

# Data and Evidence Analysis Summary – Bio-Medical Electronics 2016

Conducted by Michael Poellinger, Curriculum Services Manager, and Judy Handland, Curriculum and Learning Assessment Specialist, August 10, 2016

## WTCS Comparative Data:

<https://facultyresources.westernnc.edu/wp-content/uploads/2015/11/2015-10-605-6-Bio-Medical-Electronics-QRP-Evidence-Analysis-Report.pdf>

### Course Completion

- C or better course completion for the Bio-Medical Electronics program ranged from 79.3% in 2011 to 91.5% in 2015. When compared to the two other colleges selected as a comparison group, Western's ranks 1<sup>st</sup> out of three. On average Western outperformed both MATC and WCTC. However, WCTC's rate of 100% in 2014 and 2015 may have value for further research.
- Western's number of students ranged from 87 in 2011 to 59 in 2015. MATC enrollment has ranged from 93 to 79 in the same period. WCTC reports an enrollment of five, which accounts for the high success rate, listed above, but could still warrant further research for explanation.

### Second Year Retention

- Western's second year retention rate ranged from 75% in 2010 to 51.3% in 2015 for an average over time of 58.1%.
- It experienced a low in 2014 at 46.8% with a high of 75.0% in 2010.
- When compared to MATC in the comparison group, Western has a lower average over the six years with MATC at 65.8%.
- Western's cohort size (number of starting students) ranged from 32 in 2010 to a high of 57 in 2011. With an average of 42 first-term students declaring the program in a given year, Western has the highest enrollment of first-term students within this comparison group for 2015.

### Western's Third Year Graduation

- Western's third year graduation rate ranged from 43.8% in 2011 to 19.1% in 2015 with an average over the six years of 26.2%. Western's 2011 report year cohort (students starting in 2009) achieved the highest third year graduation with 43.8% of students graduating within three years but has seen a drop of nearly half since that time.
- In a comparison to the other five colleges, Western's third-year graduation rate (average) of 26.2% is behind MATC at 31.4%.

## Labor Market Analysis October 2015

<https://facultyresources.westernnc.edu/wp-content/uploads/2015/11/2015-OCT-Bio-Medical-Electronics-Program-Trends.pdf>

In an analysis of the Western District and occupations associated with the field of agri-business, the following points are noted:

- From 2016-2020, these occupations are expected to grow 16.6%. This is considered strong growth; however, the number of jobs available is relatively low.
- Expectations for district trends are stronger than both the state (13.3%) and national (11.2%) trends.
- Job distribution throughout the district has high concentrations in La Crosse County.
- This program includes occupations with an aging population, 60.3% of those employed are 45 years of age or older. The smallest segment of workers is the 19-24-year-old population with 2.1%. The high school population of students may benefit from greater exposure to the occupations and benefits of working in bio-medical occupations.
- Earnings for graduates of this program (median) are strong at \$18.60 per hour.
- Over 80% of persons holding this occupation have an Associate's Degree (24.0%) or less.

## Student Satisfaction Trends

The Noel Levitz Student Satisfaction Inventory was conducted in the fall of 2015. The instrument asks students to rate the importance AND the satisfaction with 95 items (1-7 with 7 as highest) related to the following "scales":

- Instructional effectiveness
- Academic advising/counseling
- Concern for the individual
- Registration effectiveness
- Admissions and financial aid
- Student centeredness
- Campus climate
- Academic services
- Service excellence
- Safety and security
- Campus support services and responsiveness to diverse populations

In the program self-study process (data and evidence analysis work), programs are asked to identify gaps between importance and satisfaction. Gaps are calculated as the difference between the importance of an item and the satisfaction level. Gaps that are close to a "1" should be discussed and explored – particularly if they are tied to items that are rated as high in importance for students.

This survey had 8 students respond. A cursory glance at the "scale" level reveals gaps in concern for the individual (1.20) and safety and security (1.13). The students in bio-medical rated their overall

satisfaction with their experience at Western at 5.67 which is slightly lower than how all students rated (5.72).

A more detailed analysis was conducted at the “item” level. Items are associated with one or more “scales” and provide additional insight into specific areas.

There was only one item rated **highest in importance** for Bio-Medical Electronics students that scored a 6.75+ (scale of 1-7 with 7 as very important):

- Item # 17 – Personnel in the Veterans’ Services program are helpful.

Note that the students in this program seemed to associate a higher level of importance to many items as compared to students in other programs. This resulted in several items with larger gaps between importance and satisfaction. Items that may be topics of discussion for this program include:

- Item #2 – Faculty care about me as an individual. (1.50)
- Item #3 – The quality of instruction in the vocational/technical programs is excellent. (1.57)
- Item #8 – Classes are scheduled at times that are convenient for me. (1.50)
- Item #11 – Security staff respond quickly in emergencies. (1.33)
- Item #16 – The college shows concern for students as individuals. (1.62)
- Item #18 – The quality of instruction I receive in most of my classes is excellent. (1.75)
- Item #19 – This campus provides effective support services for displaced homemakers. (1.00)
- Item #23 – Faculty are understanding of students’ unique life circumstances. (1.38)
- Item #33 – Admissions counselors accurately portray the campus in their recruiting practices. (1.03)
- Item #37 – Faculty take into consideration student differences as they teach a course. (1.13)
- Item #40 – My academic advisor is knowledgeable about the transfer requirements of other schools. (1.79)
- Item #42 – The equipment in the lab facilities is kept up to date. (2.57)
- Item #47 – There are adequate services to help me decide upon a career. (1.18)
- Item #52 – This school does whatever it can to help me reach my education goals. (1.50)
- Item #53 – The assessment and course placement procedures are reasonable. (1.15)
- Item #56 – The business office is open during hours which are convenient for most students. (1.14)
- Item #65 – Students are notified early in the term if they are doing poorly in a class. (1.45)
- Item #66 – Program requirements are clear and reasonable. (1.25)
- Item #71 – Campus: The Wellness Center meets my fitness needs. (2.50)

## Student Learning Outcomes Assessment Trends

<https://facultyresources.westerntc.edu/wp-content/uploads/2015/07/BioMedicalElectronicsSpring2015StudentSLOReport.pdf>

Your program had 1 response to the survey. For future analysis, more student participation would be beneficial. The past two years have only had a total of 3 participants.

Items that may be topics of discussion for this program include:

- Celebrate the good feedback you received about the real-life application of concepts and the variety of courses included in the program. The student seem to appreciate the booked-based knowledge.
- There are some suggestions for improvement from the students. It might be valuable to look at past survey results to identify trends in the qualitative feedback received from students. Those results are housed on the Program Excellence web site.
- A comment about more hands-on experience.
- The student either strongly agreed or agreed that they were able to learn and master both the program outcomes and the Core Abilities.

## Graduate Follow-Up Trends

Year	2012-13
Types of jobs obtained	Biomedical Electronics Technician Biomedical Engineering Technician Biomedical Equipment Technician Biomedical Technician Clinical Engineer Clinical Engineering Field Service Engineer
Companies hiring Western graduates	Fairview Health Services, Minneapolis, MN University of Wisconsin Hospital and Clinics, Madison, WI OSF Saint Anthony Medical Center, Rockford, IL Unity Point Health, Rock Island, IL / Waterloo, IA University of Minnesota Medical Center Fairview, Minneapolis, MN St. Cloud Hospital, St. Cloud, MN NXC Imaging, Minneapolis, MN

Year	2013-14
Types of jobs obtained	Biomedical Technician II Biomedical Technician Clinical Engineering Technician
Companies hiring Western graduates	TriMedx, Appleton, WI Merry Health System, Janesville, WI Sacred Heart Hospital, Eau Claire, WI St. Vincent Hospital, Green Bay, WI Gundersen Health System, La Crosse, WI

Year	2014-15
Types of jobs obtained	Biomedical Technician 1 Clinical Engineering Technician
Companies hiring Western graduates	Ministry Health Care, Rhinelander, WI Gundersen Health System, La Crosse, WI

## Career Pathways Self-Survey

- Your program had 2 responses to the survey. Both were full-time faculty.
- Items that may be topics of discussion for this program include:
  - In the area of external partnerships, there appears to be some uncertainty about connecting to area employers or workforce development to impact district demands.
  - There also appears to be potential to understand data sources used in program planning and improvement.