



# **Southwest Wisconsin Technical College**

## **District Board Meeting**

**Regular Meeting/Board Retreat**

**February 21-22, 2020**

Held at

Southwest Tech Outreach Site  
316 W. Spring Street  
Dodgeville, WI 53533

## Table of Contents

<b>Annotated Agenda .....</b>	<b>3</b>
<b>Open Meeting .....</b>	<b>9</b>
A. Roll Call.....	9
B. Reports/Forums/Public Input.....	9
<b>Board Monitoring of College Effectiveness .....</b>	<b>9</b>
A. Dodgeville Outreach.....	9
B. Academic Vitality Plan.....	9
<b>Consent Agenda.....</b>	<b>146</b>
A. Approval of Agenda.....	146
B. Minutes of the Regular Meeting of January 23, 2020.....	149
C. Financial Reports .....	154
1. Purchases Greater than \$2,500 .....	154
2. Treasurer's Cash Balance .....	157
3. Budget Control .....	158
D. Contract Revenue .....	159
E. Personnel Items .....	161
<b>Other Items Requiring Board Action .....</b>	<b>162</b>
A. Designate Bond Counsel .....	162
B. Resolution Awarding the Sale of \$4,000,000 General Obligation Promissory Notes.....	168
C. RFP: Enterprise Resource Planning System .....	198
D. RFP: Project Management for Enterprise Resource Planning System Implementation.....	198
E. Bid: Platteville Outreach Site Development.....	198
F. Bid: Three (3) New 2020 Chevrolet Malibu 4-door LS Sedans .....	200
G. Performance Management Compensation Proposal .....	200
H. Employee Benefits & Wellness Initiative .....	213
I. First Reading of Governance Policy 1.15: Local Preference.....	238
<b>Board Monitoring of College Effectiveness .....</b>	<b>240</b>
A. Higher Learning Commission Accreditation Visit Report.....	240
B. Staffing Update .....	243
<b>Information and Correspondence.....</b>	<b>248</b>
A. Enrollment Report .....	248
B. Chairperson's Report.....	253
C. College President's Report.....	253
D. Other Information Items.....	253
<b>Establish Board Agenda Items for Next Meeting .....</b>	<b>254</b>
A. Agenda for Next Board Meeting .....	254
B. Time and Place .....	254

<b>Adjourn to Closed Session .....</b>	<b>254</b>
A. Consideration of adjourning to closed session for the purpose of.....	254
<b>Reconvene to Open Session.....</b>	<b>255</b>
A. Action, if necessary, on Closed Session Items .....	255
<b>Board Monitoring of College Effectiveness .....</b>	<b>255</b>
A. Energy Sustainability Plan .....	255
B. District Board/President Dialogue .....	267
<b>Board Monitoring of College Effectiveness .....</b>	<b>267</b>
A. Budget Priorities & Assumptions.....	267
B. Long-term Financial Report.....	269
C. Long-range Facilities Report .....	271
D. District Board/President Dialogue .....	274
E. Review of Retreat.....	274
<b>Adjournment.....</b>	<b>274</b>

## **Annotated Agenda**



### **BOARD RETREAT/MEETING NOTICE/AGENDA February 21-22, 2020**

**Southwest Tech Outreach Site  
316 W. Spring Street  
Dodgeville, WI 53533**

**Friday, February 21, 2020  
12:00 p.m. – Lunch; 12:30 Board Meeting / Retreat**

### **ANNOTATED AGENDA**

#### **OPEN MEETING**

The following statement will be read: "The February 21-22, 2020, Board retreat/regular meeting of the Southwest Wisconsin Technical College District Board is called to order. This meeting is open to the public and in compliance with State Statutes. Notice of the meeting has been sent to the press and posted on campus, at CESA #3 and in the city offices of Fennimore and Dodgeville in an attempt to make the general public aware of the time, place and agenda of the meeting."

#### **A. Roll Call**

#### **B. Reports/Forums/Public Input**

### **BOARD MONITORING OF COLLEGE EFFECTIVENESS**

#### **A. Dodgeville Outreach**

Members of the Dodgeville School District Board and administration will join in a conversation with the college's District Board on collaboration between the two educational entities.

#### **B. Academic Vitality Plan**

Included in the electronic Board material are the draft Academic Vitality Plan the Academic Council has developed and the Program Gap Analysis compiled by EMSI. Katie Garrity, Chief Academic Officer, will present the information to the Board.



## **CONSENT AGENDA**

### **A. Approval of Agenda**

A copy of the agenda is included with the electronic Board material.

### **B. Minutes of the Regular Meeting of January 23, 2020**

Minutes of the January 23, 2020, Board meeting are included with the electronic Board packet.

### **C. Financial Reports**

#### **1. Purchases Greater than \$2,500**

#### **2. Treasurer's Cash Balance**

#### **3. Budget Control**

Each report is available electronically with all other Board material. Caleb White, Vice President for Administrative Services, will be at the meeting and available for any questions.

### **D. Contract Revenue**

There were 14 contracts totaling \$15,539.11 in January 2020 being presented for Board approval. The Contract Revenue Report is included with the electronic Board material.

### **E. Personnel Items**

Two employment recommendations, one promotion/transfer are being presented for approval in the Personnel Report.

**Recommendation** – Approve the Consent Agenda as presented.

## **OTHER ITEMS REQUIRING BOARD ACTION**

### **A. Designate Bond Counsel**

A letter of engagement has been received from Quarles & Brady LLP for bond counsel. The letter is available with the electronic Board material.

**Recommendation**: Retain Allison M. Buchanan of Quarles & Brady LLP as Bond Counsel.

### **B. Resolution Awarding the Sale of \$4,000,000 General Obligation Promissory Notes**

Bids received on February 20, 2020, will be available at the meeting for the sale of \$4,000,000 in General Obligation Promissory Notes. John Mehan, Managing Director of Robert W. Baird & Co. will present the bids. Caleb White will be available at the meeting for questions. The draft resolution is available electronically with all other materials. The Moody's Investors Service assignment of an Aa2 rating to the College for sale of the \$4,000,000 in General Obligation Promissory Notes is included in the electronic Board packet.

**Recommendation** – Approve the resolution authorizing the sale of \$4,000,000 in General Obligation Promissory Notes.

### **C. RFP: Enterprise Resource Planning System**

Proposals were due October 4, 2019, for a Request for Proposals (RFP) for an Enterprise Resource Planning (ERP) System. Since that time, the Operations Council and other staff have been researching the systems submitted through the RFP process. The team will have a recommendation to present to the Board.

**Recommendation** – *(Available at the Board meeting.)*

**D. RFP: Project Management for Enterprise Resource Planning System Implementation**

Southwest Tech has engaged Campus Works to assist with the ERP selection process. Their assistance has been important by providing expertise and information we do not have, nor the capacity to acquire without working closely with an outside entity. After careful consideration, extensive discussions with other colleges, and regardless of the vendor selected, we desire to continue the partnership through the implementation process.

**Recommendation** – (Available at the Board meeting.)

**E. Bid: Platteville Outreach Site Development**

Invitations to bid on the Platteville Outreach Center Site Development were provided to vendors and posted widely in applicable electronic and physical venues to garner bids. Three bids were received. A summary of the bids is included in the electronic Board material.

**Recommendation** – Accept the low bid for the Platteville Outreach Center Site Development, in the amount of \$274,010 from Maryville Construction Co, Inc., of Hazel Green, WI. This bid amount falls under the project amount approved by the WTCS State Board in November 2019.

**F. Bid: Three (3) New 2020 Chevrolet Malibu 4-door LS Sedans**

Invitations to bid on three (3) new 2020 Chevrolet Malibu sedans were due on February 14, 2020, at 2:00 p.m. The bid summary and recommendation will be available at the Board meeting.

**Recommendation** – (Available at the Board meeting.)

**G. Performance Management Compensation Proposal**

The Performance Management Phase 2 workgroup has developed a process for performance management compensation. Performance management compensation is the third tier of the multi-level Compensation Plan presented to the Board previously. Team members will be at the Board meeting to present the process and the recommendation. A PowerPoint is included in the electronic Board material which outlines the steps used in the process, timeline, future plans, and proposal recommendation.

**Recommendation** – Approve the performance management compensation proposal acknowledging funding for the initiative will be considered during the budget process and prioritized based on many factors.

**H. Employee Benefits & Wellness Initiative**

The College is part of the WTCS Employee Benefits Consortium. The Board hears an annual update on the consortium activities and recommended changes. Caleb White, Krista Weber – Chief Human Resources Officer, and Connie Haberkorn – Benefits Manager & HR Generalist, will provide the update and review the recommended changes to employee benefits. Connie Haberkorn and Amy Campbell, co-leads for the Wellness Initiative, will review the progress of the Wellness Initiative and the proposed recommended changes to the program. Included below is a draft of the PowerPoint slides they will be sharing and the concepts being asked for consideration.

**Recommendation** – Verbally indicate support for the concepts and request administration present it to a broader college audience for feedback prior to final board approval.

**I. First Reading of Governance Policy 1.15: Local Preference**

The District Board has been reviewing and discussing local preference when purchasing. Included in the electronic Board material is Governance Policy 1.15: Local Preference.

**Recommendation** – Approve the first reading of Governance Policy 1.15: Local Preference.

**BOARD MONITORING OF COLLEGE EFFECTIVENESS**

**A. Higher Learning Commission Accreditation Visit Report**

The College's accreditation Comprehensive Quality Review is scheduled for April 25-26, 2022. Barb Tucker, Accreditation Liaison Officer, will present the accreditation team structure and implementation plan. The outline is included in the electronic Board material.

**B. Staffing Update**

Krista Weber, Chief Human Resources Officer, will provide an update on College staffing. A summary is available electronically with all other Board material.

**INFORMATION AND CORRESPONDENCE**

**A. Enrollment Report**

The 2019-20 Comparison FTE Report and the Fall 2020 Application Report is available with the electronic Board material.

**B. Chairperson's Report**

1. Recommendations for 2020-21 District Boards Association Officers

**C. College President's Report**

1. College Happenings
2. Tour of UW-Platteville
3. Economic Impact Reports
4. Presentations (District Boards Association and Higher Learning Commission)
5. Progress at Outreach Sites – Strengthening Opportunities for Adult Basic Education

**D. Other Information Items**

**ESTABLISH BOARD AGENDA ITEMS FOR NEXT MEETING**

**A. Agenda**

1. Quality Teaching & Learning Monitoring Report

**B. Time and Place**

Thursday, March 26, 2020, at 7:00 p.m. at Southwest Tech Campus, Room 365

**ADJOURN TO CLOSED SESSION**

**A. Consideration of adjourning to closed session for the purpose of**

1. **Discussing specific personnel issues** per Wis. Statutes 19.85 (1)(f) {Considering financial, medical, social or personal histories or disciplinary data of specific persons, preliminary consideration of specific personnel problems or the

investigation of charges against specific persons except where par. (b) applies which, if discussed in public, would be likely to have a substantial adverse effect upon the reputation of any person referred to in such histories or data, or involved in such problems or investigations.}.

2. **Discussing President's evaluation** per Wis. Statutes 19.85 (1)(e) Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility.
3. **Discussing Executive Team contracts** per Wis. Statutes 19.85(1)(c) {Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility.}

**B. Approval of Closed Session Minutes of January 23, 2020**

**RECONVENE TO OPEN SESSION**

**A. Action, if necessary, on Closed Session Items**

**BOARD MONITORING OF COLLEGE EFFECTIVENESS**

**A. Energy Sustainability Plan**

Dan Imhoff, Director of Facilities, Safety & Security, will present the Energy Sustainability Plan. This plan is included in the electronic Board material.

**B. District Board/President Dialogue**

The Board members will have the opportunity to ask the President questions focused on the state of the college.

The Board will adjourn until 8:45 a.m. on Saturday, February 22, 2020. The Board will have dinner and breakfast for social purposes only and no College business will be conducted.

**Saturday, February 22, 2020**

**8:45 a.m. – Board Retreat**

**Southwest Tech Outreach Site**

**316 W. Spring Street**

**Dodgeville, WI 53533**

**BOARD MONITORING OF COLLEGE EFFECTIVENESS**

**A. Budget Priorities & Assumptions**

Caleb White and Jason Wood will present information relevant to the budget assumptions and parameters. The budget parameters and assumptions are available electronically with all other Board material.

**B. Long-term Financial Report**

Caleb White will present information related to long-term finances of the College. Included in the electronic Board material is a three-year forecast.

**C. Long-range Facilities Report**

The long-range draft Master Facilities Report is included in the electronic Board material. Caleb White and Dan Imhoff will be present to discuss the plan and answer any questions.

**D. District Board/President Dialogue**

The Board members will have the opportunity to ask the President questions focused on the state of the college.

**E. Review of Retreat**

A brief review of the retreat will focus on strengths and opportunities for improvement.

**ADJOURNMENT**

## **Open Meeting**

The following statement will be read: "The February 21-22, 2020, Board retreat/regular meeting of the Southwest Wisconsin Technical College District Board is called to order. This meeting is open to the public and in compliance with State Statutes. Notice of the meeting has been sent to the press and posted on campus, at CESA #3 and in the city offices of Fennimore and Dodgeville in an attempt to make the general public aware of the time, place and agenda of the meeting."

### ***A. Roll Call***

### ***B. Reports/Forums/Public Input***

## **Board Monitoring of College Effectiveness**

### ***A. Dodgeville Outreach***

Members of the Dodgeville School District Board and administration will join in a conversation with the college's District Board on collaboration between the two educational entities.

### ***B. Academic Vitality Plan***

Included below are the draft Academic Vitality Plan the Academic Council has developed and the Program Gap Analysis compiled by EMSI. Katie Garrity, Chief Academic Officer, will present the information to the Board.

# ACADEMIC PROGRAM VITALITY

2020-2023

**DRAFT**

## VITALITY INVESTMENTS

### Culinary

1. Data: High-Demand, Low Pay, Plenty of In-District Jobs, Few Students
2. Options:
  - a. Collaborate with industry partners for customized training and program delivery
  - b. Eliminate one of the three programs (Culinary Arts) and keep Management and Specialist options
  - c. Assign full-time faculty time with other related duties – 38.14 with Platteville HS, faculty work in food services
  - d. Offer as a “Learning Academy”
  - e. Reduce faculty load

### CNC – Precision Machining Technology

1. Data: Low-Demand, Medium Wage, Very Few Students, Declining Graduates, No Applications
2. Options:
  - a. Program modification
  - b. Place program in high schools (tech high school model)
  - c. Work to offer the program in prison
  - d. Considering locating the program at an outreach location
  - e. Place program on hold

## Lab Tech

1. Data: High-Demand, Medium Wage, Very Few Students
2. Options:
  - a. Continue to operate in Richland Center High School (**Update: 9 enrolled for fall 2020**)
  - b. Expand and/or rotate to other high schools (consider a regional offering)
  - c. Collaborate with businesses in the community of the high school for training
  - d. Pay per head model
  - e. Place program on hold

## Agriculture Programs (Management, Agronomy, Animal Science, Mechanics, Crops, Dairy, Maintenance, Livestock, and Power)

1. Data: Agriculture is in flux at this time, investigate program mix, modification, discontinue
2. Enrollment vs. Expense (2-year technical diploma)
3. Enrollments spread across many offerings resulting in small sections

## Auto Collision

1. Data: High-Demand, Low Wage, Low Enrollment: (**Update: Applications @ 17 for Fall 2020**)
2. Options
  - a. Program Modification (Accreditation Dropped)
  - b. High School Experience/Academy
  - c. Wait and Watch



## Building Trades

1. Data: Medium Demand, Average Wage, Low Enrollment (**Update: Applications @ 18 for Fall 2020**)
2. Options
  - a. Alternative Starts
  - b. High school delivery (potential partnership with Platteville to offer credits or share projects)
  - c. Learning Academy
  - d. Wait and Watch

## Welding

1. Healthy enrollment.
2. Inclusion in High School Academies
3. Applications @ 50 for Fall 2020
4. 38.14 contract in PDCC/mobile lab

## Business and Industry

1. Leadership Academy trainings (internal partnership bridging the credit and non-credit offerings)
2. Adding additional trainings to be offered to clients including Speed of Trust, 5 Dysfunctions of a Team, and Orange Frog
3. Contracting/WAT grants aligned with identified business needs
4. 38.14 contracts with school districts
5. Internal offerings to students through student leadership sponsorship

## OUTREACH

### 1. Richland Center

Adult Basic Education, ELL, GED, Business & Industry Training  
Meeting with Richland Center High School for Culinary  
Lab Science program placement: Richland Center High School  
Assess progress towards achieving goal of increasing 2019/20 student headcount (FTE producing)

### 2. Platteville

Opening new location June 2020  
Adult Basic Education, ELL, GED, Blended course offerings (6/1), Business & Industry contract training

### 3. Dodgeville

Paramedic Shared program planned: Fall 2020 (Collaborative Program with Lakeshore Technical College through a GPR grant)  
Adult Basic Education, ELL, Jail, GED  
Developing long-term partnership with Dodgeville High School and potentially other partners

### 4. Prairie du Chien

Adult Basic Education, ELL, GED  
Assessing prison programming – masonry on hold, considering other options  
Expanding COLLEDGE UP offerings with the school districts  
Exploring strengthen partnerships with business, industry, and non-profits to provide additional job-based programming in Prairie du Chien.

## **5. Darlington**

Adult Basic Education, ELL, GED

Create partnerships to strengthen Hispanic/Latino student and/or staff recruitment

## **NEW PROGRAMMING**

### **1. Non-Profit Management**

Starts Fall 2020

### **1. Human Resources**

Aligned with Leadership Development courses, under major curriculum modification (January 2021)

### **2. Renewable Energy**

Researching viable options

### **3. Artificial Intelligence**

Researching viable options

### **4. Data Analytics**

Currently being investigated for program development (Fall 2021)

### **5. Facilities Maintenance**

To be developed 2021/2022

## **6. Cyber Security**

To be developed 2021/2022

## **7. Geo-Spatial Information Systems**

Under investigation with possible development 2022/2023

# **INFORMATION NEEDED FOR NEXT STEPS**

## **1. Staffing Plan**

We are considering faculty and staff needs as part of the broader college budgeting process as well as identifying specific gaps in current talents, skills, and abilities which would require external recruitment.

## **2. Financial Plan**

We have not calculated the fiscal components of the various alternatives but will provide an ROI analysis and include investments in our annual budgeting process.

## **3. External Partnerships**

While we are working with numerous external agencies, formal agreements do not exist. As we move forward we will document new informal and formal partnerships.

## **4. Diversity and Inclusion Success and Opportunities**

We highly value the opportunity to enhance the success of our students from Special Populations, as defined by the WTCS. As such, we will outline the commitments and related investments to support measurable progress towards increasing the diversity of our students, inclusion of special populations in all aspects of campus life, and the increasing the success of special populations in learning and career goals.



# Southwest Wisconsin Technical College

## Economic Overview and Program Demand Gap Analysis

September 2019



409 South Jackson St, Moscow, ID 83843

TEL: (208) 883-3500 | FAX: (208) 882-3317 | [www.EconomicModeling.com](http://www.EconomicModeling.com)

# Contents

EXECUTIVE SUMMARY.....	5
CHAPTER 1: INTRODUCTION.....	13
CHAPTER 2: ECONOMIC OVERVIEW.....	15
Industry Composition.....	16
Occupations within Key Industry Subsectors .....	19
Workforce Commuting Patterns.....	21
Educational Attainment.....	25
CHAPTER 3: PROGRAM DEMAND GAP ANALYSIS.....	29
Interpretation.....	29
Certificate Level Analysis.....	32
Associate Degree Level Analysis.....	39
Summary .....	44
CHAPTER 4: NEW PROGRAM ADDITIONS .....	45
Additions at the Certificate Level.....	45
Additions at the Associate Degree Level.....	48
Summary .....	48
CHAPTER 5: JOB POSTING ANALYTICS.....	50
Truck Drivers.....	51
Manufacturing.....	53
Cheese Production .....	55

Mental Health Support Services.....	58
APPENDIX 1: GLOSSARY OF TERMS.....	62
APPENDIX 2: ABOUT EMSI DATA.....	65
APPENDIX 3: ECONOMIC OVERVIEW TABLES.....	68
Industry Composition.....	68
Industry Staffing Patterns.....	74
Workforce Commuting Patterns.....	78
Educational Attainment.....	78
APPENDIX 4: PROGRAM TO OCCUPATION MAP.....	80
APPENDIX 5: PROGRAM DEMAND GAP ANALYSIS METHODOLOGY .....	91
Supply and Demand Model .....	91
Occupation Demand .....	92
Educational Level Adjustments .....	92
De-Duplication of Annual Openings.....	93
Education Output.....	94
APPENDIX 6: EMPLOYMENT PROJECTIONS .....	96
APPENDIX 7: UNEMPLOYMENT .....	124
APPENDIX 8: LIVING WAGE .....	129

# Acknowledgements

Emsi gratefully acknowledges the excellent support of the faculty and staff at Southwest Wisconsin Technical College for making this study possible. Special thanks go to Dr. Jason Wood, President, who approved the study, and to Dr. Katie Garrity, Chief Academic Officer, and Mandy Henkel, College Effectiveness Manager, who collected much of the data and information requested. Any errors in the report are the responsibility of Emsi and not of any of the above-mentioned individuals.

DRAFT



# Executive Summary

Southwest Wisconsin Technical College (Southwest Tech) is a public, two-year postsecondary educational institution in Wisconsin. To further its goal of providing the region with well-trained and well-educated residents, Southwest Tech continually pursues improvement in various forms. An up-to-date understanding of the regional economy and the demand for skilled labor is vital to the planning efforts of the college as it seeks to adapt its program offerings to the requirements of an ever-changing workforce. Southwest Tech partnered with Emsi, a leading provider of labor market data, to complete a program demand gap analysis, which assesses regional job openings against educational program completions.

## RECOMMENDATIONS



*“Strong community colleges assess trends in job growth and salaries to determine what programs will be needed for high-demand jobs. They then structure their programs and enrollment in accordance with those demands.”*

*Josh Wyner in What Excellent Community Colleges Do: Preparing All Students for Success*

## INTRODUCTION

For purposes of the program demand gap analysis, Southwest Tech serves a larger region beyond its main campus in Fennimore. This region, called Southwest Wisconsin, is comprised of five counties in Wisconsin: Crawford, Grant, Iowa, Lafayette, and Richland.<sup>1</sup> This report outlines the region’s economy and uses the region’s average annual projected job openings between 2018 and 2028 as a measurement of labor market demand. When job openings are compared to the region’s supply of educational program completions, the analysis determines how well Southwest Tech’s program offerings satisfy regional workforce demand. In addition, this report offers recommendations for new program development. In its entirety, the PDGA is a starting point for Southwest Tech as the college continues to develop programs using data-based decision-making strategies. The following figures and table display key findings of the analyses.

Figure 1: Map of Southwest Wisconsin



<sup>1</sup> Although this is Southwest Tech’s designated district, the college often serves students from a broader area. See the supporting data tables for an economic overview and program demand gap analysis for Southwest Tech’s functional economic region, as well as data for each county of Southwest Tech’s five-county district.

## ECONOMIC OVERVIEW

Figure 2 displays the top industry subsectors in terms of employment in Southwest Wisconsin, and Figure 3 shows the top industry subsectors in terms of employment concentrations, referred to as location quotients (LQs). High LQs (usually anything greater than 1.2) are an indication that the region has a comparative advantage or specialization in certain industry subsectors relative to the rest of the nation or potentially to other regions. For example, Nonstore Retailers has a high LQ due to the presence of several distribution centers for large national online retailers in the region.

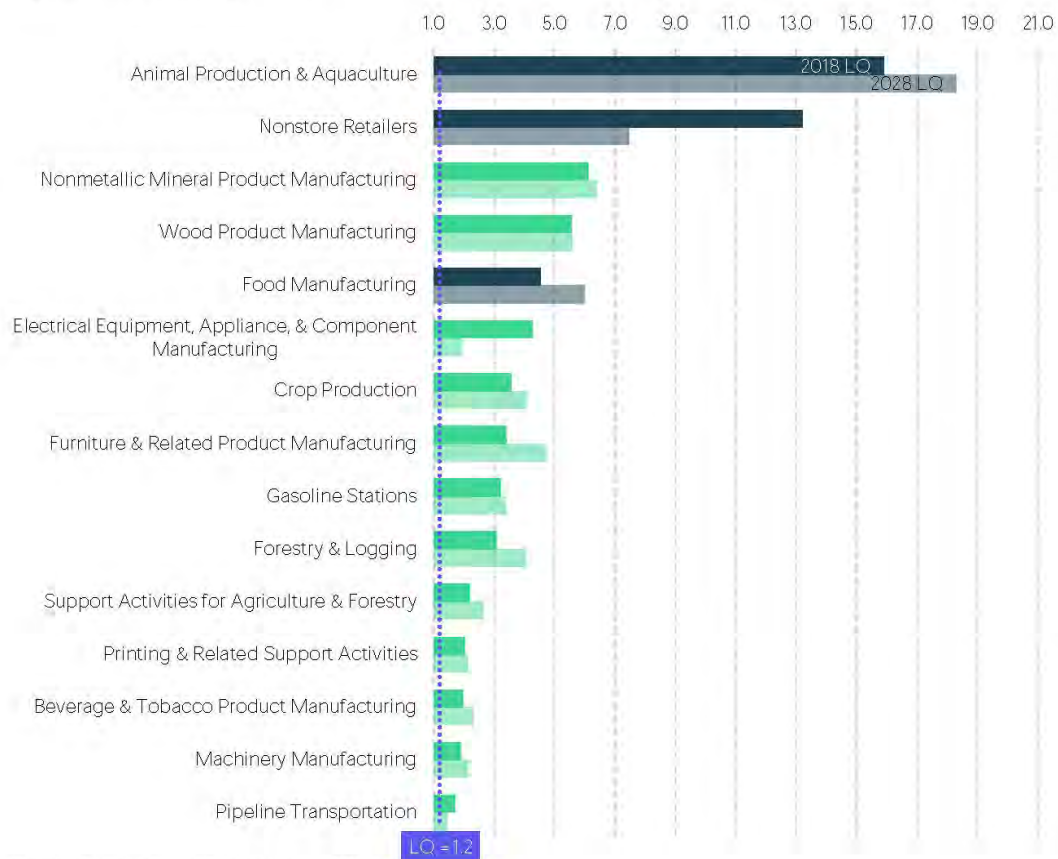
Figure 2: Top Industry Subsectors in Southwest Wisconsin by Jobs



Source: Employees & Self-Employed 2019.3.



Figure 3: Top Industry Subsectors in Southwest Wisconsin by Employment Concentration (LQ)



Source: Employees & Self-Employed 2019.3.

Note the darker colored bars in the figures. Across all of Southwest Wisconsin's industry subsectors, three relevant subsectors are within the top 15 in terms of jobs with relatively high LQs. The appearance of these industry subsectors provides an indication of their strength in the region's economy and offers the college insight into potential employment opportunities for its students.

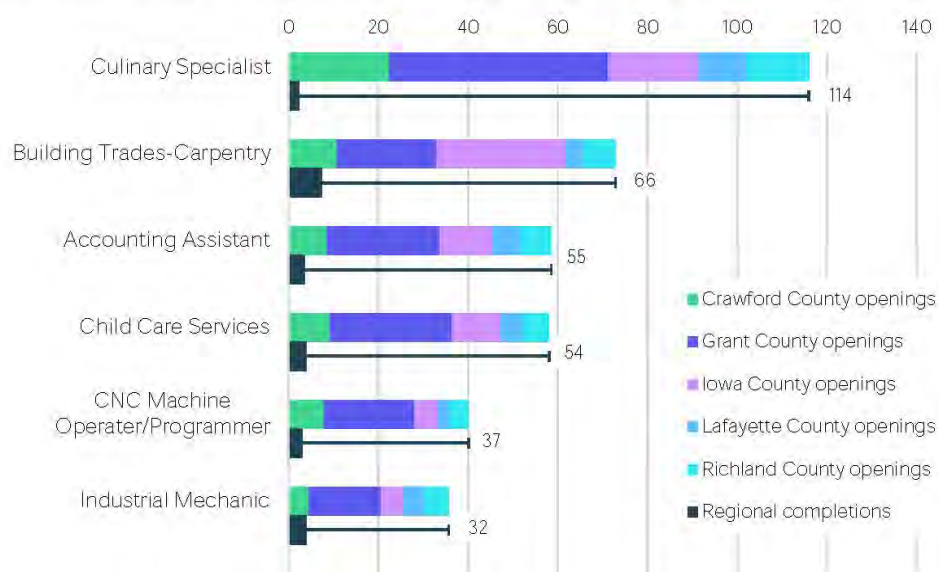
## PROGRAM DEMAND GAP ANALYSIS

The program demand gap analysis provides results across all of Southwest Tech's certificate level (including apprenticeship and technical diploma) and associate degree programs,

which have been classified by their formal CIP code.<sup>2</sup> The analysis connects the college's program completers with the availability of regional job openings. Furthermore, the analysis focuses on the gaps and surpluses in the programs by award level. A gap or surplus larger than 30 is considered beyond normal labor market fluctuations and therefore an area of consideration for program development.

Southwest Tech offers 28 certificate level programs, six of which have a significant gap above the 30-openings level of significance, as shown in Figure 4. Some look promising for expansion, like Building Trades-Carpentry and Accounting Assistant, while others, like Child Care Services, include openings from lower-wage occupations that may not represent students' ultimate career and wage goals. No programs at this award level have a significant surplus.

Figure 4: Significant Certificate Level Gaps



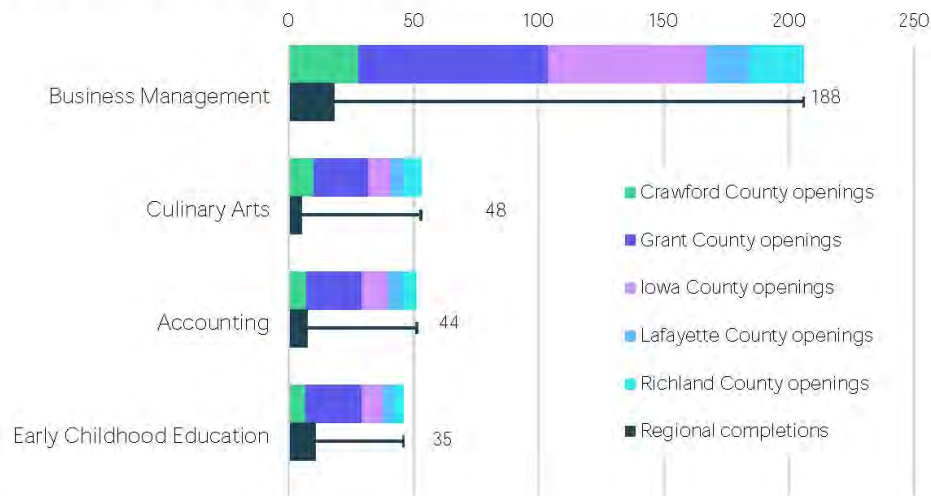
Source: Emsi program demand gap model.

At the associate degree level, four programs have a significant gap (Figure 5). Several should be considered for expansion, in particular the Business Management program, which is related to other associate degree level programs without a significant 30-job gap like

<sup>2</sup> CIP refers to the Classification of Instructional Program and was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES).

Agribusiness. Furthermore, if the associate degree level program is associated with a formal industry-specific certificate, permit, or license required for employment (such as a teaching certification), it is also recommended for expansion.

Figure 5: Significant Associate Degree Level Gaps



Source: Emsi program demand gap model.

## PROGRAM ADDITIONS

Eighteen certificate level programmatic areas of opportunity have been identified in the program demand gap analysis, most of which are related to office & administrative support occupations. Although the college recently discontinued similar programs, the data shows that there is still strong demand for these occupations in the region. At the associate degree level, there are fewer opportunities for new programs, considering the college's current offerings. Nonetheless, Southwest Tech should consider new programs related to applied or technical healthcare, whether its focus is on job openings in Southwest Wisconsin or Wisconsin. For both award levels, many program additions are related to the college's current program offerings, which indicates an opportunity for a curriculum adjustment to better align with the region's current and projected labor market demand. A selection of these occupations, which have the most regional job openings by award level, appear in Table 1.



Table 1: Program Additions by Education Level<sup>1</sup>

SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	EDUCATION LEVEL
Office Clerks, General	1,080	1,064	(15)	92	\$15.24	CERT
Order Clerks	290	185	(105)	18	\$16.30	CERT
Firefighters	238	241	3	11	\$15.47	CERT
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	121	126	5	9	\$24.64	CERT
Postal Service Mail Carriers	156	125	(31)	8	\$20.83	CERT
Pharmacy Technicians	166	143	(23)	7	\$15.39	CERT
Loan Interviewers and Clerks	85	94	9	6	\$16.30	CERT
First-Line Supervisors of Personal Service Workers	71	77	6	5	\$15.56	CERT
Executive Secretaries and Executive Administrative Assistants	76	70	(7)	5	\$23.01	CERT
Radiologic Technologists	59	66	8	3	\$27.55	ASSOC
Morticians, Undertakers, and Funeral Directors	27	30	4	3	\$26.45	ASSOC

SOC refers to the Standard Occupational Classification system used to classify occupations. Average annual job openings represent regional data from 2018 to 2028. Numbers may not sum due to rounding.

Source: Emsi program demand gap model.

## JOB POSTINGS ANALYSIS

Job postings data provide further information about real-time hiring trends in four areas of interest identified by Southwest Tech: truck drivers, the Manufacturing industry sector, cheese production, and mental health support services. Truck drivers had a significant number of unique postings during the one-year period analyzed. Manufacturing and cheese production both had a strong presence of assembly and packaging occupations, as well as lengthy posting durations for the positions. Mental health support services showed a variety of frequently posted job titles, including monitor technicians, behavioral health clinicians, and crisis specialists, although the area as a whole had a relatively low number of postings. Finally, postings for solar energy technology nationwide showed an abundance of engineering-related job titles and skills.



Emsi is a leading provider of labor market data to professionals in higher education, economic development, workforce development, talent acquisition, and site selection. Our data, which cover more than 99% of the U.S. workforce, are compiled from a wide variety of government sources, job postings, and online profiles and résumés. Our data are used to solve a variety of problems: align programs with regional needs, equip students with career visions, understand regional economic and workforce activity, and find and hire the right talent. We serve clients across the U.S., the UK, Canada, and Australia.



# Introduction

Southwest Wisconsin Technical College (Southwest Tech) is a technical college based in Fennimore, Wisconsin. Established in 1967, the college serves a five-county district that covers 30 school districts in Southwest Wisconsin. In the 2017-18 academic year, the college served 7,457 students in a wide variety of programs, including associate degree, technical diploma, apprenticeship, and certificate programs. Southwest Tech's mission is to provide education and training opportunities responsive to students, employers, and communities.

An efficient labor market requires a seamless flow among skilled workers, the postsecondary educational institutions that educate and train them, and the employers that hire them. One factor behind workforce misalignment stems from when the needs of the employers evolve differently than the programs that train their workers. These misalignments may happen at different times and for different reasons:

- Employer training becomes more tailored and comprehensive;
- Businesses come and go, and certain educational programs become more or less pertinent to a specific region;
- Rapid advances in technology and business create curriculum needs that few educational institutions possess; and
- As economic conditions shift, businesses have different hiring requirements of their employees.

In light of these dynamics, an up-to-date understanding of the regional economy and the demand for skilled labor is vital to the planning efforts of colleges and universities seeking to adapt their program offerings to the requirements of an ever-changing workforce.

To gain better insight into economic conditions and workforce trends, Southwest Tech partnered with Emsi, a labor market analytics firm serving higher education, economic and workforce development, talent acquisition, and site selection. In this report, Emsi conducts an overview of the regional economy, provides a program demand gap analysis of Southwest Tech program offerings, makes recommendations for new program development, and assesses the real-time demand for select program areas through a job postings analysis.

The program demand gap analysis is performed by assessing the supply and demand of skilled workers and identifying the educational programs that need to be adapted in order to fill any existing or future gaps. The analysis weighs the educational output of Southwest Tech and other postsecondary educational institutions in the region against the number of job openings related to the college's program offerings to determine whether a deficit or an oversupply of skilled workers exists. The goal of the analysis is to provide Southwest Tech with relevant data and information that it can use when solving problems and making decisions about current and future program development.

Job postings data provide a snapshot of real-time labor market information in a given region. More specifically, the data analysis opens the possibility to go deeper into the types of occupations demanded by employers, which ties back to the companies posting the job openings. The end result is a way to ascertain what is currently in demand by employers in the region, including emerging needs, and as such tailor programs so their graduates will be competitive in the regional job market.

## IMPORTANT NOTE

This analysis is intended to serve as a starting point for Southwest Tech as the college discusses regional workforce needs. A deficit (gap) or oversupply (surplus) of workers in a particular occupation category represents a potential problem for the region, making it important for each program and occupation group to be evaluated by the college on a case-by-case basis. The purpose of this analysis is, therefore, to initiate the conversation on evaluating program effectiveness. Once evaluated internally within the college, specific implications may be considered for programs with substantial gaps or surpluses.

It must be noted that our analysis does have its limitations in that only the education supply pipeline is considered. This is due to data availability at the regional and institutional levels. However, other sources—unemployed workers, industry trained pipelines, workers migrating to the region, and job changers from other occupational categories—can also be a source of skilled workers. These types of considerations are useful when evaluating specific types of occupations. Publicly available data sources are limited in accounting for this, and consequently these labor sources are unavailable for Emsi analysis. Primary data collection methods (i.e., interviews and surveys) are among the only ways to obtain information on the other sources for skilled workers.

## CHAPTER 2:

# Economic Overview

Before looking at the results of the program demand gap analysis, Southwest Tech should first consider the economic structure of its region, referred to in this report as Southwest Wisconsin and defined as Crawford, Grant, Iowa, Lafayette, and Richland Counties in Wisconsin (Figure 2.1).<sup>3</sup> Identifying the driving industries within the region is an important first step for three reasons: 1) it helps Southwest Tech understand where the college should logically target its efforts, 2) it helps to reveal whether there are industries that may be overlooked as a result of recent economic growth, and 3) it helps identify the top occupations within those key driving industries.

Figure 2.1: Map of Southwest Wisconsin



Source: Em si Analyst. Region provided by Southwest Tech.

- 3 Although this is Southwest Tech's designated district, the college often serves students from a broader area. See the supporting data tables for an economic overview and program demand gap analysis for Southwest Tech's functional economic region, as well as data for each county of Southwest Tech's five-county district.



In addition to knowing the industry structure of the region, it is important to have an understanding of the workforce—how connected the region’s workers are to the surrounding community and the educational attainment of workers in the region. To these ends, this chapter provides an overview of Southwest Wisconsin’s industry composition, shows common occupations in the region’s key industries, illustrates worker commuting patterns, and discusses the highest educational attainments of the region’s adult residents. Supporting data tables are found in Appendix 3.

## INDUSTRY COMPOSITION

Evaluating current and future employment by industry provides information on the region’s economic diversity. Understanding the industry mix is important for drawing connections to the occupations and companies that are in-demand, and students are likely to find employment in the largest regional industries. The North American Industry Classification System (NAICS) is the structure used by federal agencies to classify business establishments based on their production process (although the final product or service is usually similar for the firms in a given industry). NAICS applies a six-digit hierarchical coding system to organize nearly 1,000 detailed industries in the U.S. For the analysis in this section, Emsi has aggregated industries into their three-digit NAICS codes, referred to as industry subsectors.<sup>4</sup>

Southwest Wisconsin supported 53,240 jobs in 2018, and by 2028, it is projected to add 2,680 new jobs for a 5% job increase. This is a faster rate of growth than the region’s population – Southwest Wisconsin’s 2018 population of 126,200 is expected to grow by less than 1% by 2028. Figure 2.2 presents the 15 largest industry subsectors in Southwest Wisconsin, by their 2018 job counts, and also shows the industry subsectors’ projected change over the next decade.

As shown in the figure, Local Government is the largest employer, with 6,950 jobs in 2018, and is expected to remain the top regional employer. The Nonstore Retailers and Food Services & Drinking Places industry subsectors are the next largest, with 3,100 and 2,760 jobs in 2018, respectively. As for growth, Food Manufacturing is projected to add the most jobs of the top 15 industry subsectors, with a 10-year increase of 800 new jobs for a 33% job growth.

---

4 In Emsi data, all establishments in the main NAICS hierarchy are private sector only. Jobs in Educational Services and Ambulatory Health Care Services, for example, are not associated with local, state, or federal government jobs. Jobs for public school teachers and city firefighters are in Local Government, whereas college professors and forest firefighters are commonly employed by State Government. Mail carriers and transportation security screeners are examples of jobs in Federal Government.

On the other hand, two of the top 15 industry subsectors are expected to contract between 2018 and 2028 – Nonstore Retailers and Food Services & Drinking Places.

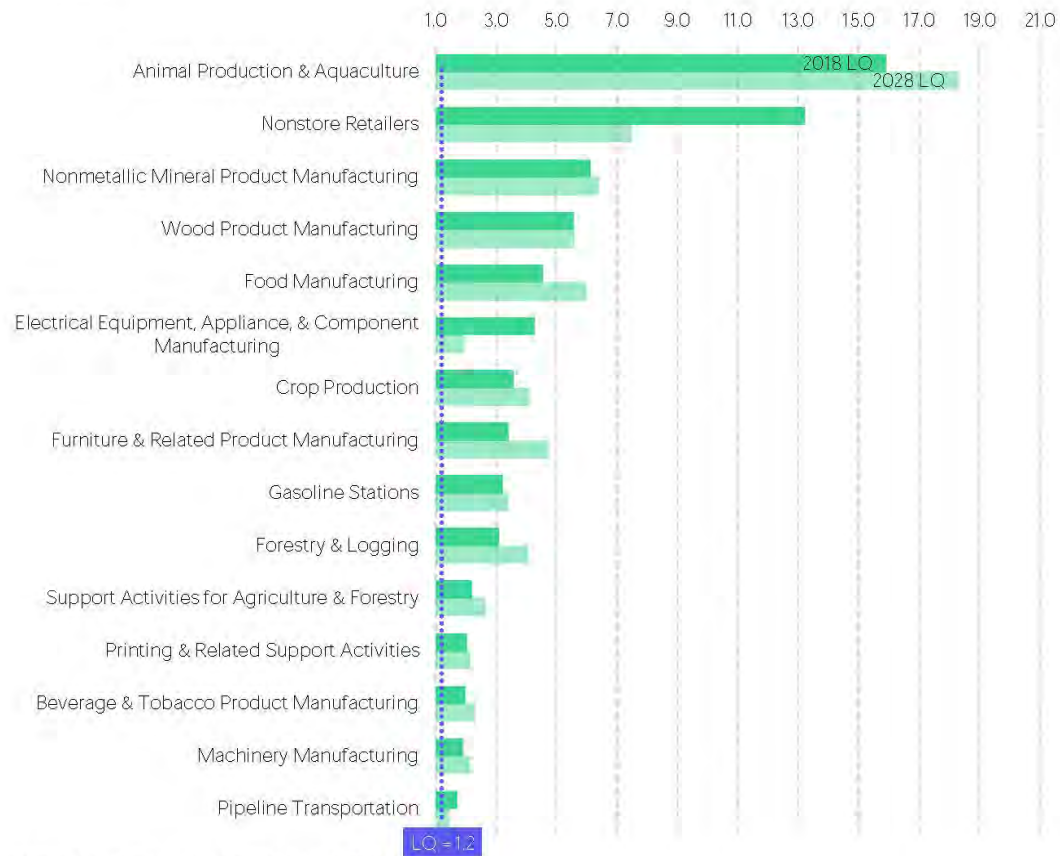
Figure 2.2: Jobs by Industry Subsector in Southwest Wisconsin, 2018 and 2028



Source: Employees & Self-Employed 2019.3.

The employment concentration of Southwest Wisconsin's industry subsectors is measured by a location quotient (LQ). LQs are used to assess competitiveness by comparing the concentration of employment in an industry in the region against the employment concentration for that same industry in the U.S. An LQ equal to 1.0 means that the percentage of total employment comprised by an industry in Southwest Wisconsin matches the percentage of total employment of that industry in the U.S. An LQ greater than 1.0 means that the industry has a greater employment share relative to that of the U.S. High LQs, which are typically greater than 1.2, are an indication that the region has a comparative advantage or specialization in an industry.

Figure 2.3: Employment Concentration (LQ) by Industry Subsector in Southwest Wisconsin, 2018 and 2028



Source: Employees & Self-Employed 2019.3.

The industry subsectors with the 15 highest LQs in Southwest Wisconsin are shown in Figure 2.3. It is not surprising that the Animal Production & Aquaculture industry subsector had the highest LQ in 2018 (LQ of 15.9), given the region's agricultural activities. It is expected to increase in employment concentration between 2018 and 2028 and remain the industry subsector with the largest LQ. The Nonstore Retailers; Nonmetallic Mineral Product Manufacturing; and Wood Product Manufacturing industry subsectors also have relatively large employment concentrations, with LQs of 13.2, 6.1, and 5.6 in 2018, respectively. As for 10-year growth, Furniture & Related Product Manufacturing is projected to increase in LQ by 39% from an LQ of 3.4 to an LQ of 4.7, which is the largest percent increase among the top 15 industry subsectors in the figure. On the other hand, three industry subsectors are expected to drop in LQ between 2018 and 2028. Electrical Equipment, Appliance, &



Component Manufacturing has the largest percent decrease (55%). Despite the declines, all of the region's top 15 industry subsectors are expected to remain above the 1.2 high-LQ threshold.

## OCCUPATIONS WITHIN KEY INDUSTRY SUBSECTORS

Three relevant industry subsectors are found in both Figures 2.2 and 2.3 because they are large employers, have high LQs, and generally require postsecondary education.<sup>5</sup> Altogether, the industry subsectors represent 14.6% of Southwest Wisconsin's jobs. These industry subsectors, in descending order of 2018 jobs, are:

- Nonstore Retailers;
- Food Manufacturing; and
- Animal Production & Aquaculture.

Their appearance in the figures provides an indication of their relative strength in Southwest Wisconsin, and thus, we identify the most common occupations within the four industry subsectors, called a staffing pattern.<sup>6</sup> Not only do the industry subsectors' staffing patterns provide insight into the region's labor market demand, but by extension, the demand for the college's program offerings.

The Nonstore Retailers (NAICS 454) industry subsector covers industries that sell merchandise through nonstore methods such as catalogs, door-to-door solicitation, and electronic shopping. Its strength in Southwest Wisconsin is due to the presence of distribution centers for major national retailers, including Land's End (in Dodgeville) and Cabela's (in Prairie du Chien). Within the Nonstore Retailers subsector in Southwest Wisconsin, the Electronic Shopping & Mail-Order Houses industry (NAICS 454110) comprises over 97% of total employment, or 3,010 jobs in 2018.

Many of the top occupations that the Nonstore Retailers industry subsector staffs are of interest to Southwest Tech and its students, as many require some college education. The top two occupations, customer service representatives and order clerks, account for nearly a quarter of industry employment and offer median hourly wages above \$15.00. Other

5 The Gasoline Stations industry subsector also appears in the two figures; however, occupations in this industry **generally don't require postsecondary education, and thus this industry subsector is not relevant for Southwest Tech.**

6 The top occupations, in terms of the percent of total jobs in an industry, are identified using data from the National Occupational Employment Statistics program, projections from the National Industry-Occupation Employment Matrix, and Emsi's proprietary employment data.

prominent occupations relate to the transportation & material moving (SOC 53) or office & administrative support (SOC 43) occupation groups.

Recall from Figure 2.2 that the Nonstore Retailers subsector is expected to decline in employment over the next decade. The reason for this is unclear, as Emsi's projections are based off of historical patterns. Therefore, before focusing efforts on programs that train students to work at local distribution centers, it would be wise for Southwest Tech to speak to local employers about hiring needs or examine job postings data to gain insight into recent hiring trends.

The Food Manufacturing (NAICS 311) industry subsector had about 2,425 jobs in Southwest Wisconsin in 2018, and that number is expected to grow to 3,222 (a 33% change) by 2028. Within the subsector, the Dairy Product (except Frozen) Manufacturing industry (NAICS 31151) accounts for 2,100 jobs, or 87% of the subsector's employment. There are several major cheese production facilities in Southwest Wisconsin, including Schreiber Foods (in Richland), Montchevre Goat Cheese (in Belmont), and Lactalis Cheese (also in Belmont).

Unsurprisingly, many of the occupations in Food Manufacturing are production occupations (SOC 51), such as packaging & filling machine operators & tenders (21% of jobs), food batchmakers (13% of jobs), and first-line supervisors of production & operating workers (5% of jobs). While these jobs typically only require a high school diploma, they all offer median hourly wages above \$14.00 and show promising 10-year job growth. Creating a certificate program that teaches students skills for cheese production could enable them to be more competitive in the job market – and partnering with local cheese producers could create an even stronger path to employment for students.

The Animal Production & Aquaculture (NAICS 112) industry subsector is entirely driven by the Animal Production industry (NAICS 112000) in Southwest Wisconsin. Nearly half of the jobs in this subsector are farmers, ranchers, & other agricultural managers. The next five most prominent occupations belong to the agricultural workers occupation group (SOC 45-2). While these jobs offer a modest hourly wage and are expected to grow over the next decade, none require postsecondary education or a high school diploma. Programs in this area may not be the best choice for Southwest Tech's students, and the college no longer offers its Dairy Herd Management program, indicating that this is not a specific area of focus for Southwest Tech moving forward.



## WORKFORCE COMMUTING PATTERNS

The Longitudinal Employer-Household Dynamics (LEHD) program<sup>7</sup> at the U.S. Census Bureau provides information on the residential and employment locations of workers. Such data shows the commuting patterns of regional employees. More specifically, the LEHD data demonstrate the extent to which employees commute to Southwest Wisconsin for work and how many residents commute to surrounding communities for work. Workers from outside the region could be filling current employment gaps, or the region's residents could be out-commuting when there is a surplus of available jobs. The concepts of a "gap" and "surplus" are discussed in greater detail in the first section of Chapter 3.

Figure 2.4 presents the inflow and outflow of jobs to and from Southwest Wisconsin. The LEHD data cover 41,530 jobs in the region, with 29,720 jobs filled by residents and 11,810 jobs filled by people living outside the region. In addition, 25,450 jobs are held by the region's residents outside Southwest Wisconsin. In other words, 25,450 residents commute outside the region for work. The job counts represent primary jobs, as opposed to all jobs, and differ from job counts in the previous sections, which use Emsi's complete employment data (see industry data in Appendix 2). As shown in the figure, more than twice as many workers out-commute than in-commute.

---

<sup>7</sup> LEHD is an innovative program that uses modern statistical and computing techniques to combine federal and state administrative data on employers and employees with core Census Bureau censuses and surveys while protecting the confidentiality of people and firms that provide the data.

Figure 2.4: Southwest Wisconsin Job Inflow and Outflow

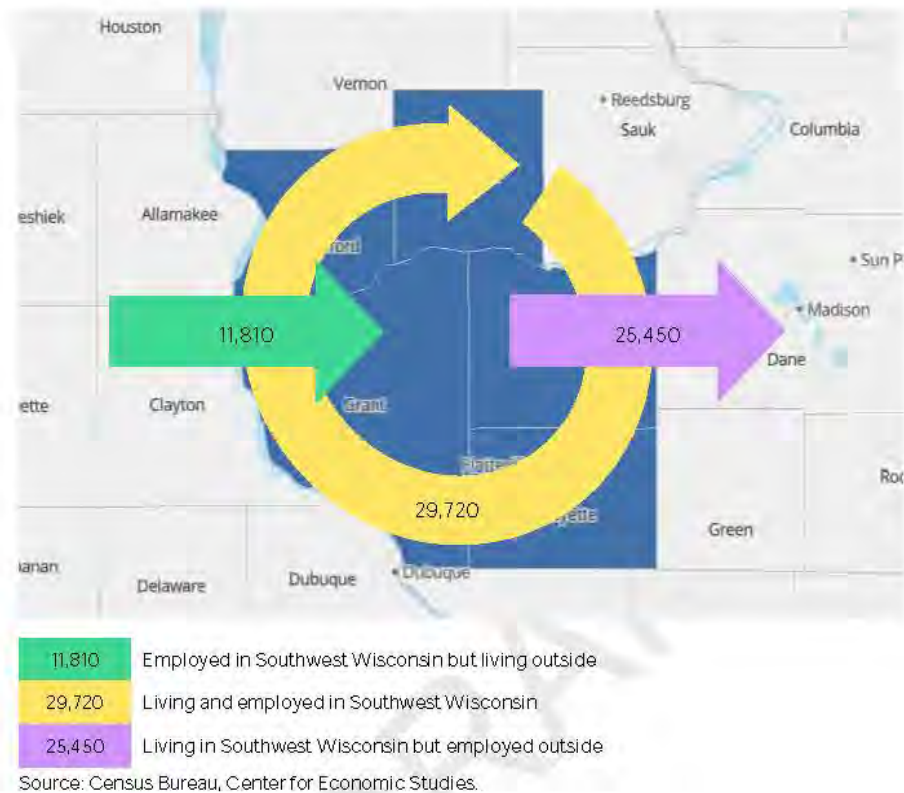


Figure 2.5 and Table 2.1 provide further insight into the places where the region's residents work. As shown in the table, 23% of residents work in Grant County, while 13% commute to Dane County, likely for jobs in the greater Madison area. While some residents (6%) cross state lines to work in Dubuque County, Iowa, other counties just south of the region in Illinois are not among the top places of work. Figure 2.6 and Table 2.2 also show commuting patterns, except the data highlight the counties in which the region's workers reside.

Figure 2.5: Counties where Southwest Wisconsin Residents Work

Source: Census Bureau, Center for Economic Studies.



Table 2.1: Counties where Southwest Wisconsin Residents Work

County of EMPLOYMENT	JOBS	% JOBS
Grant, WI	12,600	23%
Dane, WI	7,240	13%
Iowa, WI	6,460	12%
Crawford, WI	4,400	8%
Richland, WI	3,330	6%
Dubuque, IA	3,180	6%
Lafayette, WI	2,930	5%
Sauk, WI	2,130	4%
Green, WI	1,370	2%
Vernon, WI	920	2%
All Other Counties	10,610	19%
Total Primary Jobs, Southwest Wisconsin Residents	55,170	100%

Source: Census Bureau, Center for Economic Studies.

A map of the United States with the Great Lakes region highlighted in blue. The highlighted area includes the states of Michigan, Wisconsin, Illinois, Indiana, Ohio, and Pennsylvania, as well as the Great Lakes themselves. The map shows the surrounding states and the Great Lakes region in blue.

COUNTY OF RESIDENCE	JOBS	% JOBS
Grant, WI	12,830	31%
Iowa, WI	5,520	13%
Crawford, WI	4,160	10%
Lafayette, WI	3,750	9%
Richland, WI	3,460	8%
Dane, WI	1,730	4%
Sauk, WI	1,000	2%
Clayton, IA	740	2%
Vernon, WI	650	2%
Green, WI	590	1%
All Other Locations	7,100	17%
Total Primary Jobs, Southwest Wisconsin Workers	41,530	100%



## EDUCATIONAL ATTAINMENT

Educational attainment data are useful for targeting specific population groups with low education levels. The population and educational attainment numbers in this section are based on Emsi's demographic data and publicly available sources from state and federal agencies. Sources include annual population estimates and population projections from the U.S. Census Bureau and birth and mortality rates from the U.S. Health Department. In addition, demographic information relies on the annual results of the American Community Survey. Educational attainment data cover the population in Southwest Wisconsin aged 25 years or more, referred to as adults, and indicate the highest award level achieved.

Demographic information is presented by gender and the major race and ethnic groups, and educational attainment data are broken out according to the following award categories:

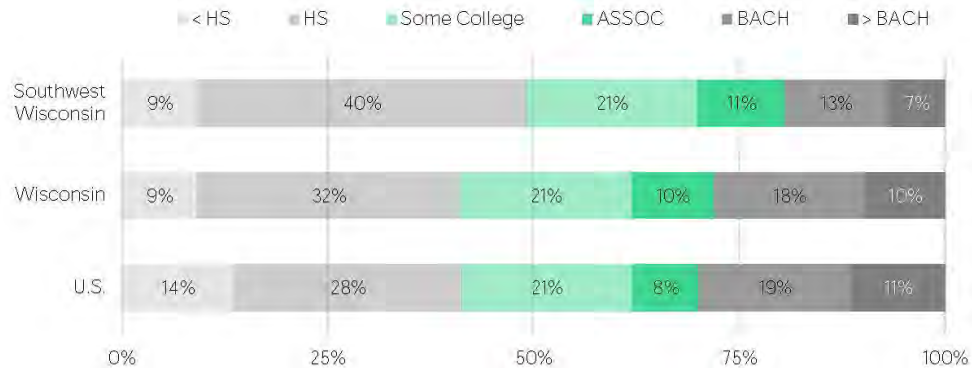
- Less than a high school diploma (<HS);
- High school diploma or equivalent (HS);
- Some college;<sup>8</sup>
- Associate degree (Assoc);
- Bachelor's degree (Bach);
- Greater than a bachelor's degree (>Bach).

About 84,220 adults live in Southwest Wisconsin, and Figure 2.7 displays their educational attainments, without reference to gender and the major race and ethnic groups. State and national data are also presented for context. In the region, 49% of adults have a high school diploma or less, which is significantly more than the state and national averages (both at 41%). Out of all the award categories in the figure, the people who are most likely to seek education and training from Southwest Tech are those in the "Less than High School Diploma," "High School Diploma," and "Some College" categories. Together, these categories total 58,940 people, or 70% of the region's adults.

---

8 The "Some College" category includes individuals who attended college but did not successfully obtain a degree and individuals who have received a postsecondary vocational award or professional certification but did not receive an associate or bachelor's degree.

Figure 2.7: Highest Educational Attainments of Adults in Southwest Wisconsin, Wisconsin, and the U.S.

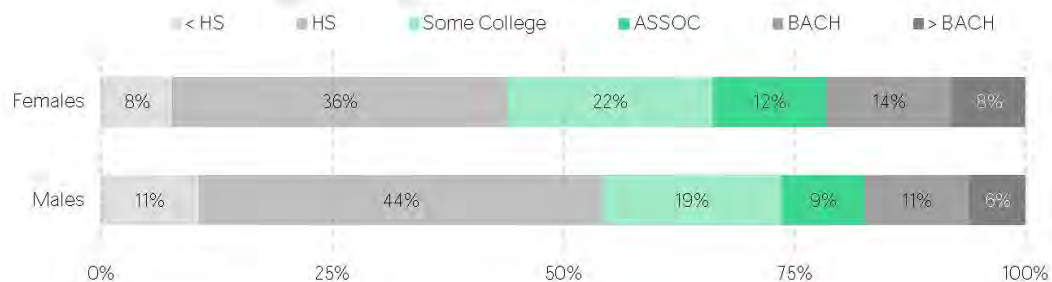


Numbers may not sum due to rounding.

Source: Emsi demographics data and U.S. Census Bureau, 2017 American Community Survey.

Between female and male adults in Southwest Wisconsin, there is little variation in the distribution of their award categories. Twenty-two percent of the region's female adults and 19% of the region's male adults have some college education but no degree, which represent 9,380 females and 8,200 males. Twelve percent of female adults and nine percent of male adults in the region have an associate degree as their highest award level. This information appears in Figure 2.8.

Figure 2.8: Highest Educational Attainments of Adults in Southwest Wisconsin by Gender



Numbers may not sum due to rounding.

Source: Emsi demographics data and U.S. Census Bureau, 2017 American Community Survey.

Table 2.3 and Figure 2.9 show the adults in Southwest Wisconsin by the major race and ethnic groups. As shown, 96% of the region's adults are White, non-Hispanic. Another two percent of adults are Hispanic, all types, and one percent are Black, non-Hispanic, the next largest groups. Altogether, less than one percent of the region's adults are Two or more

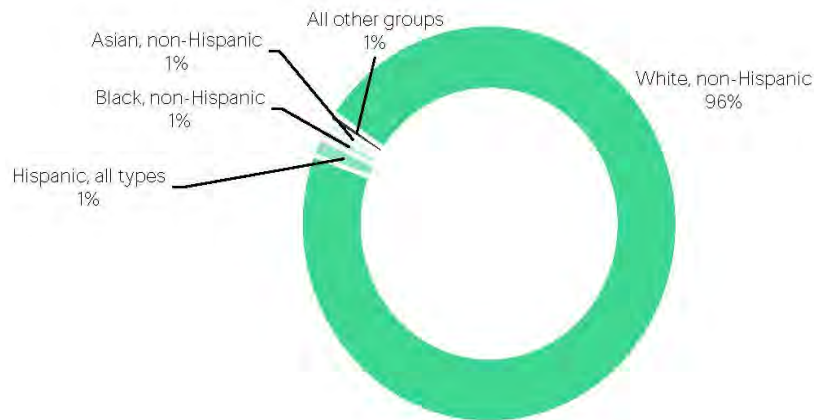
racess, non-Hispanic; American Indian or Alaskan Native, non-Hispanic; and Native Hawaiian or Pacific Islander, non-Hispanic.

Table 2.3: Adults in Southwest Wisconsin by Major Race and Ethnic Groups

GROUP	POPULATION	% POPULATION
White, non-Hispanic	81,003	96.2%
Hispanic, all types	1,279	1.5%
Black, non-Hispanic	787	0.9%
Asian, non-Hispanic	560	0.7%
Two or more races, non-Hispanic	381	0.5%
American Indian or Alaskan Native, non-Hispanic	186	0.2%
Native Hawaiian or Pacific Islander, non-Hispanic	22	<0.1%
Total	84,218	100.0%

Source: Emsi demographics data and U.S. Census Bureau, 2017 American Community Survey.

Figure 2.9: Adults in Southwest Wisconsin by Major Race and Ethnic Groups



Source: Emsi demographics data and U.S. Census Bureau, 2017 American Community Survey.

Figure 2.10 displays the highest educational attainment of Southwest Wisconsin's adults by their major race and ethnic groups. American Indian or Alaskan Native, non-Hispanic adults have the highest percentage of adults with a postsecondary education (57%) among all the groups. However, the group accounts for a relatively small portion of the region's adults. Of



the region's largest race and ethnic group – White, non-Hispanic – about half (51%) of adults have had education beyond high school. Of those without postsecondary education, 40% have a high school diploma.

Across all groups, these data suggest that there are many opportunities to increase the educational attainments of the region's adults, whether such actions involve outreach to local high schools or supporting Southwest Tech students who plan to transfer into a bachelor's degree level program.

Figure 2.10: Highest Educational Attainments of Adults in Southwest Wisconsin by Major Race and Ethnic Groups



Numbers may not sum due to rounding.

Source: Emsi demographics data and U.S. Census Bureau, 2017 American Community Survey.



## CHAPTER 3:

# Program Demand Gap Analysis

With the region's top industry subsectors and workforce in mind, the program demand gap analysis can now be conducted, answering the following question:

*Where are there misalignments between the workforce demand and the supply of college completers?*

This chapter outlines the deficit of Southwest Tech's program completers to the workforce (gap), as well as the oversupply of completions to the workforce (surplus). The occupations directly related or mapped to the significant gaps are also displayed. Before providing and discussing the results, we will go over the interpretation of the results.

## INTERPRETATION

The terms used in the analysis are as follows:

Gap Represents a deficit, or when there are more job openings in an occupation than there are completions. If left unaddressed, a gap may lead to missed opportunities for economic growth and put stress on local businesses to find the necessary talent elsewhere. Significant gaps translate into higher human resources costs and decreased efficiencies in the economic system. They also provide an opportunity for postsecondary educational institutions to develop new programs and/or strengthen their current programs.

Surplus Represents an oversupply, or when there are more completions than there are job openings in an occupation. If left unaddressed, significant surpluses may lead to higher unemployment rates or higher attrition rates—the college could be educating a workforce that is leaving the region after program completion because of a lack of job opportunities.

When reviewing the results of the analysis, consider that not all gaps or surpluses indicate necessary program adjustments. Due to labor market inefficiencies, it is common for most programs to face a certain level of gap or surplus. This means only significant gaps or surpluses should be reviewed or further developed. Given the size and characteristics of

Southwest Wisconsin, any gap or surplus within 30 jobs either above or below zero should be considered within the normal range of labor market fluctuations. In the following sections, the program gaps and surpluses are discussed by award level and presented as figures and tables.

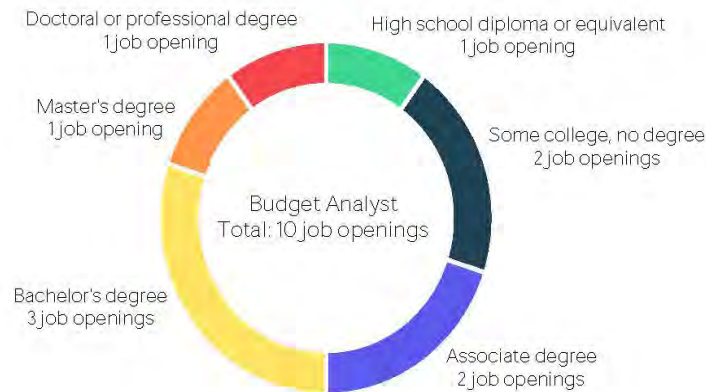
The figures show the gap between job demand and the supply of program completions. An explanation of job demand is warranted here, and a more detailed description can be found in Appendix 5. A program's job demand is measured as its total number of annual job openings, on average, from 2018 to 2028. The total is calculated as the sum of the regional job openings for each occupation mapped to the program, as illustrated in Figure 3.1.

Figure 3.1: Example of One Program Mapped to Three Occupations



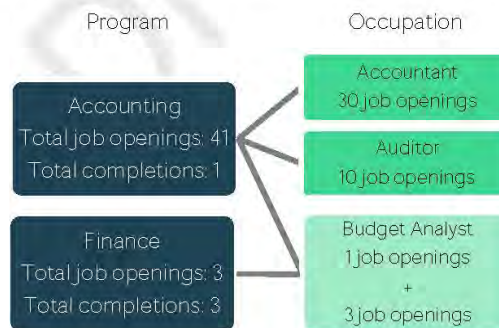
Furthermore, an occupation's job openings are not a gross measure of job openings available in the region. For every occupation, job openings have been weighted by the program's award level and one level below and account for the highest educational attainments of those employed in the position. The educational attainments in this chapter (and the following) are for adults less than 34 years, which differ from the previous chapter but better reflect the college's student population. Figure 3.2 illustrates how this methodology applies to an occupation's total job openings. For example, four job openings or 40% of total job openings are available to budget analysts at the associate degree level, seeing that there are a total of 10 job openings, 20% of those working in the occupation have an associate degree level of education, and another 20% have some college education and no degree.

Figure 3.2: Example of an Occupation's Weighted Job Openings by Award Level



Finally, job openings are de-duplicated and scaled across programs, when an occupation is mapped to more than one program. As illustrated in Figure 3.3, budget analysts, which have four total job openings, are mapped to two programs. However, the Finance program is three-times the size of the Accounting program, measured in terms of completions. Thus, one job opening is portioned to the Accounting program and three job openings to the Finance program.

Figure 3.3: Example of Two Programs with One Shared Occupation





Supply is shown as the average number of program completions in the region, by award level, between 2015 and 2017.<sup>9</sup> Southwest Tech is not the only postsecondary educational institution in Southwest Wisconsin reporting to IPEDS,<sup>10</sup> the source of the completions data; however, Southwest Tech is the only institution offering certificate and associate degree level programs beyond general studies degrees. The gap, then, is the difference between job openings and Southwest Tech's program completions. Appendix 4 has Southwest Tech's program to occupation map with adjusted employment, and Appendix 5 identifies all completions at various award levels in Southwest Wisconsin.

A great amount of data is presented in the tables. The first set shows the gaps and surpluses across all the programs offered at Southwest Tech by award level. The tables include the Classification of Instructional Program (CIP) code and title, the average annual number of job openings associated with the program (which have been de-duplicated using the process outlined in Appendix 5), the average annual program completions from the region and from Southwest Tech, and the gap or surplus for Southwest Wisconsin. The programs' median hourly wage rates are specific to Southwest Wisconsin.

The second set of tables identify the occupations mapped to the programs with a significant gap or surplus, by award level, and show detailed occupational data. The tables include the CIP code, program name (which is Southwest Tech's name for the program rather than the formal name associated with the CIP code), and occupations mapped to the program, by their Standard Occupational Classification (SOC) codes and titles. The regional job counts, by occupation, are shown for 2018 and 2028 with the change in jobs and average annual job openings for those years. The occupations' median hourly wage rates are specific to Southwest Wisconsin. See Appendix 6 for a complete list of job projections and Appendix 7 for unemployment information by industry and occupation.

## CERTIFICATE LEVEL ANALYSIS

This section considers the outlook for Southwest Tech's programs at the certificate level, which include the college's certificate, apprenticeship, and technical diploma programs. These programs are reported to IPEDS as non-degree awards ranging from less than one

---

9 The average annual completions data for Southwest Tech was updated to the years 2016 to 2018 and reviewed for accuracy by Southwest Tech. For programs that have not been offered for three years, Emsi used the average for the years the program has been offered.

10 IPEDS refers to the Integrated Postsecondary Education Data System, which gathers information from every college, university, and technical and vocational institution that participates in the federal student financial aid program.

academic year to awards of at least two but less than four academic years. In this section, Southwest Tech's unique certificate level programs aggregate into 28 programs, when they are classified by their six-digit CIP codes. Southwest Tech is the only provider of certificate level programs in Southwest Wisconsin.

Average projected annual job openings consider someone with a high school diploma level of education and some college education but no degree. Furthermore, an occupation's job openings are weighted by the number of other programs mapped to an occupation and scaled according to a program's completions. These openings are broken out by county, reflecting openings in each of the five counties comprising Southwest Wisconsin. Additional detail at the county level can be found in the supporting data tables.

Figure 3.4: Southwest Tech's Top 10 Certificate Level Programs with a Gap



CNC refers to computer numerically controlled. Openings and completions reflect annual averages.  
Source: Emsi program demand gap model.



The largest certificate level gap, at 114 job openings, is in the Culinary Specialist program (Figure 3.4). Within the program, Southwest Tech has two average annual completions. Table 3.1 shows all the award level's program gaps and surpluses. Programs with gaps and surpluses over the 30-openings level of significance are highlighted. Several programs have a surplus of program completions, and two of those surpluses are above the 30-openings level of significance.

Table 3.1: Gaps and Surpluses for Southwest Tech's Certificate Level Programs

CIP CODE	PROGRAM NAME	ANNUAL REGIONAL JOB OPENINGS	ANNUAL SOUTHWEST TECH COMPLETIONS	GAP OR SURPLUS	MEDIAN HOURLY WAGE
12.0500	Culinary Specialist	116	2	114	\$11.94
46.0201	Building Trades-Carpentry	73	7	66	\$17.17
52.0302	Accounting Assistant	59	4	55	\$16.79
19.0709	Child Care Services	58	4	54	\$13.10
48.0510	CNC Machine Operator/Programmer	40	3	37	\$17.73
47.0303	Industrial Mechanic	36	4	32	\$22.56
46.0302	Electricity (Construction) Apprentice	26	7	20	\$26.09
52.0203	Supply Chain Management	18	1	17	\$26.33
43.0109	Security Operations	19	2	17	\$13.14
47.0604	Automotive Technician	22	10	12	\$17.07
46.0101	Bricklaying & Masonry-PDC	13	2	12	\$21.38
48.0508	Welding	51	40	11	\$23.45
01.0205	Agricultural Power & Equipment Technician	25	15	10	\$19.66
47.0603	Auto Collision Repair & Refinish Technician	16	7	10	\$17.79
12.0401	Cosmetology	24	14	9	\$11.45
51.0713	Medical Coding Specialist	18	11	7	\$16.61
13.1304	Driver and Safety Education Certification	13	8	5	\$20.22
01.1001	Laboratory Science Technician	7	3	4	\$16.83
43.0107	Law Enforcement 720 Academy	13	11	2	\$26.30
47.0105	Industrial Electrician Apprentice	6	5	2	\$28.51
46.0503	Plumbing Apprentice	4	2	2	\$17.55
12.0505	Food Production Assistant	1	1	0	\$19.60

CIP CODE	PROGRAM NAME	ANNUAL REGIONAL JOB OPENINGS	ANNUAL SOUTHWEST TECH COMPLETIONS	GAP OR SURPLUS	MEDIAN HOURLY WAGE
11.1006	IT - Computer Support Technician	8	8	(0)	\$21.93
51.0601	Dental Assistant	9	13	(4)	\$18.28
51.0801	Medical Assistant	15	27	(12)	\$16.43
46.0303	Electrical Power Distribution	7	23	(16)	\$32.25
51.0904	EMT/AEMT	13	52	(40)	\$13.55
51.3902	Nursing Assistant	86	219	(133)	\$14.76

CNC refers to computer numerically controlled, PDC refers to Prairie du Chien, IT refers to information technology, and EMT/AEMT refers to emergency medical technician/advanced emergency medical technician. Numbers may not sum due to rounding.

Source: Emsi program demand gap model

Nine occupations are mapped to the Culinary Specialist program, such as restaurant cooks, food preparation workers, and butchers & meat cutters (Table 3.2). Restaurant cooks account for the most openings, at 29 openings, but have relatively low median hourly wages, at \$11.04 per hour. Although Wisconsin's state minimum wage is \$7.25<sup>11</sup> per hour, \$11.04 is not much higher than the region's living wage for a household with one working adult and no children (\$10.95) and significantly lower than the living wage for a household with two working adults and one child (\$13.07).<sup>12</sup> Other occupations mapped to this program look more promising, such as first-line supervisors of food preparation & serving workers (28 openings, median hourly wage \$13.07) and institution & cafeteria cooks (28 openings, median hourly wage \$12.82). While two mapped occupations have relatively high wages – butchers & meat cutters (\$17.38) and private household cooks (\$16.18) – they account for only two annual openings combined. Given the wages for many of the mapped occupations, students' wage outlook should be taken into account before considering program expansion.<sup>13</sup>

11 Wisconsin's minimum wage is \$7.25 per hour, which is the same as the federal minimum wage, and has remained unchanged since 2010. Source: U.S. Department of Labor.

12 Living wage calculations provided by Dr. Amy K. Glasmeier and the Massachusetts Institute of Technology. See Appendix 8.

13 Further research must be conducted before making a final determination, such as top employer identification within the region; business surveys to verify the data; resume and job postings analysis to determine trending skills for individuals with similar educations; industry recommendations on curriculum development; and analysis of the strengths, weaknesses, and capacities of similar programs at other higher education institutions. Emsi is available to conduct this research; see your Emsi contact for details.

Similarly, students' career goals should also be considered. While the Child Care Services program has 58 job openings allocated, 38 of those openings are for teacher assistants. If students enrolling in the program are hoping to become social workers or preschool teachers or administrators with their certificate level of education, the labor market gap is considerably smaller. Additionally, the median hourly wage for preschool teachers in Southwest Wisconsin is \$12.57, which is below the living wage for many family types.

Several occupations are mapped to the Nursing Assistant program, one of the two certificate level programs offered by Southwest Tech with a significant surplus (Table 3.3). The program is associated with 86 annual job openings, 72 of which are for nursing assistants. This program is often considered a pre-Licensed Practical Nurse (LPN) program at Southwest Tech; however, there are only 17 annual openings for LPNs in the region, and only 13 openings at the certificate level. More than 200 students, on average, complete the college's program every year, accounting for the large surplus. In fact, the Nursing Assistant program is, by far, the largest among the college's certificate and associate degree level programs in terms of its annual completions. Contracting the program may not be warranted without consideration as to where recent program completers are finding employment.

This step-by-step analysis of evaluating a program by its occupational job openings, job counts, and wage rates can be applied to the other programs in Tables 3.2 and 3.3. In general, occupations with high wages are more noteworthy than those with low wages. Also, if occupational forecasts are not positive, program development may not be a priority at this time. Keep in mind that there could be other sources of skilled workers filling the gaps, such as unemployed workers or workers from outside Southwest Wisconsin. On the other hand, Southwest Tech students completing programs with a surplus may be finding employment opportunities outside the region.

Table 3.2: Occupations Mapped to Southwest Tech's Certificate Level Programs with a Significant Gap

SOC CODE	SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE
CULINARY SPECIALIST (CIP CODE 12.0500)						
35-2014	Cooks, Restaurant	307	286	(21)	29	\$11.04
35-1012	First-Line Supervisors of Food Preparation & Serving Workers	254	259	5	28	\$13.07
35-2012	Cooks, Institution & Cafeteria	262	279	16	28	\$12.82
35-2021	Food Preparation Workers	110	117	7	14	\$10.02
51-3011	Bakers	67	81	14	8	\$11.81



SOC CODE	SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE
35-2015	Cooks, Short Order	60	56	(4)	6	\$9.89
51-3021	Butchers & Meat Cutters	22	23	1	2	\$17.38
35-2019	Cooks, All Other	3	4	1	0	\$11.14
35-2013	Cooks, Private Household	1	1	0	0	\$16.18
BUILDING TRADES-CARPENTRY (CIP CODE 46.0201)						
47-2031	Carpenters	468	491	23	33	\$19.07
51-7042	Woodworking Machine Setters, Operators, & Tenders, Except Sawing	198	199	1	17	\$13.30
51-7011	Cabinetmakers & Bench Carpenters	111	144	33	13	\$18.07
51-7041	Sawing Machine Setters, Operators, & Tenders, Wood	66	75	9	6	\$14.18
47-4011	Construction & Building Inspectors	19	20	1	1	\$28.34
47-3012	Helpers--Carpenters	11	14	2	1	\$14.22
51-7032	Patternmakers, Wood	1	1	0	0	\$18.38
51-7031	Model Makers, Wood	1	1	0	0	\$16.90
ACCOUNTING ASSISTANT (CIP CODE 52.0302)						
43-3031	Bookkeeping, Accounting, & Auditing Clerks	706	673	(33)	52	\$16.14
13-2011	Accountants & Auditors	309	327	18	3	\$28.37
43-3051	Payroll & Timekeeping Clerks	42	42	(0)	3	\$17.05
13-2082	Tax Preparers	16	16	0	1	\$15.55
43-4011	Brokerage Clerks	2	2	1	0	\$27.08
CHILD CARE SERVICES (CIP CODE 19.0709)						
25-9041	Teacher Assistants	496	538	41	38	\$12.57
25-2011	Preschool Teachers, Except Special Education	173	201	28	10	\$10.60
21-1093	Social & Human Service Assistants	146	163	17	9	\$17.25
21-1021	Child, Family, & School Social Workers	58	66	8	1	\$21.99
11-9031	Education Administrators, Preschool & Childcare Center/Program	19	22	3	0	\$17.09
CNC MACHINE OPERATOR/PROGRAMMER (CIP CODE 48.0510)						
51-4011	Computer-Controlled Machine Tool Operators, Metal & Plastic	124	129	5	11	\$18.81
51-4031	Cutting, Punching, & Press Machine Setters, Operators, & Tenders, Metal & Plastic	90	89	(1)	8	\$17.90
51-4041	Machinists	144	157	13	6	\$17.94
51-4021	Extruding & Drawing Machine Setters, Operators, & Tenders, Metal & Plastic	53	47	(6)	5	\$15.65



SOC CODE	SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE
51-4081	Multiple Machine Tool Setters, Operators, & Tenders, Metal & Plastic	47	50	4	5	\$16.51
51-4033	Grinding, Lapping, Polishing, & Buffing Machine Tool Setters, Operators, & Tenders, Metal & Plastic	27	25	(2)	2	\$15.65
51-4012	CNC Machine Tool Programmers, Metal & Plastic	15	17	2	2	\$22.00
51-4034	Lathe & Turning Machine Tool Setters, Operators, & Tenders, Metal & Plastic	11	11	0	1	\$16.90
51-4023	Rolling Machine Setters, Operators, & Tenders, Metal & Plastic	6	6	0	1	\$19.77
51-4035	Milling & Planing Machine Setters, Operators, & Tenders, Metal & Plastic	4	4	0	0	\$16.38
51-4022	Forging Machine Setters, Operators, & Tenders, Metal & Plastic	2	3	0	0	\$13.42
51-4032	Drilling & Boring Machine Tool Setters, Operators, & Tenders, Metal & Plastic	2	2	(0)	0	\$19.28
INDUSTRIAL MECHANIC (CIP CODE 47.0303)						
49-9041	Industrial Machinery Mechanics	158	195	37	15	\$21.86
51-4041	Machinists	144	157	13	8	\$17.94
49-9043	Maintenance Workers, Machinery	64	76	13	6	\$23.52
49-1011	First-Line Supervisors of Mechanics, Installers, & Repairers	163	179	16	5	\$29.26
49-9044	Millwrights	12	14	3	1	\$30.29
47-4021	Elevator Installers & Repairers	2	3	1	0	\$17.85
49-9081	Wind Turbine Service Technicians	2	3	1	0	\$13.43

CNC refers to computer numerically controlled. Numbers may not sum due to rounding.  
Source: Emsi program demand gap model.

Table 3.3: Occupations Mapped to Southwest Tech's Certificate Level Programs with a Significant Surplus

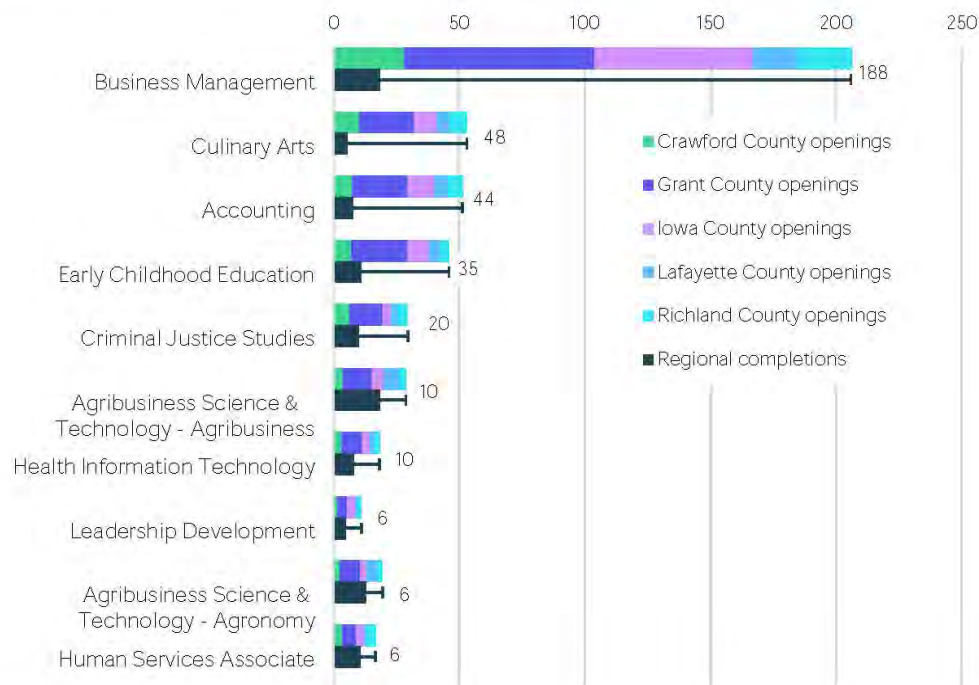
SOC CODE	SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE
NURSING ASSISTANT (CIP CODE 51.3902)						
31-1014	Nursing Assistants	743	794	51	72	\$13.83
29-2061	Licensed Practical & Licensed Vocational Nurses	197	206	9	13	\$20.08
31-1013	Psychiatric Aides	9	11	1	1	\$14.20
EMT/AEMT (CIP CODE 51.0904)						
29-2041	Emergency Medical Technicians & Paramedics	197	253	56	13	\$13.55

EMT/AEMT refers to emergency medical technician/advanced emergency medical technician. Numbers may not sum due to rounding.  
Source: Emsi program demand gap model.

## ASSOCIATE DEGREE LEVEL ANALYSIS

Southwest Tech offers about 23 programs in which students receive an Associate in Applied Science (AAS) or Applied Arts (AAA) degrees in one of many subject areas, classified by their six-digit CIP codes. Like the previous section, job openings consider this award level and one below – an associate degree and some college education in this section. An occupation's job openings are weighted by the number of other programs mapped to the occupation and scaled according to a program's completions. Like with Southwest Tech's certificate level programs, there are no other regional institutions that grant the same associate degrees as the college.<sup>14</sup>

Figure 3.5: Southwest Tech's Top 10 Associate Degree Level Programs with a Gap



Openings and completions reflect annual averages.  
Source: Emsi program demand gap model.

14 The University of Wisconsin-Platteville is located in Southwest Wisconsin and offers an Associate of Arts and Sciences degree, which covers a general liberal arts curriculum. However, this program is not included in this analysis due to its broad nature.

As shown in Figure 3.5, four programs have a significant gap above the 30-openings level of significance. The Business Management program has the largest, followed by the Culinary Arts, Accounting, and Early Childhood Education programs. As shown in Table 3.4, the Business Management program has 206 average annual job openings, considering the region's labor market. On average, Southwest Tech has 18 annual completions. At this award level, six programs have a surplus of program completions, but none of the surpluses are significant.

Table 3.4: Gaps and Surpluses for Southwest Tech's Associate Degree Level Programs

CIP CODE	PROGRAM NAME	ANNUAL REGIONAL JOB OPENINGS	ANNUAL SOUTHWEST TECH COMPLETIONS	GAP OR SURPLUS	MEDIAN HOURLY WAGE
52.0201	Business Management	206	18	188	\$21.07
12.0503	Culinary Arts	53	5	48	\$12.60
52.0301	Accounting	51	8	44	\$17.88
13.1210	Early Childhood Education	46	11	35	\$14.89
43.0104	Criminal Justice Studies	30	10	20	\$24.36
01.0102	Agribusiness Science & Technology - Agribusiness	29	18	10	\$18.44
51.0707	Health Information Technology	18	8	10	\$16.33
52.0204	Leadership Development	11	5	6	\$41.45
01.1102	Agribusiness Science & Technology - Agronomy	19	13	6	\$18.73
51.1502	Human Services Associate	17	11	6	\$17.87
12.0504	Culinary Management	7	2	5	\$14.42
01.0302	Agribusiness Science & Technology - Animal Science	9	6	3	\$18.61
52.0203	Supply Chain Management	5	3	3	\$25.43
31.0302	Golf Course Management	7	6	1	\$34.54
11.0901	IT - Network Communication Specialist	8	8	0	\$33.17
51.1002	Cancer Information Management	4	4	(0)	\$18.90
15.0404	Instrumentation and Controls Technology	3	3	(0)	\$19.46
51.1004	Medical Laboratory Technician	1	5	(3)	\$25.08
11.0801	Graphic and Web Design	6	11	(5)	\$23.52
15.0403	Electro-Mechanical Technology	9	15	(6)	\$17.37
51.3401	Direct Entry Midwife	0	6	(6)	\$34.99



CIP CODE	PROGRAM NAME	ANNUAL REGIONAL JOB OPENINGS	ANNUAL SOUTHWEST TECH COMPLETIONS	GAP OR SURPLUS	MEDIAN HOURLY WAGE
51.0806	Physical Therapist Assistant	3	12	(8)	\$21.46
51.3801	Nursing	23	45	(22)	\$33.06

IT refers to information technology. Numbers may not sum due to rounding.

Source: Emsi program demand gap model.

The Business Management program is mapped to 16 occupations (Table 3.5). Customer service representatives, secretaries & administrative assistants, and first-line supervisors of retail sales workers are the top three occupations mapped to the program in terms of the number of projected average annual job openings. Customer service representatives account for over one-third of the program's openings; however, jobs are expected to decrease over the next decade (recall from Chapter 2 that the Nonstore Retailers industry subsector, where many customer service representatives work in Southwest Wisconsin, is also expected to decline in jobs).

Within the Business Management program's mapped occupations, financial managers have the highest median hourly wage rate at \$51.32, but there are only two job openings for the occupation at the associate degree level in the region. Nevertheless, all 16 occupations mapped to the program have hourly wages above \$15.00. As stated previously, Wisconsin's state minimum wage is \$7.25<sup>15</sup> per hour, and the region's living wage is \$10.95 for a household with one working adult and no children.<sup>16</sup> There appears to be some evidence to support a program expansion considering the strength of business-related occupations in the region; however, given the expected decline in the Nonstore Retailers subsector, Southwest Tech should speak to local distribution centers to gain a better understanding of current and future hiring trends.<sup>17</sup>

Using Table 3.5, this step-by-step process of evaluating occupational gaps by their job openings, job counts, and median hourly wage rates can be applied to the other Southwest Tech associate degree level programs with a significant gap. In general, occupations with

15 Wisconsin's minimum wage is \$7.25 per hour, which is the same as the federal minimum wage, and has remained unchanged since 2010. Source: U.S. Department of Labor.

16 Living wage calculations provided by Dr. Amy K. Glasmeier and the Massachusetts Institute of Technology. See Appendix 8.

17 As stated previously, further research and analysis must be conducted before making a final determination. Emsi is available to conduct this research; see your Emsi contact for details.



high wages should be considered more noteworthy than those with low wages. If an occupation's job projections are not positive, then it may not be worth further consideration, in terms of its mapped programs. Also, there could be other sources of skilled workers filling the gaps, such as unemployed workers or workers from outside the region.

Table 3.5: Occupations Mapped to Southwest Tech's Associate Degree Level Programs with a Significant Gap

SOC CODE	SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE
BUSINESS MANAGEMENT (CIP CODE 52.0201)						
43-4051	Customer Service Representatives	1,219	1,070	(149)	76	\$15.92
43-6014	Secretaries & Administrative Assistants, Except Legal, Medical, & Executive	524	514	(10)	30	\$15.88
41-1011	First-Line Supervisors of Retail Sales Workers	423	448	25	24	\$16.49
41-4012	Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	539	573	34	20	\$26.52
43-1011	First-Line Supervisors of Office & Administrative Support Workers	408	406	(2)	19	\$21.86
11-1021	General & Operations Managers	507	552	45	12	\$43.03
11-9199	Managers, All Other*	376	428	52	6	\$24.91
13-1071	Human Resources Specialists	176	183	7	4	\$26.69
13-1199	Business Operations Specialists, All Other*	145	158	13	4	\$26.79
13-1161	Market Research Analysts & Marketing Specialists	207	218	11	3	\$23.49
11-3031	Financial Managers	93	114	21	2	\$51.32
13-1111	Management Analysts	132	151	19	2	\$32.51
11-1011	Chief Executives	124	121	(3)	2	\$46.80
11-2022	Sales Managers	67	74	7	1	\$50.62
11-3121	Human Resources Managers	46	50	4	1	\$42.18
11-2021	Marketing Managers	42	45	3	1	\$41.33
CULINARY ARTS (CIP CODE 12.0503)						
35-2014	Cooks, Restaurant	307	286	(21)	14	\$11.04
35-2012	Cooks, Institution & Cafeteria	262	279	16	14	\$12.82
35-1012	First-Line Supervisors of Food Preparation & Serving Workers	254	259	5	13	\$13.07
51-3011	Bakers	67	81	14	5	\$11.81
11-9051	Food Service Managers	77	79	2	3	\$19.49

SOC CODE	SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE
35-2015	Cooks, Short Order	60	56	(4)	3	\$9.89
35-1011	Chefs & Head Cooks	21	23	2	1	\$17.32
35-2019	Cooks, All Other	3	4	1	0	\$11.14
35-2013	Cooks, Private Household	1	1	0	0	\$16.18
ACCOUNTING (CIP CODE 52.0301)						
43-3031	Bookkeeping, Accounting, & Auditing Clerks	706	673	(33)	43	\$16.14
13-2011	Accountants & Auditors	309	327	18	4	\$28.37
43-3051	Payroll & Timekeeping Clerks	42	42	0	2	\$17.05
11-3031	Financial Managers	93	114	21	1	\$51.32
13-2082	Tax Preparers	16	16	0	1	\$15.55
13-2041	Credit Analysts	19	20	1	0	\$25.98
13-2051	Financial Analysts	36	41	5	0	\$33.31
43-9111	Statistical Assistants	2	2	0	0	\$20.71
13-2061	Financial Examiners	13	15	1	0	\$29.24
13-2031	Budget Analysts	9	10	1	0	\$29.96
13-2081	Tax Examiners & Collectors, & Revenue Agents	3	3	0	0	\$21.77
43-4011	Brokerage Clerks	2	2	1	0	\$27.08
EARLY CHILDHOOD EDUCATION (CIP CODE 13.1210)						
25-9041	Teacher Assistants	496	538	41	28	\$12.57
25-2011	Preschool Teachers, Except Special Education	173	201	28	10	\$10.60
25-2021	Elementary School Teachers, Except Special Education	534	558	24	3	\$24.75
11-9032	Education Administrators, Elementary & Secondary School	97	101	4	2	\$42.75
25-2012	Kindergarten Teachers, Except Special Education	32	34	2	2	\$25.62
25-9031	Instructional Coordinators	20	22	2	1	\$28.39
11-9031	Education Administrators, Preschool & Childcare Center/Program	19	22	3	0	\$17.09
25-2052	Special Education Teachers, Kindergarten & Elementary School	27	30	2	0	\$24.73
25-2051	Special Education Teachers, Preschool	7	8	1	0	\$19.06

\* See Appendix 2 for job postings related to this occupation.  
Numbers may not sum due to rounding.  
Source: Emsi program demand gap model.

## SUMMARY

Between both the certificate and associate degree levels, there are a total of 10 programs associated with significant workforce gaps. Program expansion should consider students' career interests and wage outlook, as some of the programs (i.e. Culinary Specialist) have low-wage occupations mapped to them. Two certificate level programs registered a significant surplus: the college's Nursing Assistant and EMT/AEMT programs. The Nursing Assistant program is, by far, the largest among the college's programs in terms of its annual completions. Thus, contracting the program may not be warranted without consideration as to where recent program completers are finding employment. The six certificate programs with gaps above the 30-openings level of significance are:

- Culinary Specialist (gap of 114, median hourly wage \$11.94);
- Building Trades-Carpentry (gap of 66, median hourly wage \$17.17);
- Accounting Assistant (gap of 55, median hourly wage \$16.79);
- Child Care Services (gap of 54, median hourly wage \$13.10);
- CNC Machine Operator/Programmer (gap of 37, median hourly wage \$17.73); and
- Industrial Mechanic (gap of 32, median hourly wage \$22.56).

At the associate degree level, four programs registered a significant workforce gap. Some show signs of promise for a potential program expansion given their high wages and plentiful openings; however, further research and discussion with local employers should be conducted before making a final determination. The programs with a significant gap are:

- Business Management (gap of 188, median hourly wage \$21.07);
- Culinary Arts (gap of 48, median hourly wage \$12.60);
- Accounting (gap of 44, median hourly wage \$17.88); and
- Early Childhood Education (gap of 35, median hourly wage \$14.89).



## CHAPTER 4:

# New Program Additions

Thus far, the analysis has centered around programs offered by Southwest Tech. This chapter looks at workforce gaps that exist within occupations that the college does not currently educate or train students for and provides recommendations for areas of new program development. For each award level, a table shows the occupations' current and projected jobs, average annual projected job openings, and median hourly wage rates. In addition, the figure in the certificate level section details the current annual wage rates for those employed in a selection of occupations.

Recommendations are based solely on the gap and whether or not the occupation looks promising (job growth, wages, etc.). These are initial findings and should serve as a starting point for further research. Southwest Tech's administration will still need to undergo steps before deciding whether these programs would be a good fit for the college and the region. This future work could include surveying local employers, analyzing skills and similar programs offered elsewhere, calculating program specific economic impacts, and looking at capacity and capital requirements for building these programs.

## ADDITIONS AT THE CERTIFICATE LEVEL

Eighteen occupations have been identified as certificate level programmatic areas of opportunity, as shown in Table 4.1. The select occupations present unmet annual job openings within Southwest Wisconsin (i.e. they have a gap), their median hourly wage rates are greater than \$15.00, and the occupations typically require some college education but no degree for entry-level positions.

As shown, there is diversity in the types of occupations in the table, with a limited number of job openings in the region for some. The most represented occupational group in the table is office & administrative support occupations (SOC 43-0000), with nine occupations and about 1,800 jobs in the region in 2018. Southwest Tech recently discontinued its Administrative Professional and Office Support Specialist programs; however, the data show that there is still significant demand for related occupations such as office clerks, order clerks, and executive secretaries & administrative assistants. Thus, the college could consider



bringing those programs back, whether on their own or as a specialty track within its business programs.

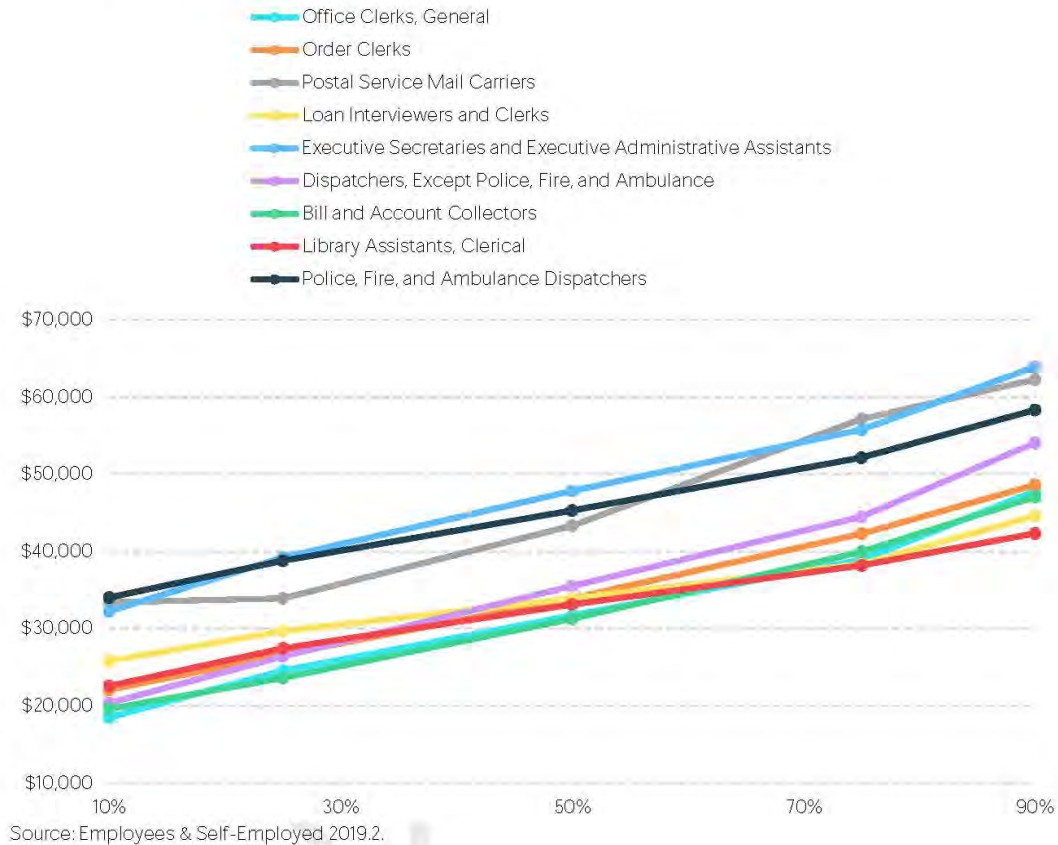
Table 4.1: Southwest Tech's Programmatic Areas of Opportunity at the Certificate Level

SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE
Office Clerks, General	1,080	1,064	(15)	92	\$15.24
Order Clerks	290	185	(105)	18	\$16.30
Firefighters	238	241	3	11	\$15.47
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	121	126	5	9	\$24.64
Postal Service Mail Carriers	156	125	(31)	8	\$20.83
Pharmacy Technicians	166	143	(23)	7	\$15.39
Loan Interviewers and Clerks	85	94	9	6	\$16.30
First-Line Supervisors of Personal Service Workers	71	77	6	5	\$15.56
Executive Secretaries and Executive Administrative Assistants	76	70	(7)	5	\$23.01
Telecommunications Equipment Installers and Repairers, Except Line Installers	44	50	5	5	\$25.09
Dispatchers, Except Police, Fire, and Ambulance	59	61	2	4	\$17.07
Bill and Account Collectors	46	49	3	4	\$15.04
Water and Wastewater Treatment Plant and System Operators	59	58	(1)	4	\$22.19
Residential Advisors	19	23	4	3	\$15.24
Veterinary Technologists and Technicians	65	64	(1)	3	\$15.62
Library Assistants, Clerical	29	31	2	3	\$15.93
Massage Therapists	40	41	1	3	\$16.33
Police, Fire, and Ambulance Dispatchers	38	40	2	3	\$21.79

Numbers may not sum due to rounding.

Source: Emsi program demand gap model.

Figure 4.1: Percentile Wage Rates of Office & Administrative Support Occupations Identified as New Program Opportunities



The annual wage rates of the nine office & administrative support occupations from Table 4.1 are shown in Figure 4.1, with an emphasis on low and high wage-earners. For those people in Southwest Wisconsin employed as police, fire, & ambulance dispatchers, annual wage rates are the highest of all occupations at the 10<sup>th</sup> percentile (which is likely to reflect workers early into their careers), but by the 90<sup>th</sup> percentile, its wage rate is lower than executive secretaries & executive administrative assistants and postal service mail carriers.

Notably, the difference between the lowest wage earners in the occupation (10<sup>th</sup> percentile) and the highest (90<sup>th</sup> percentile) is about \$30,000 for office clerks. For Southwest Tech students, these results may indicate that time spent working as an office clerk could lead to progressively higher wages throughout their careers. On the other hand, there is about an \$18,000 difference between the lowest and highest wage earners for loan interviewers & clerks. Data on percentile wage rates highlight the occupations that should be incorporated

into a new or existing Southwest Tech program, for the benefit of students first coming into the region's labor market or those looking to change career paths.

## ADDITIONS AT THE ASSOCIATE DEGREE LEVEL

Fewer occupations, compared to the previous section, have been identified as associate degree level programmatic areas of opportunity (Table 4.2). There are not as many occupations that specifically require such an education, and most have been considered in the previous chapter's analysis. Five of the eight occupations in the table are related to healthcare. Because of this, the college could consider developing a transfer-track associate degree level program in Allied Health or Pre-Health, seeing that a bachelor's degree level of education is also valuable in the region's labor market. As Southwest Tech already offers healthcare programs, an introductory program in healthcare could pique students' interest in pursuing a variety of healthcare occupations.

Table 4.2: Southwest Tech's **Programmatic** Areas of Opportunity at the Associate Degree Level

SOC TITLE	2018 JOBS	2028 JOBS	JOB CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE
Radiologic Technologists	59	66	8	3	\$27.55
Morticians, Undertakers, & Funeral Directors	27	30	4	3	\$26.45
Respiratory Therapists	30	38	9	2	\$28.45
Occupational Therapy Assistants	11	13	1	1	\$23.78
Diagnostic Medical Sonographers	22	27	5	1	\$39.07
Architectural & Civil Drafters	18	20	2	1	\$22.88
Mechanical Drafters	18	19	1	1	\$23.34
Cardiovascular Technologists & Technicians	15	17	2	1	\$26.11

Numbers may not sum due to rounding.  
Source: Emsi program demand gap model.

## SUMMARY

Eighteen certificate level programmatic areas of opportunity have been identified in the program demand gap analysis, most of which are related to office & administrative support

occupations. Although the college recently discontinued similar programs, the data show that there is still strong demand for those occupations and that a modified program could be worth consideration. At the associate degree level, there are fewer opportunities for new programs, considering the college's current offerings. Nonetheless, Southwest Tech should consider new programs related to applied or technical healthcare, whether its focus is on job openings in Southwest Wisconsin or the rest of the state. For both award levels, many program additions are related to the college's current program offerings, which indicates an opportunity for a curriculum adjustment to better align with the region's current and projected labor market demand.



## Job Posting Analytics

Emsi's proprietary database includes job postings datasets, and these job postings are used to help determine current and emerging needs for graduates. While the job openings in the previous sections are helpful for determining demand for program completers based on structural labor market information, they can be limited in that they use historical information to determine job openings. While more stable and generally conservative, they may not capture real-time demand or activity around an occupation.

Job postings data provide a snapshot of real-time labor market information in a given region through the number of total and unique job postings for an occupation. More specifically, it opens the possibility to go deeper into the types of skills and jobs demanded by employers. Also, the data tie back to the companies posting for jobs and the cities in which the jobs are located. The end result is a way to ascertain what is currently in demand across regional employers, including emerging needs, and as such, tailor programs so their graduates will be competitive in the regional job market.

Emsi uses several sources to collect job posting information from companies. Total job postings denote the total number of online job advertisements listed by different companies on career sites and job boards. The sources collect about 100 million job postings per month from more than 90,000 companies. Emsi de-duplicates these postings down to approximately 8 million unique job postings per month. In the process, geographies are assigned to the postings as well as company names, job locations, skills, and so on. Through this entire process, we can then use the data to look into the companies posting jobs and the specific skills in demand within a given region.

Southwest Tech expressed interest in further information around four areas of employment, from specific occupations and job titles to more general fields. This chapter provides job postings data in terms of number of job postings by top occupations or job titles, top companies posting for the occupations, and top locations of the postings.

Note that the tables show postings in terms of their uniqueness, intensity, and median posting duration. A unique job posting has been deduplicated to appear only once, as is the case when a company has posted the same job on multiple platforms. Posting intensity is the ratio of unique job postings to total job postings, which is an indication of job demand. For example, a ratio of 4.0 shows a higher intensity, or demand for a new employee, than a ratio of 3.5. Posting duration indicates how long a unique posting was active before taken

down by an employer. A shorter posting duration may indicate that a position was filled quickly, while a longer posting duration indicates that either the position was difficult to fill or was kept up for an extended period of time to hire multiple workers for the same position. The data also show skills requested in job postings and the relative frequency that they appear in the posting sample. The data in this chapter reflect job postings from September 2018 to August 2019 in Southwest Wisconsin.

## TRUCK DRIVERS

Job postings for this section were filtered by the job title “truck drivers.” There were 6,792 unique job postings for truck drivers in Southwest Wisconsin during the reference period. Each job posting is tagged with an occupation as classified by the SOC system to provide greater continuity with traditional government data. While in many cases a SOC title doesn’t provide much detail about a position, this is a rare case where SOC titles provide more detail than the job title. As shown in Table 5.1, the occupations most related to postings for truck drivers were heavy & tractor-trailer truck drivers and light truck or delivery services drivers.

CRST International is the company with the most job postings for truck drivers in Southwest Wisconsin, followed by U.S. Xpress and Roehl Transport, as displayed in Table 5.2. As shown in Table 5.3, most jobs for truck drivers are based out of Platteville, Richland Center, and Dodgeville. This is likely due to the presence of major distribution centers in the area, like Land’s End in Dodgeville. Table 5.4 shows the top requested skills. The most common skill to appear in postings was truckload shipping, followed by purchasing and flatbed truck driving.

Table 5.1: Top Occupations Associated with Truck Driver Job Postings in Southwest Wisconsin

SOC TITLE	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
Heavy and Tractor-Trailer Truck Drivers	5,631	3.1	33 days
Light Truck or Delivery Services Drivers	1,088	3.6	44 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.2: Top Companies by Unique Job Postings for Truck Drivers in Southwest Wisconsin

COMPANY	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
CRST International, Inc.	1,773	4.0	49 days
U. S. Xpress, Inc.	577	4.5	22 days
Roehl Transport, Inc.	329	4.6	60 days

C.R. England, Inc.	295	1.7	31 days
Hirschbach Motor Lines, Inc.	248	2.3	43 days
Decker Truck Line, Inc.	227	1.6	20 days
Heartland Express, Inc.	157	1.4	44 days
Smith Transport, Inc.	149	3.9	53 days
Dart Transit Co Inc	136	1.3	24 days
Loudon County Trucking, Inc.	136	4.2	58 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.3: Top Cities by Unique Job Postings for Truck Drivers in Southwest Wisconsin

CITY	UNIQUE JOB POSTINGS	POSTING INTENSITY
Platteville, WI	410	3.5
Richland Center, WI	293	3.1
Dodgeville, WI	274	4.1
Mineral Point, WI	236	4.1
Prairie du Chien, WI	221	3.6
Cuba City, WI	192	3.3
Fennimore, WI	176	4.1
Hazel Green, WI	174	3.6
Lancaster, WI	174	3.1
Benton, WI	163	2.5

Source: Emsi job posting analytics data, September 2018 to August 2019.



Table 5.4: Top Skills for Truck Drivers in Southwest Wisconsin

CITY	FREQUENCY IN POSTINGS	UNIQUE POSTINGS WITH SKILL
Truckload Shipping	5%	348
Purchasing	3%	196
Flatbed Truck	3%	180
Safety Training	2%	142
Warehousing	2%	106
Business Model	1%	75
Food Delivery	1%	69
Brand Awareness	1%	62

Source: Emsi job posting analytics data, September 2018 to August 2019.

## MANUFACTURING

Job postings data are also tagged with the company's industry classification at the two-digit NAICS level, referred to as industry sectors. Filtering data by industry sectors can provide a high-level view of a sector's activity and hiring trends in real time. This section considers postings in Southwest Wisconsin from companies in the Manufacturing sector (NAICS 31-33).

There were 747 unique job postings in the Manufacturing sector during the reference period. As shown in Table 5.5, the job titles appearing most frequently are machine operators, packaging operators, and production workers. Note the long posting duration for most occupations in Table 5.5; this could indicate a need for more workers, either due to difficulty filling these positions or hiring multiple workers on a rolling basis. For context, the median posting duration for all job postings in Southwest Wisconsin is 25 days. Cummins is the top job poster in the sector, followed by Saputo and Packaging Corporation of America, as shown in Table 5.6. As shown in Table 5.7, many jobs in the Manufacturing sector are located in Prairie du Chien, Richland Center, and Platteville. Some of the top skills in Table 5.8 may be related to food manufacturing, such as food safety and packaging and labeling. Other skill relate to innovation, like new product development and automation.



Table 5.5: Top Job Titles by Unique Job Postings for the Manufacturing Sector in Southwest Wisconsin

JOB TITLE	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
Machine Operators (Production)	32	3.3	59 days
Packaging Operators	22	3.9	62 days
Production Workers	21	3.3	47 days
Material Handlers (Transportation and Material Moving)	21	3.1	22 days
Welders (Production)	18	2.3	58 days
Maintenance Mechanics	16	1.8	32 days
Manufacturing Assemblers	16	3.7	48 days
Production Assemblers	13	2.9	67 days
Production Supervisors	13	6.8	32 days
Production Helpers	13	5.9	42 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.6: Top Companies by Unique Job Postings for the Manufacturing Sector in Southwest Wisconsin

COMPANY	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
Cummins Inc.	73	3.4	51 days
Saputo Inc.	68	4.1	49 days
Packaging Corporation of America	39	1.3	24 days
Foremost Farms USA Cooperative	39	2.1	54 days
3M Company	38	6.1	42 days
Rockwell Automation, Inc.	36	8.1	40 days
Building Automation Products, Inc.	32	2.0	32 days
Emmi Roth Usa, Inc.	30	2.8	35 days
Schreiber Foods, Inc.	27	3.1	42 days
Miniature Precision Components, Inc.	26	1.5	34 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.7: Top Cities by Unique Job Postings for the Manufacturing Sector in Southwest Wisconsin

CITY	UNIQUE JOB POSTINGS	POSTING INTENSITY
Prairie du Chien, WI	135	3.0
Richland Center, WI	107	4.5
Platteville, WI	100	2.6
Lancaster, WI	97	3.5
Mineral Point, WI	77	3.3
Belmont, WI	54	2.7
Dodgeville, WI	32	5.1
Gays Mills, WI	32	2.0
Fennimore, WI	31	4.9
Viola, WI	19	1.9

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.8: Top Skills for the Manufacturing Sector in Southwest Wisconsin

CITY	FREQUENCY IN POSTINGS	UNIQUE POSTINGS WITH SKILL
Packaging And Labeling	16%	116
Food Safety	13%	99
New Product Development	10%	71
Personal Protective Equipment	10%	71
Good Manufacturing Practices	9%	68
Security Administration	8%	61
Emission Standards	8%	59
Automation	8%	58
Production Equipment Controls	8%	58
Hazard Analysis And Critical Control Points (HACCP)	7%	52

Source: Emsi job posting analytics data, September 2018 to August 2019.

## CHEESE PRODUCTION

Recall from Chapter 2 that Food Manufacturing is a key industry subsector for the region because of the presence of many large cheese producers. Jobs in this subsector span a wide range of activities, including food science, laboratory work, working with equipment and

machinery, and packaging. To provide further insight into these jobs, Emsi used a keyword search to filter postings related to cheese production.

There were 213 unique job postings related to cheese production in Southwest Wisconsin during the reference period. As shown in Table 5.9, the top job titles were packaging operators, production assemblers, and manufacturing assemblers. These job titles all have lengthy posting durations. Saputo is the top job poster for cheese production jobs, followed by Foremost Farms and Emmi Roth, as shown in Table 5.10. As shown in Table 5.11, most jobs for cheese production are located in Belmont, Lancaster, and Platteville. The top skills appearing in job postings for cheese production (Table 5.12) range from general manufacturing skills, like quality management and standard operating procedures, to cheese-specific skills, like milk processing and food safety.

Table 5.9: Top Job Titles by Unique Job Postings for Cheese Production in Southwest Wisconsin

JOB TITLE	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
Packaging Operators	17	4.4	62 days
Production Assemblers	14	2.9	54 days
Manufacturing Assemblers	13	4.1	75 days
Production Workers	11	2.9	41 days
Tool Makers	7	5.6	59 days
Laboratory Technicians (Life, Physical, and Social Science)	6	2.3	16 days
Quality Coordinators	6	2.8	40 days
Packaging Supervisors	6	3.3	26 days
Production Managers (Production)	6	5.0	47 days
Production Supervisors	6	5.2	45 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.10: Top Companies by Unique Job Postings for Cheese Production in Southwest Wisconsin

COMPANY	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
Saputo Inc	75	4.2	49 days
Foremost Farms USA Cooperative	38	2.3	53 days
Emmi Roth Usa, Inc.	31	3.0	38 days
Lactalis American Group, Inc.	19	1.4	16 days
Furst Services Company	4	1.0	153 days
Lactalis	4	2.8	14 days
Sigma Corporation	4	1.0	8 days
Wisconsin Milk Marketing Board, Inc.	4	3.3	60 days
Saputo Dairy Foods Usa, LLC	4	7.3	71 days
State of Wisconsin	3	1.7	7 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.11: Top Cities by Unique Job Postings for Cheese Production in Southwest Wisconsin

CITY	UNIQUE JOB POSTINGS	POSTING INTENSITY
Belmont, WI	70	3.3
Lancaster, WI	62	3.9
Platteville, WI	33	2.9
Richland Center, WI	24	3.9
Shullsburg, WI	10	1.6
Darlington, WI	9	1.2
Dodgeville, WI	2	1.0

Source: Emsi job posting analytics data, September 2018 to August 2019.



Table 5.12: Top Skills for Cheese Production in Southwest Wisconsin

CITY	FREQUENCY IN POSTINGS	UNIQUE POSTINGS WITH SKILL
Food Safety	51%	109
Packaging And Labelling	44%	93
Good Manufacturing Practices	38%	82
Hazard Analysis And Critical Control Points (HACCP)	31%	66
Milk Processing	20%	42
Quality Management	18%	38
Standard Operating Procedure	14%	30
Personal Protective Equipment	14%	30
Process Flow Diagrams	14%	29
Corrective And Preventive Actions	11%	24

Source: Emsi job posting analytics data, September 2018 to August 2019.

## MENTAL HEALTH SUPPORT SERVICES

Southwest Tech also expressed interest in job postings related to mental health support services. For this section, postings were filtered using keywords related to this area, as well as education level filters for associate degree level and below or unspecified.

There were about 92 unique job postings in the region related to mental health support services during the reference period. As shown in Table 5.13, the most common job titles were monitor technicians, CNA, behavioral health clinicians, and caregivers. Most of the postings in the table have relatively short posting durations, possibly indicating that positions are filled quickly. As shown in Table 5.14, the top companies posting for these jobs are Caravel Corp, Unified Community Services, and Learn-It Systems, LLC. Most jobs for mental health support services are in Platteville, Richland Center, and Dodgeville, as shown in Table 5.15. Many of the top skills requested in these postings (Table 5.16) relate to knowledge of developmental disabilities and behavioral therapy.

Table 5.13: Top Job Titles by Unique Job Postings for Mental Health Support Services in Southwest Wisconsin

JOB TITLE	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
Monitor Technicians	6	3.8	18 days
Certified Nursing Assistants (CNA)	6	1.2	11 days
Behavioral Health Clinicians	4	2.0	11 days

Caregivers (Personal Care and Service)	4	1.3	13 days
Clinical Therapists	3	11.3	76 days
Career Coordinators	2	1.0	13 days
Crisis Specialists	2	1.0	19 days
Mental Health Counselors	2	1.0	7 days
Social Workers	2	4.5	67 days
Mental Health Therapists	2	1.0	24 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.14: Top Companies by Unique Job Postings for Mental Health Support Services in Southwest Wisconsin

COMPANY	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
Caravel Corp	29	3.7	46 days
Unified Community Services	9	1.4	15 days
Learn-It Systems, LLC	7	2.6	10 days
Lori Knapp Inc	6	1.5	13 days
Manor Care, Inc.	5	5.6	26 days
American Marketing & Publishing, LLC	3	1.7	29 days
The Attic Correctional Services Inc	3	1.0	20 days
Southwest Health, Ltd.	3	1.3	322 days
Mayo Clinic	3	11.3	76 days
Corizon Health, Inc.	3	1.0	26 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.15: Top Cities by Unique Job Postings for Mental Health Support Services in Southwest Wisconsin

CITY	UNIQUE JOB POSTINGS	POSTING INTENSITY
Platteville, WI	21	3.9
Richland Center, WI	14	2.9
Dodgeville, WI	13	2.7
Lancaster, WI	13	1.3
Prairie du Chien, WI	8	5.8

Fennimore, WI	4	2.3
Mineral Point, WI	3	1.0
Arena, WI	2	1.5
Boscobel, WI	2	1.0
Cuba City, WI	2	1.0

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.16: Top Skills for Mental Health Support Services in Southwest Wisconsin

CITY	FREQUENCY IN POSTINGS	UNIQUE POSTINGS WITH SKILL
Mental Health	63%	58
Disabilities	52%	48
Psychology	52%	48
Behavioral Health	45%	41
Social Work	41%	38
Applied Behavior Analysis	40%	37
Autism (Therapies)	40%	37
Behavior Therapy	40%	37
Developmental Disabilities	40%	37
Home Care	40%	37

Source: Emsi job posting analytics data, September 2018 to August 2019.

## SOLAR ENERGY TECHNOLOGY

Southwest Tech expressed interest in job postings related to solar energy technology. As this is a relatively new field, there are few related job postings in Southwest Wisconsin. This section provides information on postings nationwide to give Southwest Tech insight into broader trends. Postings were filtered using keywords related to this area, as well as education level filters for associate degree level and below or unspecified. As Southwest Tech expressed interest in solar technology, postings related to sales were excluded.

There were about 55,017 unique job postings in the U.S. related to solar technology during the reference period. As shown in Table 5.17, the most common job titles were solar photovoltaic installers, journeymen electricians, and project managers. Other top job titles relate to maintenance and engineering. In terms of skills, the majority of the top skills relate to engineering, particularly electrical engineering (Table 5.18). If Southwest Tech is interested in solar technology programs, these data indicate that electrical engineering technology/technician programming may be a good place to start.

Table 5.17: Top Job Titles by Unique Job Postings for Solar Energy Technology in Southwest Wisconsin

JOB TITLE	UNIQUE JOB POSTINGS	POSTING INTENSITY	MEDIAN POSTING DURATION
Solar Photovoltaic (PV) Installers	3,323	3.3	29 days
Journeyman Electricians	1,429	2.6	13 days
Project Managers (Management)	889	3.6	30 days
Design Engineers (Architecture and Engineering)	675	4.4	29 days
Maintenance Managers (Installation, Maintenance, and Repair)	585	4.4	35 days
Electricians	560	3.8	32 days
Maintenance Technicians (Installation, Maintenance, and Repair)	544	5.3	35 days
Solar Electricians	490	3.1	23 days
Maintenance Mechanics	439	3.9	32 days
Solar Engineers	403	3.3	34 days

Source: Emsi job posting analytics data, September 2018 to August 2019.

Table 5.18: Top Skills for Solar Energy Technology in Southwest Wisconsin

CITY	FREQUENCY IN POSTINGS	UNIQUE POSTINGS WITH SKILL
Electrical Engineering	9%	5,093
Roofing	9%	4,750
Electrical Wirings	8%	4,262
Mechanical Engineering	6%	3,483
Solar Systems	6%	3,454
Systems Engineering	6%	3,339
Electronic Engineering	6%	3,274
Network Engineering	6%	3,057
Process Engineering	5%	3,023
Software Engineering	5%	3,015

Source: Emsi job posting analytics data, September 2018 to August 2019.



## APPENDIX I Glossary of Terms

**Associate degree** A degree granted for the successful completion of a sub-baccalaureate program of study, usually requiring at least two years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program. For the program demand gap analysis, degrees of greater than two years but less than four, as defined by IPEDS, are included in the associate degree category.

**Certificate** A formal award certifying the satisfactory completion of a postsecondary education program. Certificates can be awarded at any level of postsecondary education and include awards below the associate degree level. For the program demand gap analysis, this includes awards of less than one year and greater than one year but less than two, as defined by IPEDS.

**Gap** represents a deficit, or when there are more job openings in a particular occupation than there are completions from higher education institutions in the county, region, state, etc. If left unaddressed, a gap may lead to missed opportunities for economic growth and put stress on local businesses to find the necessary talent elsewhere. Significant gaps translate into higher human resources costs and decreased efficiencies in the economic system. They also provide an opportunity for educational institutions to develop new programs and/or strengthen their current programs.

**Industry jobs** Emsi industry data have various sources depending on the class of worker. Emsi primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns. Non-QCEW employee data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, Bureau of Economic Analysis (BEA) State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. Self-Employed class of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. The Extended Proprietor class of worker is not included in the analysis. Projections for QCEW and non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

**IPEDS** The Integrated Postsecondary Education Data System (IPEDS) aggregates interrelated surveys conducted annually by the U.S. Department of Education's National Center for Education Statistics (NCES). IPEDS gathers information from every educational institution in the U.S. that participates in the federal student financial aid programs authorized by Title IV of the Higher Education Act of 1965. These educational institutions include research universities, state colleges and universities, private religious and liberal arts

colleges, for-profit institutions, community and technical colleges, non-degree-granting institutions such as beauty colleges, and others.

**Job openings** Job openings are a combination of job growth, which occurs when an employer experiences greater demand for its products and hires new employees to increase production, and replacement needs, which occurs when employees leave the workforce or change occupations. Throughout the program demand gap analysis, they represent the average number of projected openings between 2018 and 2028. Job openings are calculated for each occupation mapped to a program and are de-duplicated across programs mapped to the same occupation using Emsi's weighting methodology. For each award level, the number of openings is reported for that educational level and one education level below it.

**Location quotient (LQ)** A comparative statistic used to calculate the relative employment concentration of an industry or occupation against the employment of the industry in a larger geographic region (i.e. a region's LQ relative to the U.S.). Industries with a higher location quotient (usually greater than 1.2) indicate that the smaller geographic region has a comparative advantage or specialization in the production of that good or service or has a high degree of specialization within its workforce.

**NAICS** The North American Industry Classification System (NAICS) organizes North American business establishments to better collect, analyze, and publish statistical data related to the business economy. NAICS is intended to classify an establishment's activity regardless of its ownership (public or private sector) or legal form of organization (proprietorship, partnership, corporation, for-profit, nonprofit, etc.). However, due to the realities of available data, Emsi treats establishments with public and private sector ownership differently. In Emsi data, all establishments in the main NAICS hierarchy are private sector only. Jobs in Educational Services and Ambulatory Health Care Service, for example, are not associated with local, state, or federal government jobs. Jobs for public school teachers and city firefighters are in Local Government, whereas college professors and forest firefighters are commonly employed by State Government. Mail carriers and transportation security screeners are examples of jobs in Federal Government. Thus, Emsi does not use the standard NAICS classification, which is similar to Current Employment Statistics (CES), Occupational Employment Statistics (OES), and BEA data sources.

**New program additions** New program additions are workforce gaps that exist for occupations the institution does not currently train for, based on the mapping of the institution's current programs. The award level recommended for the occupations is determined based by the level of education of workers currently employed in the occupation.



**Program completions** For the program demand gap analysis, program completions are the average number of students, over a three-year period, who receive an award or degree for a program of study, as reported to IPEDS. An average over three years is used to control for upward or downward spikes in completions in any one year.

**Staffing patterns** show the occupational makeup of an industry in percentages. For example, a simplified staffing pattern of the Hospitals industry subsector might show that 20% of its jobs are occupied by nurses, 15% by nursing assistants, 10% by general practitioners, 10% by surgeons, five percent by information technology support staff, five percent by janitors, one percent by chief executives, etc. Data are compiled from several sources, including Occupational Employment Statistics, NIOEM, and the American Community Survey. For the Self-Employed class of worker, the primary source is the American Community Survey with a small amount of information from Occupational Employment Statistics.

**Surplus** Represents an oversupply, or when there are more completers from regional educational institutions than there are job openings in a particular occupation. If left unaddressed, significant surpluses may lead to higher unemployment rates or higher attrition rates—the institution could be educating a workforce that is leaving the region after program completion because of a lack of job opportunities. In the tables, values in parentheses represent a surplus.

## APPENDIX 2: About Emsi Data

### LABOR MARKET INFORMATION

Traditional labor market information (LMI) helps us to identify those occupations with good jobs and projected growth in the coming decade. This provides a robust, market-driven foundation upon which to build out programmatic recommendations. Emsi's data then allows us to map these occupations back to programs that train for them, and to extrapolate other occupational outcomes for potential graduates. Emsi data are used to calculate the projected number of annual job openings from 2018 to 2028. These projections account for openings due to job growth and openings due to replacement needs, such as when an employee retires or leaves the position. To capture a complete picture of industry employment, Emsi gathers and integrates economic, labor market, demographic, and educational data from over 40 government and private-sector sources. In doing so, Emsi creates a comprehensive and current database that includes both published data and detailed estimates, with full coverage of the U.S.

More specifically, Emsi combines covered employment data from the Quarterly Census of Employment and Wages (QCEW-produced by the Department of Labor) with total employment data in Regional Economic Information System (REIS-published by the BEA). The data are augmented with County Business Patterns (CBP) and Non-Employer Statistics (NES) published by the Census Bureau. Job projections are based on the latest-available Emsi industry data, 15-year past local trends in each industry, growth rates in statewide and, where available, sub-state area industry projections published by individual state agencies and, in part, growth rates in national projections from the Bureau of Labor Statistics (BLS).

Through this combination of data sources, Emsi is able to fill gaps in individual sources (such as suppressions), yielding a composite database that leverages the strengths of all its sources. Finally, Emsi's database is updated quarterly, providing the most up-to-date integrated information possible.

### JOB POSTING ANALYTICS

Job postings are online advertisements for jobs, posted by companies trying to attract applicants. Analyzing job postings for information on the labor market can yield valuable insight, such as skills that employers are requesting, the companies that are posting jobs,



where those jobs are located, and greater specificity in job titles. In addition, job postings also have virtually no lag time, as they can be collected from sites soon after being posted. However, not all jobs are posted online, and in some cases, companies post far more positions than they intend to hire in an effort to cast a broad net for talent. Many factors can influence the number of postings that appear on the web for a particular job or company, including:

- Fluctuating prices of job postings;
- Building waiting lists of potential hires should positions become vacant;
- The hiring of new employees immediately or in six months;
- Postings left online after positions have been filled; and
- Duplicate postings for a given position.

It can be helpful to think of LMI as measuring the actions of all employers, whereas job postings analyses measure the intentions of those who post jobs. For postsecondary educational institutions, job postings indicate what is currently in demand across county or regional employers, including emerging needs. As such, job postings information can be used to help tailor program curricula so that graduates will be competitive in the job market. The sources collect about 100 million job postings per month from more than 90,000 companies. Emsi de-duplicates these postings down to approximately 8 million unique job postings per month. In the process, geographies are assigned to the postings as well as company names, job locations, skills, and so on.

Tables A2.1 and A2.2 show job postings for three occupations found throughout this report, selected because the occupations' titles are not helpful in a program's development. Note that the tables identify job postings using the SOC-O\*NET<sup>18</sup> system. LMI data are not available at the SOC-O\*NET level, but Emsi's job posting database has the ability for such searches. The tables also include data on unique job postings and posting intensity. Posting intensity is the ratio between total and unique job postings and can be seen as an indication of the intensity or effort by the poster to advertise and fill the position in question. The largest job poster is also identified (for non-staffing companies), as well as the number of total and unique job postings by the company for the O\*NET occupation. Job postings include advertisements in Southwest Wisconsin from July 2018 to June 2019 using Emsi's Employees & Self-Employed 2019.3 data run.

---

18 O\*NET refers to Occupational Information Network. Based on the SOC, the O\*NET-SOC taxonomy currently includes 974 occupations, developed under the sponsorship of the U.S. Department of Labor's Employment & Training Administration through a grant to the North Carolina Department of Commerce.

Table A2.1: Job Postings in the U.S. for Managers, All Other

O*NET CODE	O*NET TITLE	UNIQUE POSTINGS	% TOTAL	POSTING INTENSITY	TOP COMPANY (TOTAL/UNIQUE)
11-9199.00	Managers, All Other	14	70.0%	2:1	Lands' End, Inc. (6/2)
11-9199.04	Supply Chain Managers	3	15.0%	4:1	Aerotek, Inc. (5/1)
11-9199.01	Regulatory Affairs Managers	1	5.0%	1:1	GRAND VISION (1/1)
11-9199.02	Compliance Managers	1	5.0%	1:1	New York Pizza (1/1)
11-9199.08	Loss Prevention Managers	1	5.0%	1:1	Lands' End, Inc. (1/1)

Source: Emsi Job Posting Analytics July 2018 to June 2019. National Center for O\*NET Development, O\*NET OnLine.

Table A2.2: Job Postings in the U.S. for Business Operations Specialists, All Other

O*NET CODE	O*NET TITLE	UNIQUE POSTINGS	% TOTAL	POSTING INTENSITY	TOP COMPANY (TOTAL/UNIQUE)
13-1199.00	Business Operations Specialists, All Other	57	98.3%	7:1	Telereach Inc (320/30)
13-1199.01	Energy Auditors	1	1.7%	2:1	Premier Cooperative (2/1)

Source: Emsi Job Posting Analytics July 2018 to June 2019. National Center for O\*NET Development, O\*NET OnLine.

## APPENDIX 3: Economic Overview Tables

### INDUSTRY COMPOSITION

Table A3.1: Current and Projected Jobs by Industry Subsector in Southwest Wisconsin, 2018 and 2028

NAICS CODE	NAICS TITLE	2018 JOBS	2028 JOBS	CHANGE	% CHANGE
903	Local Government	6,949	7,262	313	4.5%
454	Nonstore Retailers	3,098	1,916	(1,182)	(38.1%)
722	Food Services & Drinking Places	2,759	2,725	(34)	(1.2%)
311	Food Manufacturing	2,425	3,222	797	32.9%
112	Animal Production & Aquaculture	2,229	2,339	109	4.9%
238	Specialty Trade Contractors	1,990	2,174	183	9.2%
902	State Government	1,967	2,066	99	5.0%
622	Hospitals	1,737	2,005	267	15.4%
623	Nursing & Residential Care Facilities	1,712	1,860	148	8.6%
452	General Merchandise Stores	1,365	1,481	116	8.5%
624	Social Assistance	1,344	1,680	335	24.9%
561	Administrative & Support Services	1,258	1,464	206	16.3%
621	Ambulatory Health Care Services	1,224	1,373	149	12.2%
541	Professional, Scientific, & Technical Services	1,063	1,212	149	14.0%
447	Gasoline Stations	987	1,084	97	9.9%
522	Credit Intermediation & Related Activities	943	963	20	2.1%
111	Crop Production	941	1,038	97	10.3%
424	Merchant Wholesalers, Nondurable Goods	939	854	(85)	(9.0%)
327	Nonmetallic Mineral Product Manufacturing	853	850	(2)	(0.3%)
423	Merchant Wholesalers, Durable Goods	807	932	126	15.6%
321	Wood Product Manufacturing	775	768	(7)	(0.9%)
236	Construction of Buildings	740	788	49	6.6%
441	Motor Vehicle & Parts Dealers	737	777	41	5.5%



NAICS CODE	NAICS TITLE	2018 JOBS	2028 JOBS	CHANGE	% CHANGE
484	Truck Transportation	734	667	(67)	(9.1%)
445	Food & Beverage Stores	723	665	(58)	(8.0%)
333	Machinery Manufacturing	697	757	59	8.5%
901	Federal Government	685	595	(89)	(13.0%)
813	Religious, Grantmaking, Civic, Professional, & Similar Organizations	635	665	30	4.8%
444	Building Material & Garden Equipment & Supplies Dealers	628	747	118	18.8%
811	Repair & Maintenance	626	631	5	0.7%
335	Electrical Equipment, Appliance, & Component Manufacturing	556	242	(314)	(56.5%)
524	Insurance Carriers & Related Activities	492	568	76	15.4%
337	Furniture & Related Product Manufacturing	464	626	162	35.0%
812	Personal & Laundry Services	462	460	(2)	(0.5%)
721	Accommodation	452	405	(46)	(10.3%)
336	Transportation Equipment Manufacturing	433	486	53	12.3%
332	Fabricated Metal Product Manufacturing	417	437	20	4.8%
115	Support Activities for Agriculture & Forestry	405	523	118	29.1%
713	Amusement, Gambling, & Recreation Industries	402	459	57	14.3%
334	Computer & Electronic Product Manufacturing	394	504	110	28.0%
326	Plastics & Rubber Products Manufacturing	335	407	72	21.5%
531	Real Estate	309	329	20	6.6%
323	Printing & Related Support Activities	300	262	(38)	(12.7%)
551	Management of Companies & Enterprises	294	340	46	15.5%
485	Transit & Ground Passenger Transportation	276	309	33	11.9%
611	Educational Services	256	223	(33)	(12.8%)
453	Miscellaneous Store Retailers	241	265	24	10.1%
711	Performing Arts, Spectator Sports, & Related Industries	223	262	39	17.4%
562	Waste Management & Remediation Services	220	289	68	31.1%
237	Heavy & Civil Engineering Construction	214	234	20	9.4%
221	Utilities	210	251	41	19.4%
446	Health & Personal Care Stores	210	191	(19)	(9.0%)
451	Sporting Goods, Hobby, Musical Instrument, & Book Stores	188	191	3	1.4%



NAICS CODE	NAICS TITLE	2018 JOBS	2028 JOBS	CHANGE	% CHANGE
312	Beverage & Tobacco Product Manufacturing	181	228	47	26.0%
511	Publishing Industries (except Internet)	145	177	32	22.0%
325	Chemical Manufacturing	144	152	9	6.1%
517	Telecommunications	130	134	5	3.5%
443	Electronics & Appliance Stores	124	122	(2)	(1.7%)
448	Clothing & Clothing Accessories Stores	108	71	(37)	(34.4%)
442	Furniture & Home Furnishings Stores	95	90	(5)	(5.2%)
814	Private Households	94	113	20	21.1%
425	Wholesale Electronic Markets & Agents & Brokers	93	139	46	49.6%
488	Support Activities for Transportation	83	90	7	8.4%
113	Forestry & Logging	75	81	5	7.3%
339	Miscellaneous Manufacturing	74	79	5	6.4%
712	Museums, Historical Sites, & Similar Institutions	74	77	2	3.3%
523	Securities, Commodity Contracts, & Other Financial Investments & Related Activities	59	81	22	36.9%
212	Mining (except Oil & Gas)	58	65	7	12.4%
482	Rail Transportation	57	63	6	10.4%
515	Broadcasting (except Internet)	57	45	(12)	(21.1%)
493	Warehousing & Storage	52	63	11	21.3%
492	Couriers & Messengers	50	67	17	34.9%
512	Motion Picture & Sound Recording Industries	34	39	5	16.0%
331	Primary Metal Manufacturing	34	5	(28)	(84.0%)
322	Paper Manufacturing	31	41	10	33.5%
486	Pipeline Transportation	28	24	(4)	(13.6%)
532	Rental & Leasing Services	23	36	13	59.0%
314	Textile Product Mills	7	4	(3)	(39.5%)
519	Other Information Services	2	4	2	101.2%
315	Apparel Manufacturing	2	2	(1)	(29.2%)
114	Fishing, Hunting & Trapping	1	1	0	(30.2%)
316	Leather & Allied Product Manufacturing	1	1	0	31.1%
211	Oil & Gas Extraction	0	0	0	n/a
213	Support Activities for Mining	0	0	0	n/a

NAICS CODE	NAICS TITLE	2018 JOBS	2028 JOBS	CHANGE	% CHANGE
313	Textile Mills	0	0	0	n/a
324	Petroleum & Coal Products Manufacturing	0	0	0	n/a
481	Air Transportation	0	0	0	n/a
483	Water Transportation	0	0	0	n/a
487	Scenic & Sightseeing Transportation	0	0	0	n/a
491	Postal Service	0	0	0	n/a
518	Data Processing, Hosting, & Related Services	0	0	0	n/a
521	Monetary Authorities-Central Bank	0	0	0	n/a
525	Funds, Trusts, & Other Financial Vehicles	0	0	0	n/a
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	0	0	0	n/a
Total		53,239	55,917	2,682	6.3%

Source: Employees & Self-Employed 2019.3.

Table A3.2: Employment Concentration (LQ) by Industry Subsector in Southwest Wisconsin, 2018 and 2028

NAICS CODE	NAICS TITLE	2018 LQ	2028 LQ
112	Animal Production & Aquaculture	15.90	18.30
454	Nonstore Retailers	13.21	7.47
327	Nonmetallic Mineral Product Manufacturing	6.13	6.39
321	Wood Product Manufacturing	5.56	5.59
311	Food Manufacturing	4.54	6.00
335	Electrical Equipment, Appliance, & Component Manufacturing	4.27	1.93
111	Crop Production	3.59	4.08
337	Furniture & Related Product Manufacturing	3.40	4.72
447	Gasoline Stations	3.22	3.42
113	Forestry & Logging	3.08	4.05
115	Support Activities for Agriculture & Forestry	2.21	2.64
323	Printing & Related Support Activities	2.04	2.15
312	Beverage & Tobacco Product Manufacturing	1.98	2.31
333	Machinery Manufacturing	1.91	2.15

NAICS CODE	NAICS TITLE	2018 LQ	2028 LQ
486	Pipeline Transportation	1.73	1.46
623	Nursing & Residential Care Facilities	1.56	1.55
562	Waste Management & Remediation Services	1.50	1.73
903	Local Government	1.49	1.53
444	Building Material & Garden Equipment & Supplies Dealers	1.44	1.67
326	Plastics & Rubber Products Manufacturing	1.40	1.82
452	General Merchandise Stores	1.34	1.47
712	Museums, Historical Sites, & Similar Institutions	1.32	1.19
484	Truck Transportation	1.32	1.18
424	Merchant Wholesalers, Nondurable Goods	1.30	1.17
485	Transit & Ground Passenger Transportation	1.24	1.23
221	Utilities	1.15	1.36
334	Computer & Electronic Product Manufacturing	1.13	1.62
902	State Government	1.12	1.18
811	Repair & Maintenance	1.12	1.10
522	Credit Intermediation & Related Activities	1.09	1.10
441	Motor Vehicle & Parts Dealers	1.09	1.09
622	Hospitals	1.05	1.16
236	Construction of Buildings	1.05	1.05
238	Specialty Trade Contractors	1.03	1.06
451	Sporting Goods, Hobby, Musical Instrument, & Book Stores	0.94	0.92
624	Social Assistance	0.93	0.98
212	Mining (except Oil & Gas)	0.92	1.08
332	Fabricated Metal Product Manufacturing	0.86	0.93
711	Performing Arts, Spectator Sports, & Related Industries	0.81	0.90
482	Rail Transportation	0.78	0.88
336	Transportation Equipment Manufacturing	0.78	0.87
423	Merchant Wholesalers, Durable Goods	0.77	0.88
453	Miscellaneous Store Retailers	0.76	0.85
443	Electronics & Appliance Stores	0.75	0.86
445	Food & Beverage Stores	0.71	0.66

NAICS CODE	NAICS TITLE	2018 LQ	2028 LQ
722	Food Services & Drinking Places	0.70	0.65
713	Amusement, Gambling, & Recreation Industries	0.68	0.72
721	Accommodation	0.68	0.60
813	Religious, Grantmaking, Civic, Professional, & Similar Organizations	0.66	0.67
812	Personal & Laundry Services	0.65	0.60
515	Broadcasting (except Internet)	0.62	0.55
237	Heavy & Civil Engineering Construction	0.60	0.56
446	Health & Personal Care Stores	0.59	0.52
511	Publishing Industries (except Internet)	0.58	0.73
442	Furniture & Home Furnishings Stores	0.58	0.57
325	Chemical Manufacturing	0.53	0.58
524	Insurance Carriers & Related Activities	0.53	0.58
517	Telecommunications	0.52	0.63
425	Wholesale Electronic Markets & Agents & Brokers	0.51	0.79
621	Ambulatory Health Care Services	0.48	0.43
531	Real Estate	0.44	0.45
901	Federal Government	0.44	0.40
561	Administrative & Support Services	0.40	0.43
551	Management of Companies & Enterprises	0.38	0.42
339	Miscellaneous Manufacturing	0.35	0.38
814	Private Households	0.33	0.40
488	Support Activities for Transportation	0.33	0.33
541	Professional, Scientific, & Technical Services	0.31	0.32
331	Primary Metal Manufacturing	0.27	0.05
322	Paper Manufacturing	0.26	0.38
448	Clothing & Clothing Accessories Stores	0.23	0.17
492	Couriers & Messengers	0.20	0.25
512	Motion Picture & Sound Recording Industries	0.20	0.22
611	Educational Services	0.19	0.15
523	Securities, Commodity Contracts, & Other Financial Investments & Related Activities	0.18	0.23
314	Textile Product Mills	0.17	0.12



NAICS CODE	NAICS TITLE	2018 LQ	2028 LQ
493	Warehousing & Storage	0.14	0.14
114	Fishing, Hunting & Trapping	0.14	0.10
532	Rental & Leasing Services	0.12	0.18
316	Leather & Allied Product Manufacturing	0.10	0.14
315	Apparel Manufacturing	0.05	0.05
519	Other Information Services	0.02	0.03
211	Oil & Gas Extraction	0.00	0.00
213	Support Activities for Mining	0.00	0.00
313	Textile Mills	0.00	0.00
324	Petroleum & Coal Products Manufacturing	0.00	0.00
481	Air Transportation	0.00	0.00
483	Water Transportation	0.00	0.00
487	Scenic & Sightseeing Transportation	0.00	0.00
491	Postal Service	0.00	0.00
518	Data Processing, Hosting, & Related Services	0.00	0.00
521	Monetary Authorities-Central Bank	0.00	0.00
525	Funds, Trusts, & Other Financial Vehicles	0.00	0.00
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	0.00	0.00

Source: Employees & Self-Employed 2019.3.

## INDUSTRY STAFFING PATTERNS

The following tables show the staffing patterns of the industry subsectors discussed in Chapter 2. The Entry Ed Level Column describes the typical award level required for an entry level position in the occupation. "None" or "<HS/GED" indicates that the occupation typically requires no formal educational credential; "HS/GED" refers to a high school diploma or its equivalent, a General Equivalency Development or General Equivalency Diploma test; "Cert" refers to a postsecondary nondegree award or some college education with no degree; and "Doctoral" refers to a doctoral or professional degree level of education. The other education classifications are straightforward.

Table A3.3: Employment Projections in Southwest Wisconsin for the Top 25 Occupations Related to the Nonstore Retailers Industry Subsector

SOC TITLE	2018 JOBS	2028 JOBS	JOB OPENINGS	% JOBS IN INDUSTRY	MEDIAN HOURLY WAGE	ENTRY ED LEVEL
Customer Service Representatives	507	295	161	16.4%	\$15.92	CERT
Order Clerks	242	136	28	7.8%	\$16.30	CERT
Laborers & Freight, Stock, & Material Movers, Hand	194	122	141	6.2%	\$14.55	HS/GED
Packers & Packagers, Hand	152	95	62	4.9%	\$13.83	HS/GED
Shipping, Receiving, & Traffic Clerks	131	79	31	4.2%	\$16.41	HS/GED
Retail Salespersons	101	66	226	3.3%	\$10.98	CERT
Stock Clerks & Order Fillers	87	54	95	2.8%	\$10.65	HS/GED
Market Research Analysts & Marketing Specialists	76	52	25	2.5%	\$23.49	BACH
Software Developers, Applications	73	53	11	2.4%	\$36.84	BACH
Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	63	41	66	2.0%	\$26.52	BACH
First-Line Supervisors of Office & Administrative Support Workers	63	37	45	2.0%	\$21.86	CERT
Bookkeeping, Accounting, & Auditing Clerks	58	32	84	1.9%	\$16.14	CERT
Pharmacy Technicians	57	35	13	1.8%	\$15.39	CERT
Office Clerks, General	56	32	138	1.8%	\$15.24	CERT
General & Operations Managers	54	35	52	1.7%	\$43.03	BACH
Buyers & Purchasing Agents	46	27	16	1.5%	\$24.10	BACH
Web Developers	44	29	5	1.4%	\$22.33	BACH
Sales Representatives, Services, All Other	42	27	29	1.4%	\$20.57	BACH
Graphic Designers	40	26	11	1.3%	\$20.80	BACH
Sales & Related Workers, All Other	39	25	12	1.2%	\$18.51	BACH
Telemarketers	37	20	10	1.2%	\$12.81	CERT
Pharmacists	32	20	5	1.0%	\$58.86	PHD
Door-to-Door Sales Workers, News & Street Vendors, & Related Workers	29	19	3	0.9%	\$11.12	HS/GED
Accountants & Auditors	29	19	33	0.9%	\$28.37	BACH
Industrial Truck & Tractor Operators	27	16	40	0.9%	\$17.25	HS/GED

Source: Employees & Self-Employed 2019.3.

Table A3.4: Employment Projections in Southwest Wisconsin for the Top 25 Occupations Related to the Food Manufacturing Industry Subsector

SOC TITLE	2018 JOBS	2028 JOBS	JOB OPENINGS	% JOBS IN INDUSTRY	MEDIAN HOURLY WAGE	ENTRY ED LEVEL
Packaging & Filling Machine Operators & Tenders	518	668	117	21.4%	\$14.66	HS/GED
Food Batchmakers	313	421	71	12.9%	\$15.04	HS/GED
First-Line Supervisors of Production & Operating Workers	116	153	54	4.8%	\$25.92	HS/GED
Laborers & Freight, Stock, & Material Movers, Hand	86	117	141	3.6%	\$14.55	HS/GED
Separating, Filtering, Clarifying, Precipitating, & Still Machine Setters, Operators, & Tenders	83	110	16	3.4%	\$14.11	HS/GED
Industrial Truck & Tractor Operators	79	104	40	3.2%	\$17.25	HS/GED
Heavy & Tractor-Trailer Truck Drivers	66	87	131	2.7%	\$19.61	HS/GED
Inspectors, Testers, Sorters, Samplers, & Weighers	63	82	38	2.6%	\$17.06	HS/GED
Agricultural & Food Science Technicians	61	76	12	2.5%	\$19.41	CERT
Industrial Machinery Mechanics	59	86	21	2.4%	\$21.86	HS/GED
Maintenance & Repair Workers, General	57	78	71	2.4%	\$17.39	HS/GED
Packers & Packagers, Hand	51	70	62	2.1%	\$13.83	HS/GED
Mixing & Blending Machine Setters, Operators, & Tenders	40	52	18	1.6%	\$17.11	HS/GED
Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	32	44	66	1.3%	\$26.52	BACH
Shipping, Receiving, & Traffic Clerks	31	42	31	1.3%	\$16.41	HS/GED
Bakers	29	43	13	1.2%	\$11.81	HS/GED
Cooling & Freezing Equipment Operators & Tenders	27	36	5	1.1%	\$15.16	HS/GED
Food & Tobacco Roasting, Baking, & Drying Machine Operators & Tenders	27	35	5	1.1%	\$9.72	HS/GED
Driver/Sales Workers	26	35	18	1.1%	\$9.73	HS/GED
Maintenance Workers, Machinery	26	36	9	1.1%	\$23.52	HS/GED
Janitors & Cleaners, Except Maids & Housekeeping Cleaners	25	34	110	1.0%	\$11.94	HS/GED
Industrial Production Managers	25	33	10	1.0%	\$45.55	BACH
Stock Clerks & Order Fillers	24	33	95	1.0%	\$10.65	HS/GED
Cleaners of Vehicles & Equipment	23	30	25	1.0%	\$12.82	HS/GED
Office Clerks, General	23	27	138	0.9%	\$15.24	CERT

Source: Employees & Self-Employed 2019.3.



Table A3.5: Employment Projections in Southwest Wisconsin for the Top 25 Occupations Related to the Animal Production & Aquaculture Industry Subsector

SOC TITLE	2018 JOBS	2028 JOBS	JOB OPENINGS	% JOBS IN INDUSTRY	MEDIAN HOURLY WAGE	ENTRY ED LEVEL
Farmers, Ranchers, & Other Agricultural Managers	1,099	1,011	137	49.3%	\$17.49	HS/GED
Farmworkers & Laborers, Crop, Nursery, & Greenhouse	419	489	161	18.8%	\$13.45	NONE
Farmworkers, Farm, Ranch, & Aquacultural Animals	223	268	69	10.0%	\$11.57	NONE
Agricultural Workers, All Other	114	133	32	5.1%	\$12.88	NONE
Agricultural Equipment Operators	52	64	24	2.3%	\$15.96	NONE
First-Line Supervisors of Farming, Fishing, & Forestry Workers	31	38	13	1.4%	\$25.70	HS/GED
Animal Trainers	28	31	8	1.2%	\$10.84	CERT
Heavy & Tractor-Trailer Truck Drivers	19	23	131	0.9%	\$19.61	HS/GED
Nonfarm Animal Caretakers	16	18	21	0.7%	\$10.05	HS/GED
Managers, All Other	13	14	36	0.6%	\$24.91	BACH
Bookkeeping, Accounting, & Auditing Clerks	12	12	84	0.5%	\$16.14	CERT
Secretaries & Administrative Assistants, Except Legal, Medical, & Executive	10	10	61	0.4%	\$15.88	CERT
Light Truck or Delivery Services Drivers	9	11	28	0.4%	\$12.31	HS/GED
Maintenance & Repair Workers, General	9	11	71	0.4%	\$17.39	HS/GED
Janitors & Cleaners, Except Maids & Housekeeping Cleaners	9	11	110	0.4%	\$11.94	HS/GED
Packers & Packagers, Hand	8	9	62	0.3%	\$13.83	HS/GED
Landscaping & Groundskeeping Workers	7	8	42	0.3%	\$13.12	NONE
Accountants & Auditors	5	6	33	0.2%	\$28.37	BACH
Executive Secretaries & Executive Administrative Assistants	5	4	9	0.2%	\$23.01	CERT
Maids & Housekeeping Cleaners	5	6	45	0.2%	\$10.04	HS/GED
Production Workers, All Other	5	5	10	0.2%	\$15.12	HS/GED
General & Operations Managers	5	5	52	0.2%	\$43.03	BACH
Agricultural & Food Science Technicians	4	5	12	0.2%	\$19.41	CERT
Graders & Sorters, Agricultural Products	4	5	5	0.2%	\$12.30	NONE
Office Clerks, General	4	5	138	0.2%	\$15.24	CERT

Source: Employees & Self-Employed 2019.3.



## WORKFORCE COMMUTING PATTERNS

Table A3.6: Southwest Wisconsin Job Inflow and Outflow

COMMUTING PATTERN	JOBS	COMMUTE SHARE
EMPLOYMENT PATTERNS		
Employed in Southwest Wisconsin	41,530	100%
Employed in Southwest Wisconsin but living outside	11,810	28%
Employed and living in Southwest Wisconsin	29,720	72%
RESIDENTIAL PATTERNS		
Living in Southwest Wisconsin	55,170	100%
Living in Southwest Wisconsin but employed outside	25,450	46%
Living and employed in Southwest Wisconsin	29,720	54%

Source: Census Bureau, Center for Economic Studies.

## EDUCATIONAL ATTAINMENT

Table A3.7: Highest Educational Attainments of Adults in Southwest Wisconsin

EDUCATION LEVEL	2013 ADULTS	2013 % ADULTS	2018 ADULTS	2018 % ADULTS	CHANGE
Less than high school diploma or equivalent	7,672	9%	7,794	9%	122
High school diploma or equivalent	32,857	39%	33,565	40%	708
Some college	17,502	21%	17,579	21%	77
Associate degree	8,999	11%	8,892	11%	(107)
Bachelor's degree	10,464	13%	10,575	13%	111
Graduate degree or higher	5,704	7%	5,813	7%	109
Total	83,198	100%	84,218	100%	1,020

Source: Emsi demographics data and U.S. Census Bureau, 2017 American Community Survey.

Table A3.8: Highest Educational Attainments of Adults in Southwest Wisconsin by Gender

EDUCATION LEVEL	ADULT MALES	% ADULT MALES	ADULT FEMALES	% ADULT FEMALES
Less than high school diploma or equivalent	4,524	11%	3,270	8%
High school diploma or equivalent	18,393	44%	15,172	36%
Some college	8,203	19%	9,376	22%
Associate degree	3,762	9%	5,131	12%
Bachelor's degree	4,833	11%	5,742	14%
Graduate degree and higher	2,526	6%	3,288	8%
Total	42,240	100%	41,978	100%

Source: Emsi demographics data and U.S. Census Bureau, 2017 American Community Survey.

Table A3.9: Highest Educational Attainments of Adults in Southwest Wisconsin by Major Race and Ethnic Groups

GROUP		<HS	HS	SOME COLLEGE	ASSOC	BACH	>BACH
White, non-Hispanic	Adults	6,886	32,472	17,207	8,658	10,314	5,465
	% Adults	9%	40%	21%	11%	13%	7%
Black, non-Hispanic	Adults	274	262	97	69	69	17
	% Adults	35%	33%	12%	9%	9%	2%
American Indian or Alaskan native, non-Hispanic	Adults	24	56	42	28	17	17
	% Adults	13%	30%	23%	15%	9%	9%
Asian, non-Hispanic	Adults	34	220	61	38	54	154
	% Adults	6%	39%	11%	7%	10%	27%
Native Hawaiian or Pacific Islander, non-Hispanic	Adults	7	9	1	1	2	2
	% Adults	32%	41%	5%	5%	10%	7%
Two or more races, non- Hispanic	Adults	63	123	56	29	34	75
	% Adults	17%	32%	15%	8%	9%	20%
Hispanic, all types	Adults	505	422	115	69	84	83
	% Adults	40%	33%	9%	5%	7%	7%

Source: Emsi demographics data and U.S. Census Bureau, 2017 American Community Survey.

## APPENDIX 4: Program to Occupation Map

Table A4.1 displays the crosswalk between educational programs (CIP codes) and occupations (SOC codes) that Emsi uses to complete the program demand gap analysis. Also listed are the adjustment factors which are applied to the annual job openings for each occupation in each program, described in Appendix 5.

Table A4.1: Program to Occupation Map with Employment Adjustment Factors

CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
01.0102	Agribusiness Science & Technology - Agribusiness	11-9013	Farmers, Ranchers, & Other Agricultural Managers	54	34	33
		13-1028	Buyers & Purchasing Agents	35	30	55
		25-9021	Farm & Home Management Advisors	31	28	42
		45-2041	Graders & Sorters, Agricultural Products	41	17	7
01.0205	Agricultural Power & Equipment Technician	45-2091	Agricultural Equipment Operators	39	19	8
		49-3011	Aircraft Mechanics & Service Technicians	75	60	21
		49-3041	Farm Equipment Mechanics & Service Technicians	69	45	19
		49-3042	Mobile Heavy Equipment Mechanics, Except Engines	69	45	19
01.0302	Agribusiness Science & Technology - Animal Science	11-9013	Farmers, Ranchers, & Other Agricultural Managers	54	34	33
		45-1011	First-Line Supervisors of Farming, Fishing, & Forestry Workers	48	28	23
		45-2021	Animal Breeders	39	19	8
01.1001	Laboratory Science Technician	19-1012	Food Scientists & Technologists	9	12	62
		19-4011	Agricultural & Food Science Technicians	47	46	43
		45-2041	Graders & Sorters, Agricultural Products	41	17	7
		29-2051	Dietetic Technicians	57	60	40
01.1102	Agribusiness Science & Technology - Agronomy	11-9013	Farmers, Ranchers, & Other Agricultural Managers	54	34	33
		19-1013	Soil & Plant Scientists	9	12	62
		45-1011	First-Line Supervisors of Farming, Fishing, & Forestry Workers	48	28	23

CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
11.0801	Graphic and Web Design	45-2011	Agricultural Inspectors	38	32	46
		15-1131	Computer Programmers	20	22	61
		15-1134	Web Developers	25	27	65
		15-1199	Computer Occupations, All Other	36	41	52
		27-1014	Multimedia Artists & Animators	31	27	59
		27-1024	Graphic Designers	23	26	67
11.0901	IT - Network Communication Specialist	11-3021	Computer & Information Systems Managers	20	22	60
		15-1121	Computer Systems Analysts	13	15	64
		15-1122	Information Security Analysts	25	29	56
		15-1131	Computer Programmers	20	22	61
		15-1141	Database Administrators	15	16	59
		15-1142	Network & Computer Systems Administrators	30	37	59
		15-1143	Computer Network Architects	26	36	59
		15-1152	Computer Network Support Specialists	45	47	48
		15-1199	Computer Occupations, All Other	36	41	52
11.1006	IT - Computer Support Technician	15-1151	Computer User Support Specialists	45	47	48
		15-1152	Computer Network Support Specialists	45	47	48
		49-2011	Computer, Automated Teller, & Office Machine Repairers	59	57	37
12.0401	Cosmetology	39-5011	Barbers	79	36	10
		39-5012	Hairdressers, Hairstylists, & Cosmetologists	77	49	16
		39-5091	Makeup Artists, Theatrical & Performance	61	40	19
		39-5092	Manicurists & Pedicurists	61	40	19
12.0500	Culinary Specialist	35-1012	First-Line Supervisors of Food Preparation & Serving Workers	70	46	18
		35-2012	Cooks, Institution & Cafeteria	64	31	8
		35-2013	Cooks, Private Household	64	31	8
		35-2014	Cooks, Restaurant	64	31	8
		35-2015	Cooks, Short Order	64	31	8



CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
		35-2019	Cooks, All Other	64	31	8
		35-2021	Food Preparation Workers	67	40	11
		51-3011	Bakers	63	41	19
		51-3021	Butchers & Meat Cutters	61	29	8
12.0503	Culinary Arts	11-9051	Food Service Managers	64	44	25
		35-1011	Chefs & Head Cooks	56	47	29
		35-1012	First-Line Supervisors of Food Preparation & Serving Workers	70	46	18
		35-2012	Cooks, Institution & Cafeteria	64	31	8
		35-2013	Cooks, Private Household	64	31	8
		35-2014	Cooks, Restaurant	64	31	8
		35-2015	Cooks, Short Order	64	31	8
		35-2019	Cooks, All Other	64	31	8
		51-3011	Bakers	63	41	19
12.0504	Culinary Management	11-9051	Food Service Managers	64	44	25
		35-1011	Chefs & Head Cooks	56	47	29
		35-1012	First-Line Supervisors of Food Preparation & Serving Workers	70	46	18
12.0505	Food Production Assistant	19-1012	Food Scientists & Technologists	9	12	62
		19-4011	Agricultural & Food Science Technicians	47	46	43
13.1210	Early Childhood Education	11-9031	Education Administrators, Preschool & Childcare Center/Program	21	22	41
		11-9032	Education Administrators, Elementary & Secondary School	21	22	41
		25-2011	Preschool Teachers, Except Special Education	45	45	45
		25-2012	Kindergarten Teachers, Except Special Education	45	45	45
		25-2021	Elementary School Teachers, Except Special Education	4	6	58
		25-2051	Special Education Teachers, Preschool	10	10	50
		25-2052	Special Education Teachers, Kindergarten & Elementary School	10	10	50
		25-9031	Instructional Coordinators	31	28	42
		25-9041	Teacher Assistants	60	45	32

CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
13.1304	Driver and Safety Education Certification	25-2031	Secondary School Teachers, Except Special & Career/Technical Education	6	7	57
		25-3021	Self-Enrichment Education Teachers	52	43	36
		25-3097	Teachers & Instructors, All Other	52	43	36
15.0403	Electro-Mechanical Technology	17-3023	Electrical & Electronics Engineering Technicians	59	54	35
		17-3024	Electro-Mechanical Technicians	59	54	35
		17-3029	Engineering Technicians, Except Drafters, All Other	59	54	35
		49-2094	Electrical & Electronics Repairers, Commercial & Industrial Equipment	78	52	17
		51-2028	Electrical, Electronic, & Electromechanical Assemblers, Except Coil Winders, Tapers, & Finishers	69	38	14
15.0404	Instrumentation and Controls Technology	17-3023	Electrical & Electronics Engineering Technicians	59	54	35
		17-3024	Electro-Mechanical Technicians	59	54	35
		17-3026	Industrial Engineering Technicians	59	54	35
		17-3029	Engineering Technicians, Except Drafters, All Other	59	54	35
		49-2094	Electrical & Electronics Repairers, Commercial & Industrial Equipment	78	52	17
		49-9069	Precision Instrument & Equipment Repairers, All Other	57	53	37
19.0709	Child Care Services	51-2028	Electrical, Electronic, & Electromechanical Assemblers, Except Coil Winders, Tapers, & Finishers	69	38	14
		11-9031	Education Administrators, Preschool & Childcare Center/Program	21	22	41
		21-1021	Child, Family, & School Social Workers	13	12	55
		21-1093	Social & Human Service Assistants	39	36	48
		25-2011	Preschool Teachers, Except Special Education	45	45	45
31.0302	Golf Course Management	25-9041	Teacher Assistants	60	45	32
		11-9199	Managers, All Other	32	26	50
		11-1021	General & Operations Managers	42	36	47
43.0104	Criminal Justice Studies	37-1012	First-Line Supervisors of Landscaping, Lawn Service, & Groundskeeping Workers	53	34	26
		13-1041	Compliance Officers	23	23	55
		21-1092	Probation Officers & Correctional Treatment Specialists	20	20	65

CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
		33-1011	First-Line Supervisors of Correctional Officers	65	54	32
		33-1012	First-Line Supervisors of Police & Detectives	52	54	39
		33-2021	Fire Inspectors & Investigators	60	50	35
		33-3011	Bailiffs	68	54	30
		33-3012	Correctional Officers & Jailers	68	54	30
		33-3021	Detectives & Criminal Investigators	24	29	59
		33-3051	Police & Sheriff's Patrol Officers	46	49	49
		33-3052	Transit & Railroad Police	46	49	49
		33-9021	Private Detectives & Investigators	34	31	52
43.0107	Law Enforcement 720 Academy	33-1012	First-Line Supervisors of Police & Detectives	52	54	39
		33-3011	Bailiffs	68	54	30
		33-3021	Detectives & Criminal Investigators	24	29	59
		33-3051	Police & Sheriff's Patrol Officers	46	49	49
		33-3052	Transit & Railroad Police	46	49	49
		33-9021	Private Detectives & Investigators	34	31	52
43.0109	Security Operations	33-9032	Security Guards	71	50	22
		33-9099	Protective Service Workers, All Other	80	40	11
46.0101	Bricklaying & Masonry-PDC	47-2021	Brickmasons & Blockmasons	60	18	4
		47-2022	Stonemasons	60	18	4
		47-2044	Tile & Marble Setters	58	18	4
		47-2051	Cement Masons & Concrete Finishers	56	21	7
		47-2161	Plasterers & Stucco Masons	48	8	4
		47-3011	Helpers--Brickmasons, Blockmasons, Stonemasons, & Tile & Marble Setters	64	23	7
46.0201	Building Trades-Carpentry	47-2031	Carpenters	65	26	9
		47-3012	Helpers--Carpenters	64	23	7
		47-4011	Construction & Building Inspectors	58	45	36
		51-7011	Cabinetmakers & Bench Carpenters	70	27	10
		51-7031	Model Makers, Wood	66	30	16

CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
		51-7032	Patternmakers, Wood	66	30	16
		51-7041	Sawing Machine Setters, Operators, & Tenders, Wood	61	19	8
		51-7042	Woodworking Machine Setters, Operators, & Tenders, Except Sawing	69	26	7
46.0302	Electricity (Construction) Apprentice	47-2111	Electricians	73	47	19
		47-3013	Helpers--Electricians	64	23	7
		49-2094	Electrical & Electronics Repairers, Commercial & Industrial Equipment	78	52	17
		49-2095	Electrical & Electronics Repairers, Powerhouse, Substation, & Relay	78	52	17
		49-2098	Security & Fire Alarm Systems Installers	72	43	19
		49-9051	Electrical Power-Line Installers & Repairers	73	53	21
		49-9052	Telecommunications Line Installers & Repairers	73	48	19
		49-9097	Signal & Track Switch Repairers	71	39	15
46.0303	Electrical Power Distribution	49-2094	Electrical & Electronics Repairers, Commercial & Industrial Equipment	78	52	17
		49-2095	Electrical & Electronics Repairers, Powerhouse, Substation, & Relay	78	52	17
		49-9051	Electrical Power-Line Installers & Repairers	73	53	21
		49-9052	Telecommunications Line Installers & Repairers	73	48	19
46.0503	Plumbing Apprentice	47-2151	Pipelayers	73	32	10
		47-2152	Plumbers, Pipefitters, & Steamfitters	73	32	10
		47-3015	Helpers--Pipelayers, Plumbers, Pipefitters, & Steamfitters	64	23	7
		47-4071	Septic Tank Servicers & Sewer Pipe Cleaners	67	34	11
47.0105	Industrial Electrician Apprentice	49-1011	First-Line Supervisors of Mechanics, Installers, & Repairers	61	51	31
		49-2011	Computer, Automated Teller, & Office Machine Repairers	59	57	37
		49-2094	Electrical & Electronics Repairers, Commercial & Industrial Equipment	78	52	17
		49-2095	Electrical & Electronics Repairers, Powerhouse, Substation, & Relay	78	52	17
47.0303	Industrial Mechanic	47-4021	Elevator Installers & Repairers	82	42	14
		49-1011	First-Line Supervisors of Mechanics, Installers, & Repairers	61	51	31



CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
		49-9041	Industrial Machinery Mechanics	71	47	19
		49-9043	Maintenance Workers, Machinery	71	39	20
		49-9044	Millwrights	76	42	13
		49-9081	Wind Turbine Service Technicians	71	39	15
		51-4041	Machinists	73	42	17
47.0603	Auto Collision Repair & Refinish Technician	13-1032	Insurance Appraisers, Auto Damage	32	31	59
		49-3021	Automotive Body & Related Repairers	68	35	12
		49-3022	Automotive Glass Installers & Repairers	83	33	4
		49-3023	Automotive Service Technicians & Mechanics	68	43	17
		49-3093	Tire Repairers & Changers	68	33	9
		51-9122	Painters, Transportation Equipment	69	31	10
		53-6051	Transportation Inspectors	71	51	23
47.0604	Automotive Technician	49-2093	Electrical & Electronics Installers & Repairers, Transportation Equipment	78	52	17
		49-2096	Electronic Equipment Installers & Repairers, Motor Vehicles	79	31	13
		49-3021	Automotive Body & Related Repairers	68	35	12
		49-3022	Automotive Glass Installers & Repairers	83	33	4
		49-3023	Automotive Service Technicians & Mechanics	68	43	17
		49-3093	Tire Repairers & Changers	68	33	9
48.0508	Welding	47-1011	First-Line Supervisors of Construction Trades & Extraction Workers	66	33	19
		47-2152	Plumbers, Pipefitters, & Steamfitters	73	32	10
		47-2171	Reinforcing Iron & Rebar Workers	60	18	4
		47-2211	Sheet Metal Workers	75	35	11
		47-2221	Structural Iron & Steel Workers	73	34	12
		51-4121	Welders, Cutters, Solderers, & Brazers	70	36	12
		51-4122	Welding, Soldering, & Brazing Machine Setters, Operators, & Tenders	70	36	12
48.0510	CNC Machine Operator/Programmer	51-4011	Computer-Controlled Machine Tool Operators, Metal & Plastic	74	47	18
		51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal & Plastic	74	47	18

CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
		51-4021	Extruding & Drawing Machine Setters, Operators, & Tenders, Metal & Plastic	82	39	9
		51-4022	Forging Machine Setters, Operators, & Tenders, Metal & Plastic	78	23	4
		51-4023	Rolling Machine Setters, Operators, & Tenders, Metal & Plastic	81	33	5
		51-4031	Cutting, Punching, & Press Machine Setters, Operators, & Tenders, Metal & Plastic	72	29	6
		51-4032	Drilling & Boring Machine Tool Setters, Operators, & Tenders, Metal & Plastic	72	29	6
		51-4033	Grinding, Lapping, Polishing, & Buffing Machine Tool Setters, Operators, & Tenders, Metal & Plastic	72	29	6
		51-4034	Lathe & Turning Machine Tool Setters, Operators, & Tenders, Metal & Plastic	72	29	6
		51-4035	Milling & Planing Machine Setters, Operators, & Tenders, Metal & Plastic	72	34	8
		51-4041	Machinists	73	42	17
		51-4081	Multiple Machine Tool Setters, Operators, & Tenders, Metal & Plastic	73	34	8
51.0601	Dental Assistant	31-9091	Dental Assistants	69	64	27
51.0707	Health Information Technology	29-2071	Medical Records & Health Information Technicians	58	57	37
		43-3021	Billing & Posting Clerks	61	51	34
		43-6013	Medical Secretaries	56	49	39
		43-9021	Data Entry Keyers	62	50	33
		43-9041	Insurance Claims & Policy Processing Clerks	55	48	40
51.0713	Medical Coding Specialist	29-2071	Medical Records & Health Information Technicians	58	57	37
		43-3021	Billing & Posting Clerks	61	51	34
		43-6013	Medical Secretaries	56	49	39
		43-9021	Data Entry Keyers	62	50	33
51.0801	Medical Assistant	31-9092	Medical Assistants	66	67	31
51.0806	Physical Therapist Assistant	31-2021	Physical Therapist Assistants	27	57	69
		31-2022	Physical Therapist Aides	27	57	69
51.0904	EMT/AEMT	29-2041	Emergency Medical Technicians & Paramedics	61	68	36
51.1002	Cancer Information Management	29-2018	Clinical Laboratory Technologists & Technicians	35	40	58

CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
		29-2071	Medical Records & Health Information Technicians	58	57	37
		43-6013	Medical Secretaries	56	49	39
51.1004	Medical Laboratory Technician	29-2018	Clinical Laboratory Technologists & Technicians	35	40	58
51.1502	Human Services Associate	21-1015	Rehabilitation Counselors	22	20	38
		21-1018	Substance Abuse, Behavioral Disorder, & Mental Health Counselors	22	20	38
		21-1019	Counselors, All Other	22	20	38
		21-1022	Healthcare Social Workers	13	12	55
		21-1023	Mental Health & Substance Abuse Social Workers	13	12	55
		21-1029	Social Workers, All Other	13	12	55
		21-1092	Probation Officers & Correctional Treatment Specialists	20	20	65
		21-1093	Social & Human Service Assistants	39	36	48
		21-1094	Community Health Workers	31	32	49
		25-2051	Special Education Teachers, Preschool	10	10	50
		25-2052	Special Education Teachers, Kindergarten & Elementary School	10	10	50
		25-2053	Special Education Teachers, Middle School	10	10	50
		25-2054	Special Education Teachers, Secondary School	10	10	50
		25-2059	Special Education Teachers, All Other	10	10	50
		29-2053	Psychiatric Technicians	57	60	40
		31-1013	Psychiatric Aides	72	55	17
51.3401	Direct Entry Midwife	29-1161	Nurse Midwives	1	0	6
51.3801	Nursing	29-1141	Registered Nurses	5	33	88
51.3902	Nursing Assistant	29-2061	Licensed Practical & Licensed Vocational Nurses	76	76	22
		31-1013	Psychiatric Aides	72	55	17
		31-1014	Nursing Assistants	72	55	17
52.0201	Business Management	11-2021	Marketing Managers	21	20	65
		11-2022	Sales Managers	21	20	65
		11-3031	Financial Managers	32	30	52

CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
		11-3121	Human Resources Managers	33	30	50
		11-9199	Managers, All Other	32	26	50
		11-1011	Chief Executives	24	22	55
		11-1021	General & Operations Managers	42	36	47
		13-1071	Human Resources Specialists	26	25	59
		13-1111	Management Analysts	15	14	56
		13-1161	Market Research Analysts & Marketing Specialists	14	14	68
		13-1199	Business Operations Specialists, All Other	26	23	54
		41-1011	First-Line Supervisors of Retail Sales Workers	61	45	31
		41-4012	Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	40	31	51
		43-1011	First-Line Supervisors of Office & Administrative Support Workers	50	42	41
		43-4051	Customer Service Representatives	67	47	27
		43-6014	Secretaries & Administrative Assistants, Except Legal, Medical, & Executive	56	49	39
52.0203	Supply Chain Management	11-3061	Purchasing Managers	23	21	55
		11-3071	Transportation, Storage, & Distribution Managers	59	40	31
		11-9199	Managers, All Other	32	26	50
		13-1081	Logisticians	43	41	48
		43-5011	Cargo & Freight Agents	64	53	31
52.0204	Leadership Development	11-2021	Marketing Managers	21	20	65
		11-2022	Sales Managers	21	20	65
		11-2031	Public Relations & Fundraising Managers	9	10	70
		11-3011	Administrative Services Managers	43	40	48
		11-3031	Financial Managers	32	30	52
		11-3061	Purchasing Managers	23	21	55
		11-3071	Transportation, Storage, & Distribution Managers	59	40	31
		11-3121	Human Resources Managers	33	30	50



CIP CODE	PROGRAM NAME	SOC CODE	SOC TITLE	% WORKFORCE WITH EDUCATION LEVEL AND ONE LEVEL BELOW		
				CERT	ASSOC	BACH
		11-1011	Chief Executives	24	22	55
		11-1021	General & Operations Managers	42	36	47
		13-1071	Human Resources Specialists	26	25	59
		13-1111	Management Analysts	15	14	56
52.0301	Accounting	11-3031	Financial Managers	32	30	52
		13-2011	Accountants & Auditors	9	12	66
		13-2031	Budget Analysts	9	11	57
		13-2041	Credit Analysts	15	14	68
		13-2051	Financial Analysts	6	6	66
		13-2061	Financial Examiners	11	8	67
		13-2081	Tax Examiners & Collectors, & Revenue Agents	35	30	52
		13-2082	Tax Preparers	40	33	41
		43-3031	Bookkeeping, Accounting, & Auditing Clerks	63	51	32
		43-3051	Payroll & Timekeeping Clerks	55	50	41
		43-4011	Brokerage Clerks	19	20	73
		43-9111	Statistical Assistants	52	43	37
52.0302	Accounting Assistant	13-2011	Accountants & Auditors	9	12	66
		13-2082	Tax Preparers	40	33	41
		43-3031	Bookkeeping, Accounting, & Auditing Clerks	63	51	32
		43-3051	Payroll & Timekeeping Clerks	55	50	41
		43-4011	Brokerage Clerks	19	20	73

Source: Emsi program demand gap model.

## APPENDIX 5: Program Demand Gap Analysis

### Methodology

This appendix focuses on describing and understanding the methodology used in the program demand gap analysis. This requires data on both occupation demand (e.g., annual job openings) and education supply (e.g., number of postsecondary degree completions). These are then compared through an education “gap” analysis to determine whether an education program is potentially producing a surplus or shortage of workforce talent relative to the number of job openings. In this way, it is possible to see how the institution’s current programs are satisfying the region’s workforce needs.

#### SUPPLY AND DEMAND MODEL

Emsi builds a model using demand-side data (average annual projected job openings) and supply-side data (postsecondary education output) to compare workforce demand with education supply. The purpose of this analysis is to find the difference or “gap” between the annual job openings for an occupation and the number of people completing postsecondary degrees for that occupation, whether at Southwest Tech or at another postsecondary institution in the region, making it possible to identify talent shortages or surpluses.

The first step involves the link between annual job openings for a SOC code and the number of completions for an education program, defined by its CIP code. The BLS provides information on the occupations that completers of specific CIP codes are more likely to enter. Specific connections have been refined through previous engagements with postsecondary institutions and state departments of labor. Some programs have direct occupational ties. For example, a physical therapist assistant is a specific occupation that requires specialized postsecondary training. In this case, one CIP code (Physical Therapy Technician/Assistant) maps to only one SOC code (physical therapist assistants). This provides an easy comparison of annual job openings for physical therapist assistants to the number of people completing the relevant program to see whether a talent shortage or surplus exists.

Unfortunately, this one-to-one mapping of a CIP code to a SOC code is not always the case. More often than not, an educational program maps to multiple occupations and an occupation maps to multiple educational programs at multiple award levels. For this reason, Emsi has pioneered a method of de-duplicating job openings, such that the potential

sources of demand are not double represented for any occupation. The details of this process are outlined in this chapter, under “De-duplication of Annual Openings.”

## OCCUPATION DEMAND

### *Educational Level Adjustments*

To capture occupation demand, Emsi uses a proprietary employment dataset that reflects total employment. Emsi uses the QCEW data source, which measures employment covered by unemployment insurance (UI). According to the BLS, “employment covered by these UI programs represents about 97% of all wage and salary civilian employment in the country.” Through a proprietary process, Emsi removes BLS local area employment suppressions to yield the best employment data available at local levels, using Emsi’s Employees & Self-Employed 2019.3 datarun.

In the datarun, Emsi calculates the number of regional job openings for the occupations that require different levels of education for entry-level positions.<sup>19</sup> The BLS also provides educational attainment data of current workers, ages 16 years to 34 years, for each SOC code, broken out by their highest level of education attained. The data are presented as the percentage of workers in the SOC code with educational attainment ranging from less than a high school diploma to a doctoral degree level of education. Using these data, Emsi adjusts the annual job opening estimates for each SOC code to only incorporate the percentage of workers that correspond with Southwest Tech’s program offerings.

For example, as shown in Table A5.1, three occupations are mapped to Accounting: accountants, auditors, and budget analysts. Among accountants, the majority of job openings (80%) are available to program completers with a master’s degree or bachelor’s degree level of education, less so for auditors. The weighted average of job openings, in the last row of the table, is calculated for each program and at each award level where Southwest Tech has produced completions over the past three years. Not accounting for these dynamics in educational attainments would bias the programs’ demands by over-counting potential job opportunities for the completers.<sup>20</sup>

---

<sup>19</sup> See Appendix 1 for a description of the sources and processes of Emsi data.

<sup>20</sup> Given the changing dynamics and need for more education in the existing workforce (i.e., skills-biased technology change in many occupations and industry sectors), this assumption is considered conservative.



Table A5.1: Example of Educational Level Adjustments for a Program

PROGRAM	OCCUPATION	ASSOC AND ONE LEVEL BELOW	BACH AND ONE LEVEL BELOW	MAST and one level below	PHD and one level below
Accounting	Accountant	10%	65%	80%	25%
	Auditor	5%	70%	75%	20%
	Budget analyst	15%	70%	80%	30%
	Weighted average	10%	68%	78%	25%

### *De-Duplication of Annual Openings*

Most programs are designed to train people for multiple occupational types, many of which are simultaneously linked with other educational programs. This presents a complexity when comparing supply and demand for any one program. For instance, the Accounting program is mapped to three different occupations: accountants, auditors, and budget analysts. If we focus on one of the occupations for this list—accountants—it is also mapped to three different educational programs, for example, Business, Medical Office Administration, and Commerce.

To ensure that double counting does not occur, it is necessary to either realign the program groupings to eliminate the mapping of occupations to multiple programs or to determine what proportion of job openings should be compared with program completions. Emsi takes the second approach in this analysis, which has the advantage of maintaining program titles and descriptions in roughly the same format of the completion data originally delivered to Emsi. Emsi also uses a formula that favors programs with the largest completions, attributing a greater proportion of job openings to programs with a large number of completions by award level. This method utilizes the assumption that the higher output programs are likely feeding a higher degree of demand in Southwest Wisconsin.<sup>21</sup> Appendix 4 contains the detailed mapping of each CIP code to all relevant occupations, by their six-digit SOC codes. A result of de-duplication is that in a region where a unique program, Commercial & Advertising Art for example, is larger than Graphic Design, it is assumed that completers of

<sup>21</sup> Note this adjustment is performed on a program-by-program basis without consideration of individual colleges or training providers. Therefore, a single program offered at one large institution has no advantage over a group of similar programs offered at several smaller educational providers given that the aggregate output of the smaller schools is near the output of the single larger school.



the Commercial & Advertising Art program will be offered a proportional, therefore larger number of job openings than students from the Graphic Design program.

Emsi also provides an alternative program demand gap analysis, which does not de-duplicate the average number of projected annual job openings based on the size of each program. Rather, the total number of job openings available for completers at each award level for each program is provided without further modification. Due to this modification, these numbers have not been de-duplicated, unlike the job openings shown in Chapter 3. As a result, job openings overstate the occupational demand for all postsecondary program completers. While these figures have not been provided in this analysis, they are available upon request.

## EDUCATION OUTPUT

There are several educational institutions in Southwest Wisconsin, some of which have programs similar to those offered at Southwest Tech. Hence, completers at Southwest Tech will be competing for some jobs with completers from other regional institutions. Emsi determined education output by CIP codes and identified the number of completers for every award level within those CIP codes. To find the output for all public and private educational institutions in Southwest Wisconsin, Emsi uses data from the Integrated Postsecondary Educational System (IPEDS).<sup>22</sup> These data are publicly available through the National Center for Educational Statistics. Completions data are averaged for a three-year period, 2015 through 2017, to smooth out any bumps in enrollment that may be unique to a particular academic year. Data gathered for Southwest Tech from IPEDS were reviewed for accuracy by Southwest Tech and updated with 2018 completions data.

Tables A5.2 displays the completion breakdown by institution in Southwest Wisconsin at the certificate, associate, and bachelor's degree levels. There is one other institution in the region, the University of Wisconsin-Platteville. Using a three-year average, Southwest Tech issues 504 credentials at the certificate level and 241 associate degrees every year (including the college's Individualized Technical Studies programs, which are not included in the program demand gap analysis).

---

<sup>22</sup> These data come with inherent weaknesses. Primarily, numbers are only available for institutions that participate in or are applicants for any federal financial assistance program authorized by the Higher Education Act (HEA). Also, IPEDS does not collect data on non-credit courses and programs. Nevertheless, this system is the best source for collecting information on a broad range of educational institutions.

Table A5.2: Completions in Southwest Wisconsin by Education Level and Postsecondary Institution

INSTITUTION	3-YEAR AVERAGE
<b>Certificate level</b>	
Southwest Wisconsin Technical College	504
<b>Associate degree</b>	
Southwest Wisconsin Technical College	241
University of Wisconsin-Platteville	2
<b>Bachelor's degree</b>	
University of Wisconsin-Platteville	1,431

Source: IPEDS. Certificate level includes apprenticeships and technical diplomas.

## APPENDIX 6: Employment Projections

Table A6.1: Employment Projections in Southwest Wisconsin by Occupation, 2018 and 2028

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Cashiers	1,512	1,555	2.9%	323	\$9.29	\$10.11
Combined Food Preparation & Serving Workers, Including Fast Food	1,033	1,141	10.5%	230	\$8.70	\$9.23
Retail Salespersons	1,350	1,413	4.6%	226	\$10.98	\$10.90
Personal Care Aides	783	1,019	30.2%	167	\$11.42	\$11.41
Customer Service Representatives	1,219	1,070	(12.2%)	161	\$15.92	\$17.18
Farmworkers & Laborers, Crop, Nursery, & Greenhouse	783	933	19.2%	161	\$13.45	\$11.37
Laborers & Freight, Stock, & Material Movers, Hand	904	920	1.8%	141	\$14.55	\$15.47
Office Clerks, General	1,080	1,064	(1.4%)	138	\$15.24	\$16.50
Farmers, Ranchers, & Other Agricultural Managers	1,647	1,562	(5.2%)	137	\$17.49	\$17.62
Heavy & Tractor-Trailer Truck Drivers	1,070	1,092	2.0%	131	\$19.61	\$21.39
Packaging & Filling Machine Operators & Tenders	698	856	22.8%	117	\$14.66	\$16.16
Janitors & Cleaners, Except Maids & Housekeeping Cleaners	665	752	13.2%	110	\$11.94	\$12.36
Nursing Assistants	743	794	6.9%	101	\$13.83	\$14.05
Waiters & Waitresses	519	471	(9.3%)	101	\$8.85	\$9.42
Stock Clerks & Order Fillers	658	678	3.0%	95	\$10.65	\$11.57
Bookkeeping, Accounting, & Auditing Clerks	706	673	(4.6%)	84	\$16.14	\$17.88
Assemblers & Fabricators, All Other, Including Team Assemblers	646	577	(10.7%)	78	\$15.07	\$15.06
Maintenance & Repair Workers, General	593	643	8.5%	71	\$17.39	\$19.55
Construction Laborers	545	608	11.6%	71	\$16.20	\$18.66
Food Batchmakers	330	437	32.4%	71	\$15.04	\$16.51
Registered Nurses	890	1,032	16.0%	69	\$33.06	\$33.72
Farmworkers, Farm, Ranch, & Aquacultural Animals	337	400	18.7%	69	\$11.57	\$13.18
Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	539	573	6.3%	66	\$26.52	\$28.54

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Barenders	362	340	(5.9%)	64	\$8.90	\$10.10
Teacher Assistants	496	538	8.3%	62	\$12.57	\$14.06
Childcare Workers	382	375	(1.9%)	62	\$9.03	\$9.79
Packers & Packagers, Hand	379	353	(6.8%)	62	\$13.83	\$13.32
Secretaries & Administrative Assistants, Except Legal, Medical, & Executive	524	514	(2.0%)	61	\$15.88	\$17.35
Postsecondary Teachers, General	602	654	8.8%	58	\$28.61	\$33.07
First-Line Supervisors of Production & Operating Workers	425	479	12.6%	54	\$25.92	\$28.42
First-Line Supervisors of Retail Sales Workers	423	448	6.0%	53	\$16.49	\$17.77
General & Operations Managers	507	552	8.9%	52	\$43.03	\$50.22
Carpenters	468	491	4.9%	52	\$19.07	\$21.66
Receptionists & Information Clerks	320	326	1.7%	47	\$13.18	\$14.16
Secondary School Teachers, Except Special & Career/Technical Education	550	573	4.3%	45	\$24.16	\$27.24
Elementary School Teachers, Except Special Education	534	558	4.4%	45	\$24.75	\$26.80
First-Line Supervisors of Office & Administrative Support Workers	408	406	(0.5%)	45	\$21.86	\$25.50
Cooks, Restaurant	307	286	(6.8%)	45	\$11.04	\$12.07
Maids & Housekeeping Cleaners	295	300	1.8%	45	\$10.04	\$10.90
Bus Drivers, School Or Special Client	295	308	4.5%	43	\$14.40	\$16.05
Cooks, Institution & Cafeteria	262	279	6.2%	43	\$12.82	\$13.77
Landscaping & Groundskeeping Workers	284	309	8.6%	42	\$13.12	\$14.43
First-Line Supervisors of Food Preparation & Serving Workers	254	259	2.1%	41	\$13.07	\$14.15
Industrial Truck & Tractor Operators	282	313	11.2%	40	\$17.25	\$17.93
Inspectors, Testers, Sorters, Samplers, & Weighers	280	279	(0.4%)	38	\$17.06	\$18.65
Automotive Service Technicians & Mechanics	331	345	4.3%	37	\$17.41	\$17.96
Managers, All Other	376	428	13.9%	36	\$24.91	\$31.45
Tellers	287	268	(6.7%)	35	\$14.02	\$13.70
Accountants & Auditors	309	327	5.9%	33	\$28.37	\$30.48
Agricultural Workers, All Other	156	185	18.6%	32	\$12.88	\$13.30
Shipping, Receiving, & Traffic Clerks	294	261	(11.1%)	31	\$16.41	\$17.30



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Insurance Sales Agents	258	273	6.1%	30	\$24.70	\$29.95
Electricians	213	234	9.6%	30	\$26.16	\$29.20
Sales Representatives, Services, All Other	207	217	4.6%	29	\$20.57	\$23.53
Order Clerks	290	185	(36.3%)	28	\$16.30	\$16.67
Light Truck Or Delivery Services Drivers	212	231	9.3%	28	\$12.31	\$14.38
Middle School Teachers, Except Special & Career/Technical Education	318	333	4.6%	27	\$25.41	\$27.94
Hairdressers, Hairstylists, & Cosmetologists	220	203	(7.4%)	27	\$11.43	\$12.16
Lifeguards, Ski Patrol, & Other Recreational Protective Service Workers	93	98	4.7%	26	\$8.95	\$9.50
Market Research Analysts & Marketing Specialists	207	218	5.3%	25	\$23.49	\$25.81
Woodworking Machine Setters, Operators, & Tenders, Except Sawing	198	199	0.6%	25	\$13.30	\$14.69
Welders, Cutters, Solderers, & Brazers	197	206	4.3%	25	\$18.72	\$20.39
Cleaners of Vehicles & Equipment	139	158	13.5%	25	\$12.82	\$12.46
First-Line Supervisors of Construction Trades & Extraction Workers	207	215	3.8%	24	\$26.96	\$32.23
Substitute Teachers	190	200	4.7%	24	\$13.34	\$15.20
Operating Engineers & Other Construction Equipment Operators	176	191	8.4%	24	\$23.88	\$30.29
Agricultural Equipment Operators	118	139	18.2%	24	\$15.96	\$17.10
Police & Sheriff's Patrol Officers	319	326	2.3%	23	\$25.71	\$30.27
Correctional Officers & Jailers	260	251	(3.4%)	23	\$20.59	\$20.52
Preschool Teachers, Except Special Education	173	201	16.5%	23	\$10.60	\$11.65
Recreation Workers	113	126	10.9%	23	\$11.20	\$10.78
Medical Assistants	161	182	13.2%	22	\$16.43	\$17.52
Parts Salespersons	150	157	4.7%	22	\$16.14	\$16.53
Social & Human Service Assistants	146	163	11.8%	22	\$17.25	\$16.72
Food Preparation Workers	110	117	6.2%	22	\$10.02	\$10.55
Emergency Medical Technicians & Paramedics	197	253	28.1%	21	\$13.55	\$15.69
Industrial Machinery Mechanics	158	195	23.5%	21	\$21.86	\$24.96
Nonfarm Animal Caretakers	104	125	20.0%	21	\$10.05	\$10.13
Hosts & Hostesses, Restaurant, Lounge, & Coffee Shop	92	81	(12.2%)	21	\$8.60	\$9.30

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Amusement & Recreation Attendants	76	83	9.3%	21	\$9.70	\$9.93
Human Resources Specialists	176	183	3.8%	20	\$26.69	\$27.76
Dishwashers	125	114	(8.8%)	20	\$9.14	\$9.29
Electrical, Electronic, & Electromechanical Assemblers, Except Coil Winders, Tapers, & Finishers	181	120	(33.6%)	19	\$13.38	\$15.93
Military occupations	161	151	(6.0%)	19	\$20.03	\$20.47
Home Health Aides	106	139	30.8%	19	\$10.82	\$11.57
Firefighters	238	241	1.2%	18	\$15.47	\$16.89
First-Line Supervisors of Mechanics, Installers, & Repairers	163	179	10.0%	18	\$29.26	\$32.92
Machinists	144	157	8.8%	18	\$17.94	\$20.22
Driver/Sales Workers	141	149	5.3%	18	\$9.73	\$12.82
Molding, Coremaking, & Casting Machine Setters, Operators, & Tenders, Metal & Plastic	132	133	0.5%	18	\$15.86	\$15.90
Mixing & Blending Machine Setters, Operators, & Tenders	127	139	9.7%	18	\$17.11	\$18.57
Cabinetmakers & Bench Carpenters	111	144	29.9%	18	\$18.07	\$14.89
Licensed Practical & Licensed Vocational Nurses	197	206	4.8%	17	\$20.08	\$21.74
Business Operations Specialists, All Other	145	158	9.2%	17	\$26.79	\$27.46
Highway Maintenance Workers	144	150	4.1%	17	\$20.55	\$21.22
Plumbers, Pipefitters, & Steamfitters	141	144	2.4%	17	\$26.86	\$31.71
Buyers & Purchasing Agents	168	150	(11.1%)	16	\$24.10	\$25.92
Painters, Construction & Maintenance	159	164	2.9%	16	\$15.59	\$18.42
Farm Equipment Mechanics & Service Technicians	134	146	8.9%	16	\$21.80	\$20.85
Cement Masons & Concrete Finishers	112	130	16.7%	16	\$23.14	\$23.62
Security Guards	98	106	7.8%	16	\$11.84	\$13.07
Separating, Filtering, Clarifying, Precipitating, & Still Machine Setters, Operators, & Tenders	95	125	31.7%	16	\$14.11	\$19.01
Counter Attendants, Cafeteria, Food Concession, & Coffee Shop	59	68	15.8%	16	\$8.85	\$9.06
Management Analysts	132	151	14.4%	15	\$32.51	\$35.44
Computer-Controlled Machine Tool Operators, Metal & Plastic	124	129	4.4%	15	\$18.81	\$21.02
Refuse & Recyclable Material Collectors	92	107	16.3%	15	\$19.41	\$19.91

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Dining Room & Cafeteria Attendants & Bartender Helpers	81	77	(5.1%)	15	\$8.42	\$9.14
Helpers--Production Workers	74	88	18.7%	15	\$14.48	\$15.13
First-Line Supervisors of Non-Retail Sales Workers	127	133	5.3%	14	\$31.49	\$37.54
First-Line Supervisors of Transportation & Material Moving Workers, Except Aircraft Cargo Handling Supervisors	121	126	3.8%	14	\$24.64	\$25.54
Molders, Shapers, & Casters, Except Metal & Plastic	120	117	(2.9%)	14	\$12.21	\$15.60
Library Technicians	98	100	2.0%	14	\$11.89	\$12.40
Food Servers, Nonrestaurant	74	84	12.9%	14	\$9.01	\$10.26
Pharmacy Technicians	166	143	(13.7%)	13	\$15.39	\$15.70
Loan Officers	133	143	8.0%	13	\$30.32	\$30.20
Bus & Truck Mechanics & Diesel Engine Specialists	116	126	8.8%	13	\$20.50	\$22.76
Dental Assistants	88	100	14.0%	13	\$18.28	\$18.35
Cooks, Fast Food	88	82	(6.3%)	13	\$10.11	\$10.64
First-Line Supervisors of Farming, Fishing, & Forestry Workers	70	85	21.3%	13	\$25.70	\$23.71
Bakers	67	81	21.3%	13	\$11.81	\$13.70
Construction Managers	143	147	3.2%	12	\$25.13	\$40.14
Computer User Support Specialists	126	134	6.0%	12	\$20.09	\$23.54
Real Estate Sales Agents	105	115	9.0%	12	\$19.80	\$20.39
Automotive Body & Related Repairers	105	110	5.2%	12	\$16.42	\$19.78
Production, Planning, & Expediting Clerks	102	107	5.2%	12	\$20.83	\$21.75
Office & Administrative Support Workers, All Other	94	100	6.2%	12	\$10.45	\$12.46
Sales & Related Workers, All Other	88	81	(7.6%)	12	\$18.51	\$17.59
Agricultural & Food Science Technicians	80	96	21.2%	12	\$19.41	\$17.89
Software Developers, Applications	140	141	1.0%	11	\$36.84	\$40.58
Industrial Engineers	119	134	13.1%	11	\$34.58	\$36.24
Graphic Designers	108	104	(4.4%)	11	\$20.80	\$22.15
Printing Press Operators	98	90	(9.1%)	11	\$19.53	\$17.95
Financial Managers	93	114	22.0%	11	\$51.32	\$58.33



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Cutting, Punching, & Press Machine Setters, Operators, & Tenders, Metal & Plastic	90	89	(0.6%)	11	\$17.90	\$18.59
Educational, Guidance, School, & Vocational Counselors	84	92	9.3%	11	\$23.44	\$24.71
Insurance Claims & Policy Processing Clerks	81	96	18.3%	11	\$15.54	\$18.08
Library Technicians	79	100	2.0%	11	\$11.89	\$24.18
Rehabilitation Counselors	98	90	18.8%	11	\$12.13	\$14.11
Postal Service Mail Carriers	156	125	(19.6%)	10	\$20.83	\$24.49
Mechanical Engineers	125	132	5.2%	10	\$32.87	\$36.61
Chief Executives	124	121	(2.4%)	10	\$46.80	\$58.26
Industrial Production Managers	102	115	12.8%	10	\$45.55	\$50.06
Administrative Services Managers	100	104	4.1%	10	\$42.82	\$49.61
Loan Interviewers & Clerks	85	94	10.5%	10	\$16.30	\$18.87
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	85	87	2.4%	10	\$18.69	\$24.19
Billing & Posting Clerks	80	87	9.9%	10	\$17.27	\$18.09
Teachers & Instructors, All Other	75	80	6.4%	10	\$20.15	\$19.79
Self-Enrichment Education Teachers	75	80	7.2%	10	\$18.23	\$16.18
Production Workers, All Other	68	77	13.3%	10	\$15.12	\$15.34
Telemarketers	67	52	(22.2%)	10	\$12.81	\$13.77
Medical Secretaries	66	80	22.0%	10	\$15.90	\$17.16
Sawing Machine Setters, Operators, & Tenders, Wood	66	75	13.4%	10	\$14.18	\$14.72
Counter & Rental Clerks	65	72	11.5%	10	\$12.57	\$13.24
Hotel, Motel, & Resort Desk Clerks	64	50	(22.3%)	10	\$9.93	\$10.74
Education Administrators, Elementary & Secondary School	97	101	3.9%	9	\$42.75	\$47.01
Medical & Health Services Managers	87	99	13.6%	9	\$45.01	\$47.14
Food Service Managers	77	79	2.4%	9	\$19.49	\$22.08
Executive Secretaries & Executive Administrative Assistants	76	70	(8.8%)	9	\$23.01	\$26.55
Coating, Painting, & Spraying Machine Setters, Operators, & Tenders	71	74	3.9%	9	\$17.21	\$18.10
Taxi Drivers & Chauffeurs	67	72	7.5%	9	\$9.67	\$10.42
Maintenance Workers, Machinery	64	76	19.7%	9	\$23.52	\$25.36



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Cooks, Short Order	60	56	(6.0%)	9	\$9.89	\$11.29
Coaches & Scouts	56	61	7.9%	9	\$13.72	\$11.73
Logging Equipment Operators	50	56	12.1%	9	\$14.88	\$15.62
Fitness Trainers & Aerobics Instructors	38	48	26.8%	9	\$14.73	\$13.79
Protective Service Workers, All Other	32	34	8.5%	9	\$15.09	\$16.41
Computer Systems Analysts	107	111	3.8%	8	\$33.96	\$37.44
First-Line Supervisors of Personal Service Workers	71	77	9.0%	8	\$15.56	\$17.05
Training & Development Specialists	67	70	4.2%	8	\$21.39	\$25.19
Cost Estimators	65	72	11.5%	8	\$22.73	\$26.41
Substance Abuse, Behavioral Disorder, & Mental Health Counselors	62	65	5.1%	8	\$20.30	\$19.45
Child, Family, & School Social Workers	58	66	14.3%	8	\$21.99	\$21.36
Animal Trainers	55	65	17.7%	8	\$10.84	\$11.07
Bus Drivers, Transit & Intercity	54	60	12.1%	8	\$21.83	\$22.95
Extruding, Forming, Pressing, & Compacting Machine Setters, Operators, & Tenders	51	58	13.3%	8	\$19.19	\$17.44
Sales Managers	67	74	11.1%	7	\$50.62	\$59.67
Furnace, Kiln, Oven, Drier, & Kettle Operators & Tenders	64	60	(6.5%)	7	\$17.63	\$17.03
Installation, Maintenance, & Repair Workers, All Other	57	62	8.6%	7	\$16.87	\$17.23
Healthcare Social Workers	56	63	11.8%	7	\$21.43	\$25.20
Information & Record Clerks, All Other	56	58	4.1%	7	\$9.91	\$16.26
Sewing Machine Operators	54	56	5.2%	7	\$13.35	\$13.34
First-Line Supervisors of Housekeeping & Janitorial Workers	48	52	8.6%	7	\$17.09	\$18.29
Directors, Religious Activities & Education	46	48	5.2%	7	\$18.20	\$21.49
Automotive & Watercraft Service Attendants	33	37	12.4%	7	\$9.73	\$10.53
Ushers, Lobby Attendants, & Ticket Takers	25	28	12.2%	7	\$8.84	\$9.21
Network & Computer Systems Administrators	80	80	(0.3%)	6	\$30.26	\$34.36
Medical Records & Health Information Technicians	76	84	10.7%	6	\$17.23	\$19.38
Dental Hygienists	73	82	13.3%	6	\$34.05	\$31.85
Clinical Laboratory Technologists & Technicians	70	79	13.0%	6	\$25.08	\$23.98

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Veterinary Technologists & Technicians	65	64	(2.0%)	6	\$15.62	\$16.24
Computer & Information Systems Managers	59	63	5.4%	6	\$44.27	\$57.12
Dispatchers, Except Police, Fire, & Ambulance	59	61	2.6%	6	\$17.07	\$20.14
Librarians	58	59	2.6%	6	\$23.68	\$26.90
Public Relations Specialists	53	56	6.2%	6	\$24.97	\$26.94
Extruding & Drawing Machine Setters, Operators, & Tenders, Metal & Plastic	53	47	(11.1%)	6	\$15.65	\$18.64
Musicians & Singers	52	56	7.8%	6	\$22.25	\$22.29
Logisticians	52	53	2.4%	6	\$27.13	\$28.54
Electrical Power-Line Installers & Repairers	51	60	18.1%	6	\$37.44	\$40.03
Multiple Machine Tool Setters, Operators, & Tenders, Metal & Plastic	47	50	7.8%	6	\$16.51	\$17.32
Bill & Account Collectors	46	49	6.6%	6	\$15.04	\$17.68
Editors	45	51	14.0%	6	\$19.36	\$22.06
Telecommunications Equipment Installers & Repairers, Except Line Installers	44	50	12.1%	6	\$25.09	\$24.82
Roofers	42	48	14.4%	6	\$17.64	\$19.51
Advertising Sales Agents	39	41	4.6%	6	\$18.01	\$21.51
Laundry & Dry-Cleaning Workers	39	38	(3.7%)	6	\$11.17	\$11.39
Cutting & Slicing Machine Setters, Operators, & Tenders	38	43	14.2%	6	\$17.77	\$18.32
Tour & Travel Guides	30	34	11.9%	6	\$10.28	\$10.82
Pharmacists	115	101	(11.5%)	5	\$58.86	\$63.15
Lawyers	97	97	(0.3%)	5	\$35.05	\$47.77
Web Developers	70	61	(13.2%)	5	\$22.33	\$23.80
Education Administrators, Postsecondary	61	64	4.1%	5	\$50.19	\$46.63
Water & Wastewater Treatment Plant & System Operators	59	58	(1.6%)	5	\$22.19	\$24.57
Civil Engineers	53	58	8.1%	5	\$32.14	\$36.02
Social & Community Service Managers	46	53	15.1%	5	\$30.94	\$30.90
Human Resources Managers	46	50	8.6%	5	\$42.18	\$51.52
Couriers & Messengers	45	46	0.7%	5	\$11.31	\$11.14
Structural Metal Fabricators & Fitters	45	41	(8.6%)	5	\$17.47	\$20.56

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Personal Financial Advisors	44	54	23.3%	5	\$31.98	\$41.62
Marketing Managers	42	45	6.6%	5	\$41.33	\$54.20
Payroll & Timekeeping Clerks	42	42	(0.6%)	5	\$17.05	\$21.01
Paralegals & Legal Assistants	41	42	2.7%	5	\$16.70	\$23.46
Securities, Commodities, & Financial Services Sales Agents	40	46	15.3%	5	\$25.99	\$27.45
Massage Therapists	40	41	2.9%	5	\$16.33	\$19.73
Mail Clerks & Mail Machine Operators, Except Postal Service	39	39	(0.2%)	5	\$11.53	\$14.85
Mobile Heavy Equipment Mechanics, Except Engines	37	41	10.8%	5	\$22.02	\$24.12
Food & Tobacco Roasting, Baking, & Drying Machine Operators & Tenders	34	41	21.5%	5	\$9.72	\$10.63
Veterinary Assistants & Laboratory Animal Caretakers	30	32	5.1%	5	\$11.18	\$12.12
Physical Therapist Assistants	29	34	18.6%	5	\$23.62	\$25.74
Graders & Sorters, Agricultural Products	29	34	19.6%	5	\$12.30	\$14.72
Library Assistants, Clerical	29	31	5.4%	5	\$15.93	\$15.89
Cooling & Freezing Equipment Operators & Tenders	28	37	32.1%	5	\$15.16	\$16.45
Personal Care & Service Workers, All Other	27	32	15.7%	5	\$10.47	\$11.29
Funeral Attendants	25	28	13.1%	5	\$13.59	\$12.88
Crossing Guards	22	24	8.0%	5	\$11.82	\$14.02
Travel Agents	19	31	62.3%	5	\$13.57	\$17.14
Physical Therapists	66	75	14.6%	4	\$39.83	\$40.97
Radiologic Technologists	59	66	12.9%	4	\$27.55	\$27.92
Computer Programmers	58	50	(13.5%)	4	\$31.55	\$36.06
Computer Occupations, All Other	47	50	6.2%	4	\$30.35	\$33.94
Clinical, Counseling, & School Psychologists	47	48	2.2%	4	\$33.99	\$36.46
Electrical Engineers	45	45	1.1%	4	\$37.08	\$39.74
Software Developers, Systems Software	42	47	11.4%	4	\$39.56	\$42.36
Computer Network Support Specialists	42	44	5.3%	4	\$29.75	\$31.95
Property, Real Estate, & Community Association Managers	40	47	17.4%	4	\$22.98	\$26.61
Drywall & Ceiling Tile Installers	40	40	(0.9%)	4	\$16.62	\$19.24



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Compliance Officers	39	43	12.2%	4	\$27.63	\$28.46
Data Entry Keyers	39	30	(21.8%)	4	\$15.76	\$15.21
Police, Fire, & Ambulance Dispatchers	38	40	6.0%	4	\$21.79	\$21.51
Financial Analysts	36	41	13.5%	4	\$33.31	\$34.22
Human Resources Assistants, Except Payroll & Timekeeping	36	36	(1.7%)	4	\$18.44	\$18.52
Weighers, Measurers, Checkers, & Samplers, Recordkeeping	34	36	6.4%	4	\$17.33	\$16.94
Sales Representatives, Wholesale & Manufacturing, Technical & Scientific Products	33	37	11.1%	4	\$33.90	\$34.11
Kindergarten Teachers, Except Special Education	32	34	5.4%	4	\$25.62	\$26.98
Merchandise Displayers & Window Trimmers	32	34	8.0%	4	\$13.92	\$14.35
Claims Adjusters, Examiners, & Investigators	30	38	23.1%	4	\$27.09	\$29.59
Meeting, Convention, & Event Planners	28	31	10.6%	4	\$18.31	\$21.39
Morticians, Undertakers, & Funeral Directors	27	30	13.4%	4	\$26.45	\$27.23
Chemical Equipment Operators & Tenders	26	29	9.3%	4	\$22.70	\$20.86
Helpers--Installation, Maintenance, & Repair Workers	25	28	10.4%	4	\$9.07	\$11.44
Upholsterers	24	30	28.5%	4	\$18.31	\$16.90
Tire Repairers & Changers	24	25	3.9%	4	\$15.19	\$14.12
Conveyor Operators & Tenders	23	24	5.7%	4	\$17.87	\$19.06
Glaziers	22	29	34.5%	4	\$20.66	\$25.15
Meat, Poultry, & Fish Cutters & Trimmers	21	23	9.1%	4	\$12.57	\$13.55
Residential Advisors	19	23	19.2%	4	\$15.24	\$13.99
Physicians & Surgeons, All Other	74	80	8.0%	3	\$115.70	\$113.26
Veterinarians	56	56	0.3%	3	\$39.27	\$40.33
Nurse Practitioners	45	53	18.7%	3	\$52.04	\$50.99
Occupational Therapists	43	48	12.3%	3	\$36.29	\$35.65
Postal Service Clerks	43	35	(20.4%)	3	\$20.52	\$22.36
Legislators	42	43	2.7%	3	\$7.37	\$8.29
Architectural & Engineering Managers	38	41	6.3%	3	\$49.37	\$56.94
First-Line Supervisors of Police & Detectives	38	39	2.3%	3	\$36.64	\$40.26



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Door-To-Door Sales Workers, News & Street Vendors, & Related Workers	36	23	(36.6%)	3	\$11.12	\$11.58
Transportation, Storage, & Distribution Managers	33	34	1.7%	3	\$40.00	\$43.66
Probation Officers & Correctional Treatment Specialists	32	35	9.9%	3	\$23.20	\$22.65
Writers & Authors	32	34	6.4%	3	\$19.54	\$19.64
Photographers	32	30	(5.8%)	3	\$14.73	\$13.93
New Accounts Clerks	32	27	(16.9%)	3	\$15.34	\$17.68
Health Technologists & Technicians, All Other	31	35	14.3%	3	\$20.17	\$19.87
Respiratory Therapists	30	38	29.1%	3	\$28.45	\$29.40
Special Education Teachers, Secondary School	30	32	6.2%	3	\$23.41	\$25.21
Adult, Basic & Secondary Education & Literacy Teachers & Instructors	29	28	(4.5%)	3	\$23.38	\$22.17
Brickmasons & Blockmasons	29	28	(2.9%)	3	\$21.47	\$26.07
Sheet Metal Workers	28	30	4.1%	3	\$18.23	\$24.78
Tool & Die Makers	28	29	3.1%	3	\$24.51	\$24.40
Real Estate Brokers	27	31	12.7%	3	\$27.50	\$31.06
Producers & Directors	27	29	6.7%	3	\$16.67	\$24.09
Electrical & Electronics Engineering Technicians	27	28	1.6%	3	\$26.82	\$25.99
Tile & Marble Setters	27	25	(5.7%)	3	\$17.85	\$20.34
Grinding, Lapping, Polishing, & Buffing Machine Tool Setters, Operators, & Tenders, Metal & Plastic	27	25	(6.4%)	3	\$15.65	\$17.11
Opticians, Dispensing	26	32	25.8%	3	\$16.79	\$16.55
Interpreters & Translators	25	27	8.6%	3	\$21.86	\$23.82
First-Line Supervisors of Landscaping, Lawn Service, & Groundskeeping Workers	25	26	2.8%	3	\$20.58	\$24.54
Word Processors & Typists	25	20	(18.3%)	3	\$18.25	\$19.88
Gas Plant Operators	24	22	(9.0%)	3	\$57.82	\$29.58
Eligibility Interviewers, Government Programs	23	25	9.3%	3	\$21.19	\$21.37
Material Moving Workers, All Other	23	24	2.9%	3	\$11.71	\$12.46
Furniture Finishers	22	29	35.2%	3	\$16.75	\$15.28
Crushing, Grinding, & Polishing Machine Setters, Operators, & Tenders	22	23	6.7%	3	\$17.79	\$18.88

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Butchers & Meat Cutters	22	23	3.6%	3	\$17.38	\$18.70
Outdoor Power Equipment & Other Small Engine Mechanics	22	23	7.4%	3	\$15.40	\$16.43
Grinding & Polishing Workers, Hand	22	21	(4.6%)	3	\$14.42	\$13.48
Interior Designers	21	26	22.1%	3	\$20.97	\$22.48
Interviewers, Except Eligibility & Loan	21	24	17.0%	3	\$15.03	\$17.10
Chefs & Head Cooks	21	23	9.7%	3	\$17.32	\$18.88
Excavating & Loading Machine & Dragline Operators	21	22	6.0%	3	\$24.21	\$23.92
Community & Social Service Specialists, All Other	20	23	12.2%	3	\$17.09	\$20.93
Healthcare Support Workers, All Other	20	22	10.3%	3	\$15.57	\$16.63
Painters, Transportation Equipment	20	21	6.1%	3	\$16.65	\$19.42
Paper Goods Machine Setters, Operators, & Tenders	19	23	19.2%	3	\$19.06	\$21.52
Religious Workers, All Other	19	21	9.0%	3	\$12.92	\$14.16
Manicurists & Pedicurists	18	21	15.3%	3	\$10.68	\$13.63
Food Scientists & Technologists	17	22	27.4%	3	\$24.30	\$28.35
Actors	17	22	25.3%	3	\$12.71	\$16.17
Health Educators	17	19	12.3%	3	\$27.54	\$26.95
Medical Equipment Preparers	17	19	15.6%	3	\$18.34	\$16.91
Structural Iron & Steel Workers	16	20	29.1%	3	\$26.31	\$28.95
Machine Feeders & Offbearers	16	18	11.6%	3	\$17.40	\$14.41
Log Graders & Scalers	15	17	16.6%	3	\$21.50	\$20.97
Cleaning, Washing, & Metal Pickling Equipment Operators & Tenders	13	17	34.2%	3	\$16.04	\$16.23
Demonstrators & Product Promoters	13	16	21.6%	3	\$12.16	\$12.77
Chiropractors	38	43	11.1%	2	\$30.10	\$32.27
Dentists, General	34	39	14.8%	2	\$95.94	\$93.30
Speech-Language Pathologists	34	37	11.0%	2	\$32.41	\$33.41
Special Education Teachers, Kindergarten & Elementary School	27	30	7.5%	2	\$24.73	\$26.00
Career/Technical Education Teachers, Secondary School	27	28	5.3%	2	\$25.23	\$27.89
Special Education Teachers, Middle School	27	28	4.7%	2	\$23.20	\$25.70

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Physician Assistants	25	30	21.1%	2	\$49.27	\$53.78
First-Line Supervisors of Correctional Officers	25	25	(1.0%)	2	\$30.91	\$30.60
Mechanical Engineering Technicians	24	24	(2.5%)	2	\$22.27	\$24.54
Dietitians & Nutritionists	23	25	8.8%	2	\$24.43	\$26.94
Diagnostic Medical Sonographers	22	27	21.0%	2	\$39.07	\$40.39
Surgical Technologists	22	26	16.1%	2	\$24.11	\$25.39
Occupational Health & Safety Specialists	21	24	14.2%	2	\$27.30	\$31.09
Procurement Clerks	21	20	(6.9%)	2	\$16.56	\$18.14
Cargo & Freight Agents	20	23	16.9%	2	\$16.44	\$18.09
Instructional Coordinators	20	22	10.4%	2	\$28.39	\$30.68
Financial Specialists, All Other	20	22	8.9%	2	\$24.55	\$25.81
Civil Engineering Technicians	20	22	8.6%	2	\$23.64	\$25.75
Engineering Technicians, Except Drafters, All Other	20	20	4.4%	2	\$25.00	\$27.63
Psychiatric Technicians	20	20	0.3%	2	\$18.79	\$16.23
Office Machine Operators, Except Computer	20	18	(10.3%)	2	\$17.78	\$14.40
Electrical & Electronics Repairers, Powerhouse, Substation, & Relay	19	22	15.3%	2	\$31.78	\$37.76
Education Administrators, Preschool & Childcare Center/Program	19	22	13.4%	2	\$17.09	\$19.51
Mental Health & Substance Abuse Social Workers	19	21	8.4%	2	\$24.84	\$21.56
Fundraisers	19	21	9.9%	2	\$24.22	\$25.80
Construction & Building Inspectors	19	20	6.3%	2	\$28.34	\$28.40
Credit Analysts	19	20	4.2%	2	\$25.98	\$29.65
Compensation, Benefits, & Job Analysis Specialists	19	20	8.4%	2	\$21.28	\$26.12
Pharmacy Aides	19	14	(26.9%)	2	\$8.99	\$11.11
Engineers, All Other	18	22	17.7%	2	\$38.87	\$40.51
Chemists	18	21	17.1%	2	\$27.78	\$33.56
Architectural & Civil Drafters	18	20	12.6%	2	\$22.88	\$24.74
Meter Readers, Utilities	18	19	2.4%	2	\$27.66	\$27.95
Mechanical Drafters	18	19	5.6%	2	\$23.34	\$24.01



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
File Clerks	18	18	(0.1%)	2	\$14.48	\$16.29
Tailors, Dressmakers, & Custom Sewers	18	13	(27.9%)	2	\$12.78	\$13.84
Medical Scientists, Except Epidemiologists	17	20	20.0%	2	\$26.78	\$31.39
Audio & Video Equipment Technicians	17	20	20.0%	2	\$17.91	\$17.09
Art Directors	17	19	14.2%	2	\$20.77	\$30.42
Purchasing Managers	17	18	4.4%	2	\$40.17	\$47.76
Music Directors & Composers	17	18	7.3%	2	\$21.92	\$25.73
Education, Training, & Library Workers, All Other	17	18	9.3%	2	\$15.53	\$20.93
Prepress Technicians & Workers	17	15	(13.7%)	2	\$18.87	\$18.14
Urban & Regional Planners	16	17	6.1%	2	\$33.14	\$33.00
Court, Municipal, & License Clerks	16	17	11.7%	2	\$20.68	\$20.92
Medical Transcriptionists	16	17	5.3%	2	\$17.70	\$19.11
Tax Preparers	16	16	0.3%	2	\$15.55	\$19.48
Skincare Specialists	16	15	(7.0%)	2	\$9.76	\$15.98
Chemical Technicians	15	18	18.7%	2	\$20.21	\$21.75
Environmental Scientists & Specialists, Including Health	15	17	16.8%	2	\$24.12	\$27.48
Commercial & Industrial Designers	15	17	7.5%	2	\$23.27	\$26.90
Computer Numerically Controlled Machine Tool Programmers, Metal & Plastic	15	17	16.0%	2	\$22.00	\$23.95
Computer, Automated Teller, & Office Machine Repairers	15	16	6.1%	2	\$16.32	\$18.22
Forest & Conservation Technicians	15	15	(2.5%)	2	\$17.77	\$16.65
Tank Car, Truck, & Ship Loaders	15	11	(28.0%)	2	\$19.71	\$22.13
Telecommunications Line Installers & Repairers	14	17	19.0%	2	\$22.79	\$24.05
Fence Erectors	14	16	16.9%	2	\$14.98	\$18.66
Electronic Home Entertainment Equipment Installers & Repairers	14	15	2.1%	2	\$11.37	\$19.46
Sales Engineers	14	14	(5.2%)	2	\$39.13	\$43.93
Fire Inspectors & Investigators	14	14	(0.3%)	2	\$35.09	\$28.00
Extruding & Forming Machine Setters, Operators, & Tenders, Synthetic & Glass Fibers	14	14	0.8%	2	\$10.52	\$18.32
Motorcycle Mechanics	14	13	(6.9%)	2	\$13.66	\$17.77



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Miscellaneous Construction & Related Workers	13	15	11.3%	2	\$19.17	\$21.19
Phlebotomists	13	15	18.2%	2	\$16.94	\$16.80
Social Workers, All Other	13	14	5.7%	2	\$24.52	\$25.88
Pesticide Handlers, Sprayers, & Applicators, Vegetation	13	13	0.1%	2	\$15.59	\$17.03
Transportation Attendants, Except Flight Attendants	13	12	(8.2%)	2	\$23.73	\$19.69
Cutters & Trimmers, Hand	13	12	(3.3%)	2	\$12.74	\$14.11
Stationary Engineers & Boiler Operators	12	15	18.9%	2	\$20.99	\$27.10
Millwrights	12	14	22.1%	2	\$30.29	\$31.67
Community Health Workers	12	13	11.1%	2	\$21.54	\$20.91
Life, Physical, & Social Science Technicians, All Other	12	13	6.3%	2	\$19.37	\$24.06
Food Preparation & Serving Related Workers, All Other	12	13	4.6%	2	\$10.59	\$11.77
Helpers--Pipelayers, Plumbers, Pipefitters, & Steamfitters	12	12	(0.8%)	2	\$8.18	\$17.10
Woodworkers, All Other	11	15	29.9%	2	\$12.52	\$12.63
Helpers--Carpenters	11	14	22.0%	2	\$14.22	\$14.99
Occupational Therapy Assistants	11	13	13.0%	2	\$23.78	\$17.56
Security & Fire Alarm Systems Installers	11	13	16.7%	2	\$22.16	\$19.73
Septic Tank Servicers & Sewer Pipe Cleaners	11	12	14.5%	2	\$18.79	\$22.58
Motor Vehicle Operators, All Other	10	11	18.5%	2	\$19.02	\$19.75
Pest Control Workers	10	10	2.8%	2	\$12.80	\$15.65
Food Cooking Machine Operators & Tenders	9	13	53.0%	2	\$15.15	\$16.99
Agricultural Inspectors	9	11	14.5%	2	\$20.33	\$21.87
Forest & Conservation Workers	8	11	24.8%	2	\$22.80	\$21.28
Locker Room, Coatroom, & Dressing Room Attendants	7	7	0.7%	2	\$9.25	\$9.21
Family & General Practitioners	32	34	4.2%	1	\$107.00	\$112.64
Anesthesiologists	20	20	(2.3%)	1	\$66.43	\$121.99
Detectives & Criminal Investigators	20	20	3.0%	1	\$30.97	\$35.80
Computer Network Architects	19	19	1.7%	1	\$40.07	\$47.42
Postal Service Mail Sorters, Processors, & Processing Machine Operators	19	15	(18.0%)	1	\$17.53	\$28.26

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Database Administrators	16	17	3.1%	1	\$28.12	\$40.54
Education Administrators, All Other	16	16	4.7%	1	\$36.46	\$30.27
Coil Winders, Tapers, & Finishers	16	7	(56.8%)	1	\$14.67	\$15.82
Operations Research Analysts	15	17	7.3%	1	\$30.74	\$33.57
Cardiovascular Technologists & Technicians	15	17	15.9%	1	\$26.11	\$28.61
Radiation Therapists	15	16	9.4%	1	\$24.81	\$35.24
First-Line Supervisors of Fire Fighting & Prevention Workers	15	15	3.8%	1	\$27.03	\$36.45
Aircraft Mechanics & Service Technicians	15	15	2.3%	1	\$22.98	\$24.96
Engine & Other Machine Assemblers	15	11	(23.7%)	1	\$17.26	\$18.66
Fine Artists, Including Painters, Sculptors, & Illustrators	14	15	7.4%	1	\$9.01	\$10.21
Power Plant Operators	14	14	(2.6%)	1	\$21.62	\$30.78
Financial Examiners	13	15	11.1%	1	\$29.24	\$34.18
Conservation Scientists	13	14	6.2%	1	\$29.51	\$30.88
Private Detectives & Investigators	13	13	0.8%	1	\$15.40	\$20.61
Optometrists	12	16	32.2%	1	\$59.83	\$52.84
Nurse Anesthetists	12	13	5.0%	1	\$102.46	\$93.69
Appraisers & Assessors of Real Estate	12	13	1.0%	1	\$24.18	\$27.77
Credit Counselors	12	13	10.9%	1	\$17.32	\$18.26
Dietetic Technicians	12	13	5.8%	1	\$13.66	\$14.58
Carpet Installers	12	11	(9.2%)	1	\$16.29	\$17.61
Barbers	12	11	(4.4%)	1	\$12.97	\$13.42
Athletic Trainers	11	13	16.8%	1	\$22.12	\$23.51
Public Relations & Fundraising Managers	11	12	11.8%	1	\$46.73	\$47.28
Control & Valve Installers & Repairers, Except Mechanical Door	11	12	14.1%	1	\$40.05	\$38.14
Railroad Conductors & Yardmasters	11	12	9.4%	1	\$29.85	\$30.63
Electrical & Electronics Repairers, Commercial & Industrial Equipment	11	12	10.7%	1	\$24.61	\$26.14
Occupational Health & Safety Technicians	11	12	10.9%	1	\$23.96	\$23.98
Marriage & Family Therapists	11	12	9.6%	1	\$21.18	\$23.23
Floral Designers	11	12	2.9%	1	\$10.59	\$12.38

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Soil & Plant Scientists	11	11	0.9%	1	\$29.36	\$27.73
Lathe & Turning Machine Tool Setters, Operators, & Tenders, Metal & Plastic	11	11	3.9%	1	\$16.90	\$19.46
Switchboard Operators, Including Answering Service	11	9	(13.0%)	1	\$15.61	\$14.28
Architects, Except Landscape & Naval	10	12	16.8%	1	\$28.43	\$35.22
Information Security Analysts	10	12	21.9%	1	\$25.19	\$38.04
Judges, Magistrate Judges, & Magistrates	10	11	10.0%	1	\$50.67	\$63.76
Health & Safety Engineers, Except Mining Safety Engineers & Inspectors	10	11	10.2%	1	\$28.73	\$31.77
Counselors, All Other	10	11	10.5%	1	\$19.24	\$21.04
Welding, Soldering, & Brazing Machine Setters, Operators, & Tenders	10	11	3.1%	1	\$18.18	\$17.77
Home Appliance Repairers	10	10	0.7%	1	\$21.21	\$19.67
Ophthalmic Medical Technicians	10	10	2.8%	1	\$19.30	\$18.82
Tree Trimmers & Pruners	10	10	2.4%	1	\$14.13	\$16.61
Industrial Engineering Technicians	9	12	28.8%	1	\$24.31	\$23.82
Psychiatric Aides	9	11	14.7%	1	\$14.20	\$14.95
Power Distributors & Dispatchers	9	10	15.9%	1	\$36.97	\$44.18
Budget Analysts	9	10	9.9%	1	\$29.96	\$33.97
Locomotive Engineers	9	10	10.3%	1	\$28.08	\$28.97
Foresters	9	10	10.3%	1	\$27.20	\$26.19
Healthcare Practitioners & Technical Workers, All Other	9	10	11.7%	1	\$21.58	\$24.48
Training & Development Managers	9	9	1.9%	1	\$42.54	\$46.11
Special Education Teachers, All Other	9	9	5.6%	1	\$35.04	\$29.96
Plating & Coating Machine Setters, Operators, & Tenders, Metal & Plastic	9	9	(6.2%)	1	\$15.76	\$14.58
Lodging Managers	9	9	1.2%	1	\$10.32	\$21.26
Jewelers & Precious Stone & Metal Workers	9	8	(11.5%)	1	\$33.73	\$24.61
Credit Authorizers, Checkers, & Clerks	9	8	(5.5%)	1	\$20.80	\$19.84
Reporters & Correspondents	9	8	(9.6%)	1	\$12.42	\$14.98
Labor Relations Specialists	9	7	(24.6%)	1	\$8.30	\$9.43
Slaughterers & Meat Packers	9	5	(38.7%)	1	\$14.39	\$14.35

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Food Processing Workers, All Other	8	10	27.7%	1	\$15.07	\$13.05
Nuclear Medicine Technologists	8	9	13.0%	1	\$38.22	\$38.83
Technical Writers	8	9	21.9%	1	\$24.59	\$28.04
First-Line Supervisors of Protective Service Workers, All Other	8	9	6.9%	1	\$22.21	\$21.78
Surveying & Mapping Technicians	8	9	12.0%	1	\$18.95	\$20.62
Recreational Therapists	8	9	7.6%	1	\$18.81	\$21.13
Mechanical Door Repairers	8	9	19.5%	1	\$17.91	\$19.74
Craft Artists	8	9	7.0%	1	\$7.47	\$6.08
Environmental Engineers	8	8	11.7%	1	\$34.67	\$36.47
Floor Layers, Except Carpet, Wood, & Hard Tiles	8	8	(0.0%)	1	\$18.69	\$29.50
Heat Treating Equipment Setters, Operators, & Tenders, Metal & Plastic	8	8	(5.7%)	1	\$18.60	\$17.90
Entertainers & Performers, Sports & Related Workers, All Other	8	8	3.7%	1	\$16.12	\$17.13
Coin, Vending, & Amusement Machine Servicers & Repairers	8	8	1.6%	1	\$10.94	\$16.67
Dancers	8	8	3.2%	1	\$10.35	\$13.84
Computer Operators	8	7	(13.7%)	1	\$26.04	\$23.99
Animal Breeders	8	7	(14.8%)	1	\$19.10	\$17.81
Postmasters & Mail Superintendents	8	6	(26.1%)	1	\$31.95	\$36.03
Fallers	8	6	(21.5%)	1	\$16.51	\$16.81
Broadcast Technicians	8	6	(20.7%)	1	\$15.65	\$21.42
Print Binding & Finishing Workers	8	6	(30.3%)	1	\$14.43	\$15.26
Electronics Engineers, Except Computer	7	10	36.1%	1	\$57.95	\$35.87
Hazardous Materials Removal Workers	7	10	39.9%	1	\$15.69	\$19.25
Crane & Tower Operators	7	9	19.3%	1	\$26.71	\$20.92
Environmental Science & Protection Technicians, Including Health	7	9	20.2%	1	\$19.62	\$22.68
Physical Therapist Aides	7	9	24.9%	1	\$13.13	\$14.55
Computer Hardware Engineers	7	8	12.4%	1	\$36.71	\$41.58
Surveyors	7	8	10.9%	1	\$25.50	\$28.98
Rail Car Repairers	7	8	12.4%	1	\$24.81	\$26.16



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Special Education Teachers, Preschool	7	8	9.9%	1	\$19.06	\$20.92
Automotive Glass Installers & Repairers	7	8	11.9%	1	\$15.98	\$17.82
Biological Technicians	7	8	23.0%	1	\$14.06	\$21.79
Parking Lot Attendants	7	8	15.5%	1	\$10.13	\$10.93
Media & Communication Workers, All Other	7	7	5.6%	1	\$25.48	\$24.53
Legal Support Workers, All Other	7	7	5.1%	1	\$20.86	\$22.45
Social Science Research Assistants	7	7	5.3%	1	\$18.97	\$21.04
Title Examiners, Abstractors, & Searchers	7	7	(1.5%)	1	\$13.13	\$21.45
Etchers & Engravers	7	7	2.4%	1	\$10.59	\$16.40
Floor Sanders & Finishers	7	6	(5.2%)	1	\$15.71	\$15.94
Insulation Workers, Mechanical	6	8	39.4%	1	\$19.14	\$34.27
Reservation & Transportation Ticket Agents & Travel Clerks	6	8	26.5%	1	\$11.82	\$14.95
Biological Scientists, All Other	6	7	7.6%	1	\$28.09	\$33.89
Commercial Pilots	6	7	33.0%	1	\$25.27	\$32.82
Pipelayers	6	7	7.9%	1	\$24.89	\$31.01
Paving, Surfacing, & Tamping Equipment Operators	6	7	19.1%	1	\$22.00	\$19.72
Multimedia Artists & Animators	6	7	6.2%	1	\$20.28	\$21.91
Legal Secretaries	6	7	2.5%	1	\$17.95	\$19.83
Drafters, All Other	6	7	18.5%	1	\$17.65	\$28.83
Helpers--Electricians	6	7	7.9%	1	\$13.66	\$16.61
Helpers, Construction Trades, All Other	6	7	17.3%	1	\$10.26	\$13.41
Gaming Dealers	6	7	6.9%	1	\$7.79	\$8.59
Physicists	6	6	7.2%	1	\$82.99	\$74.07
Airline Pilots, Copilots, & Flight Engineers	6	6	(3.5%)	1	\$58.15	\$55.51
Court Reporters	6	6	13.6%	1	\$27.47	\$24.94
Curators	6	6	0.4%	1	\$24.24	\$23.86
Chemical Plant & System Operators	6	6	11.7%	1	\$19.85	\$23.95
Rolling Machine Setters, Operators, & Tenders, Metal & Plastic	6	6	7.3%	1	\$19.77	\$18.52
First-Line Supervisors of Gaming Workers	6	6	(0.2%)	1	\$17.37	\$19.18

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Umpires, Referees, & Other Sports Officials	6	6	8.2%	1	\$15.18	\$14.01
Painting, Coating, & Decorating Workers	6	6	(3.5%)	1	\$14.89	\$14.99
Bailliffs	6	6	(2.5%)	1	\$14.61	\$13.32
Shoe & Leather Workers & Repairers	6	5	(15.6%)	1	\$12.23	\$13.09
Radio & Television Announcers	6	4	(22.2%)	1	\$9.69	\$15.80
Pressers, Textile, Garment, & Related Materials	6	4	(30.3%)	1	\$8.12	\$11.93
Transportation Inspectors	5	6	7.2%	1	\$45.97	\$42.94
Chemical Engineers	5	6	18.0%	1	\$40.29	\$42.29
Rail-Track Laying & Maintenance Equipment Operators	5	6	5.6%	1	\$23.44	\$25.06
Insurance Underwriters	5	6	28.2%	1	\$18.61	\$30.52
Adhesive Bonding Machine Operators & Tenders	5	6	25.1%	1	\$14.38	\$14.58
Medical Appliance Technicians	5	6	13.1%	1	\$13.34	\$17.00
Materials Scientists	5	5	18.0%	1	\$31.70	\$41.62
Zoologists & Wildlife Biologists	5	5	13.0%	1	\$27.23	\$26.59
Fiberglass Laminators & Fabricators	5	5	11.7%	1	\$24.38	\$16.79
Reinforcing Iron & Rebar Workers	5	5	(3.3%)	1	\$20.89	\$26.96
Electrical & Electronics Drafters	5	5	(6.4%)	1	\$16.62	\$25.52
Stonemasons	5	5	3.9%	1	\$11.59	\$11.66
Plasterers & Stucco Masons	5	5	(1.2%)	1	\$10.97	\$17.94
Transportation Workers, All Other	5	5	(2.9%)	1	\$10.11	\$12.70
Metal Workers & Plastic Workers, All Other	5	4	(1.9%)	1	\$15.95	\$17.32
Logging Workers, All Other	5	4	(5.8%)	1	\$13.70	\$15.27
Statisticians	4	6	22.7%	1	\$35.65	\$37.52
Ambulance Drivers & Attendants, Except Emergency Medical Technicians	4	6	76.5%	1	\$8.54	\$11.44
Microbiologists	4	5	18.4%	1	\$43.42	\$28.36
Natural Sciences Managers	4	5	20.7%	1	\$34.51	\$47.36
Electro-Mechanical Technicians	4	5	18.1%	1	\$23.11	\$25.55
Financial Clerks, All Other	4	5	27.6%	1	\$20.01	\$18.57
Forensic Science Technicians	4	5	24.7%	1	\$19.43	\$25.60

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Dental Laboratory Technicians	4	5	19.1%	1	\$18.32	\$18.27
Orderlies	4	5	27.0%	1	\$15.99	\$13.88
Grounds Maintenance Workers, All Other	4	5	13.8%	1	\$13.18	\$27.10
Gaming Surveillance Officers & Gaming Investigators	4	5	4.5%	1	\$9.66	\$12.96
Pump Operators, Except Wellhead Pumpers	4	4	9.9%	1	\$19.31	\$20.57
Earth Drillers, Except Oil & Gas	4	4	1.3%	1	\$18.63	\$21.72
Fashion Designers	4	4	11.5%	1	\$17.42	\$19.67
Photographic Process Workers & Processing Machine Operators	4	3	(9.9%)	1	\$9.91	\$12.73
Agents & Business Managers of Artists, Performers, & Athletes	3	4	29.3%	1	\$19.27	\$26.43
Musical Instrument Repairers & Tuners	3	4	32.4%	1	\$15.79	\$17.28
Cooks, All Other	3	4	16.2%	1	\$11.14	\$10.92
Ophthalmic Laboratory Technicians	3	4	30.6%	1	\$10.29	\$14.27
Helpers--Brickmasons, Blockmasons, Stonemasons, & Tile & Marble Setters	3	4	31.4%	1	\$9.07	\$16.91
Rock Splitters, Quarry	3	4	31.7%	1	\$8.47	\$16.11
Tool Grinders, Filers, & Sharpeners	3	3	13.6%	1	\$14.00	\$15.21
Entertainment Attendants & Related Workers, All Other	3	3	(0.6%)	1	\$8.67	\$7.52
Helpers--Painters, Paperhangers, Plasterers, & Stucco Masons	2	3	44.9%	1	\$12.12	\$13.46
Internists, General	10	11	3.6%	0	\$99.44	\$119.37
Psychiatrists	8	8	4.3%	0	\$42.71	\$82.91
Health Diagnosing & Treating Practitioners, All Other	7	8	10.6%	0	\$21.90	\$31.20
Surgeons	7	7	1.3%	0	\$129.97	\$180.22
Therapists, All Other	6	6	9.9%	0	\$19.71	\$19.71
Exercise Physiologists	6	6	10.3%	0	\$13.34	\$25.60
Foundry Mold & Coremakers	6	2	(62.7%)	0	\$14.19	\$17.91
Obstetricians & Gynecologists	5	5	(0.5%)	0	\$39.99	\$131.30
Audiologists	5	5	7.5%	0	\$23.86	\$37.39
Electric Motor, Power Tool, & Related Repairers	5	4	(5.0%)	0	\$13.01	\$21.74
Judicial Law Clerks	4	5	12.4%	0	\$40.85	\$21.44

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Fish & Game Wardens	4	5	20.0%	0	\$26.42	\$23.73
Landscape Architects	4	5	7.9%	0	\$19.04	\$25.96
Plant & System Operators, All Other	4	4	13.8%	0	\$46.15	\$27.07
Subway & Streetcar Operators	4	4	(0.3%)	0	\$41.51	\$45.85
Magnetic Resonance Imaging Technologists	4	4	13.7%	0	\$32.40	\$32.98
Tapers	4	4	(8.6%)	0	\$16.97	\$19.32
Milling & Planing Machine Setters, Operators, & Tenders, Metal & Plastic	4	4	4.7%	0	\$16.38	\$20.35
Public Address System & Other Announcers	4	4	1.8%	0	\$15.78	\$16.53
Petroleum Pump System Operators, Refinery Operators, & Gaugers	4	3	(6.0%)	0	\$31.06	\$30.88
Pediatricians, General	3	4	19.8%	0	\$114.47	\$117.89
Railroad Brake, Signal, & Switch Operators	3	4	10.2%	0	\$33.41	\$31.07
Biomedical Engineers	3	4	27.2%	0	\$29.91	\$33.33
Captains, Mates, & Pilots of Water Vessels	3	4	11.3%	0	\$23.10	\$25.37
Medical Equipment Repairers	3	4	20.7%	0	\$17.87	\$22.77
Riggers	3	4	12.5%	0	\$11.46	\$16.92
Insulation Workers, Floor, Ceiling, & Wall	3	4	15.3%	0	\$9.67	\$21.08
Administrative Law Judges, Adjudicators, & Hearing Officers	3	3	10.2%	0	\$54.52	\$52.40
Materials Engineers	3	3	19.0%	0	\$52.44	\$36.19
Advertising & Promotions Managers	3	3	(2.7%)	0	\$49.30	\$50.36
Social Scientists & Related Workers, All Other	3	3	6.6%	0	\$33.50	\$33.12
Epidemiologists	3	3	10.8%	0	\$31.20	\$34.61
Computer & Information Research Scientists	3	3	4.3%	0	\$30.85	\$35.65
Desktop Publishers	3	3	2.1%	0	\$28.41	\$22.74
Avionics Technicians	3	3	2.8%	0	\$27.59	\$27.35
Explosives Workers, Ordnance Handling Experts, & Blasters	3	3	(3.5%)	0	\$27.46	\$30.51
Designers, All Other	3	3	(2.6%)	0	\$26.07	\$25.48
Media & Communication Equipment Workers, All Other	3	3	2.3%	0	\$25.32	\$30.44
Electrical & Electronics Installers & Repairers, Transportation Equipment	3	3	6.7%	0	\$22.35	\$23.98



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Tax Examiners & Collectors, & Revenue Agents	3	3	16.8%	0	\$21.77	\$26.56
Traffic Technicians	3	3	4.2%	0	\$21.06	\$23.23
Archivists	3	3	11.5%	0	\$20.23	\$23.12
Motorboat Mechanics & Service Technicians	3	3	1.8%	0	\$19.00	\$19.49
Film & Video Editors	3	3	20.1%	0	\$18.84	\$22.22
Animal Control Workers	3	3	3.9%	0	\$16.55	\$17.90
Concierges	3	3	17.1%	0	\$15.90	\$13.96
Fishers & Related Fishing Workers	3	3	(2.1%)	0	\$13.12	\$12.74
Environmental Engineering Technicians	3	3	9.7%	0	\$12.48	\$25.20
Sound Engineering Technicians	3	3	(2.1%)	0	\$12.18	\$24.95
Textile Cutting Machine Setters, Operators, & Tenders	3	3	4.3%	0	\$11.54	\$13.70
Baggage Porters & Bellhops	3	3	(9.6%)	0	\$8.77	\$9.25
Psychologists, All Other	3	2	(5.5%)	0	\$24.80	\$42.07
Artists & Related Workers, All Other	3	2	(18.2%)	0	\$21.14	\$22.72
Respiratory Therapy Technicians	3	2	(38.8%)	0	\$15.25	\$15.49
Metal Refining Furnace Operators & Tenders	3	2	(28.7%)	0	\$14.38	\$18.44
Mine Cutting & Channeling Machine Operators	2	3	33.4%	0	\$42.00	\$43.16
Biochemists & Biophysicists	2	3	35.3%	0	\$33.20	\$36.43
Signal & Track Switch Repairers	2	3	7.6%	0	\$30.19	\$31.75
Funeral Service Managers	2	3	38.3%	0	\$28.40	\$46.57
Radio, Cellular, & Tower Equipment Installers & Repairs	2	3	32.9%	0	\$26.25	\$29.40
Economists	2	3	11.2%	0	\$25.89	\$33.23
Continuous Mining Machine Operators	2	3	21.9%	0	\$24.87	\$21.07
Sailors & Marine Oilers	2	3	18.5%	0	\$21.75	\$23.82
Elevator Installers & Repairers	2	3	66.4%	0	\$17.85	\$28.70
Camera Operators, Television, Video, & Motion Picture	2	3	9.8%	0	\$16.29	\$18.86
Wind Turbine Service Technicians	2	3	35.0%	0	\$13.43	\$14.32
Forging Machine Setters, Operators, & Tenders, Metal & Plastic	2	3	9.8%	0	\$13.42	\$19.51

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Orthodontists	2	2	8.2%	0	\$167.45	\$98.63
Dentists, All Other Specialists	2	2	(2.8%)	0	\$92.41	\$100.60
Petroleum Engineers	2	2	6.3%	0	\$85.53	\$94.00
Compensation & Benefits Managers	2	2	3.1%	0	\$49.16	\$53.16
Podiatrists	2	2	4.9%	0	\$38.00	\$91.20
Nuclear Technicians	2	2	26.5%	0	\$36.76	\$41.75
Commercial Divers	2	2	11.5%	0	\$33.60	\$39.90
Geoscientists, Except Hydrologists & Geographers	2	2	11.9%	0	\$32.70	\$35.68
Orthotists & Prosthetists	2	2	15.5%	0	\$30.82	\$33.82
Animal Scientists	2	2	(4.1%)	0	\$29.51	\$30.47
Cartographers & Photogrammetrists	2	2	19.2%	0	\$28.37	\$29.75
Bridge & Lock Tenders	2	2	3.8%	0	\$27.84	\$23.58
Brokerage Clerks	2	2	31.6%	0	\$27.08	\$22.52
Locksmiths & Safe Repairers	2	2	8.0%	0	\$23.59	\$17.87
Precision Instrument & Equipment Repairers, All Other	2	2	5.4%	0	\$23.51	\$24.93
Emergency Management Directors	2	2	4.1%	0	\$22.12	\$33.72
Transit & Railroad Police	2	2	4.3%	0	\$21.17	\$23.75
Proofreaders & Copy Markers	2	2	27.3%	0	\$20.95	\$20.32
Statistical Assistants	2	2	5.2%	0	\$20.71	\$21.86
Fabric & Apparel Patternmakers	2	2	7.2%	0	\$20.19	\$18.89
Audio-Visual & Multimedia Collections Specialists	2	2	5.8%	0	\$20.17	\$24.86
Arbitrators, Mediators, & Conciliators	2	2	9.5%	0	\$19.59	\$28.82
Drilling & Boring Machine Tool Setters, Operators, & Tenders, Metal & Plastic	2	2	(7.0%)	0	\$19.28	\$20.75
Textile, Apparel, & Furnishings Workers, All Other	2	2	15.1%	0	\$19.08	\$20.43
Model Makers, Metal & Plastic	2	2	3.0%	0	\$17.50	\$25.17
Airfield Operations Specialists	2	2	(0.0%)	0	\$16.98	\$18.57
Geological & Petroleum Technicians	2	2	4.9%	0	\$15.63	\$16.52
Semiconductor Processors	2	2	21.4%	0	\$14.37	\$13.62

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Sewers, Hand	2	2	(11.7%)	0	\$13.90	\$12.96
Building Cleaning Workers, All Other	2	2	8.9%	0	\$13.51	\$12.63
Farm & Home Management Advisors	2	2	15.4%	0	\$13.10	\$23.53
Hunters & Trappers	2	2	12.1%	0	\$12.12	\$14.54
Occupational Therapy Aides	2	2	17.7%	0	\$11.17	\$14.10
Recreational Vehicle Service Technicians	2	2	14.2%	0	\$10.32	\$17.30
Transportation Security Screeners	2	2	(7.1%)	0	\$8.94	\$18.94
Shampooers	2	2	(12.0%)	0	\$8.29	\$9.67
Aerospace Engineers	1	2	87.0%	0	\$35.70	\$38.96
Actuaries	1	2	56.0%	0	\$34.25	\$46.72
Physical Scientists, All Other	1	2	21.6%	0	\$31.55	\$34.46
Boilermakers	1	2	21.5%	0	\$27.08	\$30.05
Set & Exhibit Designers	1	2	54.1%	0	\$21.57	\$23.86
Solar Photovoltaic Installers	1	2	55.1%	0	\$20.88	\$25.80
Museum Technicians & Conservators	1	2	53.0%	0	\$16.15	\$17.65
Helpers--Roofers	1	2	39.5%	0	\$14.43	\$15.50
Models	1	2	16.9%	0	\$14.08	\$10.81
Historians	1	2	4.5%	0	\$14.00	\$35.06
Nuclear Engineers	1	1	17.5%	0	\$56.66	\$59.62
Air Traffic Controllers	1	1	(4.9%)	0	\$43.52	\$47.53
Atmospheric & Space Scientists	1	1	2.4%	0	\$41.65	\$46.14
Service Unit Operators, Oil, Gas, & Mining	1	1	6.0%	0	\$36.41	\$39.14
Ship Engineers	1	1	1.0%	0	\$35.91	\$40.63
Nurse Midwives	1	1	1.7%	0	\$34.99	\$52.73
Timing Device Assemblers & Adjusters	1	1	(12.5%)	0	\$33.20	\$36.87
Life Scientists, All Other	1	1	17.4%	0	\$30.47	\$34.72
Marine Engineers & Naval Architects	1	1	16.2%	0	\$30.42	\$34.48
Career/Technical Education Teachers, Middle School	1	1	11.0%	0	\$30.12	\$27.94
Insurance Appraisers, Auto Damage	1	1	27.9%	0	\$29.57	\$33.83

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Aerospace Engineering & Operations Technicians	1	1	29.2%	0	\$28.99	\$29.89
Gas Compressor & Gas Pumping Station Operators	1	1	(5.7%)	0	\$28.23	\$29.61
Athletes & Sports Competitors	1	1	0.6%	0	\$27.59	\$31.53
Hydrologists	1	1	4.1%	0	\$27.23	\$29.57
Rail Yard Engineers, Dinkey Operators, & Hostlers	1	1	10.0%	0	\$25.56	\$25.75
Parking Enforcement Workers	1	1	(24.8%)	0	\$25.54	\$18.74
Pile-Driver Operators	1	1	4.9%	0	\$25.47	\$29.70
Gaming Managers	1	1	(0.4%)	0	\$25.30	\$27.84
Broadcast News Analysts	1	1	0.1%	0	\$24.69	\$33.24
Mathematicians	1	1	14.3%	0	\$24.62	\$23.19
Rail Transportation Workers, All Other	1	1	14.0%	0	\$24.34	\$24.21
Motorboat Operators	1	1	(3.6%)	0	\$21.11	\$21.14
Communications Equipment Operators, All Other	1	1	(1.5%)	0	\$20.73	\$23.43
Survey Researchers	1	1	(4.7%)	0	\$19.73	\$21.85
Layout Workers, Metal & Plastic	1	1	21.2%	0	\$19.66	\$21.06
Mining Machine Operators, All Other	1	1	20.7%	0	\$18.66	\$30.70
Telephone Operators	1	1	(9.5%)	0	\$18.38	\$19.99
Patternmakers, Wood	1	1	18.9%	0	\$18.38	\$19.28
Watch Repairers	1	1	(27.8%)	0	\$18.15	\$18.36
Roustabouts, Oil & Gas	1	1	21.1%	0	\$18.00	\$19.61
Camera & Photographic Equipment Repairers	1	1	0.4%	0	\$17.65	\$18.10
Roof Bolters, Mining	1	1	27.8%	0	\$17.49	\$20.58
Textile Winding, Twisting, & Drawing Out Machine Setters, Operators, & Tenders	1	1	4.5%	0	\$17.27	\$17.30
Model Makers, Wood	1	1	6.0%	0	\$16.90	\$17.44
Cooks, Private Household	1	1	12.8%	0	\$16.18	\$17.74
Gaming Cage Workers	1	1	3.7%	0	\$16.08	\$12.75
Electronic Equipment Installers & Repairers, Motor Vehicles	1	1	4.9%	0	\$15.24	\$15.77
Paperhangers	1	1	(29.0%)	0	\$14.97	\$16.61



SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Patternmakers, Metal & Plastic	1	1	(31.3%)	0	\$14.63	\$22.90
Costume Attendants	1	1	73.6%	0	\$14.22	\$15.05
Manufactured Building & Mobile Home Installers	1	1	(25.3%)	0	\$14.06	\$15.94
Terrazzo Workers & Finishers	1	1	8.1%	0	\$13.52	\$23.07
Correspondence Clerks	1	1	(7.7%)	0	\$11.97	\$14.63
Helpers--Extraction Workers	1	1	0.7%	0	\$10.82	\$12.05
Aircraft Structure, Surfaces, Rigging, & Systems Assemblers	1	1	(24.1%)	0	\$10.71	\$19.89
Gaming Change Persons & Booth Cashiers	1	1	10.1%	0	\$9.51	\$11.64
Gaming & Sports Book Writers & Runners	1	1	2.1%	0	\$8.89	\$9.27
Gaming Service Workers, All Other	1	1	3.8%	0	\$8.21	\$8.26
Genetic Counselors	0	1	34.8%	0	\$38.08	\$40.60
Forest Fire Inspectors & Prevention Specialists	0	1	27.7%	0	\$34.81	\$38.09
Aircraft Cargo Handling Supervisors	0	1	9.1%	0	\$25.42	\$29.48
Hearing Aid Specialists	0	1	60.8%	0	\$24.61	\$22.73
Makeup Artists, Theatrical & Performance	0	1	13.1%	0	\$22.03	\$22.00
Bicycle Repairers	0	1	106.8%	0	\$12.00	\$12.03
Oral & Maxillofacial Surgeons	0	0	n/a	0	\$106.96	\$97.89
Prosthodontists	0	0	n/a	0	\$91.00	\$94.44
Mining & Geological Engineers, Including Mining Safety Engineers	0	0	n/a	0	\$61.73	\$66.27
Political Scientists	0	0	n/a	0	\$56.82	\$69.67
Industrial-Organizational Psychologists	0	0	n/a	0	\$41.88	\$45.51
Nuclear Power Reactor Operators	0	0	n/a	0	\$35.53	\$47.92
Agricultural Engineers	0	0	n/a	0	\$33.36	\$34.37
Locomotive Firers	0	0	n/a	0	\$31.53	\$31.53
Mine Shuttle Car Operators	0	0	n/a	0	\$30.10	\$25.79
Hoist & Winch Operators	0	0	n/a	0	\$29.37	\$26.41
Geographers	0	0	n/a	0	\$28.42	\$52.47
Extraction Workers, All Other	0	0	n/a	0	\$28.37	\$28.40
Astronomers	0	0	n/a	0	\$26.95	\$30.18

SOC TITLE	2018 JOBS	2028 JOBS	% CHANGE	ANNUAL JOB OPENINGS	MEDIAN HOURLY WAGE	
					REGION	STATE
Loading Machine Operators, Underground Mining	0	0	n/a	0	\$26.52	\$23.88
Flight Attendants	0	0	n/a	0	\$25.38	\$26.97
Refractory Materials Repairers, Except Brickmasons	0	0	n/a	0	\$23.38	\$24.87
Wellhead Pumpers	0	0	n/a	0	\$22.87	\$25.06
Farm Labor Contractors	0	0	n/a	0	\$21.49	\$22.82
Sociologists	0	0	n/a	0	\$21.24	\$35.58
Dredge Operators	0	0	n/a	0	\$19.78	\$21.05
Radio Operators	0	0	n/a	0	\$18.56	\$18.59
Anthropologists & Archeologists	0	0	n/a	0	\$17.82	\$23.94
Pourers & Casters, Metal	0	0	n/a	0	\$16.03	\$16.95
Choreographers	0	0	n/a	0	\$14.55	\$11.55
Derrick Operators, Oil & Gas	0	0	n/a	0	\$14.37	\$15.75
Tire Builders	0	0	n/a	0	\$13.79	\$14.80
Rotary Drill Operators, Oil & Gas	0	0	n/a	0	\$13.53	\$13.55
Textile Bleaching & Dyeing Machine Operators & Tenders	0	0	n/a	0	\$13.32	\$13.70
Miscellaneous Mathematical Science Occupations	0	0	n/a	0	\$12.21	\$12.75
Textile Knitting & Weaving Machine Setters, Operators, & Tenders	0	0	n/a	0	\$12.19	\$19.17
Fabric Menders, Except Garment	0	0	n/a	0	\$11.87	\$12.12
Shoe Machine Operators & Tenders	0	0	n/a	0	\$11.28	\$16.03
Motion Picture Projectionists	0	0	n/a	0	\$10.63	\$11.01
Embalmers	0	0	n/a	0	\$0.00	\$29.93

Source: Employees & Self-Employed 2019.3.

## APPENDIX 7: Unemployment

Data on unemployment give researchers an idea of where skills mismatches may exist in the region. Unemployment data can also provide important context when identifying the training programs that are best suited to transitioning unemployed workers into in-demand occupations.

The tables and figures present the number of people unemployed by two-digit industry sector and the two-digit occupational group<sup>23</sup> in Southwest Wisconsin. Data reflect March 2019 and follow the same methodology used by federal statistical agencies to determine the number of workers in an industry or occupation who is not currently employed. The unemployment rate is not provided because it is difficult to accurately determine the size of the labor force in an industry or occupation every month. Rather than the unemployment rate, the percent of all unemployed workers in the region, state, and U.S. are provided.

Table A7.1: Unemployed Workers by Industry Sector in Southwest Wisconsin with State and National Comparisons

NAICS CODE	NAICS TITLE	regional UNEMPLOYED	regional % UNEMPLOYED	WI % UNEMPLOYED	U.S. % UNEMPLOYED
23	Construction	676	28%	29%	18%
31	Manufacturing	380	16%	14%	10%
44	Retail Trade	295	12%	7%	8%
56	Administrative & Support & Waste Management & Remediation Services	204	8%	13%	11%
11	Agriculture, Forestry, Fishing & Hunting	142	6%	2%	5%
62	Health Care & Social Assistance	127	5%	6%	7%
72	Accommodation & Food Services	89	4%	5%	6%
99	No Previous Work Experience/Unspecified	86	4%	3%	7%
42	Wholesale Trade	83	3%	3%	3%
48	Transportation & Warehousing	76	3%	5%	4%
90	Government	73	3%	2%	2%
71	Arts, Entertainment, & Recreation	48	2%	2%	2%

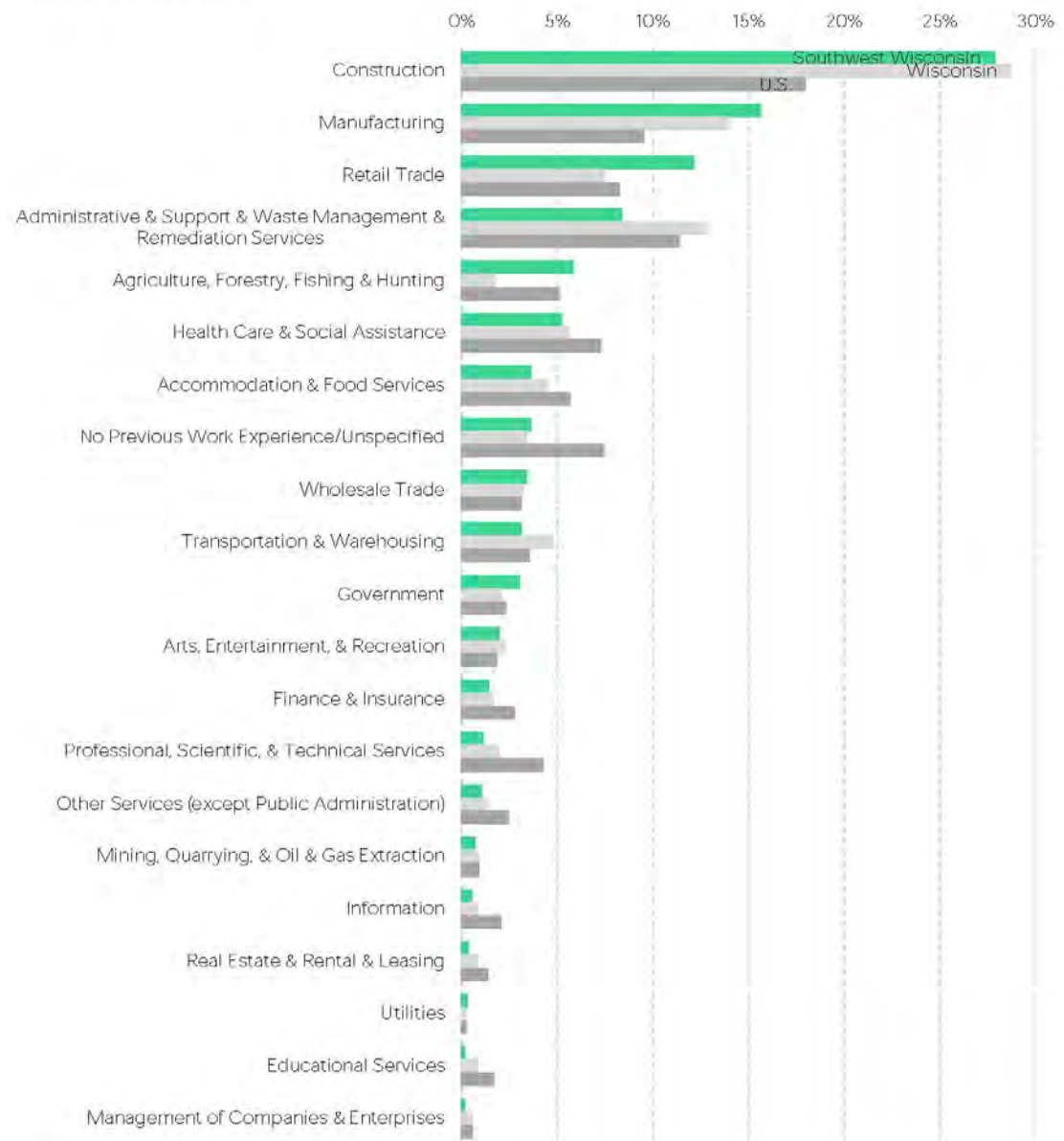
23. Unemployment by industry data is only available at the two-digit level whereas the industry data reported elsewhere in this analysis is at the three-digit level.

NAICS CODE	NAICS TITLE	regional UNEMPLOYED	regional % UNEMPLOYED	WI % UNEMPLOYED	U.S. % UNEMPLOYED
52	Finance & Insurance	35	1%	2%	3%
54	Professional, Scientific, & Technical Services	27	1%	2%	4%
81	Other Services (except Public Administration)	25	1%	1%	2%
21	Mining, Quarrying, & Oil & Gas Extraction	17	1%	1%	1%
51	Information	13	1%	1%	2%
53	Real Estate & Rental & Leasing	9	0%	1%	1%
22	Utilities	8	0%	0%	0%
61	Educational Services	5	0%	1%	2%
55	Management of Companies & Enterprises	5	0%	1%	1%

Source: Emsi Total Unemployment (March 2019).



Figure A7.1: Unemployed Workers by Industry Sector in Southwest Wisconsin with State and National Comparisons



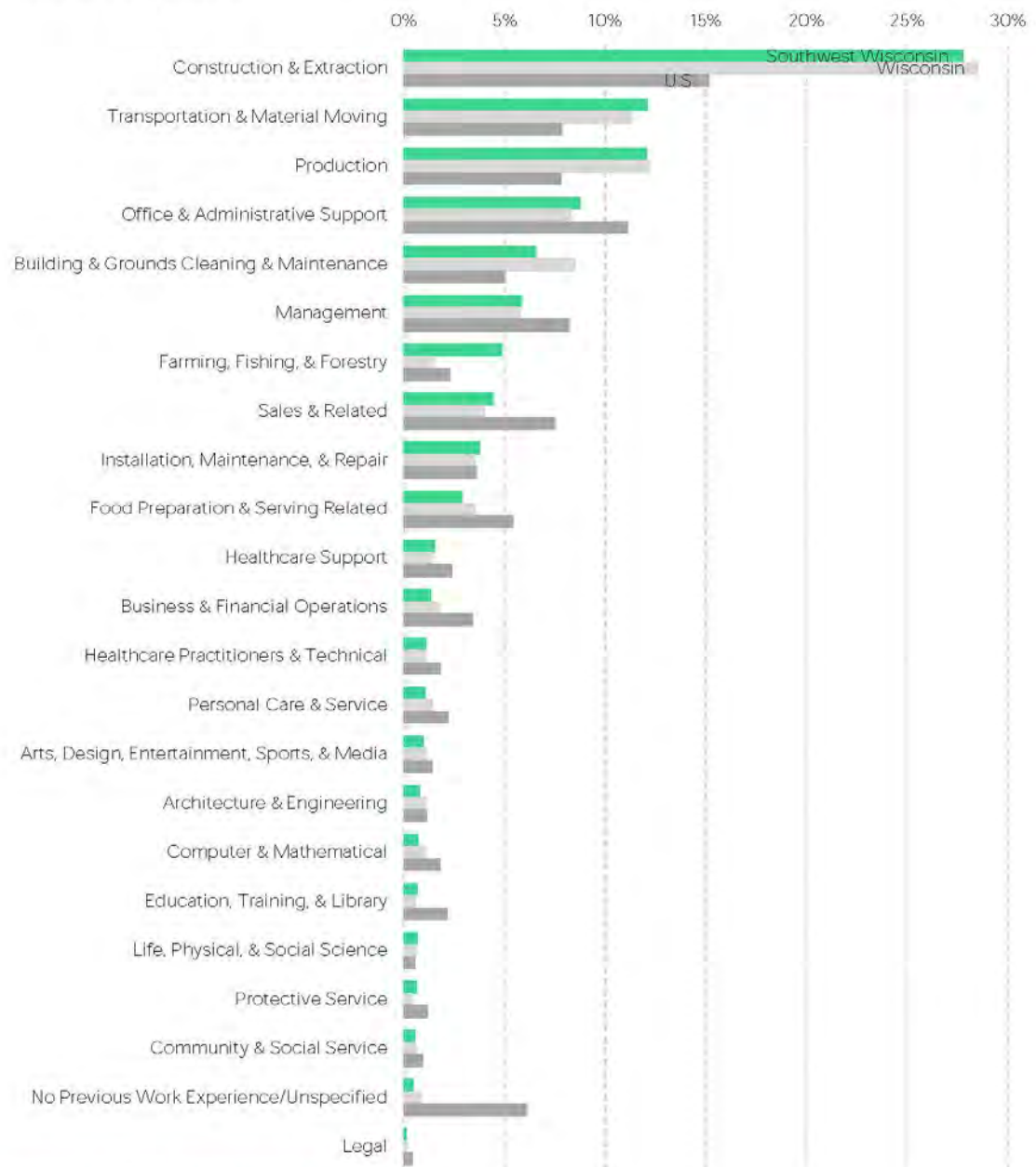
Source: Emsi Total Unemployment (March 2019).

Table A7.2: Unemployed Workers by Occupational Group in Southwest Wisconsin with State and National Comparisons

SOC CODE	SOC TITLE	regional UNEMPLOYED	regional % UNEMPLOYED	WI % UNEMPLOYED	U.S. % UNEMPLOYED
47-0000	Construction & Extraction	674	28%	29%	15%
53-0000	Transportation & Material Moving	293	12%	11%	8%
51-0000	Production	293	12%	12%	8%
43-0000	Office & Administrative Support	213	9%	8%	11%
37-0000	Building & Grounds Cleaning & Maintenance	160	7%	9%	5%
11-0000	Management	142	6%	6%	8%
45-0000	Farming, Fishing, & Forestry	118	5%	2%	2%
41-0000	Sales & Related	107	4%	4%	8%
49-0000	Installation, Maintenance, & Repair	92	4%	4%	4%
35-0000	Food Preparation & Serving Related	71	3%	4%	5%
31-0000	Healthcare Support	38	2%	1%	2%
13-0000	Business & Financial Operations	33	1%	2%	3%
29-0000	Healthcare Practitioners & Technical	27	1%	1%	2%
39-0000	Personal Care & Service	26	1%	1%	2%
27-0000	Arts, Design, Entertainment, Sports, & Media	24	1%	1%	1%
17-0000	Architecture & Engineering	19	1%	1%	1%
15-0000	Computer & Mathematical	18	1%	1%	2%
25-0000	Education, Training, & Library	17	1%	1%	2%
19-0000	Life, Physical, & Social Science	17	1%	1%	1%
33-0000	Protective Service	15	1%	0%	1%
21-0000	Community & Social Service	14	1%	1%	1%
99-0000	No Previous Work Experience/Unspecified	11	0%	1%	6%
23-0000	Legal	3	0%	0%	0%

Source: Emsi Total Unemployment (March 2019).

Figure A7.2: Unemployed Workers by Occupational Group in Southwest Wisconsin with State and National Comparisons



Source: Emsi Total Unemployment (March 2019).

## APPENDIX B: Living Wage

As shown in the following tables, the living wage is the hourly rate that an individual must earn to support his or her family as a sole income provider working full-time or 2,080 hours annually. Part-time is defined as less than 35 hours per week of work. State minimum wage rates are the same for all individuals, regardless of the number of dependents in the household. Values are reported per adult in the household. The poverty rate is typically reported as gross annual income and has been adjusted to an hourly wage rate.

Table A8.1: Living Wage Calculations for Southwest Wisconsin

ADULTS IN HOUSEHOLD	CHILDREN IN HOUSEHOLD	LIVING WAGE	POVERTY WAGE	MINIMUM WAGE
One adult	No children	\$10.95	\$5.84	\$7.25
	One child	\$23.79	\$7.91	\$7.25
	Two children	\$28.45	\$9.99	\$7.25
	Three children	\$35.09	\$12.07	\$7.25
Two adults, one working	No children	\$17.71	\$7.91	\$7.25
	One child	\$21.02	\$9.99	\$7.25
	Two children	\$23.66	\$12.07	\$7.25
	Three children	\$25.96	\$14.14	\$7.25
Two adults, one working part-time	One child	\$25.31	--	--
Two adults	No children	\$8.86	\$3.96	\$7.25
	One child	\$13.07	\$5.00	\$7.25
	Two children	\$15.60	\$6.03	\$7.25
	Three children	\$17.96	\$7.07	\$7.25

Source: Dr. Amy K. Glasmeier and the Massachusetts Institute of Technology, <http://livingwage.mit.edu>. Minimum wage provided by the U.S. Department of Labor.

Table A8.2: Living Wage Calculations for Wisconsin

ADULTS IN HOUSEHOLD	CHILDREN IN HOUSEHOLD	LIVING WAGE	POVERTY WAGE	MINIMUM WAGE
One adult	No children	\$11.41	\$5.84	\$7.25
	One child	\$24.67	\$7.91	\$7.25
	Two children	\$29.33	\$9.99	\$7.25
	Three children	\$36.41	\$12.07	\$7.25



ADULTS IN HOUSEHOLD	CHILDREN IN HOUSEHOLD	LIVING WAGE	POVERTY WAGE	MINIMUM WAGE
Two adults, one working	No children	\$18.52	\$7.91	\$7.25
	One child	\$21.90	\$9.99	\$7.25
	Two children	\$24.54	\$12.07	\$7.25
	Three children	\$27.28	\$14.14	\$7.25
Two adults, one working part-time	One child	\$26.20	--	--
Two adults	No children	\$9.26	\$3.96	\$7.25
	One child	\$13.52	\$5.00	\$7.25
	Two children	\$16.04	\$6.03	\$7.25
	Three children	\$18.62	\$7.07	\$7.25

Source: Dr. Amy K. Glasmeier and the Massachusetts Institute of Technology, <http://livingwage.mit.edu>. Minimum wage provided by the U.S. Department of Labor.

## **Consent Agenda**

### ***A. Approval of Agenda***



## **BOARD RETREAT/MEETING NOTICE/AGENDA**

**February 21-22, 2020**

**Southwest Tech Outreach Site  
316 W. Spring Street  
Dodgeville, WI 53533**

**Friday, February 21, 2020**

**12:00 p.m. – Lunch; 12:30 Board Meeting / Retreat**

## **AGENDA**

### **OPEN MEETING**

The following statement will be read: "The February 21-22, 2020, Board retreat/regular meeting of the Southwest Wisconsin Technical College District Board is called to order. This meeting is open to the public and in compliance with State Statutes. Notice of the meeting has been sent to the press and posted on campus, at CESA #3 and in the city offices of Fennimore and Dodgeville in an attempt to make the general public aware of the time, place and agenda of the meeting."

- A. Roll Call
- B. Reports/Forums/Public Input

### **BOARD MONITORING OF COLLEGE EFFECTIVENESS**

- A. Dodgeville Outreach
- B. Academic Vitality Plan

### **CONSENT AGENDA**

- A. Approval of Agenda
- B. Minutes of the Regular Meeting of January 23, 2020
- C. Financial Reports
  - 1. Purchases Greater than \$2,500
  - 2. Treasurer's Cash Balance
  - 3. Budget Control
- D. Contract Revenue
- E. Personnel Items

### **OTHER ITEMS REQUIRING BOARD ACTION**

- A. Designate Bond Counsel
- B. Resolution Awarding the Sale of \$4,000,000 General Obligation Promissory Notes

- C. RFP: Enterprise Resource Planning System
- D. RFP: Project Management for Enterprise Resource Planning System Implementation
- E. Bid: Platteville Outreach Site Development
- F. Bid: Three (3) New 2020 Chevrolet Malibu 4-door LS Sedans
- G. Performance Management Compensation Proposal
- H. Employee Benefits & Wellness Initiative
- I. First Reading of Governance Policy 1.15: Local Preference

### **BOARD MONITORING OF COLLEGE EFFECTIVENESS**

- A. Higher Learning Commission Accreditation Visit Report
- B. Staffing Update

### **INFORMATION AND CORRESPONDENCE**

- A. Enrollment Report
- B. Chairperson's Report
- C. College President's Report
- D. Other Information Items

### **ESTABLISH BOARD AGENDA ITEMS FOR NEXT MEETING**

- A. Agenda
- B. Time and Place

### **ADJOURN TO CLOSED SESSION**

- A. Consideration of adjourning to closed session for the purpose of
  1. Discussing specific personnel issues per Wis. Statutes 19.85 (1)(f) {Considering financial, medical, social or personal histories or disciplinary data of specific persons, preliminary consideration of specific personnel problems or the investigation of charges against specific persons except where par. (b) applies which, if discussed in public, would be likely to have a substantial adverse effect upon the reputation of any person referred to in such histories or data, or involved in such problems or investigations.}.
  2. Discussing President's evaluation per Wis. Statutes 19.85 (1)(e) Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility.
  3. Discussing Executive Team contracts per Wis. Statutes 19.85(1)(c) {Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility.}
  4. Approval of Closed Session Minutes of January 23, 2020

### **RECONVENE TO OPEN SESSION**

- A. Action, if necessary, on Closed Session Items

### **BOARD MONITORING OF COLLEGE EFFECTIVENESS**

- A. Energy Sustainability Plan
- B. District Board/President Dialogue

The Board will adjourn until 8:45 a.m. on Saturday, February 22, 2020. The Board will have dinner and breakfast for social purposes only and no College business will be conducted.

**Saturday, February 22, 2020  
8:45 a.m. – Board Retreat**

**Southwest Tech Outreach Site  
316 W. Spring Street  
Dodgeville, WI 53533**

**BOARD MONITORING OF COLLEGE EFFECTIVENESS**

- A. Budget Priorities & Assumptions
- B. Long-term Financial Report
- C. Long-range Facilities Report
- D. District Board/President Dialogue
- E. Review of Retreat

**ADJOURNMENT**

{Facilities at Southwest Tech are handicap accessible. For all accommodations, call 608-822-2632 or e-mail [disabilityservices@swtc.edu](mailto:disabilityservices@swtc.edu).}



## ***B. Minutes of the Regular Meeting of January 23, 2020***

### **MINUTES OF THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF SOUTHWEST WISCONSIN TECHNICAL COLLEGE JANUARY 23, 2020**

The Board of Southwest Wisconsin Technical College met in open session of the regular Board meeting commencing at 7:04 p.m. on January 23, 2020, in Room 365 on the District Campus located at 1800 Bronson Boulevard in the City of Fennimore, Grant County, Wisconsin. The following members were present:

Charles Bolstad, Tracy Fillback, Melissa Fitzsimons, Eileen Nickels, Chris Prange, Donald Tuescher, Jane Wonderling

Absent: Russ Moyer

Others present for all or a portion of the meeting included Dr. Jason S. Wood, College President; College Staff: Heath Ahnen, Matthew Baute, Karen Campbell, Holly Clendenen, Derek Dachelet, Katie Garrity, Katie Glass, Cora Beth Halverson, Dan Imhoff, Jake Mootz, Danielle Seippel, Krista Weber, and Caleb White.

Chairperson Bolstad called the meeting to order. Proof of notice was given as to the time, place, and purpose of the meeting. The following is the official agenda:



### **BOARD MEETING NOTICE/AGENDA**

Thursday, January 23, 2020

6:00 – Special Populations Presentation and Dinner  
7:00 p.m. – Board Meeting  
Southwest Tech Campus Room 365 – Lenz Center  
1800 Bronson Boulevard  
Fennimore, WI 53809

### **AMENDED AGENDA**

#### **OPEN MEETING**

The following statement will be read: "The January 23, 2020, regular Board meeting of the Southwest Wisconsin Technical College Board is called to order. This meeting is open to the public and in compliance with State Statutes. Notice of the meeting has been sent to the press and posted on campus, at the Fennimore City Clerk's Office, and at CESA 3 in an attempt to make the general public aware of the time, place and agenda of the meeting."

- A. Roll Call
- B. Reports/Forums/Public Input
- C. Oath of Office – Jeanne Jordie

### **ADJOURN TO CLOSED SESSION**

- A. Consideration of adjourning to closed session for the purpose of
  - 1. Discussing a contract per Wis. Statutes 19.85(1)(e) Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session.

### **RECONVENE TO OPEN SESSION**

- A. Action, if necessary, on Closed Session Items

### **CONSENT AGENDA**

- A. Approval of Agenda
- B. Minutes of the Regular Meeting of December 19, 2019
- C. Financial Reports
  - 1. Purchases Greater than \$2,500
  - 2. Treasurer's Cash Balance
  - 3. Budget Control
- D. Contract Revenue
- E. Personnel Items

### **OTHER ITEMS REQUIRING BOARD ACTION**

- A. Resolution Authorizing the Issuance of Not to Exceed \$4,000,000 General Obligation Promissory Notes; and Setting the Sale
- B. FY2019 Financial Audit
- C. Designate College Legal Counsel for Labor & Employment, Immigration, Litigation, College Administration, Education Law, and Contract Law

### **BOARD MONITORING OF COLLEGE EFFECTIVENESS**

- A. Foundation Quarterly Update
- B. Board Monitoring Report – Safety & Security
- C. Staffing Update

### **INFORMATION AND CORRESPONDENCE**

- A. Enrollment Report
  - 1. FTE Comparison YOY Report
  - 2. Fall 2020 Application Report
  - 3. Recruitment Efforts
- B. Chairperson's Report
- C. College President's Report
- D. Other Information Items

### **ESTABLISH BOARD AGENDA ITEMS FOR NEXT MEETING**

- A. Agenda
- B. Time and Place

## **ADJOURN TO CLOSED SESSION**

- A. Consideration of adjourning to closed session for the purpose of
  - 1. Discussing Conflict of Interest policy per Wis. Statutes 19.85(1)(e) Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session.
  - 2. Discussing personnel issues per Wis. Statutes 19.85(1)(f) {Considering financial, medical, social or personal histories or disciplinary data of specific persons, preliminary consideration of specific personnel problems or the investigation of charges against specific persons except where par. (b) applies which, if discussed in public, would be likely to have a substantial adverse effect upon the reputation of any person referred to in such histories or data, or involved in such problems or investigations.}.
- B. Approval of December 19, 2019, Closed Session Minutes

## **RECONVENE TO OPEN SESSION**

- A. Action, if necessary, on Closed Session Items

## **ADJOURNMENT**

**{Facilities at Southwest Tech are handicap accessible. For all accommodations, call 608-822-2632 or e-mail [disabilityservices@swtc.edu](mailto:disabilityservices@swtc.edu).}**

Ms. Jordie read and signed the Oath of Office. Mr. Tuescher moved to adjourn to closed session for the purpose of discussing a contract per Wis. Statutes 19.85(1)(e). Ms. Nickels seconded the motion. Upon a roll call vote with all members voting affirmatively, the meeting adjourned to closed session at 7:12 p.m. The Board meeting reconvened to open session at 7:54 p.m. with no action taken from the closed session.

After a review of the Consent Agenda, including the January 23, 2020, agenda; December 19, 2019, regular Board meeting minutes; financial reports; two contracts totaling \$5,855.00 in December 2019; an employment recommendation for Vicki Hedley – Midwifery Instructor/Program Director; promotions/transfers for Josh Bedward – Facilities Manager/Master Electrician, Ben Neuroth – Day Maintenance Worker, and Tim Lyne – Lead Evening Custodian; the resignation of Vicki Hedley – Midwifery Instructor/Program Director; and the retirements of Amy Loy – Evaluation Coordinator and Jerry Ames – Maintenance Worker, Mr. Tuescher moved to approve the Consent Agenda. Ms. Fitzsimons seconded the motion.

Caleb White, Vice President for Administrative Services, presented the resolution to borrow \$4,000,000 in General Obligation Promissory Notes as the annual 2019-2020 borrowing. Mr. Tuescher moved to award the resolution Authorizing the Issuance of Not to Exceed \$4,000,000 General Obligation Promissory Notes; and Setting the Sale. Ms. Jordie seconded the motion. Upon a roll call vote where all Board members voted affirmatively, the motion carried.

Mr. White presented the FY2019 Financial Audit noting there was one audit adjustment made during the audit, which related to the refinancing of debt the College completed last year. Mr. White reviewed each of the Fund Balance sheets. Mr. Prange moved to approve the 2018-19 Financial Audit, as presented. Ms. Jordie seconded the motion. Upon a roll call vote where all members present voted affirmatively, the 2018-19 Financial Audit was approved.

Jon Anderson transferred his law practice to Husch Blackwell of Madison, WI, and due to the long history the college has had with Mr. Anderson, the college administration recommended continuing to retain Mr. Anderson. Mr. Tuescher moved to retain Jon Anderson of Husch Blackwell, Madison, WI, for Labor & Employment, Immigration, Litigation, College Administration, Education Law, and Contract Law. Ms. Fitzsimons seconded the motion; motion carried.

Holly Clendenen, Executive Director of College Advancement, presented the FY2020 second quarter Foundation report to the Board highlighting the activities and results of fundraising efforts and other initiatives. There were 3,266 gifts received from 826 donors in the first and second quarter totaling over \$700,000. The Foundation has awarded \$303,999 in 487 scholarships this year. Ninety-four (94) percent of full-time employees have donated to the Foundation's scholarships, student support funds, and employee funds in 2019-20. The Real Estate Foundation has secured 138 of 140 leases for students housing this spring.

Dan Imhoff, Director of Facilities, Safety & Security, and Heath Ahnen, Director of Information Technology Services, presented the Safety & Security Board Monitoring report. Campus safety and security is dependent upon all campus being vigilant, willing to step in to mitigate risk, and respond to emergencies as they happen. Groups that help with respective safety and security measures are Core Emergency Response Team, Emergency Response Team, Emergency Response Planning Team, Safety Coordinator, Behavioral Intervention Team, Campus Liaison Officer, Districts Mutual Insurance, Criminal Justice students and faculty, and the Campus Cybersecurity Incident Response Team. Mr. Imhoff and Mr. Ahnen reviewed the strategic initiatives designed to improve the performance of campus safety and security measures. Strategic initiatives include new security camera system in spring 2020, safety training during the April 2020 all-staff in-service, continual training of Core Emergency Response Team and Emergency Response Team, an Information Security Policy, Cybersecurity Awareness training campus-wide, and implementation of Next Generation Endpoint Security.

Krista Weber, Chief Human Resources Officer, provided an update on College staffing noting the evening custodian position has been filled and a posting has been released for a data analyst position.

The 2019-20 FTE Comparison Enrollment Report reflected a 1.53 percent increase in FTEs this year as compared to last year at this time. The fall 2020 Application Report showed that applications received for fall 2020 are up by 36 applications as compared to this same time last year. Katie Glass, Executive Director of Marketing, provided an overview of recruitment activities. Ms. Glass noted that 20 out of 26 of the students who have participated in the Tour and Lunch campaign have converted to applications. Upcoming recruitment activities include a Workplace Spanish workshop, a Saturday Discover Southwest Tech option for adults, a health science fair, and a high school trapshooting invitational.

Under the Chairperson's Report, Mr. Bolstad praised the positivity of the environment from the faculty and staff at the January 7 in-service and celebration of the accreditation results. Mr. Bolstad also reported on the District Boards Association winter meeting.

Dr. Wood reported Southwest Tech will be presenting on our recent accreditation experience at the annual Higher Learning Commission conference, reviewed the upcoming Board retreat topics, and commended the diversity work group for bringing a display to campus focused on the Holocaust. He reported on the employee support fund set up in the Foundation to help



employees going through situations where extra financial help could benefit them. The Memorandum of Understanding between the College and the two foundations will be reviewed and updated.

Ms. Fitzsimons motioned to adjourn to closed session for the purpose of discussing a conflict of interest policy per Wis. Statutes 19.85(1)(e) and personnel issues per Wis. Statutes 19.85(1)(f). Mr. Tuescher seconded the motion, and upon a roll call vote with all members voting affirmatively, the meeting adjourned to closed session at 9:27 p.m. The meeting reconvened to open session at 9:50 p.m. with no action taken.

With no further business to come before the Board, Ms. Fitzsimons moved to adjourn the meeting. Mr. Tuescher seconded the motion. The motion carried and the meeting adjourned at 9:51 p.m.

---

Donald L. Tuescher, Secretary

## C. Financial Reports

### 1. Purchases Greater than \$2,500

SOUTHWEST WISCONSIN TECHNICAL COLLEGE					
PURCHASES GREATER THAN \$2,500					
FOR THE PERIOD 01/01/2020 - 01/31/2020					
Invoices					
Vendor	Invoice #	Description	Amount		
SWTC REAL ESTATE FOUNDATION	FALL 1920 HOUS	Fall 1920 housing	\$58,714.21		
INTERNATIONAL THOUGHT LEADER	SWTC 01070 BAL	Orange Frog Workshop	\$20,000.00		
TIMETRADE SYSTEMS INC	INV13273	scheduling services	\$13,000.00		
ZEPHYR ALUMINUM PRODUCTS INC	197960-000	entrances	\$12,465.00		
HSR ASSOCIATES INC	19036-01	Platteville Outreach	\$11,026.20		
NATIONAL BUSINESS FURNITURE	ZK070038-OTG	furniture for 300 offices	\$9,999.40		
SWTC REAL ESTATE FOUNDATION	P.D HOUSING	Past Due housing	\$9,005.93		
ZEPHYR ALUMINUM PRODUCTS INC	197961-000	Advancement doors	\$7,710.00		
GARY'S AUTO	2G1FB1E30F9309861	2015 Camaro LS Rebuilder	\$7,200.00		
Marie Stimpson	1747370	Opp Student Refund	\$5,000.00		
WISCONSIN LIBRARY SERVICES	491900	Infobase Learning Films on Dem	\$4,487.18		
EXCEL IMAGES INC.	409406	accreditation clothing	\$4,277.58		
T & D POWER SKILLS	4502	workbooks	\$3,861.61		
JONES & BARTLETT LEARNING, LLC	4213803	books	\$3,860.62		
HSR ASSOCIATES INC	19024-06	Bookstore	\$3,365.79		
SYSCO FOODS OF BARABOO	218407307	supplies	\$3,100.71		
LAMAR COMPANIES	111007589	billboard ads	\$3,054.00		
BOBS ELECTRIC	12772	washer/dryer	\$3,049.00		
SCOREBUILDERS	12301	PTA Review Course downpmt	\$3,000.00		
CATHARSIS PRODUCTIONS LLC	"SAY WHAT" 1.22.20	"Say What" Presentation	\$3,000.00		
WPS HEALTH INSURANCE	010420013858	T Senn Medicare Prem	\$2,771.91		
WPS HEALTH INSURANCE	010420015269	C Larson Medicare Prem	\$2,691.43		
CREATIVE SOLUTIONS	C-011320	Carpet	\$2,608.25		
HERBST EMILY	6 CRED REIMB 1.16.20	DWD dual grant reimbursement	\$2,504.00		
Total Invoices				\$199,752.82	

Purchase Orders				
Vendor	PO #	Description	Amount	
GRAPHIC HOUSE INC	6860	Facilities: Digital Signage for campus/outreach	\$308,866.00	
GORDON FLESCH CO., INC.	6862	ITS: Copiers	\$28,960.00	
GORDON FLESCH CO., INC.	6861	ITS: Copiers	\$26,565.50	
VANGUARD COMPUTERS INC	6856	ITS: hp Elitebooks with 5 year warranty	\$10,319.70	
TIERNEY BROTHERS	6858	ITS: LCD Display	\$4,330.00	
<b>Total Purchase Orders</b>				<b>\$379,041.20</b>
Bank Withdrawals				
Vendor	Transaction #	Audit Trail	Amount	
WI Tech EE Benefit Jan 2020	CMTRX00002570	WDL000006907	\$279,138.30	
WI EE Trust Funds #223255	CMTRX00002589	WDL000006963	\$140,869.93	
941 ER Federal Tax #84792028	CMTRX00002582	WDL000006948	\$118,990.09	
941 ER Federal Tax #91686326	CMTRX00002573	WDL000006921	\$104,938.20	
WI DOR #1-863-835-168	CMTRX00002582	WDL000006949	\$23,354.93	
WI DOR ER Tax #0-326-331-936	CMTRX00002573	WDL000006923	\$21,266.94	
Delta Dental #331885	CMTRX00002569	WDL000006906	\$12,266.35	
Symerta Life Ins #01-017869-	CMTRX00002573	WDL000006922	\$10,081.04	
Wells Fargo #810344068	CMTRX00002583	WDL000006955	\$6,713.00	
Wells Fargo #807007165	CMTRX00002574	WDL000006926	\$6,689.00	
Delta Dental #336948	CMTRX00002580	WDL000006935	\$6,393.10	
Delta Dental #338111	CMTRX00002585	WDL000006957	\$5,629.65	
Hasler Postage 01.20.2020	CMTRX00002580	WDL000006936	\$5,000.00	
Delta Dental #330730	CMTRX00002570	WDL000006909	\$3,598.32	
WageWorks #1848503	CMTRX00002568	WDL000006901	\$2,969.59	
Delta Dental #333038	CMTRX00002577	WDL000006931	\$2,635.00	
<b>Total Bank Withdrawals</b>				<b>\$750,533.44</b>
Payroll				
Payroll Date	Transaction #	Audit Trail	Amount	
Direct Deposit 1/10/2020	UPRCC00001007	WDL000006913	\$287,238.58	
Direct Deposit 1/24/2020	UPRCC00001020	WDL000006946	\$284,368.72	
Direct Deposit 1/24/2020	UPRCC00001019	WDL000006945	\$32,119.57	
Direct Deposit 1/24/2020	UPRCC00001017	WDL000006943	\$21,674.98	
Direct Deposit 1/24/2020	UPRCC00001014	WDL000006940	\$16,534.57	
Direct Deposit 1/10/2020	UPRCC00001013	WDL000006919	\$11,939.23	
Direct Deposit 1/24/2020	UPRCC00001016	WDL000006942	\$11,082.74	
Direct Deposit 1/10/2020	UPRCC00001008	WDL000006914	\$9,745.31	
Direct Deposit 1/24/2020	UPRCC00001015	WDL000006941	\$6,233.37	
Direct Deposit 1/10/2020	UPRCC00001011	WDL000006917	\$4,459.29	
<b>Total Payroll</b>				<b>\$685,396.36</b>

Purchase Cards				
Vendor	Transaction #	Audit Trail	Amount	
US Bank ending 12.24.2019	CMTRX00002569	WDL000006903	\$104,188.29	
US Bank ending 01.07.2020	CMTRX00002580	WDL000006937	\$30,499.18	
<b>Total Purchase Cards</b>				<b>\$134,687.47</b>
<b>Total Purchases &gt;= \$2,500</b>				<b>\$2,149,411.29</b>



## 2. Treasurer's Cash Balance

Southwest Wisconsin Technical College			
Report of Treasurers Cash Balance 01/31/2020			
<b>Receipts</b>			
1 General	3,896,798.11		
<b>2 Special Revenue</b>			
<b>3 Capital Projects</b>	<b>24,981.13</b>		
4 Debt Service	1,535,120.73		
5 Enterprise	309,864.31		
6 Internal Service	300,560.80		
7 Financial Aid/Activities	171,180.38		
<b>Total Receipts</b>		<b>6,238,505.46</b>	
<b>Expenses</b>			
Fund			
1 General	1,650,955.40		
2 Special Revenue			
3 Capital Projects	243,974.99		
4 Debt Service	475.00		
5 Enterprise	89,197.94		
6 Internal Service	332,881.34		
7 Financial Aid/Activities	45,300.18		
<b>Total Expenses</b>		<b>2,362,784.85</b>	
<b>Net cash change - month</b>			<b>3,875,720.61</b>
<b>EOM Cash Balances</b>			
-Midwest One Operating 0356	1,538.28		
-Midwest One Investment 1324	11,188,735.59		
-Midwest One Cash Account 5062	4,558.83		
-Cash on Hand	2,940.00		
-Local Government Investment Pool	1,227,931.67		
<b>Ending Cash/Investment Balance</b>		<b>12,425,704.37</b>	

### 3. Budget Control

Southwest Wisconsin Technical College							
YTD Summary for Funds 1-7							
For 6 Months ended January 2020							
	<b>2019-20</b>	<b>2019-20</b>	<b>2019-20</b>	<b>2018-19</b>	<b>2017-18</b>	<b>2016-17</b>	<b>2015-16</b>
	<b><u>Budget</u></b>	<b><u>YTD Actual</u></b>	<b><u>Percent</u></b>	<b><u>Percent</u></b>	<b><u>Percent</u></b>	<b><u>Percent</u></b>	<b><u>Percent</u></b>
General Fund Revenue	23,506,000.00	10,490,147.30	44.63	43.16	46.38	43.34	49.73
General Fund Expenditures	24,165,000.00	12,783,101.30	52.90	54.92	52.72	52.20	55.20
Capital Projects Fund Revenue	4,020,000.00	27,538.90	0.69	99.25	103.56	101.04	99.51
Capital Projects Fund Expenditures	5,100,000.00	990,580.42	19.42	36.41	42.96	47.53	30.39
Debt Service Fund Revenue	5,425,000.00	1,535,120.73	28.30	29.15	32.46	33.38	4.18
Debt Service Fund Expenditures	5,724,600.00	459,612.50	8.03	10.85	12.27	12.57	12.68
Enterprise Fund Revenue	1,768,000.00	1,197,234.27	67.72	59.46	56.35	57.22	67.58
Enterprise Fund Expenditure	1,636,000.00	1,055,869.45	64.54	53.90	51.50	49.96	59.80
Internal Service Fund Revenue	4,427,000.00	2,168,774.89	48.99	51.39	54.02	56.45	61.29
Internal Service Fund Expenditures	4,427,000.00	2,323,104.39	52.48	54.74	55.61	54.48	67.16
Trust & Agency Fund Revenue	8,020,000.00	2,673,869.84	33.34	40.04	44.50	46.35	43.43
Trust & Agency Fund Expenditures	8,075,000.00	3,135,575.58	38.83	40.83	42.92	45.75	42.24
Grand Total Revenue	47,166,000.00	18,092,685.93	38.36	47.19	48.82	47.76	48.02
Grand Total Expenditures	49,127,600.00	20,747,843.64	42.23	45.95	45.92	46.33	47.96

#### ***D. Contract Revenue***

There were 14 contracts totaling \$15,539.11 in January 2020 being presented for Board approval. The Contract Revenue Report is included below.

# 2019 - 2020 CONTRACTS

1/1/2020 - 1/31/2020

Contract Holder	Contract #	Service Provided	Contact	Number Served	Price	Exchange of Services (Instructional Fees Waived)	INDIRECT COST FACTOR		
							On-Campus	Off-Campus	Waiver
WAT Grant - Dillman	03-2020-0001-I-47	Welding Tec 1	Amy Charles	6	\$ 2,020.74	No		X	
WAT Grant - Dillman	03-2020-0001-I-47	Welding Tec 1	Amy Charles	7	\$ 2,020.74	No		X	
WAT Grant - Dillman	03-2020-0001-I-47	Welding Tec 1	Amy Charles	6	\$ 2,020.74	No		X	
WAT Grant - Cabela's	03-2020-0060-I-47	Leadership Academy - Managing Communication	Amy Charles	5	\$ 146.18	No		X	
WAT Grant - Cabela's	03-2020-0060-I-47	Leadership Academy - Leadership	Amy Charles	5	\$ 146.18	No		X	
USA High School Clay Target League	03-2020-0062-T-42	League Director Duties - January	Caleb White		\$ 500.00	No		X	
Highland EMS	03-2020-0097-T-42	Participant Agreement-EMT Refresher	Kris Wubben	3	\$ 328.14	No		X	
PJ's Daycare, LLC	03-2020-0100-I-41	Heartsaver CPR/AED	Kris Wubben	11	\$ 419.65	Yes		X	
Cowboy Country Church	03-2020-0104-I-42	BLS for Healthcare Provider	Kris Wubben	9	\$ 217.35	Yes		X	
Cowboy Country Church	03-2020-0104-I-42	Heartsaver First Aid	Kris Wubben	3	\$ 114.45	Yes		X	
Dillman Equipment	03-2020-0106-I-41	Heartsaver CPR/AED	Kris Wubben	10	\$ 700.00	No		X	
Prairie du Chien Dentistry	03-2020-0109-I-41	BLS for Healthcare Provider	Kris Wubben	10	\$ 600.00	No		X	
NuPak LLC	03-2020-0111-I-41	NFPA 70 E Training	Amy Charles	11	\$ 1,450.00	No		X	
NRV, Inc	03-2020-0112-I-41	Dairy Goat Farm Operations Seminar	Deb Ihm	8	\$ 658.34	No		X	
Dickeyville EMS	03-2020-0113-I-42	BLS for Healthcare Provider - CPR Recert	Kris Wubben	12	\$ 417.96	Yes		X	
Jamestown Fire and First Response	03-2020-0114-I-42	BLS for Healthcare Provider - CPR Recert	Kris Wubben	8	\$ 348.64	Yes		X	
Cabela's	03-2020-0118-I-41	Heartsaver Adult Only CPR w/ First Aid	Kris Wubben	27	\$ 2,430.00	No		X	
Bloomfield Healthcare & Rehabilitation	03-2020-0121-I-41	Managing Communication	Amy Charles	10	\$ 1,000.00	No		X	
TOTAL of all Contracts				151	\$ 15,539.11				
Exchange of Services				43	\$ 1,518.05				
For Pay Service				108	\$ 14,021.06				



## ***E. Personnel Items***

Two employment recommendations and one promotion/transfer are being presented for approval in the Personnel Report. The Personnel Report is included below.

### **PERSONNEL REPORT February 21, 2020**

#### **Employment: NEW HIRES**

Name:	Dustin Farrey
Title:	Evening Custodian
How many applicants & interviewed	22 applicants, 4 interviewed
Start Date:	1/23/2020
Salary/Wages	\$15.61/hour
Classification	Full-time
Education and/or Experience	Associate Degrees in Criminal Justice, Machine Operation and Engine Machining Technician from Southwest Tech with 9 years of custodial experience

Name:	Diane Holmes
Title:	Midwifery Clinical Site Coordinator
How many applicants & interviewed	1 applicant, 1 interviewed (referral - no posting)
Start Date:	2/1/2020
Salary/Wages	\$22.00/hour
Classification	Part-Time (10 hrs/week) – LTE ending 5/31/2020
Education and/or Experience	Associate Degree in Midwifery with 22 years of professional Midwifery experience – owner

#### **PROMOTIONS / TRANSFERS**

Dennis Cooley (Public Relations Manager)	Charger Leadership Director
--	-----------------------------

#### **RETIREMENTS / RESIGNATIONS**

None	
------	--

**Recommendation:** Approve the Consent Agenda as presented.

## **Other Items Requiring Board Action**

### ***A. Designate Bond Counsel***

A letter of engagement has been received from Quarles & Brady LLP for bond counsel. The letter is available below.

**Recommendation:** Retain Allison M. Buchanan of Quarles & Brady LLP as Bond Counsel.



411 East Wisconsin Avenue  
Suite 2350  
Milwaukee, Wisconsin 53202-4426  
414.277.5000  
Fax 414.271.3552  
[www.quarles.com](http://www.quarles.com)

Attorneys at Law in  
Chicago  
Indianapolis  
Madison  
Milwaukee  
Minneapolis  
Naples  
Phoenix  
Scottsdale  
Tampa  
Tucson  
Washington, D.C.

February 11, 2020

**VIA EMAIL**

Mr. Caleb White  
Vice President for Administrative Services  
Southwest Wisconsin Technical College District  
1800 Bronson Boulevard  
Fennimore, WI 53809

Scope of Engagement Re: Proposed Issuance of \$4,000,000 Southwest Wisconsin  
Technical College District (the "District") General Obligation Promissory Notes  
(the "Securities")

Dear Caleb:

We are pleased to be working with you again as the District's bond counsel. Thank you for your confidence in us.

The purpose of this letter is to set forth the role we propose to serve and responsibilities we propose to assume as bond counsel in connection with the issuance of the above-referenced Securities. If you have any questions about this letter or the services we will provide, or if you would like to discuss modifications, please contact me.

**Role of Bond Counsel**

Our bond counsel engagement is a limited, special counsel engagement. Bond counsel is engaged as a recognized independent expert whose primary responsibility is to render an objective legal opinion with respect to the authorization and issuance of municipal obligations. If you desire additional information about the role of bond counsel, we would be happy to provide you with a copy of a brochure prepared by the National Association of Bond Lawyers.

As bond counsel we will: examine applicable law; prepare authorizing and closing documents; consult with the parties to the transaction, including the District's financial advisor or underwriter or placement agent, prior to the issuance of the Securities; review certified proceedings; and undertake such additional duties as we deem necessary to render the bond counsel opinion described below. As bond counsel, we do not advocate the interests of the District or any other party to the transaction. We assume that the parties to the transaction will retain such counsel as they deem necessary and appropriate to represent their interests in this transaction.

QB\61231720.1

Subject to the completion of proceedings to our satisfaction, we will render our opinion that:

- 1) the Securities are valid and binding general obligations of the District;
- 2) all taxable property in the territory of the District is subject to ad valorem taxation without limitation as to rate or amount to pay the Securities; and
- 3) the interest paid on the Securities will be excludable from gross income for federal income tax purposes (subject to certain limitations which may be expressed in the opinion).

The bond counsel opinion will be executed and delivered by us in written form on the date the Securities are exchanged for their purchase price (the "Closing") and will be based on facts and law existing as of its date.

Upon delivery of the opinion, our responsibilities as bond counsel will be concluded with respect to this financing; specifically, but without implied limitation, we do not undertake (unless separately engaged) to provide any post-closing compliance services including any assistance with the District's continuing disclosure commitment, ongoing advice to the District or any other party concerning any actions necessary to assure that interest paid on the Securities will continue to be excluded from gross income for federal income tax purposes, or participating in an Internal Revenue Service, Securities Exchange Commission or other regulatory body survey or investigation regarding or audit of the Securities.

In rendering the opinion, we will rely upon the certified proceedings and other certifications of public officials and other persons furnished to us without undertaking to verify the same by independent investigation.

The services we will provide under this engagement are strictly limited to legal services. We are neither qualified nor engaged to provide financial advice and we will make no representation about the desirability of the proposed plan of finance, the feasibility of the projects financed or refinanced by the Securities, or any related matters.

#### Diversity of Practice: Consent to Unrelated Engagements

Because of the diversity of practice of our firm, members of our firm other than those who serve you may be asked to represent other clients who have dealings with the District regarding such matters as zoning, licensing, land division, real estate, property tax or other matters which are unrelated to our bond counsel work. Ethical requirements sometimes dictate that we obtain the District's consent to such situations even though our service to you is limited to the specialized area of bond counsel. We do not represent you in legal matters regularly, although we may be called upon for special representation occasionally, and our bond counsel work does not usually provide us information that will be disadvantageous to you in other representations. We do not believe that such representations of others would adversely affect our relationship with you, and we have found that local governments generally are agreeable to the type of unrelated representation described above. We would like to have an understanding with



Mr. Caleb White  
February 11, 2020  
Page 3

you that the District consents to our firm undertaking representations of this type. Your approval of this letter will serve to confirm that the District has no objection to our representation of other clients who have dealings with the District, unrelated to the borrowing and finance area or any other area in which we have agreed to serve it. If you have any questions or would like to discuss this consent further, please call us.

We also want to advise you that from time to time we represent financial advisors, placement agents and underwriters of municipal obligations. In transactions that are not related to the issuance of the Securities and our role as bond counsel, we have served and presently serve as counsel to Baird. We expect to be asked to represent advisors, agents and underwriters, including Baird, in future transactions that are similarly unrelated to the issuance of the Securities and our engagement as bond counsel and disclosure counsel. We do not believe that our representation of such clients on unrelated matters will in any way limit our representation of the District. By engaging our services under the terms of this letter, the District consents to our firm undertaking representations of such clients on unrelated matters as described above now and in the future.

A form of our opinion and a form of a Continuing Disclosure Certificate (which we may prepare) may be included in the Official Statement or other disclosure document for the Securities. However, as bond counsel, we will not assume or undertake responsibility for the preparation of an Official Statement or other disclosure document with respect to the Securities, nor are we responsible for performing an independent investigation to determine the accuracy, completeness or sufficiency of any such document. If an Official Statement or other disclosure document is prepared and adopted or approved by the District, we will either prepare or review any description therein of: (i) Wisconsin and federal law pertinent to the validity of the Securities and the tax treatment of interest paid thereon and (ii) our opinion.

#### Fees

Based upon: (i) our current understanding of the terms, structure, size and schedule of the financing, (ii) the duties we will undertake pursuant to this letter, (iii) the time we anticipate devoting to the financing, and (iv) the responsibilities we assume, we estimate that our fee will be \$9,250. Such fee and expenses may vary: (i) if the principal amount of Securities actually issued differs significantly from the amount stated above, (ii) if material changes in the structure of the financing occur, or (iii) if unusual or unforeseen circumstances arise which require a significant increase in our time, expenses or responsibility. If at any time we believe that circumstances require an adjustment of our original fee estimate, we will consult with you. It is our understanding that our fee will be paid out of proceeds of the Securities at Closing.

If, for any reason, the financing is not consummated or is completed without the rendition of our opinion as bond counsel, we will expect to be compensated at our normal hourly rates for time actually spent, plus out-of-pocket expenses. Our fee is usually paid either at the Closing out of proceeds of the Securities or pursuant to a statement rendered shortly thereafter. We customarily do not submit any statement until the Closing unless there is a substantial delay in completing the financing.

QB\61231720.1

#### Terms of Engagement

Either the District or Quarles & Brady may terminate the engagement at any time for any reason by written notice, subject on our part to applicable rules of professional conduct. If the District terminates our services, the District is responsible for promptly paying us for all fees, charges, and expenses incurred before the date we receive termination. We reserve the right to withdraw from representing the District if, among other things, the District fails to honor the terms of this engagement letter – including the District's failing to pay our bills, the District's failing to cooperate or follow our advice on a material matter, or our becoming aware of any fact or circumstance that would, in our view, render our continuing representation unlawful or unethical.

Unless previously terminated, our representation will terminate when we send to the District (or its representative) our final bill for services rendered. If the District requests, we will promptly return the District's original papers and property to you, consistent with our need to ensure payment of any outstanding bills. We may retain copies of the documents. We will keep our own files, including attorney work product, pertaining to our representation of the District. For various reasons, including the minimization of unnecessary storage expenses, we may destroy or otherwise dispose of documents and materials a reasonable time after termination of the engagement.

#### District Responsibilities

We will provide legal counsel and assistance to the District in accordance with this letter and will rely upon information and guidance the District and its personnel provide to us. We will keep the District reasonably informed of progress and developments, and respond to the District's inquiries. To enable us to provide the services set forth in this letter, the District will disclose fully and accurately all facts and keep us apprised of all developments relating to this matter. The District agrees to pay our bills for services and expenses in accordance with this engagement letter. The District will also cooperate fully with us and be available to attend meetings, conferences, hearings and other proceedings on reasonable notice, and stay fully informed on all developments relating to this matter.

#### Limited Liability Partnership

Our firm is a limited liability partnership ("LLP"). Because we are an LLP, no partner of the firm has personal liability for any debts or liabilities of the firm except as otherwise required by law, and except that each partner can be personally liable for his or her own malpractice and for the malpractice of persons acting under his or her actual supervision and control. As an LLP we are required by our code of professional conduct to carry at least \$10,000,000 of malpractice insurance; currently, we carry coverage with limits substantially in excess of that amount. Please call me if you have any questions about our status as a limited liability partnership.



Mr. Caleb White  
February 11, 2020  
Page 5

Conclusion and Request for Signed Copy

If the foregoing terms of this engagement are acceptable to you, please so indicate by returning a copy of this letter dated and signed by an appropriate officer, retaining the original for your files. If we do not hear from you within thirty (30) days, we will assume that these terms are acceptable to you, but we would prefer to receive a signed copy of this letter from you.

We are looking forward to working with you and the District in this regard.

Very truly yours,

QUARLES & BRADY LLP

*Allison M. Buchanan* /AMB  
Allison M. Buchanan

AMB:SMN:adb  
#870766.00024

cc: Ms. Kelly Kelly (via email)  
Ms. Ashley Crubel (via email)  
Ms. Karen Campbell (via email)  
Mr. John A. Mehan (via email)  
Ms. Emily Timmerman (via email)  
Ms. Katherine Voss (via email)  
Mr. Brian Lanser (via email)  
Ms. Sue Nygren (via email)

Accepted and Approved:

SOUTHWEST WISCONSIN TECHNICAL  
COLLEGE DISTRICT

By: \_\_\_\_\_

Its: \_\_\_\_\_  
Title

Date: \_\_\_\_\_

QB\61231720.1

***B. Resolution Awarding the Sale of \$4,000,000 General Obligation Promissory Notes***

Bids received on February 20, 2020, will be available at the meeting for the sale of \$4,000,000 in General Obligation Promissory Notes. John Mehan, Managing Director of Robert W. Baird & Co. will present the bids. Caleb White will be available at the meeting for questions. The draft resolution is available below. The Moody's Investors Service assignment of an Aa2 rating to the College for sale of the \$4,000,000 in General Obligation Promissory Notes is included after the resolution.

**Recommendation** – Approve the resolution authorizing the sale of \$4,000,000 in General Obligation Promissory Notes.



RESOLUTION NO. \_\_\_\_\_

RESOLUTION AWARDING THE SALE OF  
\$4,000,000 GENERAL OBLIGATION PROMISSORY NOTES

WHEREAS, on January 23, 2020, the District Board of the Southwest Wisconsin Technical College District, Crawford, Grant, Iowa, Lafayette, Richland, Green, Dane, Sauk and Vernon Counties, Wisconsin (the "District") adopted a resolution (the "Authorizing Resolution") which authorized the issuance of general obligation promissory notes in the amount of \$230,000 for the public purpose of paying the cost of the acquisition of a site and purchase of buildings consisting of a farmette at the Fennimore campus; in the amount of \$1,024,000 for the public purpose of paying the cost of building remodeling and improvement projects; and in the amount of \$2,746,000 for the public purpose of paying the cost of acquiring movable equipment (collectively, the "Project");

WHEREAS, the District caused Notices to Electors to be published in the Dodgeville Chronicle on January 30, 2020 giving notice of adoption of the Authorizing Resolution, identifying where and when the Authorizing Resolution could be inspected, and advising electors of their right to petition for a referendum on the question of the issuance of general obligation promissory notes to finance building remodeling and improvement projects and acquiring movable equipment;

WHEREAS, no petition for referendum has been filed with the District and the time to file such a petition expires on March 2, 2020;

WHEREAS, the District Board hereby finds and determines that the Project is within the District's power to undertake and therefore serves a "public purpose" as that term is defined in Section 67.04(1)(b), Wisconsin Statutes;

WHEREAS, the District is authorized by the provisions of Section 67.12(12), Wisconsin Statutes, to borrow money and issue general obligation promissory notes for such public purposes;

WHEREAS, the District has directed Robert W. Baird & Co. Incorporated ("Baird") to take the steps necessary to sell general obligation promissory notes (the "Notes") to pay the cost of the Project;

WHEREAS, Baird, in consultation with the officials of the District, prepared an Official Notice of Sale (a copy of which is attached hereto as Exhibit A and incorporated herein by this reference) setting forth the details of and the bid requirements for the Notes and indicating that the Notes would be offered for public sale on February 20, 2020;

WHEREAS, the Secretary (in consultation with Baird) caused notice of the sale of the Notes to be published and/or announced and caused the Official Notice of Sale to be distributed to potential bidders offering the Notes for public sale;

QB\61650831.1

WHEREAS, the District has duly received bids for the Notes as described on the Bid Tabulation attached hereto as Exhibit B and incorporated herein by this reference (the "Bid Tabulation"); and

WHEREAS, it has been determined that the bid proposal (the "Proposal") submitted by the financial institution listed first on the Bid Tabulation fully complies with the bid requirements set forth in the Official Notice of Sale and is deemed to be the most advantageous to the District. Baird has recommended that the District accept the Proposal. A copy of said Proposal submitted by such institution (the "Purchaser") is attached hereto as Exhibit C and incorporated herein by this reference.

NOW, THEREFORE, BE IT RESOLVED by the District Board of the District that:

Section 1. Ratification of the Official Notice of Sale and Offering Materials. The District Board hereby ratifies and approves the details of the Notes set forth in Exhibit A attached hereto as and for the details of the Notes. The Official Notice of Sale and any other offering materials prepared and circulated by Baird are hereby ratified and approved in all respects. All actions taken by officers of the District and Baird in connection with the preparation and distribution of the Official Notice of Sale and any other offering materials are hereby ratified and approved in all respects.

Section 1A. Award of the Notes. For the purpose of paying the cost of the Project, there shall be borrowed pursuant to Section 67.12(12), Wisconsin Statutes, the principal sum of FOUR MILLION DOLLARS (\$4,000,000) from the Purchaser in accordance with the terms and conditions of the Proposal. The Proposal of the Purchaser offering to purchase the Notes for the sum set forth on the Proposal, plus accrued interest to the date of delivery, is hereby accepted, subject to expiration of the petition period provided for under Section 67.12(12)(e)5, Wisconsin Statutes, without the filing of a sufficient petition for a referendum with respect to the issuance of the Notes. The Chairperson and Secretary or other appropriate officers of the District are authorized and directed to execute an acceptance of the Proposal on behalf of the District. The good faith deposit of the Purchaser shall be applied in accordance with the Official Notice of Sale, and any good faith deposits submitted by unsuccessful bidders shall be promptly returned. The Notes shall bear interest at the rates set forth on the Proposal.

Section 2. Terms of the Notes. The Notes shall be designated "General Obligation Promissory Notes"; shall be issued in the aggregate principal amount of \$4,000,000; shall be dated March 12, 2020; shall be in the denomination of \$5,000 or any integral multiple thereof; shall be numbered R-1 and upward; and shall bear interest at the rates per annum and mature on the dates and in the principal amounts as set forth on the Pricing Summary attached hereto as Exhibit D-1 and incorporated herein by this reference. Interest shall be payable semi-annually on June 1 and December 1 of each year commencing on December 1, 2020. Interest shall be computed upon the basis of a 360-day year of twelve 30-day months and will be rounded pursuant to the rules of the Municipal Securities Rulemaking Board. The schedule of principal and interest payments due on the Notes is set forth on the Debt Service Schedule attached hereto as Exhibit D-2 and incorporated herein by this reference (the "Schedule").

Section 3. Redemption Provisions. The Notes are not subject to optional redemption.

Section 4. Form of the Notes. The Notes shall be issued in registered form and shall be executed and delivered in substantially the form attached hereto as Exhibit E and incorporated herein by this reference.

Section 5. Tax Provisions.

(A) Direct Annual Irrepealable Tax Levy. For the purpose of paying the principal of and interest on the Notes as the same becomes due, the full faith, credit and resources of the District are hereby irrevocably pledged, and there is hereby levied upon all of the taxable property of the District a direct annual irrepealable tax in the years 2020 through 2023 for the payments due in the years 2020 through 2024 in the amounts set forth on the Schedule. The amount of tax levied in the year 2020 shall be the total amount of debt service due on the Notes in the years 2020 and 2021; provided that the amount of such tax carried onto the tax rolls shall be abated by any amounts appropriated pursuant to subsection (D) below which are applied to payment of principal of or interest on the Notes in the year 2020.

(B) Tax Collection. So long as any part of the principal of or interest on the Notes remains unpaid, the District shall be and continue without power to repeal such levy or obstruct the collection of said tax until all such payments have been made or provided for. After the issuance of the Notes, said tax shall be, from year to year, carried onto the tax roll of the District and collected in addition to all other taxes and in the same manner and at the same time as other taxes of the District for said years are collected, except that the amount of tax carried onto the tax roll may be reduced in any year by the amount of any surplus money in the Debt Service Fund Account created below.

(C) Additional Funds. If at any time there shall be on hand insufficient funds from the aforesaid tax levy to meet principal and/or interest payments on said Notes when due, the requisite amounts shall be paid from other funds of the District then available, which sums shall be replaced upon the collection of the taxes herein levied.

(D) Appropriation. The District hereby appropriates from taxes levied in anticipation of the issuance of the Notes, proceeds of the Notes or other funds of the District on hand a sum sufficient to be irrevocably deposited in the segregated Debt Service Fund Account created below and used to pay debt service on the Notes coming due in 2020 as set forth on the Schedule.

Section 6. Segregated Debt Service Fund Account.

(A) Creation and Deposits. There be and there hereby is established in the treasury of the District, if one has not already been created, a debt service fund, separate and distinct from every other fund, which shall be maintained in accordance with generally accepted accounting principles. Debt service or sinking funds established for obligations previously issued by the District may be considered as separate and distinct accounts within the debt service fund.

Within the debt service fund, there hereby is established a separate and distinct account designated as the "Debt Service Fund Account for General Obligation Promissory Notes, dated March 12, 2020" (the "Debt Service Fund Account") and such account shall be maintained until

the indebtedness evidenced by the Notes is fully paid or otherwise extinguished. There shall be deposited into the Debt Service Fund Account (i) all accrued interest received by the District at the time of delivery of and payment for the Notes; (ii) any premium which may be received by the District above the par value of the Notes and accrued interest thereon; (iii) all money raised by the taxes herein levied and any amounts appropriated for the specific purpose of meeting principal of and interest on the Notes when due; (iv) such other sums as may be necessary at any time to pay principal of and interest on the Notes when due; (v) surplus monies in the Borrowed Money Fund as specified below; and (vi) such further deposits as may be required by Section 67.11, Wisconsin Statutes.

(B) Use and Investment. No money shall be withdrawn from the Debt Service Fund Account and appropriated for any purpose other than the payment of principal of and interest on the Notes until all such principal and interest has been paid in full and the Notes canceled; provided (i) the funds to provide for each payment of principal of and interest on the Notes prior to the scheduled receipt of taxes from the next succeeding tax collection may be invested in direct obligations of the United States of America maturing in time to make such payments when they are due or in other investments permitted by law; and (ii) any funds over and above the amount of such principal and interest payments on the Notes may be used to reduce the next succeeding tax levy, or may, at the option of the District, be invested by purchasing the Notes as permitted by and subject to Section 67.11(2)(a), Wisconsin Statutes, or in permitted municipal investments under the pertinent provisions of the Wisconsin Statutes ("Permitted Investments"), which investments shall continue to be a part of the Debt Service Fund Account. Any investment of the Debt Service Fund Account shall at all times conform with the provisions of the Internal Revenue Code of 1986, as amended (the "Code") and any applicable Treasury Regulations (the "Regulations").

(C) Remaining Monies. When all of the Notes have been paid in full and canceled, and all Permitted Investments disposed of, any money remaining in the Debt Service Fund Account shall be transferred and deposited in the general fund of the District, unless the District Board directs otherwise.

Section 7. Proceeds of the Notes: Segregated Borrowed Money Fund. The proceeds of the Notes (the "Note Proceeds") (other than any premium and accrued interest which must be paid at the time of the delivery of the Notes into the Debt Service Fund Account created above) shall be deposited into a special fund (the "Borrowed Money Fund") separate and distinct from all other funds of the District and disbursed solely for the purpose or purposes for which borrowed. Monies in the Borrowed Money Fund may be temporarily invested in Permitted Investments. Any monies, including any income from Permitted Investments, remaining in the Borrowed Money Fund after the purpose or purposes for which the Notes have been issued have been accomplished, and, at any time, any monies as are not needed and which obviously thereafter cannot be needed for such purpose(s) shall be deposited in the Debt Service Fund Account.

Section 8. No Arbitrage. All investments made pursuant to this Resolution shall be Permitted Investments, but no such investment shall be made in such a manner as would cause the Notes to be "arbitrage bonds" within the meaning of Section 148 of the Code or the Regulations and an officer of the District, charged with the responsibility for issuing the Notes,



shall certify as to facts, estimates, circumstances and reasonable expectations in existence on the date of delivery of the Notes to the Purchaser which will permit the conclusion that the Notes are not "arbitrage bonds," within the meaning of the Code or Regulations.

Section 9. Compliance with Federal Tax Laws. (a) The District represents and covenants that the projects financed by the Notes and the ownership, management and use of the projects will not cause the Notes to be "private activity bonds" within the meaning of Section 141 of the Code. The District further covenants that it shall comply with the provisions of the Code to the extent necessary to maintain the tax-exempt status of the interest on the Notes including, if applicable, the rebate requirements of Section 148(f) of the Code. The District further covenants that it will not take any action, omit to take any action or permit the taking or omission of any action within its control (including, without limitation, making or permitting any use of the proceeds of the Notes) if taking, permitting or omitting to take such action would cause any of the Notes to be an arbitrage bond or a private activity bond within the meaning of the Code or would otherwise cause interest on the Notes to be included in the gross income of the recipients thereof for federal income tax purposes. The Secretary or other officer of the District charged with the responsibility of issuing the Notes shall provide an appropriate certificate of the District certifying that the District can and covenanting that it will comply with the provisions of the Code and Regulations.

(b) The District also covenants to use its best efforts to meet the requirements and restrictions of any different or additional federal legislation which may be made applicable to the Notes provided that in meeting such requirements the District will do so only to the extent consistent with the proceedings authorizing the Notes and the laws of the State of Wisconsin and to the extent that there is a reasonable period of time in which to comply.

Section 10. Designation as Qualified Tax-Exempt Obligations. The Notes are hereby designated as "qualified tax-exempt obligations" for purposes of Section 265 of the Code, relating to the ability of financial institutions to deduct from income for federal income tax purposes, interest expense that is allocable to carrying and acquiring tax-exempt obligations.

Section 11. Execution of the Notes; Closing; Professional Services. The Notes shall be issued in printed form, executed on behalf of the District by the manual or facsimile signatures of the Chairperson and Secretary, authenticated, if required, by the Fiscal Agent (defined below), sealed with its official or corporate seal, if any, or a facsimile thereof, and delivered to the Purchaser upon payment to the District of the purchase price thereof, plus accrued interest to the date of delivery (the "Closing"). The facsimile signature of either of the officers executing the Notes may be imprinted on the Notes in lieu of the manual signature of the officer but, unless the District has contracted with a fiscal agent to authenticate the Notes, at least one of the signatures appearing on each Note shall be a manual signature. In the event that either of the officers whose signatures appear on the Notes shall cease to be such officers before the Closing, such signatures shall, nevertheless, be valid and sufficient for all purposes to the same extent as if they had remained in office until the Closing. The aforesaid officers are hereby authorized and directed to do all acts and execute and deliver the Notes and all such documents, certificates and acknowledgements as may be necessary and convenient to effectuate the Closing. The District hereby authorizes the officers and agents of the District to enter into, on its behalf, agreements and contracts in conjunction with the Notes, including but not limited to agreements and

contracts for legal, trust, fiscal agency, disclosure and continuing disclosure, and rebate calculation services. Any such contract heretofore entered into in conjunction with the issuance of the Notes is hereby ratified and approved in all respects.

Section 12. Payment of the Notes; Fiscal Agent. The principal of and interest on the Notes shall be paid by the District Secretary or the District Treasurer (the "Fiscal Agent").

Section 13. Persons Treated as Owners; Transfer of Notes. The District shall cause books for the registration and for the transfer of the Notes to be kept by the Fiscal Agent. The person in whose name any Note shall be registered shall be deemed and regarded as the absolute owner thereof for all purposes and payment of either principal or interest on any Note shall be made only to the registered owner thereof. All such payments shall be valid and effectual to satisfy and discharge the liability upon such Note to the extent of the sum or sums so paid.

Any Note may be transferred by the registered owner thereof by surrender of the Note at the office of the Fiscal Agent, duly endorsed for the transfer or accompanied by an assignment duly executed by the registered owner or his attorney duly authorized in writing. Upon such transfer, the Chairperson and Secretary shall execute and deliver in the name of the transferee or transferees a new Note or Notes of a like aggregate principal amount, series and maturity and the Fiscal Agent shall record the name of each transferee in the registration book. No registration shall be made to bearer. The Fiscal Agent shall cancel any Note surrendered for transfer.

The District shall cooperate in any such transfer, and the Chairperson and Secretary are authorized to execute any new Note or Notes necessary to effect any such transfer.

Section 14. Record Date. The 15th day of the calendar month next preceding each interest payment date shall be the record date for the Notes (the "Record Date"). Payment of interest on the Notes on any interest payment date shall be made to the registered owners of the Notes as they appear on the registration book of the District at the close of business on the Record Date.

Section 15. Utilization of The Depository Trust Company Book-Entry-Only System. In order to make the Notes eligible for the services provided by The Depository Trust Company, New York, New York ("DTC"), the District agrees to the applicable provisions set forth in the Blanket Issuer Letter of Representations, which the Secretary or other authorized representative of the District is authorized and directed to execute and deliver to DTC on behalf of the District to the extent an effective Blanket Issuer Letter of Representations is not presently on file in the District office.

Section 16. Official Statement. The District Board hereby approves the Preliminary Official Statement with respect to the Notes and deems the Preliminary Official Statement as "final" as of its date for purposes of SEC Rule 15c2-12 promulgated by the Securities and Exchange Commission pursuant to the Securities and Exchange Act of 1934 (the "Rule"). All actions taken by officers of the District in connection with the preparation of such Preliminary Official Statement and any addenda to it or final Official Statement are hereby ratified and approved. In connection with the Closing, the appropriate District official shall certify the Preliminary Official Statement and any addenda or final Official Statement. The Secretary shall

cause copies of the Preliminary Official Statement and any addenda or final Official Statement to be distributed to the Purchaser.

Section 17. Undertaking to Provide Continuing Disclosure. The District hereby covenants and agrees, for the benefit of the owners of the Notes, to enter into a written undertaking (the "Undertaking") if required by the Rule to provide continuing disclosure of certain financial information and operating data and timely notices of the occurrence of certain events in accordance with the Rule. The Undertaking shall be enforceable by the owners of the Notes or by the Purchaser on behalf of such owners (provided that the rights of the owners and the Purchaser to enforce the Undertaking shall be limited to a right to obtain specific performance of the obligations thereunder and any failure by the District to comply with the provisions of the Undertaking shall not be an event of default with respect to the Notes).

To the extent required under the Rule, the Chairperson and Secretary, or other officer of the District charged with the responsibility for issuing the Notes, shall provide a Continuing Disclosure Certificate for inclusion in the transcript of proceedings, setting forth the details and terms of the District's Undertaking.

Section 18. Record Book. The Secretary shall provide and keep the transcript of proceedings as a separate record book (the "Record Book") and shall record a full and correct statement of every step or proceeding had or taken in the course of authorizing and issuing the Notes in the Record Book.

Section 19. Bond Insurance. If the Purchaser determines to obtain municipal bond insurance with respect to the Notes, the officers of the District are authorized to take all actions necessary to obtain such municipal bond insurance. The Chairperson and Secretary are authorized to agree to such additional provisions as the bond insurer may reasonably request and which are acceptable to the Chairperson and Secretary including provisions regarding restrictions on investment of Note proceeds, the payment procedure under the municipal bond insurance policy, the rights of the bond insurer in the event of default and payment of the Notes by the bond insurer and notices to be given to the bond insurer. In addition, any reference required by the bond insurer to the municipal bond insurance policy shall be made in the form of Note provided herein.

Section 20. Conflicting Resolutions; Severability; Effective Date. All prior resolutions, rules or other actions of the District Board or any parts thereof in conflict with the provisions hereof shall be, and the same are, hereby rescinded insofar as the same may so conflict. In the event that any one or more provisions hereof shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provisions hereof. The foregoing shall take effect immediately upon adoption and approval in the manner provided by law.

Adopted, approved and recorded February 21, 2020.

\_\_\_\_\_  
Charles J. Bolstad  
Chairperson

ATTEST:

\_\_\_\_\_  
Donald L. Tuescher  
Secretary

(SEAL)



EXHIBIT A

Official Notice of Sale

To be provided by Robert W. Baird & Co. Incorporated and incorporated into the Resolution.

(See Attached)

DRAFT

QB\61650831.1

EXHIBIT B

Bid Tabulation

To be provided by Robert W. Baird & Co. Incorporated and incorporated into the Resolution.

(See Attached)

DRAFT

QB\61650831.1

EXHIBIT C

Winning Bid

To be provided by Robert W. Baird & Co. Incorporated and incorporated into the Resolution.

(See Attached)

DRAFT

QB\61650831.1

EXHIBIT D-1

Pricing Summary

To be provided by Robert W. Baird & Co. Incorporated and incorporated into the Resolution.

(See Attached)

DRAFT

QB\61650831.1



EXHIBIT D-2

Debt Service Schedule and Irrepealable Tax Levies

To be provided by Robert W. Baird & Co. Incorporated and incorporated into the Resolution.

(See Attached)

DRAFT

QB\61650831.1

EXHIBIT E

(Form of Note)

UNITED STATES OF AMERICA  
 REGISTERED STATE OF WISCONSIN DOLLARS  
 NO. R- SOUTHWEST WISCONSIN TECHNICAL COLLEGE DISTRICT \$  
 GENERAL OBLIGATION PROMISSORY NOTE

MATURITY DATE: ORIGINAL DATE OF ISSUE: INTEREST RATE: CUSIP:  
 \_\_\_\_\_ 1, \_\_\_\_\_ March 12, 2020 \_\_\_\_\_ % \_\_\_\_\_

DEPOSITORY OR ITS NOMINEE NAME: CEDE & CO.

PRINCIPAL AMOUNT: \_\_\_\_\_ THOUSAND DOLLARS  
 (\$ \_\_\_\_\_)

FOR VALUE RECEIVED, the Southwest Wisconsin Technical College District, Crawford, Grant, Iowa, Lafayette, Richland, Green, Dane, Sauk and Vernon Counties, Wisconsin (the "District"), hereby acknowledges itself to owe and promises to pay to the Depository or its Nominee Name (the "Depository") identified above (or to registered assigns), on the maturity date identified above, the principal amount identified above, and to pay interest thereon at the rate of interest per annum identified above, all subject to the provisions set forth herein regarding redemption prior to maturity. Interest shall be payable semi-annually on June 1 and December 1 of each year commencing on December 1, 2020 until the aforesaid principal amount is paid in full. Both the principal of and interest on this Note are payable to the registered owner in lawful money of the United States. Interest payable on any interest payment date shall be paid by wire transfer to the Depository in whose name this Note is registered on the Bond Register maintained by the District Secretary or District Treasurer (the "Fiscal Agent") or any successor thereto at the close of business on the 15th day of the calendar month next preceding each interest payment date (the "Record Date"). This Note is payable as to principal upon presentation and surrender hereof at the office of the Fiscal Agent.

For the prompt payment of this Note together with interest hereon as aforesaid and for the levy of taxes sufficient for that purpose, the full faith, credit and resources of the District are hereby irrevocably pledged.

This Note is one of an issue of Notes aggregating the principal amount of \$4,000,000, all of which are of like tenor, except as to denomination, interest rate and maturity date, issued by the District pursuant to the provisions of Section 67.12(12), Wisconsin Statutes, for the public purposes of paying the cost of the acquisition of a site and purchase of buildings consisting of a farmette at the Fennimore campus (\$230,000); building remodeling and improvement projects (\$1,024,000); and acquiring movable equipment (\$2,746,000), as authorized by resolutions

QB\61650831.1

adopted on January 23, 2020 and February 21, 2020. Said resolutions are recorded in the official minutes of the District Board for said dates.

This Note is not subject to optional redemption.

It is hereby certified and recited that all conditions, things and acts required by law to exist or to be done prior to and in connection with the issuance of this Note have been done, have existed and have been performed in due form and time; that the aggregate indebtedness of the District, including this Note and others issued simultaneously herewith, does not exceed any limitation imposed by law or the Constitution of the State of Wisconsin; and that a direct annual irrepealable tax has been levied sufficient to pay this Note, together with the interest thereon, when and as payable.

This Note has been designated by the District Board as a "qualified tax-exempt obligation" pursuant to the provisions of Section 265(b)(3) of the Internal Revenue Code of 1986, as amended.

This Note is transferable only upon the books of the District kept for that purpose at the office of the Fiscal Agent, only in the event that the Depository does not continue to act as depository for the Notes, and the District appoints another depository, upon surrender of the Note to the Fiscal Agent, by the registered owner in person or his duly authorized attorney, together with a written instrument of transfer (which may be endorsed hereon) satisfactory to the Fiscal Agent duly executed by the registered owner or his duly authorized attorney. Thereupon a new fully registered Note in the same aggregate principal amount shall be issued to the new depository in exchange therefor and upon the payment of a charge sufficient to reimburse the District for any tax, fee or other governmental charge required to be paid with respect to such registration. The Fiscal Agent shall not be obliged to make any transfer of the Notes after the Record Date. The Fiscal Agent and District may treat and consider the Depository in whose name this Note is registered as the absolute owner hereof for the purpose of receiving payment of, or on account of, the principal or redemption price hereof and interest due hereon and for all other purposes whatsoever. The Notes are issuable solely as negotiable, fully-registered Notes without coupons in the denomination of \$5,000 or any integral multiple thereof.

No delay or omission on the part of the owner hereof to exercise any right hereunder shall impair such right or be considered as a waiver thereof or as a waiver of or acquiescence in any default hereunder.

IN WITNESS WHEREOF, the Southwest Wisconsin Technical College District, Crawford, Grant, Iowa, Lafayette, Richland, Green, Dane, Sauk and Vernon Counties, Wisconsin, by its governing body, has caused this Note to be executed for it and in its name by the manual or facsimile signatures of its duly qualified Chairperson and Secretary, and to be sealed with its official or corporate seal, if any, all as of the original date of issue specified above.

SOUTHWEST WISCONSIN TECHNICAL  
COLLEGE DISTRICT, WISCONSIN

By: \_\_\_\_\_  
Charles J. Bolstad  
Chairperson

(SEAL)

By: \_\_\_\_\_  
Donald L. Tuescher  
Secretary



ASSIGNMENT

FOR VALUE RECEIVED, the undersigned sells, assigns and transfers unto

\_\_\_\_\_  
(Name and Address of Assignee)

\_\_\_\_\_  
(Social Security or other Identifying Number of Assignee)

the within Note and all rights thereunder and hereby irrevocably constitutes and appoints \_\_\_\_\_, Legal Representative, to transfer said Note on the books kept for registration thereof, with full power of substitution in the premises.

Dated: \_\_\_\_\_

Signature Guaranteed:

\_\_\_\_\_  
(e.g. Bank, Trust Company  
or Securities Firm)

\_\_\_\_\_  
(Depository or Nominee Name)

NOTICE: This signature must correspond with the name of the Depository or Nominee Name as it appears upon the face of the within Note in every particular, without alteration or enlargement or any change whatever.

\_\_\_\_\_  
(Authorized Officer)

RESOLUTION NO. \_\_\_\_\_

RESOLUTION AUTHORIZING THE ISSUANCE OF NOT TO EXCEED  
\$4,000,000 GENERAL OBLIGATION PROMISSORY NOTES;  
AND SETTING THE SALE

WHEREAS, the Southwest Wisconsin Technical College District, Crawford, Grant, Iowa, Lafayette, Richland, Green, Dane, Sauk and Vernon Counties, Wisconsin (the "District") is presently in need of funds in the amount of \$230,000 for the public purpose of paying the cost of the acquisition of a site and purchase of buildings consisting of a farmette at the Fennimore campus; in the amount of \$1,024,000 for the public purpose of paying the cost of building remodeling and improvement projects; and in the amount of \$2,746,000 for the public purpose of paying the cost of acquiring movable equipment and there are insufficient funds on hand to pay said costs;

WHEREAS, the District hereby finds and determines that the projects are within the District's power to undertake and serve a "public purpose" as that term is defined in Section 67.04(1)(b), Wisconsin Statutes; and

WHEREAS, technical college districts are authorized by the provisions of Section 67.12(12), Wisconsin Statutes to borrow money and to issue general obligation promissory notes for such public purposes.

NOW, THEREFORE, BE IT:

RESOLVED, that the District shall issue general obligation promissory notes in an amount not to exceed \$230,000 for the public purpose of paying the cost of the acquisition of a site and purchase of buildings consisting of a farmette at the Fennimore campus; and be it further

Resolved, that the District shall issue general obligation promissory notes in an amount not to exceed \$1,024,000 for the public purpose of paying the cost of building remodeling and improvement projects; and be it further

Resolved, that the District shall issue general obligation promissory notes in an amount not to exceed \$2,746,000 for the public purpose of paying the cost of acquiring movable equipment; and be it further

RESOLVED, that

Section 1. Authorization and Sale of the Notes. For the purpose of paying the costs specified above in the amounts authorized for those purposes, there shall be borrowed pursuant to Section 67.12(12), Wisconsin Statutes, the principal sum of not to exceed FOUR MILLION DOLLARS (\$4,000,000) from a purchaser to be determined by subsequent resolution of the District Board (the "Purchaser"). To evidence such indebtedness, the Chairperson and Secretary are hereby authorized, empowered and directed to make, execute, issue and sell to the Purchaser for, on behalf of and in the name of the District, general obligation promissory notes aggregating the principal amount of not to exceed FOUR MILLION DOLLARS (\$4,000,000) (the "Notes"). There shall be levied on all the taxable property of the District a direct, annual, irrepealable tax

QB\60797862.1

sufficient to pay the interest on the Notes as it becomes due, and also to pay and discharge the principal thereof within ten years of the date of issuance of the Notes.

Section 2. Notice to Electors. Pursuant to Section 67.12(12)(e)5, Wisconsin Statutes, the Secretary shall, within ten (10) days of adoption of this Resolution, cause public notice of the adoption of this Resolution to be given to the electors of the District by publishing notices in the Dodgeville Chronicle, the official newspaper of the District. The notices to electors shall be in substantially the form attached hereto as Exhibits A, B and C (collectively, the "Notices") and incorporated herein by this reference.

Section 3. Sale of the Notes. The Notes shall be offered for public sale. At a subsequent meeting, the District Board shall consider such bids as may have been received, take action on the bids and specify the terms of and interest rates on the Notes.

Section 4. Official Statement. The Secretary shall cause an Official Statement to be prepared by Robert W. Baird & Co. Incorporated. The appropriate District officials shall determine when the Official Statement is final for purposes of Securities and Exchange Commission Rule 15c2-12 and shall certify said Statement, such certification to constitute full authorization of such Official Statement under this Resolution.

Section 5. Conflicting Resolutions; Severability; Effective Date. All prior resolutions, rules or other actions of the District Board or any parts thereof in conflict with the provisions hereof shall be, and the same are, hereby rescinded insofar as the same may so conflict. In the event that any one or more provisions hereof shall for any reason be held to be illegal or invalid, such illegality or invalidity shall not affect any other provisions hereof. The foregoing shall take effect immediately upon adoption and approval in the manner provided by law. If any of the Notes may be subject to a petition for referendum, any action with respect to the sale of the Notes shall be subject to the condition that no petition for referendum has been filed within thirty (30) days of publication of the Notices provided for under Section 2 of this Resolution or, if a petition is filed, that any required referendum approval is obtained.

Adopted, approved and recorded January 23, 2020.

\_\_\_\_\_  
Charles J. Bolstad  
Chairperson

Attest:

\_\_\_\_\_  
Donald L. Tuescher  
Secretary

(SEAL)

EXHIBIT A

NOTICE TO THE ELECTORS  
OF THE  
SOUTHWEST WISCONSIN TECHNICAL COLLEGE DISTRICT  
CRAWFORD, GRANT, IOWA, LAFAYETTE, RICHLAND, GREEN, DANE, SAUK AND  
VERNON COUNTIES, WISCONSIN

NOTICE IS HEREBY GIVEN that the District Board of the above-named District, at a meeting duly called, noticed, held and conducted on January 23, 2020, adopted a resolution pursuant to the provisions of Section 67.12(12), Wisconsin Statutes, to authorize a borrowing in an amount not to exceed \$230,000 by issuing general obligation promissory notes of the District for the public purpose of paying the cost of the acquisition of a site and purchase of buildings consisting of a farmette at the Fennimore campus.

A copy of said resolution is on file in the District office, located at 1800 Bronson Boulevard, Fennimore, Wisconsin, and may be inspected weekdays, except holidays, between the hours of 9:00 a.m. and 4:00 p.m.

Dated this 23rd day of January, 2020.

BY THE ORDER OF THE  
DISTRICT BOARD

Donald L. Tuescher  
Secretary



EXHIBIT B

NOTICE TO THE ELECTORS  
OF THE  
SOUTHWEST WISCONSIN TECHNICAL COLLEGE DISTRICT  
CRAWFORD, GRANT, IOWA, LAFAYETTE, RICHLAND, GREEN, DANE, SAUK AND  
VERNON COUNTIES, WISCONSIN

NOTICE IS HEREBY GIVEN that the District Board of the above-named District, at a meeting duly called, noticed, held and conducted on January 23, 2020, adopted a resolution pursuant to the provisions of Section 67.12(12), Wisconsin Statutes, to authorize a borrowing in an amount not to exceed \$1,024,000 by issuing general obligation promissory notes of the District for the public purpose of paying the cost of building remodeling and improvement projects.

A copy of said resolution is on file in the District office, located at 1800 Bronson Boulevard, Fennimore, Wisconsin, and may be inspected weekdays, except holidays, between the hours of 9:00 a.m. and 4:00 p.m.

The District Board need not submit said resolution to the electors for approval unless within 30 days after the publication of this Notice there is filed with the Secretary of the District Board a petition meeting the standards set forth in Section 67.12(12)(e)5, Wisconsin Statutes, requesting a referendum thereon at a special election. If no such petition is filed, then the resolution shall be effective without a referendum.

Dated this 23rd day of January, 2020.

BY THE ORDER OF THE  
DISTRICT BOARD

Donald L. Tuescher  
Secretary

EXHIBIT C

NOTICE TO THE ELECTORS  
OF THE  
SOUTHWEST WISCONSIN TECHNICAL COLLEGE DISTRICT  
CRAWFORD, GRANT, IOWA, LAFAYETTE, RICHLAND, GREEN, DANE, SAUK AND  
VERNON COUNTIES, WISCONSIN

NOTICE IS HEREBY GIVEN that the District Board of the above-named District, at a meeting duly called, noticed, held and conducted on January 23, 2020, adopted a resolution pursuant to the provisions of Section 67.12(12), Wisconsin Statutes, to authorize a borrowing in an amount not to exceed \$2,746,000 by issuing general obligation promissory notes of the District for the public purpose of paying the cost of acquiring movable equipment.

A copy of said resolution is on file in the District office, located at 1800 Bronson Boulevard, Fennimore, Wisconsin, and may be inspected weekdays, except holidays, between the hours of 9:00 a.m. and 4:00 p.m.

The District Board need not submit said resolution to the electors for approval unless within 30 days after the publication of this Notice there is filed with the Secretary of the District Board a petition meeting the standards set forth in Section 67.12(12)(e)5, Wisconsin Statutes, requesting a referendum thereon at a special election. If no such petition is filed, then the resolution shall be effective without a referendum.

Dated this 23rd day of January, 2020.

BY THE ORDER OF THE  
DISTRICT BOARD

Donald L. Tuescher  
Secretary

**CREDIT OPINION**

11 February 2020

 **Rate this Research**
**Contacts**

Jennifer Card  
Bernhardt  
Analyst  
jennifer.card@moodys.com +1.312.706.9983

Douglas Goldmacher +1.212.553.1477  
AVP-Analyst  
douglas.goldmacher@moodys.com

**CLIENT SERVICES**

Americas 1-212-553-1653  
Asia Pacific 852-3551-3077  
Japan 81-3-5408-4100  
EMEA 44-20-7772-5454

## Southwest Wisconsin Tech. College Dist., WI

Update to credit analysis

**Summary**

Southwest Wisconsin Technical College District, WI (Aa2) benefits from a large and growing tax base, healthy liquidity, a low debt burden and a modest unfunded pension liability. These credit strengths are balanced against challenges including a historically declining enrollment trend, albeit one is expected to improve, limited revenue raising flexibility due to state imposed levy restrictions, and below-average resident income levels.

**Credit strengths**

- » Large tax base with growing valuations
- » Healthy reserves and liquidity
- » Low debt burden
- » Modest pension liabilities

**Credit challenges**

- » Limited revenue generating flexibility due to state imposed levy restrictions
- » Declining enrollment trend that is expected to improve
- » Weak resident income levels

**Rating outlook**

Outlooks are generally not assigned to local government credits with this amount of debt.

**Factors that could lead to an upgrade**

- » Strengthening of the district's tax base and/or resident income levels
- » Stabilization and strengthening of enrollment

**Factors that could lead to a downgrade**

- » Weakening of the district's tax base and/or resident income levels
- » Declines in the district's reserves and/or liquidity
- » Substantial growth in the district's debt burden and fixed costs



## Key indicators

Exhibit 1

Southwest Wisconsin Tech. College Dist., WI	2015	2016	2017	2018	2019
<b>Economy/Tax Base</b>					
Total Full Value (\$000)	\$8,004,565	\$8,243,486	\$8,508,708	\$8,776,869	\$9,132,180
Population	51,489	51,489	51,742	51,742	51,742
Full Value Per Capita	\$155,462	\$160,102	\$164,445	\$169,628	\$176,495
Median Family Income (% of US Median)	92.9%	92.9%	91.0%	91.0%	91.0%
<b>Finances</b>					
Operating Revenue (\$000)	\$34,066	\$34,954	\$33,715	\$34,781	\$34,448
Net Current Assets (\$000)	\$9,038	\$7,668	\$11,645	\$12,180	\$12,379
Unrestricted Cash & Cash Equivalent (\$000)	\$12,266	\$12,151	\$13,492	\$14,668	\$14,711
Net Current Assets as a % of Revenues	26.5%	21.9%	34.5%	35.0%	35.9%
Unrestricted Cash & Cash Equivalent as a % of Revenues	36.0%	34.8%	40.0%	42.2%	42.7%
<b>Debt/Pensions</b>					
Net Direct Debt (\$000)	\$30,285	\$28,905	\$27,455	\$25,820	\$25,035
3-Year Average of Moody's ANPL (\$000)	\$17,702	\$25,252	\$28,536	\$30,740	\$30,921
Net Direct Debt / Full Value (%)	0.4%	0.4%	0.3%	0.3%	0.3%
Net Direct Debt / Operating Revenues (x)	0.9x	0.8x	0.8x	0.7x	0.7x
Moody's - adjusted Net Pension Liability (3-yr average) to Full Value (%)	0.2%	0.3%	0.3%	0.4%	0.4%
Moody's - adjusted Net Pension Liability (3-yr average) to Revenues (x)	0.5x	0.7x	0.8x	0.9x	0.9x

Sources: Moody's Investors Service; Southwest TCD's audited financial statements; US Census Bureau.

## Profile

Southwest Wisconsin Technical College District provides vocational education to residents of [Iowa](#) (Aa2), Grant and Lafayette Counties as well as portions of several surrounding counties. The district encompasses approximately 3,800 square miles, with 163 municipalities and 30 public school districts within southwest boundaries. There is one centrally located campus at Fennimore, approximately 70 miles southwest of the [City of Madison](#) (Aaa stable), with 2020 enrollment of 1,330 full-time equivalent students.

## Detailed credit considerations

### Economy and tax base: large and growing tax base

The district's local economy will is expected to remain stable given improved residential valuation trends, as well as modest commercial growth throughout the district. Located in southwestern [Wisconsin](#) (Aa1 stable), the district includes Iowa, Grant and Lafayette counties and portions of several neighboring counties, including [Crawford](#) (A1), [Dane](#) (Aa1 stable), [Richland](#) (A3), and [Sauk](#) (Aa1). The district's \$9.1 billion tax base increased at an average annual rate of 2.7% over the last five years. The district's local economy is diverse with retail and manufacturing institutions. The district's largest employers are Land's End Incorporated with 4,000 employees and the University of Wisconsin - Platteville with 1,088 employees. At 3.2% in December 2019, the unemployment rate in Grant County was below the state (3.2%) and nation (3.4%). Resident income levels are below average with median family income at 91% of the national level.

### Financial operations and reserves: stable financial operations with healthy reserves

We expect the district's financial position will remain strong given the presence of healthy reserves and conservative budgeting practices. In fiscal 2019, the district posted a deficit of \$498,000 in fiscal 2019, resulting in an available General Fund balance of \$12.8 million, or a healthy 53.9% of revenues. The district had originally budgeted for a \$1.3 million draw in the General Fund, for one-time expenses related to other post employment benefits (OPEBs), and one time capital initiatives, however, the year ended better than

This publication does not constitute a rating action. For any rating or re-rating of this public entity, please see [moody.com](#) for the complete policy page or [www.moody.com](#) for the most updated financial and credit information and ratings.



expected due to favorable revenue results. Available fund balance across all operating funds (General and Debt Service Funds), totaled \$14.4 million, or a healthy 48.8% of operating revenues for fiscal 2019.

For fiscal 2020, management budgeted for a planned \$394,000 draw in the General Fund for one time capital initiatives. Going forward into the next couple of years, the district plans to further draw down fund balance to stay more in line with their fund balance policy and fund program initiatives. The draws are expected to be around the same levels as fiscal 2020.

On a full accrual basis, the district's net current assets position totaled \$12.4 million, or 35.9% of college wide revenues, at the close of fiscal 2019. Four years ago, at the close of fiscal 2015, the college's net current assets position totaled \$9 million and 26.5% of total revenues. The improved net position demonstrates the district's stable operations as well as a strict adherence to maintenance of reserves.

The district's main source of operating revenues are property taxes, state aid, and tuition and fees. Property taxes accounted for 31.2% of total revenues in fiscal 2019 while state aid accounted for 23.9% and tuition and fees made up 16.2% of total revenues. From 2015 through 2017 district enrollment declined by 200 students, down to a low full-time equivalent (FTE) of 1,332 students for 2017. In 2018 enrollment grew modestly by 22 students and declined again in fiscal 2019 by 21 students to 1,333 students and another 3 students in fiscal 2020 to 1,330. Favorably, district officials expect an increase in enrollment of approximately 40 additional FTE students per year, driven primarily by new online enrollment growth and program initiatives. The district's ability to stabilize or even grow enrollment is a major credit factor and will have considerable credit implications for the future.

#### LIQUIDITY

At the close of fiscal 2019, the district maintained healthy liquidity across all funds totaling \$14.7 million, equivalent to a healthy 42.7% of revenues. This is a \$3.4 million increase from \$11.3 million at the close of fiscal 2015, largely due to Wisconsin Act 145, which replaced some of the district's property tax receipts with state aid. State aid is received in February while most property tax revenues are received in August, after the close of the fiscal year.

#### Debt and pensions: low debt burden and affordable pension liabilities, with high fixed costs

The district's debt burden is low and likely to remain so due to limited borrowing plans and rapid amortization. The district plans to issue \$4 million in GO notes in February 2020, which will bring the debt burden to a modest 0.3% of full valuation and 0.8x operating revenues. The district plans to borrow an estimated \$4 million of GO debt in August 2020 for remodeling projects and equipment purchases. The district's fixed costs are high and, including debt service, pension, and OPEB contributions, totaled \$14.9 million, or 43% of total revenues.

#### DEBT STRUCTURE

All of the district's debt is fixed rate and amortizes over the long-term. Principal amortization is very rapid with 100% repaid within ten years.

#### DEBT-RELATED DERIVATIVES

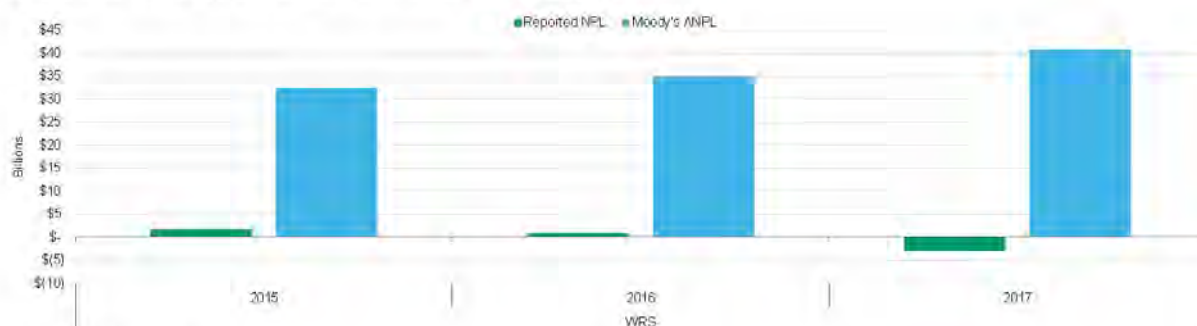
The district is not a party to any derivative agreements.

#### PENSIONS AND OPEB

The district participates in the Wisconsin Retirement System (WRS), a statewide cost-sharing plan. Contributions are determined using a level contribution actuarial method in an effort to keep employer and employee contribution rates at a level percentage of payroll over time, and are set at 100% of the plan's funding requirement. As a result, WRS remains one of the best-funded public employee retirement systems in the country, with statewide employer contributions to WRS in 2017 totaling 107.7% of the amount needed to tread water<sup>1</sup>.

The district's adjusted net pension liability (ANPL) was \$28.7 million in 2019, down from \$30 million in 2017, bringing the three-year average to \$30.9 million, or 1.0x operating revenue and 0.3% of full value. Moody's ANPL reflects the use of a market-based discount rate to value pension liabilities rather than the assumed rate of investment return on plan assets. In comparison, the reported net pension liability (NPL), based on the plan's 7.2% discount rate, was \$2.7 million in fiscal 2019. Growth in the Moody's ANPL has been driven largely by falling market discount rates, however the plan's NPL has benefited from strong investment performance in recent years, with WRS reported a net pension asset as of fiscal 2017. (See Exhibit 2.)

Exhibit 2

**Wisconsin Retirement System remains well-funded on a reported basis**

Source: State of Wisconsin

The district's other post-employment benefits (OPEB) obligations do not pose a material credit risk. The OPEB liability reflects an implicit rate subsidy for retirees who pay to remain on the district's health plan and is funded on a pay-as-you-go basis, with contributions of \$262,000 in fiscal 2018.

**Management and governance: moderate Institutional framework with a strong management team**

The district's management team is strong, adhering to its reserve policy and long-term capital plans. The district utilizes a conservative approach and a multi-year capital plan.

Wisconsin community college districts have an Institutional Framework score of "A", which is moderate. Revenue raising ability is moderate. The sector's major revenue source, state aid, is based on a formula that incorporates enrollment and equalized property valuations of the district. The sector's other major revenue source, property tax revenue, is subject to a cap which can only be increased with net new construction or via referendum. Revenues and expenditures tend to be predictable. Across the sector, fixed and mandated costs are generally moderate.

## Endnotes

- 1 Employer contributions that tread water equal the sum of current year service cost and interest on reported net pension liabilities at the start of the year, using reported actuarial assumptions. If plan assumptions are met exactly, contributions equal to the tread water indicator will prevent the reported net pension liabilities from growing. Net liabilities may decrease or increase in a given year due to factors other than the contribution amount, such as investment performance that exceeds or falls short of a plan's assumed rate of return.



© 2020 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND/OR ITS CREDIT RATINGS AFFILIATES ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S INVESTORS SERVICE DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S INVESTORS SERVICE CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$2,700,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

**Additional terms for Australia only:** Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 33 6969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

**Additional terms for Japan only:** Moody's Japan K.K. ("MJJK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJJK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJJK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJJK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJJK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJJK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY250,000,000.

MJJK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER 1214327



## CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

### ***C. RFP: Enterprise Resource Planning System***

Proposals were due October 4, 2019, for a Request for Proposals (RFP) for an Enterprise Resource Planning (ERP) System. Since that time, the Operations Council and other staff have been researching the systems submitted through the RFP process. The team will have a recommendation to present to the Board.

**Recommendation** – *(Available at the Board meeting.)*

### ***D. RFP: Project Management for Enterprise Resource Planning System Implementation***

Southwest Tech has engaged Campus Works to assist with the ERP selection process. Their assistance has been important by providing expertise and information we do not have, nor the capacity to acquire without working closely with an outside entity. After careful consideration, extensive discussions with other colleges, and regardless of the vendor selected, we desire to continue the partnership through the implementation process.

**Recommendation** – *(Available at the Board meeting.)*

### ***E. Bid: Platteville Outreach Site Development***

Invitations to bid on the Platteville Outreach Center Site Development were provided to vendors and posted widely in applicable electronic and physical venues to garner bids.

Three bids were received. A summary of the bids is below.

**Recommendation** – Accept the low bid for the Platteville Outreach Center Site Development, in the amount of \$274,010 from Maryville Construction Co, Inc., of Hazel Green, WI.

**Bid #1920-07 Platteville Outreach Center  
February 11, 2020 @ 2:00 p.m., Room 354**

Invitations to bid on the Platteville Outreach Center Site Development were provided to an extensive list of vendors and posted widely in applicable electronic and physical venues. A pre-bid meeting was held on January 23, 2020 for interested bidders.

The project consists of interior renovation of an existing space. Work includes, but is not limited to new walls of steel stud and drywall, casework, floor finishes, suspended AC panel ceilings, folding panel partition, new lighting and revised HVAC system.

Public opening of the bids was held on Tuesday, February 11 at 2:00 p.m. in Room 354 of the College Campus. Three vendors responded to the bid request. The results of the three bids are as follows:

<b>Organization</b>	<b>Base Bid</b>	<b>Alternate No. 1 Wall Insulation</b>	<b>Substitution No. 1 (deduct from Base Bid)</b>	<b>Final Total Bid</b>	<b>Unit Price (2) - Fluid Applied Flooring Per sq. ft.</b>	<b>Receipt of Addendums (Y/N)</b>	<b>Bid Security (Y/N)</b>
Maryville Construction Co, Inc. Hazel Green, WI	271,900	2,110	-	<b>274,010</b>	\$ 0.66	Y	Y
Otter Creek Construction Highland, WI	292,715	2,160	(567)	<b>295,442</b>	\$ 0.60	Y	Y
Midwest Builders, Inc. Fennimore, WI	311,515	1,395	(6,900)	<b>319,810</b>	\$ 0.60	Y	Y

**RECOMMENDATION:** The recommendation is to accept the low bid for the Platteville Outreach Center Site Development, in the amount of \$274,010 from Maryville Construction Co, Inc. of Hazel Green, WI. This bid amount falls under the project amount approved by the WTCS state board in November 2019.

***F. Bid: Three (3) New 2020 Chevrolet Malibu 4-door LS Sedans***

Invitations to bid on three (3) new 2020 Chevrolet Malibu sedans were due on February 14, 2020, at 2:00 p.m. The bid summary and recommendation will be available at the Board meeting.

**Recommendation** – (Available at the Board meeting.)

***G. Performance Management Compensation Proposal***

The Performance Management Phase 2 workgroup has developed a process for performance management compensation. Performance management compensation is the third tier of the multi-level Compensation Plan presented to the Board previously. Team members will be at the Board meeting to present the process and the recommendation. A PowerPoint is included below which outlines the steps used in the process, timeline, future plans, and proposal recommendation.

**Recommendation** – Approve the performance management compensation proposal acknowledging funding for the initiative will be considered during the budget process and prioritized based on many factors.





Southwest Wisconsin  
TECHNICAL COLLEGE

# Performance Management

College Council Project

## Overview

- Compensation Philosophy
- Multi-Level Compensation Sustainability Plan
- Performance Management Tools and Timeline
- Supervisor/Employee Training and Calibration Process
- Performance Management Compensation/Sustainability
- Future Plans
- Recommendation



## Compensation Philosophy

Southwest Tech is committed to being the employer of choice in southwest Wisconsin. Our valued employees are the key to delivering on our commitment to improve lives through excellence in learning. Our compensation philosophy, including salary and benefits, is a reflection of our College's values. The College will pursue sustainable compensation goals in accordance with its overall fiscal position while respecting the goals of the philosophy. Southwest Tech's compensation philosophy is designed to meet the following key objectives:

- \*Externally Competitive Salary and Benefits
- \*Excellence
- \*Easy to Communicate
- \*Equitable
- \*Emphasis on Student Success



# Multi-Level Compensation Plan

## Level One

### ***Compensation Maintenance Schedule***

- Increase salaries by variable % increase (based on CPI)
- Review and adjust ranges annually as necessary
- Develop maintenance schedule for market reviews of our ranges/positions (every 3-5 years)

## Level Two

### ***College-wide Performance Management***

- Pay fixed dollar (lump sum) incentives when the college reaches goals based on strategic directions (*Increase Student Access and Improve Student Success, Ensure Fiscal Sustainability, Strengthen a Culture of Integrity*) annually. Goals can vary each year. This is not base-building compensation.





# Multi-Level Compensation Plan

## Level Three

### ***Individual Performance Management***

- Develop Performance Evaluations tied to compensation percentage to move employees through the ranges. This will be base-building compensation.
- The Performance Evaluation will:
  - Be based on college mission, vision and values
  - Focus on competence (what they do and how well) and character (encourage consistent culture)
  - Increase communication with supervisor (this will be an additional step to the two coaching sessions each year)



# Performance Management Tools and Timeline

- Performance Evaluations were implemented in Spring 2019
  - Behavior-based with strong ties to College Values and Core Abilities
  - Timeline includes five total employee/supervisor touchpoints during the year
    - Two coaching sessions and three performance one-on-one sessions
- Surveyed supervisors and employees seeking feedback in Fall 2019
- Made changes based on that feedback including:
  - Changed the point scale
  - Revised the performance levels and definitions to exceptional, successful, and needs improvement



# Training and Calibration Process

- Training on Giving and Receiving Feedback and Performance Management
  - Supervisor Training (Introductory) – April 2019
  - Supervisor Training – February 2020
  - Employee Training – April and May 2020
- Calibration Process
  - Work together as a Leadership Council to align expectations
  - Build competencies for each level
  - Develop a process for auditing/adjustment of scores by Exec Team to address objective assessment and validity





# Performance Management Compensation

- Compensation starts one point above ‘successful’ performance level
- Sliding scale based on points earned in the annual performance evaluation; paid in set dollar amounts vs. percentage
- Compensation is base-building and helps employees move through the ranges; smaller increments over time vs. large compensation analysis adjustments
- Exec Team will not receive this increase but utilizes the same evaluation tool (not being included ensures more impartiality in audit process)
- Financially sustainable plan and built to be flexible with budget





## Future Updates

- Finalize additional staff and supervisor training plans
- Implement calibration process
- Build additional competencies into the evaluation form
- Establish new project team for next year to work on goal setting
- Continually adjust the performance tool and timeline as needed



## Recommendation

- Request to approve the performance management compensation proposal acknowledging funding for the initiative will be considered during the budget process and prioritized based on many factors.
- Effective 7/1/2020



# Questions?





Southwest Wisconsin  
TECHNICAL COLLEGE

THANK YOU!

Performance Management Project Team

Krista Weber, Josh Bedward, Jordyn Poad,  
John Troxel, Deb Ihm, Jacki Schultz-Sloan  
Annetta Smith, Caleb White, Denise Janssen,  
Cynde Larsen, Jennifer Lame, Joe Randall



## ***H. Employee Benefits & Wellness Initiative***

The College is part of the WTCS Employee Benefits Consortium. The Board hears an annual update on the consortium activities and recommended changes. Caleb White, Krista Weber – Chief Human Resources Officer, and Connie Haberkorn – Benefits Manager & HR Generalist, will provide the update and review the recommended changes to employee benefits. Connie Haberkorn and Amy Campbell, co-leads for the Wellness Initiative, will review the progress of the Wellness Initiative and the proposed recommended changes to the program. Included below is a draft of the PowerPoint slides they will be sharing and the concepts being asked for consideration.

**Recommendation** – Verbally indicate support for the concepts and request administration present it to a broader college audience for feedback prior to final board approval.



Southwest Wisconsin  
TECHNICAL COLLEGE

# Benefits & Wellness

Wisconsin Technical College Employee Benefits Consortium (WTCEBC),  
Dental & Southwest Tech's Wellness Initiative

# Agenda

- 2019 Wisconsin Technical College Employee Benefits Consortium (WTCEBC)
  - WTCEBC Key Updates 2019
  - High Cost Claimants/Stop Loss
- Medical Trends
- Benefit Enhancements
- New for 2020
- Health Insurance Updates
- Dental Insurance Updates
- Health & Wellness Incentive
- Recommendations for Benefit Changes



# Wisconsin Technical College Employee Benefits Consortium (WTCEBC)

## **Mission Statement**

*The mission of the WTCEBC is to provide long term value, provide high quality benefits through strategic collaboration and implement cost control initiatives for member colleges and their employees*

## **Vision**

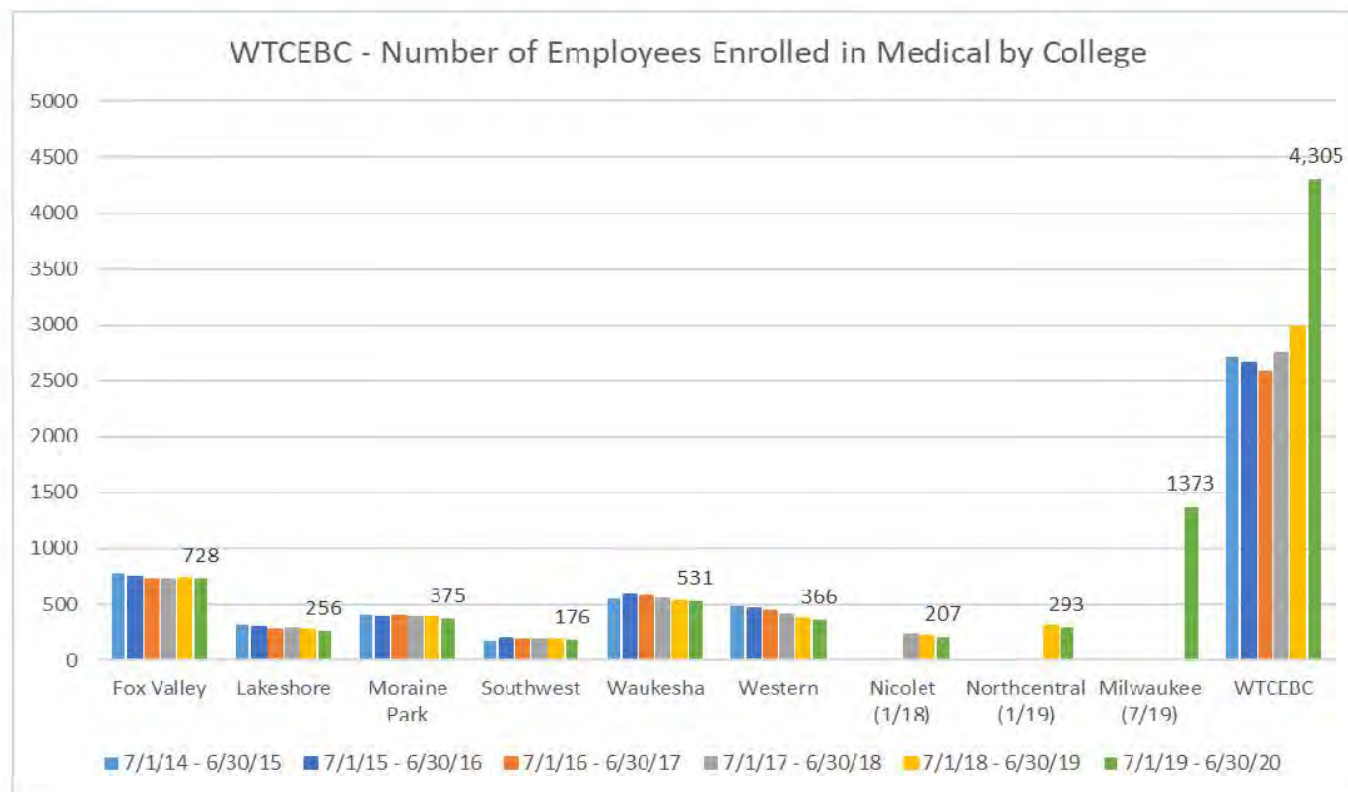
*WTCEBC will be the leader in cost effective and innovative employee benefits*

## **Participating Colleges**

9 of the 16 colleges are participating as of 1/1/2020 including - Milwaukee, Moraine Park, Nicolet, Waukesha, Western, Fox Valley, Lakeshore, Northcentral, Southwest







## WTCEBC Key Updates 2019

- Executive Director Position filled January 14, 2019
- Executive Director met with all potential members
- Reconciliation of accounting reports
- Developed a catalogue of renewals, contracts, and RFP timelines
- New member marketing materials
- Request for Proposals
  - 403(b) Retirement Plan Advisor
  - Disability/Life Insurance Renewal



# WTCEBC Key Updates 2019

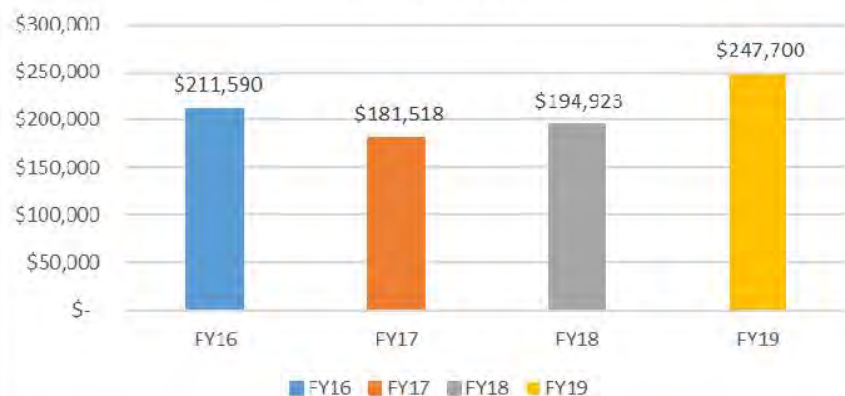
## ➤ Executive Director assisted with implementation of voluntary benefits

- FVTC – Vision, FSA, Pet Insurance, Hyatt Legal, Allstate (critical illness, accident & hospital indemnity)
- LTC – Vision
- MPTC – Vision, FSA
- NATC – Vision
- NTC – Vision, Hyatt Legal
- SWTC – Vision, FSA, Pet Insurance, Hyatt Legal, Allstate (critical illness, accident & hospital indemnity)
- WCTC – Vision, Pet Insurance, Hyatt Legal
- WTC - Vision

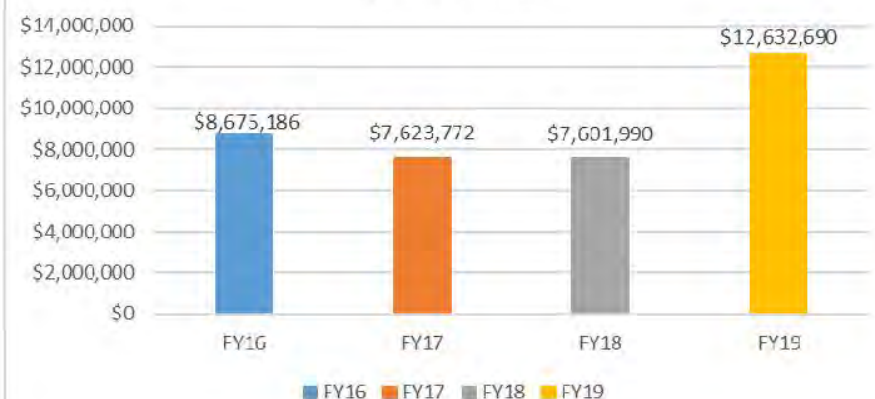
(FSA/Flexible Spending Account)



WTCEBC Average Cost /High Cost Claimant  
(>\$100,000)



WTCEBC Total Cost of High Cost Claimants  
(>\$100,000)





SWTC - Average Cost Per High Cost Claimant



SWTC - Total Cost of High Cost Claimants  
(>\$100,000)



## Medical Trends for Southwest Tech

- Across the country Medical Trend is 5.75%, and Rx Trend is 9.5%
- Since joining the consortium our premium rate increases have been an average of 1.3%

Year	Increase %
15/16	0%
16/17	2.3%
17/18	4.4%
18/19	0.0%
19/20	0.0%
20/21	Proposed 5.0%

- With our current reserves we are able to hold the increase to 5.0%. This will also include the plan design changes, benefit enhancements, high cost claimant management.
- Before the consortium, our rate increase averaged 7.7% over the previous 10 years



In-Network Benefits	Fox Valley	Lakeshore	Milwaukee	Nicolet	Northcentral	Southwest	Higher Education 500+	Midwest 500+	Wisconsin 500+
Deductible (Single/Family)	\$2,250 / \$3,750	\$2,000 / \$4,000	\$3,000 / \$6,000	\$2,000 / \$4,000	\$2,000 / \$4,000	\$1,500 / \$3,000	\$2,000 / \$3,800	\$2,500 / \$5,000	\$2,100 / \$4,600
Account Funding <sup>1</sup> (Single/Family)	\$1,125 / \$2,250	HRA: \$500 / \$1,000	\$1,200 / \$2,400	\$2,000 / \$4,000	\$1,200 / \$2,400	\$500 / \$1,000	\$600 / \$1,225	\$500 / \$1,000	\$500 / \$1,000
Out of Pocket Maximum (Single/Family)	\$2,500 / \$4,250	\$4,000 / \$8,000	\$3,000 / \$6,000	\$2,500 / \$5,000	\$4,000 / \$8,000	\$1,500 / \$3,000	\$3,500 / \$6,925	\$4,000 / \$7,200	\$4,000 / \$8,000
Coinsurance	10%	20%	0%	10%	20%	0%	20%	20%	20%
Rx - Retail (Tier 1 / 2 / 3, 4 if applicable)	10%	\$10 / \$30 / \$60 / 90-day retail cost	0%	10%	\$0 / \$10 / \$20 / \$50	0%	\$12 / \$35 / \$58 / \$97	\$11 / \$34 / \$60 / \$114	\$10 / \$32 / \$62 / \$99
Rx - Mail Order (Tier 1 / 2 / 3)	10%	\$20 / \$60 / \$120	0%	10%	\$0 / \$30 / \$60	0%	\$23 / \$76 / \$123	\$23 / \$75 / \$131	\$24 / \$78 / \$134
Employee Cost Share	15%	20%	11.5%	9%	20%	10%	13% Single / 20% Family	19% Single / 25% Family	16% Single / 17% Family



THIS IS WHERE YOU MATTER





# Health Insurance Rate Structure

## 2019 Rates

Current	Family	Single
<i>Monthly Premium</i>	\$2,168.17	\$867.74
<i>Employee Premium Share 10% (bi-weekly)</i>	\$216.82	\$86.78

## Proposed 2020 Rates

Proposed	Family	Single	Employee + Spouse	Employee + Child(ren)
<i>Monthly Premium</i>	\$2,276.58	\$911.13		
<i>Employee Premium Share 10% (bi-weekly)</i>	\$227.66	\$91.12		





# Health Insurance Deductibles

## 2019 Rates

Current	Family	Single
<i>Deductible (Annual)</i>	\$3,000	\$1,500
<i>Co insurance in network</i>	n/a	n/a
<i><u>Co insurance out of network</u></i>	10%	10%

## Proposed 2020 Rates

Proposed	Family	Single	Employee + Spouse	Employee + Child(ren)
<i>Deductible</i>	\$4,000	\$2,000	\$4,000	\$4,000
<i>Co insurance in network</i>	n/a	n/a	n/a	n/a
<i><u>Co insurance out of network</u></i>	20%	20%	20%	20%



# Health Savings Account

Southwest Tech Contribution to Health Savings Account			
Family Current \$1,000	<b>Family, Employee Spouse &amp; Employee + Child(ren) Proposed \$2,000</b>	Single Current \$500	<b>Single Proposed \$1,000</b>



# Benefit Enhancements Usage

## ➤ Tel-a-doc

- 86% of eligible members are registered with Tel-a-doc
- Estimated claim savings per episode = \$472
- Cost to SWTC \$1.55 PEPM (per employee per month)
- Total net claim savings as of December 2019 = \$18,880 – continued growth of alternative approaches is recommended to keep costs low

*“My kids have used Tel-A-Doc. It has been great as they don't live nearby and were able to be seen and fill a prescription within an hour, allowing them not to miss work/school.”*

*“I have used Tel-a-doc and it is amazing!! It was so fast and convenient. With having kids that always seem to be sick, this has really saved us trips to the doctors office.”*





# Benefit Enhancement Usage

## ➤ Quality Path

- 13 of our members utilized the Quality Path program in 2019
- This program offers knee & total hip replacement, CT & MRI scans
- \$17,850/projected savings



***"I have utilized the Quality Path for an MRI. It was a great deal that garnered me an additional \$100.00 in my HSA account!"***

## ➤ Real Appeal

- 58 members were enrolled of which 33 reported weight loss
- Resulting in over a 12% loss



***"I've been doing Real Appeal for a few weeks now. It is great! I'm learning a lot about eating a more balanced diet and tracking calories. I really like the weekly coaching sessions that provide low pressure encouragement."***



THIS IS WHERE YOU EXCEL





## WTCEBC - On the Horizon for 2020

- Adding a service through a 3<sup>rd</sup> party vendor for health management solutions to manage at risk high cost claimant members along with network and benefit questions
  - Information presented by Quantum & Accolade to the WTCEBC members
  - Consortium membership voted to go to RFP in 2020 and potentially the service could be a requirement of the consortium
  - 24 hour service for members
  - This service would give members a single point of entry to healthcare and benefits along with personalized support
  - Personalized advocacy that changes how members access and use the programs they need to live healthier, happier and more productive lives
  - Personalized healthcare support that starts with data – creating a 360 degree profile for our members including RX, biometrics, lab results, risk scoring, utilization data
  - We currently pay UMR for some of this service and the cost will be offset with those dollars





# Dental Insurance 2020

## Current

- Annual maximum \$1,500/individual; \$25/individual, \$50/family deductible
- Diagnostic/Preventive Services, Basic Restorative Services – 100% covered

Current	Family	Single
<i>Monthly Premium</i>	\$144.74	\$40.50
<i>Monthly Employee Premium Share 10%</i>	\$14.48	\$4.06

## Proposed 2021

- Annual maximum \$1,500/individual; \$25/individual, \$50/family deductible
- Diagnostic/Preventive Services, Basic Restorative Services – 100% covered

Proposed	Family	Single
<i>Monthly Premium</i>	\$159.20	\$44.55
<i>Monthly Employee Premium Share 10%</i>	\$15.92	\$4.46



# HEALTH & WELLNESS INCENTIVE PROGRAM



THIS IS WHERE YOU GROW



# Wellness Incentives

## ➤ Wellness Categories

- Social & Environmental, Physical, Financial, & Emotional
- Current award is \$50 for each category into a Health Savings Account (up to \$200 annually)

## ➤ Goals for 2020

- Increase the category amount from \$50 to \$100 per participating employee
- Increase engagement from 61% to 90%
- Offer wellness activities through the wellness workgroup
- Lunch and Learn sessions to assist with documentation and understanding

[Wellness Initiative Video](#)



THIS IS WHERE YOU GROW



## Wellness Supported Events in 2020

- Personal Budget Presentation
- SWTC Relay for Life Team
- SWTC Run4Troops Relay Marathon Team – *target 3 teams of 6 for 2020 (last year we had 2 teams of 6)*
- Weight Loss Challenge – *30 employees participating*
- Promotion of Thyroid Screening – *wellness team posted a reminder bulletin*
- Lunch and Learn
- Yoga on campus – *fitness center was “packed”*

*Please see our brochure for promoted activities in the categories*



## Proposed Recommendations for January 1, 2021

- Move to a 4 tiered structure for health insurance
- Increase health insurance premiums by 5%
- Increase health insurance deductibles
  - Single from \$1,500 to \$2000
  - Family from \$3,000 to \$4,000
- Increase health insurance **out of network** copay by 20%
- Increase Dental Premiums by 10%



# Proposed Recommendations for January 1, 2021

- Increase wellness initiative amount from
  - \$50 category to \$100 category
- Increase college provided health savings account deposit
  - Single - from \$500 to \$1000
  - Family – from \$1,000 to \$2,000
- Benefit Enhancement
  - Add acupuncture, massage and water therapy at the same benefit level as physical therapy – all amounts would first go to the employees out of pocket deductible
  - Add a 3<sup>rd</sup> party vendor to manage high cost claimants and utilize data and advocacy to improve healthcare



# Questions







Southwest Wisconsin  
TECHNICAL COLLEGE

THANK YOU!

FOR MORE INFORMATION, PLEASE CONTACT

Caleb White, Krista Weber, Connie  
Haberkorn, Amy Campbell

## ***I. First Reading of Governance Policy 1.15: Local Preference***

The District Board has been reviewing and discussing local preference when purchasing. Included below is Governance Policy 1.15: Local Preference Policy.

**Recommendation** – Approve the first reading of Governance Policy 1.15: Local Preference.

### **1.15 – LOCAL PREFERENCE**

In procurement matters, and whenever possible, the College will consider buying goods and services locally. In evaluating competing proposals or quotes, if everything else is equal, the College should purchase from local vendors. Evaluation criteria should reflect a preference for local vendors who are responsible bidders.

Due to state law, Buy Local policies may not apply to public works projects. Due to federal restrictions, federally funded programs may also be exempt. Exemptions will also be made for emergencies, sole source purchases, cooperative purchasing agreements and cases in which a local vendor is not as qualified or price availability of product as determined by staff evaluation.

#### **ACCOUNTABILITY:**

Purchasing staff will conduct a review of purchasing transactions and report annually to the District Board the dollar amount of procurements made from local vendors and the amount of locally purchased goods and services.

Adopted:  
Reviewed:  
Revised:

## **Board Monitoring of College Effectiveness**

### ***A. Higher Learning Commission Accreditation Visit Report***

The College's accreditation Comprehensive Quality Review is scheduled for April 25-26, 2022. Barb Tucker, Accreditation Liaison Officer, will present the accreditation team structure and implementation plan. The outline is included below.



## Preparing for Comprehensive Quality Review April 25-27 and Beyond

### Assurance System Team:

- Jody, Lori, and Denise – to assist with locating “evidence documents” (ad-hoc)
- Karen Campbell – assist with Assurance Argument system, and help with my accountability and sanity.

### Criterion Teams:

Criterion Leads – Staff members who are well-versed in the criterion they are aligned with. They will help suggest and gather evidence and provide input into the assurance argument narrative. They will take a lead role in educating and preparing the college about their associated criterion for the Comprehensive Quality Review (CQR) visit.

Criterion Teams – In addition to leads, include 1-2 leadership member, 1 faculty, 1 support staff. Criterion teams will assist with reviewing and suggesting input into the assurance argument and help educate the college on the criterion assigned.

Criterion		Lead/Co-Lead	Team Members	Contributing Areas of College
1	Mission	Holly Clendenen	Diversity committee member	<ul style="list-style-type: none"> <li>• Board Prep group which includes?</li> <li>• Exec Team</li> <li>• Student Life</li> <li>• Business/Industry</li> <li>• Dual Credit</li> <li>• Co-curricular</li> </ul>
2	Integrity: Ethical and Responsible Conduct	Karen Campbell	Katie Glass	<ul style="list-style-type: none"> <li>• Karen Campbell – Board and Board prep</li> <li>• Katie Glass – Marketing</li> <li>• Academic Council</li> <li>• Leadership</li> </ul>
3	Teaching and Learning: Quality, Resources, and Support	Katie Garrity	Derek Dachelet	<ul style="list-style-type: none"> <li>• Academic Council</li> <li>• HR</li> <li>• Deans</li> <li>• Dan Imhoff/Heath Ahnen</li> </ul>
4	Teaching and Learning: Evaluation and improvement	Cynde Larsen/Christina Winch	Danielle Seippel Robin or Melissa	<ul style="list-style-type: none"> <li>• Assessment Group (does this include co-curricular?)</li> <li>• Co-curricular group</li> <li>• Danielle Seippel/Louise credit4 prior learning</li> <li>• Academic Council</li> <li>• Exec Team</li> </ul>
5	Institutional Effectiveness, Resources and Planning	Caleb		<ul style="list-style-type: none"> <li>• Exec Team</li> <li>• Leadership</li> <li>• Data Team</li> <li>• Fiscal services</li> <li>• HR</li> </ul>

### Assurance Argument Schedule

Feb-March - Criterion 1: April-May-Criterion 2: June-Aug-Criterion 3: Sept – Nov-Criterion 5  
Dec-Jan – Criterion 4 Feb –Mar- draft out for review April – September finalize and submit

- Report monthly to Leadership
- Use time in leadership (or after) as needed to gather information on processes and evidence
- Report out at College Forums on progression

### Staff Preparation:

Begin April 2021 – Work with leads and criterion teams. Establish timeline/schedule for presentations, department meetings, forums, in-services to educate college on each of the criteria

---

### Succession Planning for Accreditation Liaison Officer (ALO):

- Someone who has the ability to see and understand how the work of all parts of the college “fit together” to continuously improve student learning and service to our employers, k-12 partners, and our communities.
- Someone who can look at the data and evidence and weave a compelling argument that each criteria is met and collectively, as a college, we are continuously improving.
- Someone who is trusted to not judge current processes and can help guide staff into adopting processes that best support continuous improvement with strong alignment to HLC Criterion;
- Someone who promotes staff understanding of the essential concepts within the criterion, why they are important, and how each individual’s work supports these concepts.

### Responsibilities with Higher Learning Commission:

- Receive and share as appropriate communications from HLC
- College contact for HLC communications (to support President who is official contact)
- Stay current on HLC policies and procedures
- Oversee the institutional update annual submission
- Oversee timely submission of substantive change requests and reports required by HLC
- Facilitate responses to HLC inquiries
- Maintain the college’s file of official documents related to our relationship with HLC
- Provide comments/feedback to HLC proposed policies, changes, etc.
- Keep basic college information current in HLC system
- Ensure payment of HLC fees in a timely manner

### ***B. Staffing Update***

Krista Weber, Chief Human Resources Officer, will provide an update on College staffing. A summary is available below.

### Staffing Update 2019-20 Fiscal Year

	<b>Name</b>	<b>Title</b>	<b>Status and/or Additional Info</b>	<b>Effective Date</b>	<b>Funding Source &amp;/or Estimated Wage Range/Hired Salary</b>
1	Replacement - Tim Evans	Café Food Service Worker	Re-evaluating	10/1/2019	Hourly Band A12 \$15.61 - \$18.73
2	Replacement - Kendrick Henkel	Evening Custodian	William Murray	7/8/2019	Hourly Band A12 \$15.61 - \$18.73 Hired at \$15.61/hour
3	Replacement - Dave Markin	Maintenance - Carpenter	Andy Reynolds	7/8/2019	Hourly Band A13 \$16.42 - \$19.70 Hired at \$18.44/hour
4	Replacement - Charles Herbers	IT Support Specialist	Tyler Horton	7/9/2019	Hourly Band C42 \$23.46 - \$32.84 Hired at \$25.25/hour
5	Replacement - Mary Schmitz	Administrative Assistant - Facilities	Nicole Nelson	7/22/2019	Hourly Band B22 \$18.26 - \$23.74 Hired at \$20.00/hour
6	Replacement - JoEllen Taylor	Child Care Lab Assistant	Gina Kartman	8/1/2019	Hourly Band B21 \$17.15 - \$22.30 Hired at \$18.40/hour



### Staffing Update 2019-20 Fiscal Year

	<b>Name</b>	<b>Title</b>	<b>Status and/or Additional Info</b>	<b>Effective Date</b>	<b>Funding Source &amp;/or Estimated Wage Range/Hired Salary</b>
7	New Position	Graphic & Web Design Instructor/Marketing Specialist	Erin Kerkhoff	7/15/2019	BS \$48,304 - \$76,805 (\$23.22 - \$36.93) Hired at \$60,000
8	New Position	Farm Operations & Mechanics Instructor	Dan Kieffer	11/11/2019	BS: \$48,304 - \$76,805 AS: \$50,810 - \$80,787 MS: \$53,314 - \$84,768 Hired at \$55,000
9	Replacement/New Position - Brian Kitelinger/Asst with added section	Electrical Power Distribution Lab Assistant	Jan Portwine	8/19/2019	Hourly Band B21 \$17.51 - \$22.30 Hired \$21.00/hour
10	New Position	Revised to Grant Manager Assistant (Tech Hire IMPACT Grant Assistant) - Part-time	Madison Cooper	9/4/2019	Hourly Band B24 \$20.75 - \$26.98 Hired at \$21.00/hour
11	New Position	Assistant Recruiter - 2	Kaye Woodke & Brianna Hartman	10/16/2019	Hourly Band B21 \$17.15 - \$22.30 Hired at \$21.00
12	Replacement for Brian Molini	Academic Success Coach - 75% Limited Term	Matthew Cram	8/19/2019	Hourly Band A24 \$20.32 - \$26.41 Hired at \$25.50/hour

### Staffing Update 2019-20 Fiscal Year

	Name	Title	Status and/or Additional Info	Effective Date	Funding Source &/or Estimated Wage Range/Hired Salary
13	Replacement for Sue Crouch	Academic Resources Specialist	Natalie Long	8/19/2019	Hourly Band B31 \$20.75 - \$26.98 Hired at \$26.00/hour
14	Replacement for Gina Kartman	Child Care Lab Aide (Part-time, 27 hrs/week)	Amber Adney	8/26/2019	Hourly Band A21 \$15.61 - \$18.73 Hired at \$15.61/hour
15	New Position	Child Care Lab Aide (Part-time 30 hrs/week)	Jordan Streeter	9/3/2019	Hourly Band A21 \$15.61 - \$18.73 Hired at \$15.61/hour
16	Replacement for Sherry Devries	Midwifery Instructor	Vicki Hedley	1/6/2020	BS: \$48,304 - \$76,805 AS: \$50,810 - \$80,787 MS: \$53,314 - \$84,768 Hired at \$64,000
17	Replacement for Steve Elliott (Internal Posting)	Day Maintenance Worker	Ben Neuroth	1/6/2020	Hourly Band A13 \$16.77 - \$20.12 Starting Wage: \$18.31
18	Replacement for Ben Neuroth (Internal)	Lead Evening Custodian	Tim Lyne	1/6/2020	Hourly Band A13 \$16.77 - \$20.12 Starting Wage: \$18.00

### Staffing Update 2019-20 Fiscal Year


	Name	Title	Status and/or Additional Info	Effective Date	Funding Source &/or Estimated Wage Range/Hired Salary
19	Replacement for Tim Lyne	Evening Custodian	Dustin Farrey	1/23/2020	Hourly Band A12 \$15.61 - \$18.73 Hired at \$15.61/hour
20	Replacement for Amy Loy	Data Analyst	Offer pending	3/1/2020	Salary Band C42 \$48,795 - \$68,313
21	New Position	Midwifery Clinical Site Coordinator - (LTE- ending 5/31/2020 - 10 hours/week)	Diane Holmes	2/1/2020	Hourly Band B24 \$20.75 - \$26.98 Hired at \$22.00/hour
21	New Position	Child Care Aide (LTE - ending 5/15/2020 12-15 hours/week)	Posted	3/1/2020	Hourly - \$12.07

## Information and Correspondence

### **A. Enrollment Report**

The 2019-20 Comparison FTE Report and the Fall 2020 Application Report are available below.

#### **2019-20 Comparison FTE Report**

		2018-2019 and 2019-2020 FTE Comparison					
Program Code	Program Title	02-13-19 Students	02-10-20 Students	Student Change	02-13-19 FTE	02-10-20 FTE	FTE Change
10-101-1	Accounting	28	52	24	18.47	38.90	20.43
10-006-7	Agribusiness Science & Technology - AgBus Mgmt	19	14	(5)	17.83	14.13	(3.70)
10-006-5	Agribusiness Science & Technology - Agronomy	14	16	2	13.73	17.57	3.83
10-006-6	Agribusiness Science & Technology - Animal Science	31	28	(3)	28.00	28.50	0.50
10-102-3	Business Management	135	134	(1)	88.57	84.87	(3.70)
10-530-5	Cancer Information Management	98	94	(4)	50.80	50.77	(0.03)
10-504-5	Criminal Justice Studies	53	45	(8)	40.73	36.97	(3.77)
10-316-1	Culinary Arts	12	6	(6)	7.63	2.97	(4.67)
10-317-1	Culinary Management	8	5	(3)	6.73	4.80	(1.93)
10-510-6	Direct Entry Midwife	60	77	17	22.90	31.67	8.77
10-307-1	Early Childhood Education	57	46	(11)	41.97	32.53	(9.43)
10-620-1	Electro-Mechanical Technology	36	33	(3)	32.87	30.97	(1.90)
10-325-1	Golf Course Management	24	18	(6)	20.37	14.53	(5.83)
10-201-2	Graphic And Web Design	31	26	(5)	25.50	18.63	(6.87)
10-530-1	Health Information Technology	59	53	(6)	33.53	25.17	(8.37)
10-520-3	Human Services Associate	38	42	4	27.70	31.53	3.83
10-825-1	Individualized Technical Studies	6	2	(4)	5.10	1.00	(4.10)
10-620-3	Instrumentation and Controls Technology	7	10	3	5.70	7.57	1.87
10-150-2	IT-Network Specialist	43	23	(20)	28.50	13.27	(15.23)
10-196-1	Leadership Development	33	24	(9)	15.60	11.13	(4.47)
10-513-1	Medical Laboratory Technician	19	21	2	13.30	16.37	3.07
10-543-1	Nursing-Associate Degree	201	209	8	106.40	107.77	1.37



Program Code	Program Title	02-13-19 Students	02-10-20 Students	Student Change	02-13-19 FTE	02-10-20 FTE	FTE Change
10-524-1	Physical Therapist Assistant	44	40	(4)	28.80	24.07	(4.73)
10-182-1	Supply Chain Management	41	44	3	22.37	25.50	3.13
	<b>Total Associate Degree</b>	<b>1,097</b>	<b>1,062</b>	<b>(35)</b>	<b>703.10</b>	<b>671.17</b>	<b>(31.93)</b>
31-101-1	Accounting Assistant	8	5	(3)	3.37	1.60	(1.77)
30-531-6	Advanced EMT	9	10	1	2.97	1.33	(1.63)
32-070-1	Agricultural Power & Equipment Technician	33	34	1	30.77	32.30	1.53
31-405-1	Auto Collision Repair & Refinish Technician	14	11	(3)	10.13	5.87	(4.27)
32-404-2	Automotive Technician	32	26	(6)	25.60	24.13	(1.47)
31-408-1	Bricklaying & Masonry		3	3		1.33	1.33
30-443-1	Building Maintenance & Construction	1	3	2	0.33	0.70	0.37
31-475-1	Building Trades-Carpentry	7	11	4	5.93	9.27	3.33
31-307-1	Child Care Services	10	8	(2)	6.60	3.83	(2.77)
30-420-2	CNC Machine Operator/Programmer	6	8	2	4.97	7.97	3.00
31-502-1	Cosmetology	23	29	6	17.53	19.83	2.30
30-504-2	Criminal Justice-Law Enforcement 720 Academy	14	17	3	10.23	12.23	2.00
31-317-1	Culinary Specialist	1	3	2	0.40	1.47	1.07
30-508-2	Dental Assistant	17	16	(1)	8.97	8.87	(0.10)
30-812-1	Driver and Safety Education Certification	14	25	11	3.40	5.50	2.10
31-413-2	Electrical Power Distribution	24	45	21	24.47	43.83	19.37
50-413-2	Electricity (Construction) Apprentice	22	19	(3)	2.93	2.47	(0.47)
30-531-3	Emergency Medical Technician	37	49	12	9.07	8.57	(0.50)
32-080-4	Farm Operations & Management - Ag Mechanics	6	2	(4)	5.37	1.67	(3.70)
31-080-6	Farm Operations & Management - Crop Operations	3	2	(1)	1.07	0.37	(0.70)
32-080-3	Farm Operations & Management - Dairy	13	18	5	13.33	17.17	3.83
31-080-3	Farm Operations & Management - Dairy Technician	6	3	(3)	4.23	0.87	(3.37)
31-080-2	Farm Operations & Management - Farm Ag Maintenance	4	13	9	2.80	5.67	2.87
32-080-6	Farm Operations & Management - Livestock		1	1		0.97	0.97
31-080-7	Farm Operations & Management - Livestock Tech	4	3	(1)	4.03	1.77	(2.27)
30-317-1	Food Production Assistant	1		(1)	1.03		(1.03)

Program Code	Program Title	02-13-19 Students	02-10-20 Students	Student Change	02-13-19 FTE	02-10-20 FTE	FTE Change
50-413-1	Industrial Electrician Apprentice	5	8	3	0.67	1.40	0.73
31-620-1	Industrial Mechanic	2	2	-	1.83	1.53	(0.30)
31-154-6	IT-Computer Support Technician	13	26	13	7.67	20.40	12.73
31-513-1	Laboratory Science Technician	4	4	-	2.30	2.13	(0.17)
50-620-1	Mechatronics Technician Apprentice	8	6	(2)	1.73	1.60	(0.13)
31-509-1	Medical Assistant	38	33	(5)	28.67	24.57	(4.10)
31-530-2	Medical Coding Specialist	49	64	15	20.03	30.30	10.27
30-504-4	Nail Technician		2	2		0.37	0.37
30-543-1	Nursing Assistant	204	172	(32)	30.20	24.07	(6.13)
50-427-5	Plumbing Apprentice	26	20	(6)	3.28	3.52	0.23
31-504-5	Security Operations	1	2	1	1.00	1.20	0.20
31-182-1	Supply Chain Assistant	4	3	(1)	2.20	0.37	(1.83)
31-442-1	Welding	49	46	(3)	34.10	31.00	(3.10)
	<b>Total Technical Diploma</b>	<b>712</b>	<b>752</b>	<b>40</b>	<b>333.22</b>	<b>362.02</b>	<b>28.80</b>
20-800-1	Liberal Arts - Associate of Arts	24	24	-	8.67	8.50	(0.17)
20-800-2	Liberal Arts - Associate of Science	12	9	(3)	4.77	4.73	(0.03)
	Undeclared Majors	443	521	78	87.50	92.60	5.10
	<b>Total</b>	<b>2,288</b>	<b>2,368</b>	<b>80</b>	<b>1,137.25</b>	<b>1,139.02</b>	<b>1.77</b>
	<b>Percent of Change</b>						<b>0.16%</b>
	Vocational Adult (Aid Codes 42-47)	2,558	2,718	160	52.87	57.43	4.56
	Community Services (Aid Code 60)	5	-	(5)	0.02	-	(0.02)
	Basic Skills (Aid Codes 73,74,75,76)	246	275	29	30.83	31.23	0.40
	Basic Skills (Aid Codes 77 & 78)	<u>731</u>	<u>674</u>	<u>(57)</u>	<u>33.60</u>	<u>36.57</u>	<u>2.97</u>
	<b>Grand Total</b>	<b><u>5,828</u></b>	<b><u>6,035</u></b>	<b><u>207</u></b>	<b><u>1,254.58</u></b>	<b><u>1,264.25</u></b>	<b><u>9.68</u></b>
	<b>Total Percent of Change</b>						<b><u>0.77%</u></b>

## Fall 2020 Application Report

Program Application Comparison 2019/20 vs. 2020/21								
PROGRAM	CAP	02/14/19			02/13/20			YOY
		IP	ACCEPT	TOTAL	IP	ACCEPT	TOTAL	
Accounting			20	20		15	15	-5
Accounting Assistant			3	3		2	2	-1
Agribusiness Science & Technology - Agbus Mgmt	20		7	7		6	6	-1
Agribusiness Science & Technology - Agronomy	20		3	3		3	3	0
Agribusiness Science & Technology - Agronomy Tech	20		1	1		1	1	0
Agribusiness Science & Technology - Animal Science	20		22	22		14	14	-8
Agricultural Power & Equipment Technician	22		42	42		28	28	-14
Auto Collision Repair & Refinish Technician	22		6	6		17	17	11
Automotive Technician	22		27	27		29	29	2
Building Trades-Carpentry	20		7	7		19	19	12
Business Management			18	18		31	31	13
Cancer Information Management	30	10	47	57	11	44	55	-2
Child Care Services	13		8	8		8	8	0
CNC Machine Operator/Programmer	5		2	2		0	0	-2
Cosmetology	24		10	10		13	13	3
Criminal Justice Studies	70		29	29		30	30	1
Culinary Arts			2	2		4	4	2
Culinary Management			4	4		1	1	-3
Dental Assistant	18		23	23		21	21	-2
Early Childhood Education	28		19	19		27	27	8
Electrical Power Distribution	24		66	66		77	77	11
Electro-Mechanical Technology	24		26	26		23	23	-3
Farm Operations & Management - Ag Mechanics	20		2	2		1	1	-1
Farm Operations & Management - Crops Operations	20		1	1		2	2	1
Farm Operations & Management - Crops	20		1	1		1	1	0
Farm Operations & Management - Dairy	20		7	7		9	9	2
Farm Operations & Management - Dairy Technician	20		3	3		0	0	-3
Farm Operations & Management - Farm Ag Maintenance	20		4	4		1	1	-3
Farm Operations & Management - Livestock	20		0	0		0	0	0
Farm Operations & Management - Livestock Tech	20		1	1		1	1	0
Golf Course Management			6	6		4	4	-2
Graphic and Web Design	25		11	11		15	15	4
Health Information Technology	22	2	12	14	1	12	13	-1
Human Services Associate	31		23	23		14	14	-9
Industrial Mechanic	6		1	1		1	1	0
Instrumentation and Controls Technology	6		2	2		2	2	0
IT-Computer Support Technician			7	7		10	10	3
IT-Network Specialist			11	11		17	17	6
Laboratory Science Technician	15		1	1		0	0	-1
Leadership Development			5	5		1	1	-4
Liberal Arts - Associate of Arts		11	0	11	13	1	14	3
Liberal Arts - Associate of Science		5	1	6	9	0	9	3

		02/14/19			02/13/20				
PROGRAM	CAP	IP	ACCEPT	TOTAL	IP	ACCEPT	TOTAL	YOY	
Medical Assistant	32		25	25		21	21	-4	
Medical Coding Specialist	23	7	26	33	6	20	26	-7	
Medical Laboratory Technician	16	8	4	12	7	4	11	-1	
Nail Technician						1	1	1	
Nursing-Associate Degree	54	100	64	164	94	50	144	-20	
Nursing-Associate Degree-Part-time	28	1	17	18	1	23	24	6	
Pharmacy Tech						2	2	2	
Physical Therapist Assistant	18	13	3	16	11	14	25	9	
Security Operations			1	1				-1	
Supply Chain Assistant			0	0		0	0	0	
Supply Chain Management			5	5		1	1	-4	
Undecided		31	0	31	35	0	35	4	
Welding	40		27	27		53	53	26	
<b>TOTAL</b>		<b>188</b>	<b>663</b>	<b>851</b>	<b>188</b>	<b>694</b>	<b>882</b>	<b>31</b>	
PROGRAM	CAP	IP	ACCEPT	TOTAL	IP	ACCEPT	TOTAL	YOY	
Direct Entry Midwife	32	7	29	36	11	13	24	-12	
Welding (January Start)	20		0	0		1	1	1	
<b>TOTAL</b>		<b>7</b>	<b>29</b>	<b>36</b>	<b>11</b>	<b>14</b>	<b>25</b>	<b>-11</b>	



### ***B. Chairperson's Report***

1. Recommendations for 2020-21 District Boards Association Officers

### ***C. College President's Report***

6. College Happenings
7. Tour of UW-Platteville
8. Economic Impact Reports
9. Presentations (District Boards Association and Higher Learning Commission)
10. Progress at Outreach Sites – Strengthening Opportunities for Adult Basic Education

### ***D. Other Information Items***

## **Establish Board Agenda Items for Next Meeting**

### ***A. Agenda for Next Board Meeting***

1. Quality Teaching & Learning Monitoring Report

### ***B. Time and Place***

Thursday, March 26, 2020, at 7:00 p.m. at Southwest Tech Campus, Room 365

## **Adjourn to Closed Session**

### ***A. Consideration of adjourning to closed session for the purpose of***

1. **Discussing specific personnel issues** per Wis. Statutes 19.85 (1)(f)  
{Considering financial, medical, social or personal histories or disciplinary data of specific persons, preliminary consideration of specific personnel problems or the investigation of charges against specific persons except where par. (b) applies which, if discussed in public, would be likely to have a substantial adverse effect upon the reputation of any person referred to in such histories or data, or involved in such problems or investigations.}.
2. **Discussing President's evaluation** per Wis. Statutes 19.85 (1)(e) Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility.
3. **Discussing Executive Team contracts** per Wis. Statutes 19.85(1)(c)  
{Considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility.}
4. **Approval of Closed Session Minutes of January 23, 2020**

## **Reconvene to Open Session**

### ***A. Action, if necessary, on Closed Session Items***

## **Board Monitoring of College Effectiveness**

### ***A. Energy Sustainability Plan***

Dan Imhoff, Director of Facilities, Safety & Security, will present the Energy Sustainability Plan. This plan is included below.

# Southwest Wisconsin Technical College

February 13, 2020

## 2020 Sustainability Plan





## **Introduction**

Southwest Wisconsin Technical College (Southwest Tech) will take action to increase its environmental sustainability in several areas. This will strengthen its ability to serve current stakeholder needs without compromising the ability of future generations. This sustainability plan outlines a sustainability plan for the College campus and Student Housing facilities.

## **Executive Summary**

Developing sustainability goals and initiatives of a complex institution such as Southwest Tech requires the efforts of many people. This sustainability plan represents the concern and input of administration, College staff, students, and voices within the community, whose collective wisdom truly influenced this sustainability plan. We gratefully acknowledge their contributions.

This sustainability plan is intended to be a dynamic document and provide a flexible framework which can be updated periodically to adjust for changes in the academic plan, the economy, available energy incentives, and any internal changes of the College. Changes will be made to reallocate resources in response to these fluctuating circumstances to bring the most benefit to the students and communities of Southwest Tech.

# Sustainability Plan

## Energy and emissions.

### Ultimate goal:

Reduce total electricity and natural gas usage by 15% over the next ten years (2020-2029)

### Action Steps:

1. Continually assess renewable energy opportunities, including, but not limited to, solar hot water, solar photovoltaics, wind, and geothermal, as technologies, markets, and regulations evolve.
2. Continue in-house energy audits for potential lighting upgrades and building automation schedules (i.e., turning off lights and changing thermostat settings based on time of day and season).
3. Generate an educational campaign aimed at reducing energy consumption via behavioral changes by students, staff, and faculty.
4. Place sustainability at the forefront as a design principle for all campus construction and remodels.
5. Seek LEED Silver certification equivalency or higher in all construction and remodel projects.
6. Inspect and replace weather sealing on all exterior doors and bays, and replace entrance doors as needed.
7. Replace clerestory windows with double-paned glass windows.

See the Appendix 1 for more information on projects/initiatives.

## **Travel**

Ultimate goal:

Reduce travel-related emissions by 30% by 2030 based on 2020 baseline.

Action Steps:

1. Establish a baseline for travel emissions by the end of 2020.
2. Continue to increase the fuel efficiency of fleet vehicles as vehicles are replaced.
3. Monitor and review usage of charging stations for electric vehicles and install additional stations as needed.

See the Appendix 2 for more information on projects/initiatives.

## **Water Use and protection**

Ultimate goals:

- Reduce overall tap water consumption by 25% over the next ten years from 2020.
- Minimize the application of fertilizers, herbicides, and pesticides to more ecofriendly options each year.
- Replace lawn care equipment with low emissions replacements at the end of equipment life.

Action steps:

1. Inventory all faucets, showerheads, and toilets and ensure they are low flow and replace all nonconforming by 2025.
2. Create an educational campaign about water conservation in housing before 20/21 school year.
3. Continue to identify water savings opportunities in the chiller and boiler systems.

See the Appendix 3 for more information on projects/initiatives.



## **Solid Waste and Recycling**

Ultimate goal:

Reduce campus waste volume by 15% over the next ten years (2020-2029).

Action steps:

1. Conduct trash and recycling audits for all buildings on campus and do what?.
2. Leverage the new ERP system to improve processes and continue the college's paperless initiative.
3. Review and research less wasteful and more eco-friendly hand towel options.
4. Use reusable items in place of disposable items wherever possible.
5. If compostable disposables are used, ensure that they will be composted, rather than ending up in a landfill.

## **Campus Engagement**

### Ultimate Goal:

Increase the number of opportunities for students and employees to explore and engage in sustainability and resilience in their professional and personal lives.

### Action Steps:

1. Implement at least one campus-wide sustainability awareness-building event each month of the traditional academic year.
2. Work with HR to create a short sustainability module for current employees and new employee orientation.
3. Train RAs to be sustainability stewards for Student Housing.

## Appendix 1

### Weatherization

<u>Title</u>	<u>Date</u>	<u>Description</u>
Building 300 Clerestory windows	20/21	The clerestory windows are single pane glass replacing them with dual pane high efficiency will reduce energy costs and employee comfort. On average dual paned windows allow 30 to 50% less heat transfer than single pain windows.
Building 200 Clerestory windows	21/22	The clerestory windows are single pane glass replacing them with dual pane high efficiency will reduce energy costs and employee comfort. On average dual paned windows allow 30 to 50% less heat transfer than single pain windows.
Building 100 Clerestorywindows	21/22	The clerestory windows are single pane glass replacing them with dual pane high efficiency will reduce energy costs and employee comfort. On average dual paned windows allow 30 to 50% less heat transfer than single pain windows.
Building 200 doors		
Building 500 doors		
Building 600 doors		

## Energy Saving Equipment

<u>Title</u>	<u>Date</u>	<u>Description</u>
Building 600	20/21	All heating, cooling, and makeup air units will be high efficiency and modulating where possible. They will also be connected to variable frequency drives.
Building 500	22/23	
Lenz Center	22/23	
Building 400	22/23	
Cafeteria	22/23	
Kitchen Make up air units	22/23	
Building 300 office area	23/24	
Knox learning	23/24	
Building 400 RTU	24/25	
Building 200 RTU #1	24/25	
Building 150 RTU	24/25	
Building 400 Lighting	20/21	The lighting projects will improve efficiency from 42-68% depending on number and types of fixtures.
Building 500 Lighting	21/22	
Building 600 Lighting	21/22	
Building 1500 Lighting	23/24	
Building 1700 Lighting	23/24	
Building 1600 Lighting	24/25	
Building 2000/2200	24/25	

## Renewable Energy

<u>Title</u>	<u>Date</u>	<u>Description</u>
Daycare	20/21	This project would entail adding solar panels to the roof and sky tacking systems to offset standard electrical usage. Adding the panels along with other energy conservation efforts should produce up to 60% of the electrical demand.
Dome	21/22	The building attached to the dome project will be designed to LEED silver standards or higher. The project will include several sustainability aspects including solar panels to offset electrical cost and heat water. The building will include water harvesting systems for brown water use.
Ag/Auto	26/27	A large scale renewable energy project will take place in the Ag/Auto Center. This project will be design to implement the latest technology to limit the buildings dependence on fossil fuels.



## Appendix 2

### Travel

<u>Title</u>	<u>Date</u>	<u>Description</u>
Facilities vehicle	2020	Research and purchase a low emissions (electric) Facilities van.
Recruitment vehicle	2021	Purchase a low emissions (electric) vehicle for Recruiter use.
Auto tech	2020	Purchase a low emissions (electric) vehicle for Program use. This will also include adding charging stations. This vehicle will also be used by the recruiters when not in program use.

**Green Practices**

<u>Title</u>	<u>Date</u>	<u>Description</u>
Lawn Care	2025	Reduce the amount of chemicals each year and move toward more environmentally friendly fertilizers and pesticides.
Cleaning supplies	2025	Review the cleaning supplies used on campus and determine if a greener alternative exists.
Waste	2020	Audit the packaging used in dining services and source low cost recycled or recyclable alternatives.
Shift changes	2020	Rework existing cleaning schedule and evening custodial hours to enable each nonconnected main building be shut down within one hour of last use. This reorganization will also allow the crew to start one hour earlier and close one hour earlier transferring 240 hours a year from occupied to unoccupied hours.

### ***B. District Board/President Dialogue***

The Board members will have the opportunity to ask the President questions focused on the state of the college.

The Board will adjourn until 8:45 a.m. on Saturday, February 22, 2020. The Board will have dinner and breakfast for social purposes only and no College business will be conducted.

**Saturday, February 22, 2020  
8:45 a.m. – Board Retreat**

**Southwest Tech Outreach Site  
316 W. Spring Street  
Dodgeville, WI 53533**

## **Board Monitoring of College Effectiveness**

### ***A. Budget Priorities & Assumptions***

Caleb White and Jason Wood will present information relevant to the budget assumptions and parameters. The budget parameters and assumptions are available below.



## Priorities and Budget Assumptions for 2020-2021

1. Engage Students in High-Quality Learning
  - a. Investments in Academic Innovations
  - b. Instructional Vitality Investments
2. Strengthen a Culture of Accountability
  - a. College Transformational Excellence – Enterprise Resource Planning system upgrades
  - b. Employee Performance and Assessment
3. Enhance the College's Economic Impact
  - a. Strengthen our Impact at Outreach Sites

## Budget Assumptions for 2020-2021

- Slight increase in district net new construction valuation
- Slight increase in tuition rates
- General state aid appropriation is estimated to remain flat
- Health and dental coverage is estimated to increase 5% and 10%, respectively
- Gas, electric and water/sewer utility rates are estimated to be flat to an increase of 2%
- Grant funding is estimated to decrease
- Wisconsin Retirement System contribution rate increased by 3.1% on January 1, 2020, from 6.55% to 6.75% (Southwest Tech's 50% share; employees contribute 50% of the whole)
- Projecting 1,350 FTEs for 2019-20 and we will begin the 2020-21 budget with a target of 1,400 FTEs
- 1.81% CPI base wage increase = \$265k.
- We are proposing a modest increase to base pay for employee performance of \$50-100k.
- We have invested in enrollment and/or revenue generating initiatives to grow our way out other revenue limitations.

## Budget Gap

Year	As of 2/10/20	As of 2/15/19	As of 3/23/17
2019-20	***	(987,600)	(1,728,544)
2020-21	(1,239,056)	(1,291,630)	(1,905,327)
2021-22	(1,504,560)	(1,602,269)	***
2022-23	(1,774,451)	(1,919,653)	***
2023-24	(2,048,777)	***	***



## ***B. Long-term Financial Report***

Caleb White will present information related to long-term finances of the College. Included below is a three-year forecast.

2/10/2020 1.029

Southwest Wisconsin Technical College  
General Fund  
2020-2021 Budgetary Development Status

	2018-19 <u>Actual</u>	2019-20 <u>Budget</u>	2020-21 <u>Budget</u>	<u>Change</u>		2021-22 <u>Forecast</u>	2022-23 <u>Forecast</u>	2023-24 <u>Forecast</u>	
REVENUES									
Local Government	5,416,844	5,343,000	5,366,000	23,000		5,419,660	5,473,857	5,528,595	1% increase in net new construction
State Aids	10,014,879	10,451,100	11,089,954	638,854		11,089,954	11,089,954	11,089,954	stagnant
Program Fees	4,441,995	4,551,400	4,739,000	187,600		4,882,118	5,029,558	5,181,450	2% numbers growth & 1% rate growth
Material Fees	289,212	291,000	293,000	2,000		298,860	304,837	310,934	2% numbers growth
Other Student Fees	575,649	567,700	574,500	6,800		574,500	574,500	574,500	stagnant
Institutional	2,145,015	1,654,600	1,961,000	306,400		2,000,220	2,040,224	2,081,029	2% growth
Federal	<u>715,192</u>	<u>647,200</u>	<u>105,561</u>	<u>(541,639)</u>		<u>105,561</u>	<u>105,561</u>	<u>105,561</u>	stagnant
Total Revenues	23,598,786	23,506,000	24,129,015	623,015	2.65%	24,370,873	24,618,491	24,872,023	
EXPENDITURES									
Instruction	15,020,315	14,907,000	15,530,274	623,274					
Instructional Resources	149,622	173,000	149,403	(23,597)					
Student Services	2,162,174	1,999,000	2,434,107	435,107					
General Institutional	4,868,969	4,994,000	5,043,311	49,311					
Physical Plant	<u>2,023,329</u>	<u>2,092,000</u>	<u>2,210,977</u>	<u>118,977</u>					
Total Expenditures	24,224,409	24,165,000	25,368,071	1,203,071	4.98%	25,875,433	26,392,942	26,920,800	2% overall increase
Net Revenue (Expenditures)	(625,623)	(659,000)	(1,239,056)			(1,504,560)	(1,774,451)	(2,048,777)	
Operating Transfer In (Out)	<u>127,836</u>	<u>265,000</u>	<u>-</u>			<u>-</u>	<u>-</u>	<u>-</u>	
Change in Fund balance	(497,787)	(394,000)	(1,239,056)			(1,504,560)	(1,774,451)	(2,048,777)	
Beginning Fund Balance	<u>9,428,904</u>	<u>8,528,904</u>	<u>8,134,904</u>			<u>6,895,848</u>	<u>5,391,287</u>	<u>3,616,837</u>	
Ending Fund Balance	<u>8,931,117</u>	<u>8,134,904</u>	<u>6,895,848</u>			<u>5,391,287</u>	<u>3,616,837</u>	<u>1,568,060</u>	

### ***C. Long-range Facilities Report***

The long-range draft Master Facilities Report is included below. Caleb White and Dan Imhoff will be present to discuss the plan and answer any questions.

to be completed							
Capital Spending		2019-20	2020-21	2021-22	2022-23		
Instruction (program equipment)							
	599,000		600,000	600,000			600,000
Instruct. Resources (library/media equipment)							
	50,000		75,000	75,000			75,000
General Institutional (IT equipment)							
	2,762,000		800,000	800,000			800,000
Physical plant (furniture & facilities construction, remodeling, maintenance & equipment)							
Furniture/Fleet vehicles/Tools	319,000		200,000	200,000			200,000
Required Maintenance Items							
		1100 dust collector	50,000	Interior signage project	200,000	500 Air handling units replacement	250,000
		517 ventilation and door upgrade	100,000	500/600 lighting upgrade	30,000	Lenz Center roof top units	400,000
		600 HVAC units	200,000	Building 100/200 Clearstory replacement	175,000	100/200 elevator upgrade	100,000
		Replace batteries in UPS system	40,000	Moon property improvements	100,000	Parking lot upgrades	100,000
		Building 1500 lighting upgrade	15,000			300 water heater/water softener upgrades	15,000
		Upgrade lock system	100,000			Lenz Center Roof replaceme	150,000
		Building 300 Clearstory windows	95,000			Cafeteria RTU Replacement	300,000
		Building 500 Electrical service update	45,000			Kitchen Make up Air units	275,000
New Construction					New Construction		
				Dome	1,500,000		
Remodeling						Remodeling	
				100/200 classroom, restroom, and office space	150,000	bridge crane for 1716	150,000
signage upgrade	250,000	300/400 remodel phase #2	1,500,000	Dodgeville??? outreach	200,000	300/400 remodel phase #3	500,000
bookstore remodel/300 entrance	500,000	Current bookstore renovation	60,000				
Platteville buildout	450,000	1700 charging stations	20,000				
		Alternative Energy Project					
		Daycare	150,000				
	4,930,000		4,050,000		4,030,000		3,915,000



2023-24		2024-25		2025-26		2026-27		2027-28		2028-29	
Instruction (program equipment)											
	600,000		600,000		600,000		600,000		600,000		600,000
Instruct. Resources (library/media equipment)											
	75,000		75,000		75,000		75,000		75,000		75,000
General Institutional (IT equipment)											
	800,000		850,000		850,000		900,000		900,000		900,000
Physical plant (furniture & facilities construction, remodeling, maintenance & equipment)											
	200,000		200,000		200,000		200,000		200,000		200,000
Required Maintenance Items											
Upgrade existing clock system	20,000	400 RTU replace	125,000	Burn Building - repair padgenite	20,000	200/300 elevator upgrade	100,000	Building automaion system upgrade			
Building 1600 flooring	125,000	Building 200 RTU #1	200,000	1700 HVAC upgrade	500,000	Replace batteries in UPS system	65,000	1600 Chiller/HVAC upgrades	400,000		
300 and Knox RTU's	380,000	Building 150 RTU	175,000	100 electrical service upgrade	75,000	Building 1700	750,000	Parking lot upgrades	100,000		
Building 1700 lighting upgrade	100,000	Building 100 RTU #3	225,000	Building 200 electrical system upgrade	75,000			Caulk building 1700	100,000		
Building 500 Restroom upgrades	75,000	Building 1600 lighting upgrades	125,000								
Moon property improvements	70,000	Building 2000/2200 lighting upgrade	45,000								
		400 RTU replace	155,000								
Expand 2200 for Fire/Storage/scenarios/showers	1,500,000			Ag Center at PSC	1,500,000						
PTA space	50,000										
<u>3,995,000</u>		<u>2,775,000</u>		<u>3,895,000</u>		<u>2,690,000</u>		<u>2,375,000</u>		<u>1,775,000</u>	

#### ***D. District Board/President Dialogue***

The Board members will have the opportunity to ask the President questions focused on the state of the college.

#### ***E. Review of Retreat***

A brief review of the retreat will focus on strengths and opportunities for improvement.

#### **Adjournment**