provided to the advisors. Orientation sessions for new students have been established and will continue to be refined. This will allow the new students to obtain information that is needed in order to matriculate successfully.

**Results:** Human Services completed the evaluation of the New Student Orientation program and have implemented revisions for both HUS as well as ECD Student Orientations.

## **EXECUTIVE SUMMARY**

**Program: Machine Tool Technology (MTT)**

### **Description of Program/Background Information:**

The Machine Tool Technology program is designed to provide qualified individuals for manufacturing industries. The curriculum offers the knowledge and skills necessary to obtain entry-level jobs in a variety of manufacturing environments, as well as the potential to advance to supervisory, sales and training positions.

Skills are developed in the use of precision layout tools, layout techniques, setup and operation of mills, lathes, grinders and other important conventional machines found in a machine shop. More advanced courses are taught in computer numerical control (CNC) programming, setup and operation, plastic injection molding, mold-making, die making and repair, and jig and fixture design.

With the development of advanced technical systems, there are a variety of career paths. Examples are tool and die maker, and computer numerical control setup and programming.

### **Important Findings**

#### **Strengths:**

1. Program satisfaction by students, graduates, and employers.
2. Placement of graduates.
3. Adequacy of program to fill industry needs per DACUM.

#### **Weaknesses:**

1. Manufacturing companies involvement with the program.
2. Number of graduates for the industry.
3. Low enrollment.

### **Priority Recommendations (See Recommendations Section for details):**

1. Involve manufacturing companies to serve as industry review panels called MET-TEC Teams (METalworking Technical Evaluation Committee) to certify students' projects to the National Institute for Metalworking Skills (NIMS) standards.



**Results:** The Machine Tool Technology program secured Cooper Power Tools and FN Manufacturing membership on MET-TEC Teams (METalworking Technical Evaluation Committee) to certify students' projects to the National Institute for Metalworking Skills (NIMS) standards. The program is also in contact with several independent job shops to also possibly serve as MET-TEC Teams.

2. Investigate possible causes of the low retention rates.

**Results:** One of the identified problems with retention in the MTT program is that some students are not academically prepared for the demands of the program. Machine Tool Technology faculty have partnered with the machine tool instructors at Spring Valley High School, Lexington Technology Center, and Fairfield County Career Center to help them achieve NIMS certification and curriculum development that should better prepare their Machine Tool students for entry into and successful completion of the MTC program.

3. Increase participation of advisory committee members by incorporating new strategies and activities that will increase visibility of the program to prospective students.

**Results:** Machine Tool technology Advisory Committee members have been involved with the Midlands Education and Business Alliance's Manufacturing Alliance committee to promote the program to prospective students.

## **EXECUTIVE SUMMARY**

### **Program: Heating, Ventilation, Air Conditioning Technology (HVAC)**

#### **Description of Program/Background Information:**

The Heating, Ventilation, Air Conditioning Technology program provides theory and practice in installing, maintaining and repairing residential and light commercial refrigeration, air conditioning, and heating equipment and systems. With increased emphasis on the environment, technicians are involved in providing total air quality in residential, commercial and industrial settings. Entry-level positions are available in hospitals, factories, schools, restaurants, office complexes, government agencies and through local service companies. The associate degree program and shorter diploma and certificate programs are available.

#### **Important Findings**

##### **Strengths:**

1. Graduate, advisory committee, and student surveys, indicated strong satisfaction with the program.
2. From 1999 through 2001, one hundred percent (100%) of graduates were working in the field.
3. Faculty has kept current with technology in their discipline.

##### **Weaknesses:**

The DACUM review process suggested that the Social/Behavioral Science skills course be modified to teach and perform work and communication skills pertaining to professional service.

#### **Priority Recommendations (See Recommendations Section for details):**

1. Modify our Social/Behavioral Science course to meet the needs identified in our stated program weakness.

**Results:** The HVAC has coordinated with the Social/Behavioral department to identify course(s) that can improve HVAC student's workplace skills.

2. Have ENG 165 scheduled at a time when our students will not be in ACR courses.

**Results:** Due to student course schedules and required minimum section size, HVAC and the English department have not been able to schedule an Eng 165 course when HVAC student are not in ACR classes.

## **EXECUTIVE SUMMARY**

### **Program: Office Systems Technology (OST)**

#### **Description of Program/Background Information:**

With new technological advances in today's modern office, the professional must fill many roles. Using current office technology, the office administrator works alongside the executive in decision-making, research and public relations. The Office Systems Technology (OST) program is designed to provide students with the skills and experience necessary to achieve top-level employment in financial institutions, retail establishments, manufacturers, private organizations, and civil service.

In addition to offering traditional office skills training, the program offers specialized courses in legal and medical employment areas. The OST program includes the use of the personal computer and in-depth training on the most popular training software packages, such as Word, Access, Excel, Publisher and PowerPoint.

Basic keyboarding is a skill necessary for successful course completion in the OST program; therefore, OST 105 Keyboarding is a prerequisite course for most OST courses. Students are required to take OST 105 Keyboarding or score 25 net words per minute (nwpm) on the keyboarding placement test.

Students must earn a grade of "C" or better in all of the courses offered within the Business and Information Systems Technology departments for the grade to be counted toward graduation. Specifically, these include courses with the following prefixes: ACC, BAF, BUS, CPT, CRP, IST, LEG, MGT, MKT and OST. Students must meet all exit program competencies for graduation from this program.

#### **Important Findings**

##### **Strengths:**

1. Students, alumni, and employers are satisfied with the program.
2. Graduates are well prepared to compete in today's job market.
3. Students and alumni indicate that they would again choose the OST program of Midlands Technical College and that they would recommend MTC to others.

##### **Weaknesses:**

1. No work experience component.
2. Low enrollment.

3. Program is internally inclusive. Additional OST study tracts are needed for special focus toward specific career areas. Tracts must align with existing CPT, Medical, and Legal disciplines at MTC.
4. The Help Desk program has not yet attracted the expected enrollment level.

**Priority Recommendations (See Recommendations Section for details):**

1. Add a new course to the OST curriculum that includes practical work experience in an approved office setting. On campus meetings for this course should provide special emphasis on topics such as career planning, ethics, attitude, and other subjects that will enhance employability skills.

**Results:** Sara Smith, Jane Napier and Marian Nurse visited Tri-County Technical College to discuss their OST 255 OST Senior Office Practicum course. MTC course will closely model the TCT model. The course is scheduled to be presented at the July college-wide curriculum committee meeting.

2. Efforts to attract more students should include an OST information Website added to the existing site for the Information Systems Department. Updated brochures/flyers about OST program are needed.

**Results:** The OST program developed a Web site (<http://www.midlandstech.edu/edu/ed/ISM/ostweb/>)

A number of changes are being made in the OST degree and OSS Certificate programs. The changes will include revisions in courses and prerequisites. Some of these changes will be presented at the Fall 2004 College-wide Curriculum Committee.

3. Create diversified program tracks in customer service, medical administrative assistant, and legal administrative assistant. Align these tracks with existing CPT, medical, and legal disciplines at MTC.

**Results:** OST faculty, Christie Stoddard and Marian Nurse, have met with Bill McSorely, Director of Paralegal Program and three members from the legal profession to discuss a Legal Office Administrative Assistance degree and certificate; this group has decided to pursue the development of the certificate initially. Marian Nurse, Sara Smith and John Sukovich visited Trident Technical College.

4. Develop an annual IST Department survey for employers six months after students graduate.

**Results:** Assessment, Research, and Planning, in cooperation with Student Services, Arts and Sciences, and Career programs, has developed and will manage the follow-up survey recent graduates and produce reports for all departments.

## **EXECUTIVE SUMMARY**

### **Program: Telecommunications Systems Management (TSM)**

#### **Description of Program/Background Information:**

The telecommunications industry and its equipment support communications and the sharing of resources among people and among pieces of computing equipment. The Telecommunications Systems Management curriculum is designed to provide graduates with depth and breadth in areas related to installing, configuring, monitoring, troubleshooting, and managing telecommunications networks. Program graduates can design a network, install communications devices, configure and administer servers, and troubleshoot data communications problems. All topics are covered from a practical rather than a theoretical viewpoint. The program prepares students for jobs such as telecommunications technician, network troubleshooter, and network administrator.

Students must earn a grade of “C” or better in all of the courses offered within the Business and Information Systems Technology departments for the grade to be counted toward graduation. Specifically, these include courses with the following prefixes: ACC, BAF, BUS, CPT, CRP, IST, LEG, MGT, MKT and OST.

#### **Important Findings**

##### **Strengths:**

1. Employers responding to an Information Systems Department survey indicate that they are very pleased with Telecommunications Systems Management graduates.
2. Ninety-six percent (96%) of graduates responding to an Information Systems Department survey indicate that they are satisfied with the Telecommunications Systems Management program of study and with the instruction in these classes. More than 95% of responding graduates said they would recommend Midlands Technical College to their friends and would send their children to Midlands Technical College.
3. The CISCO Academy program, which began in the fall of 1999, not only trains technicians on the MTC campus but has involved seven area high schools in the CISCO Academy program and has trained nine high school teachers to deliver the CISCO curriculum at their schools.
4. The Telecommunications Systems Management program has many long-time, practitioner instructors who keep the course content up-to-date.

### **Weaknesses:**

1. Early student placement into a particular information technology career track sometimes prevents students from finding the best match between student interests and abilities and an information technology career area.
2. A significant number of graduates responding to an Information Systems Department survey suggested that MTC could have done more to prepare them for the workplace. Several respondents suggested additional hands-on-training.
3. The reliance of the TSM program on adjunct faculty limits many course offerings to evening hours. This has an adverse impact on students who wish to attend school during the day.
4. The TSM program is particularly resource intensive. Effective instruction requires technological resources that are highly specialized and often very expensive. These hardware resources become obsolete fairly quickly and are not readily updated. Faculty instructing in this area must be provided with on-going training so they stay knowledgeable about emerging technologies. This requires a continuing financial commitment from MTC.

### **Priority Recommendations (See Recommendations Section for details):**

1. Create an Introduction to Information Technology course which provides students with content and activities specifically designed to familiarize them with the daily tasks seen in a variety of IT career fields.

**Results:** CPT 104 was developed to meet this need and three sections of the course were conducted in Summer 2004.

2. Design a Capstone course in which students work as teams on MTC internal development projects. Review capstone competencies.

**Results:** This recommendation was put on hold while the NSF grant proposal was developed: IST faculty felt there were not enough resources to support the fast track external project activity and an internal development activity. Additionally, the department is now searching for a new chair and this decision will be delayed until that position is filled.

3. Partner with local businesses and four-year institutions to establish a mechanism to support student teamwork on external projects.

**Results:** Initial exploration has begun.

4. Continue efforts to broaden the base of faculty IT competencies.

The TSM department has utilized its faculty to train other TSM faculty (JAVA, Advanced Outlook, Web Design tools) as well as having faculty attend continuing education courses at MTC and other institutions.

5. Aggressively seek industrial experience for faculty and funding to support this activity (Number 4 above).

**Results:** Funding has not been secured.

6. Explore ways to provide educational and networking outreach to graduates.

**Results:** The CPT faculty attempted to telephone all 2003 graduates during the later part of the fall term. This activity was successful as a means of updating the programs' student placement records. The department will explore the concept of providing an educational and networking outreach program to graduates.