

LMIwise Data Interpretation Guide

10/3/2014
MNSCU System Office
Academic Programs Unit

SAMPLE: Actuarial Science B.S.

SAMPLE: INTERPRETATION OF LMIWISE SUPPLY AND DEMAND DATA FOR [ACTUARY]

PURPOSE

This document is for program planners who are working to right-size existing academic program(s) or launch new ones. Downloading **LMIwise** data is a preliminary step, but it is of limited use without considered interpretation. Analytic writing requires reflection and thoughtful review. This document guides you through the process of interpreting labor market information and drawing conclusions about market conditions that indicate program need.



Individuals conducting a labor market environmental scan should expect to spend, at minimum, 8 hours of effort. The LMIwise tool brings together Demand and Supply data, but for a comprehensive understanding of the findings, other data sources must also be consulted and considered.

Additional program planning data sources (see Appendix) complement **LMIwise**.

GENERAL TIPS FOR INTERPRETING SUPPLY AND DEMAND DATA

Good data interpretation involves weaving together multiple information sources to tell an accurate story about workforce supply and demand. This process will challenge you to (1) avoid pre-conceived conclusions that may cause you to selectively pick data that supports a preferred outcome; (2) know when to retain or dismiss data; and (3) reconcile conflicting data.

- **Start with questions (not answers).** When reviewing data from this tool, ask yourself: “what is the demand for workers in this field? What is the supply? Given the overall picture of demand and supply, is there evidence to justify the change I am proposing, or is there a different action I could consider?”
- **Be alert to the character of different data sources.** **LMIwise** provides background on data sources in information buttons at the top of each column (and more information is provided in this document below). Most indicators are “lagging” (reflecting labor market conditions from the recent past), while others, such as web-listed job openings reflect current conditions. Some provide projections. Be aware of when data is historic, current/real time, or projected.
- **Think critically about how the data applies to your situation.** Occupational categories and regions may be broader or narrower than your intended purposes. Once you’ve determined that you’ve selected the optimal occupation(s) or region(s), think about how well data applies (or does not apply) to your specific program.
- **Consider all the data provided by LMIwise (not just one piece).** Indicators may conflict with each other. For example, there may be high current demand (as indicated by the current demand star rating, for example) but low future demand (as indicated by projected growth rate). To reach a balanced interpretation, consider all the **LMIwise** data together.
- **Consider additional data sources not included in LMIwise.** **LMIwise** data combined with other sources of information provide a more complete picture of supply and demand. Additional data sources might include employer advisory groups, student interest surveys, real-time job opening data, and so on. See the list of additional data sources at the end of this document for more avenues to consider.
 - Job Descriptions:
 - For current numbers of opening and locations of these positions and expectations of employers
 - Level of education

- Required years of experience
- Certifications/Licensure requirements
- Certifications and Apprentices:
 - Industry credentials employers may expect job seekers to have earned, and identification of fields of study where apprenticeships are expected
 - Certification names
 - Certifying Organizations
 - Apprentice programs
- Accrediting Agencies:
 - Standards and other information about member institutions and programs

LMIWISE DATA INTERPRETATION

Know your program

Keep these questions in mind: Is your program intended to address a short-term or intermittent need? Will it prepare new-entrant workers, or upgrade skills for people who are already employed? Will graduates need to complete a higher-level program to be qualified for employment or promotion?

Verify Your Area and Occupation Selections

- AREA: does the service region match the area you are serving or intend to serve? (If not an exact match, is it the best selection?) Note that some programs supply a local or regional area, and others have a state, upper Midwest, or national area.
- OCCUPATION CODE(S) and TITLE(S): do you find the occupation (SOC) title(s) appropriate when compared to program outcomes? Are there alternatives? [Review SOC descriptions here.](#)

Consider Labor Market Demand Indicators

To interpret demand data in Table I below, consider the following.

1. EMPLOYMENT: How many people are employed in the occupation(s) in the region(s) you are considering?

Tip: Appreciating the size of the occupation keeps other demand indicators in perspective. For example, an occupation can have high demand or projected growth, but if it employs few people, this will translate into few openings for new graduates.

2. PROJECTED ANNUAL OPENINGS: How many annual openings are anticipated in your region(s)?

Tip: Openings refer to growth of the occupation and need for replacement workers. This number is annualized from a 10-year projection and reflects an average annual increase. Other indicators, such as current job openings available from *Wanted Analytics* or similar sources may support different conclusions about short-term prospects.

3. GROWTH RATE: How fast are your selected occupation(s) growing?

Tip: Growth rates refer to the projected ten-year expansion (or contraction) of an occupation. A fast growth rate usually translates into more job opportunities, but as noted above, growth rates should be considered together with employment size and projected annual openings. If an occupation is small to begin with, a fast growth rate may translate into few openings.

4. CURRENT DEMAND: What does the data say about the current demand for workers in the occupation(s) you have selected?

Tip: Ranging from one to five stars, the current demand indicator is a composite measure that includes employment size, job vacancies, and the number of unemployment insurance claims in an occupation. It is a snapshot of current conditions and can differ from future (projected) conditions. To understand the complete picture, consider this piece of data in conjunction with all the others. A rating of 4-5 stars is a good indication of demand, but this alone is not sufficient evidence for the development of a new program.

5. MEDIAN WAGE: What is the median wage in your selected occupation or set of occupations?

Tip: Wages typically indicate whether or not a position will (a) offer the salary needed to support a family at a particular standard of living; or (b) be sufficient to pay back student loans or debt taken while earning the degree.

Use other data sources to investigate **wage trends**. In worker-shortage situations, employers sometimes respond by increasing wages to attract workers to a profession. Therefore, increasing real wages may indicate a shortage situation.

6. ENTRY-LEVEL EDUCATION: Is the program you are offering or proposing at the appropriate award level, given the entry-level education in this occupation(s)?

Tip: The entry-level education is based on national data from the U.S. Department of Labor. Minnesota's educational requirements may differ, and there will be a range of educational attainment levels in any occupation. Therefore, it may be appropriate to offer your program at a different award level than what is noted in the demand data table. If your program is preparing students with an Associate degree, for example, but the typical entry-level requirement is a Bachelor's degree, note the reason for the discrepancy.

7. OTHER DATA SOURCES. What insights do other data sources offer? Consider information such as employer or industry advisory committees; Wanted Analytics or Indeed.com (to gauge current job openings); employer testimonies; counts of new business start-ups; counts of unemployment insurance claims in the field of interest, additional surveys; or something else.

Tip: See Appendix C for guidance on how to access additional data sources. Quantitative data such as the information provided in **LMIwise** can be greatly enhanced with additional data sources that reflect local, occupational, and/or anecdotal nuances. For example, it may be that the data in **LMIwise** cannot zero in on the exact region your program serves. Or perhaps local employers are aware of specific trends in the area that the quantitative findings don't show. The strongest analyses will consider both quantitative data from **LMIwise** and additional data sources to round out the picture.

TABLE 1: DEMAND DATA (EXAMPLE)

Region	SOC Code	Occupation (SOC) Title	Employment	Projected Annual Openings	Projected Growth	Current Demand	Median Wage	Entry-Level Education
Metro	15-0211	Actuaries	560	52	Well above statewide average	5 stars	\$45.66	Bachelor's degree
Statewide	15-2011	Actuaries	630	51	Well above statewide average	5 stars	\$45.59	Bachelor's degree

Provide Your Own Interpretation of the Demand Data



Note: To provide a comprehensive analysis, the narrative below reflects LMIwise data and information from other sources (see appendix).

Based on the data, questions and tips provided above, and any additional data you can bring to bear, describe the demand for workers in your chosen occupation(s).

The region being considered for a proposed Actuary program is Northeastern Minnesota; however, the data provided does not show any jobs as an actuary in the Northeast. Statewide, the number of persons employed as an Actuary is 650. No annual openings are anticipated in the Northeast region; however, 51-52 projected openings are anticipated in the Metro. Growth for actuary workers is “well above” that for all jobs statewide, however, being a small occupation high growth may not result in many job openings.

The occupation is noted as 5 stars, indicating an increased number of job openings and lower unemployment rates for workers in this field. Wages average \$45.62/hr. or \$94,900 annual salary. The proposed program is a Bachelor of Science degree, matching the level needed for entry in the field. Job openings in the past 30 days were researched using Minnesotaworks.net on 8/14/2014. 30 jobs were posted that included the search term “Actuary” in the title or job description. Review of job descriptions indicated the following:

- 21 jobs for actuaries were listed between July 30, 2014 and August 13, 2014;
- Of the 21 positions 17 were located in the Metro, and 4 were advertised for the Northeast region of MN;
- Required degrees included any of the following: Actuarial Science, Mathematics, Statistics, Finance, or Economics;
- Potential candidates must be a member of the Society of Actuaries, and have reached a minimum of "Fellow" of the Society of Actuaries;
- The minimum number of exam certificates required was 1 exam, most positions posted required between 3-6 exam certifications;
- Actuary experience expected ranged from one to ten or more years with most positions requiring 4-7 years of experience;
- Most positions additionally required two or more years of some industry experience in fields such as: insurance, financial, health, and retirement planning.

The 2013 job vacancy survey (DEED) indicated 53 job openings in the second quarter and 34 openings in the 4th quarter. There may be overlap between quarters meaning that some of the 34 jobs may be the same as listed in the 2nd quarter.

Consider the Labor Market Supply Indicators

To interpret the supply data table below, consider the following.

1. CIP CODE(S) and TITLE(S). Do your selections (shown in the supply data table) reflect the program you are offering or proposing? For more information on the Classification of Instructional Program (CIP) descriptions, visit the [CIP user site](#).

Tip: When possible, there should be a strong match between the CIP description and your program's learning outcomes.

2. Consider the number of graduates overall. To what extent will this supply be competing with your graduates for the same jobs?

Tip: It is important to consider whether graduates of your program are competing with other schools' graduates. If so, what implications does that have for your proposed or existing program? If not, why not?

3. Consider graduates from all award levels.

Tip: Are students from multiple levels of education competing for the same positions? If your program is offered at a different award level than the majority of the programs preparing students, why is your proposed program level appropriate?

4. Consider location. Are the locations of the current programs sufficient to provide appropriate levels of student access? Are there too many graduates in one area?

Tip: Be aware of the geography that your program serves. Some programs serve only a small local area, while others serve the entire state, upper Midwest, or even the nation.

5. Other than graduates from similar programs, consider additional sources of workforce supply.

Tip: Is there a high level of unemployment or under-employment among graduates of similar programs (such as people working part-time who are willing to work full-time)? Are there union members "sitting on the bench"? Will your program graduates compete with some high school graduates, or workers in similar occupations? Use of the Graduate Employment Outcomes tool is recommended.

TABLE II: SUPPLY (EXAMPLE)

Region	CIP Code	Program Title	Up to 1 Year	Over 1 & Under 4 Years	4-Years	Graduate Level	TOTAL
Northeast, MN	27.0301	Applied Mathematics	0	0	0	13	13
Statewide	27.0301	Applied Mathematics	0	0	8	48	56
Statewide	27.0501	Statistics, General	0	0	73	22	95
Statewide	27.0503	Mathematics and Statistics	0	0	0	0	0
Statewide	52.1304	Actuarial Science	0	0	12	0	12
Statewide	45.0602	Applied Economics	0	0	95	26	121
Statewide	52.0601	Business/Managerial Economics	0	0	22	2	24
Statewide	45.0603	Econometrics and Quantitative Economics	0	0	23	0	23
Statewide	45.0601	Economics, General	0	0	594	29	623
						Statewide total	953

Provide Your Own Interpretation of Supply Data



Note: To provide a comprehensive analysis, the narrative below reflects LMIwise data and information from other sources (see appendix).

Based on the data, questions and tips provided above, and any additional data you can bring to bear, describe the supply of workers in your chosen occupation(s).

Employers who use the services of Actuaries hire from a number of different academic programs: Mathematics, Statistics, Finance, and Economics, and Actuary Science programs. Any person having earned one of these degrees may potentially meet minimum qualifications for jobs posted if they have passed the Society of Actuary (SOA) certification exams required. In 2012, Minnesota had 953 graduates who could opt to become an Actuary.

By searching the Society of Actuary Accreditation website, I found that three universities in Minnesota have accredited preparation programs; these are Moorhead State University, St. Cloud State University and the University of Minnesota-Twin Cities. None of these programs are titled “Actuary Science” - the programs are housed within Mathematics or Statistics departments as specializations.

LMIwise data indicate that 3 private institutions in Minnesota offer Actuarial Science programs, these are: Northwestern College, St. Catherine University, and the University of St. Thomas.

In reading the information on the institution websites I was able to determine that none of these programs is accredited by the Society of Actuaries and that St. Catherine University only offers this option through a partnership with the University of St. Thomas.

Society of Actuary Report 2014-08-18 from: https://www.soa.org/Education/Resources/actuarial-colleges/actuarial-college-listings-details.aspx	Moorhead State	SCSU	U of M – TC
Average number per year of students graduating from the actuarial program over the last three years	5	3	63
Average number per year of students passing actuarial exams in the last three years	3	1	100
<p>MN Private Colleges graduating students:</p> <p>Northwestern College: not accredited by SOA – 2 graduates</p> <p>St. Catherine University: not accredited by SOA (offered through partnership w/ St. Thomas): 1 graduate</p> <p>University of St. Thomas: Actuarial Science major, not accredited by SOA – 9 graduates</p>			

The program includes courses, other than independent study courses, that substantially cover the learning objectives for:			
Course	Moorhead State	SCSU	U of M - TC
SOA Probability (P) Exam	Yes	Yes	Yes
SOA Financial Mathematics (FM) Exam	Yes	No	Yes
Life Contingencies segment of the SOA Actuarial Models MLC Exam	No	No	Yes
Financial Economics segment of the SOA Actuarial Models MFE Exam	Yes	No	Yes
SOA Construction and Evaluation of Actuarial Models (C) Exam	Yes	No	No
The program contains activities aimed at developing the communication skills of students	No	Yes	Yes
The program contains activities that inform students about the actuarial profession's code of conduct	No	No	Yes
The actuarial science program is administratively located in the following department and college	Department of Mathematics; College of Social and Natural Sciences	Department of Statistics and Computer Networking College of Science and Engineering	Department of Mathematics, College of Science and Engineering

Consider Demand and Supply Data Together



Note: To provide a comprehensive analysis, the narrative below reflects LMIwise data and information from other sources (see appendix).

Neither demand nor supply data alone can tell the complete story. Consider them *together* (along with additional data sources, where appropriate) to decide on the best direction for program planning or right-sizing. Refer to demand and supply data tables above, and consider the following questions:

Do you perceive that there is a shortage (or surplus) of workers who are prepared for the occupation?

1. When comparing PROJECTED ANNUAL OPENINGS to the number of GRADUATES, does the data suggest that there may be an over- or undersupply of people who are prepared for these positions?

Tip: Be aware that there may be cases when it is not appropriate to compare the number of openings with the number of graduates. You may need to use your professional judgment in cases such as the following:

- There may not be a clear one-to-one link between programs and occupations (such as in the case of liberal arts programs)
- A large percentage of workers in an occupation are employed part-time (such as service industry occupations)
- A large share of graduates pursues additional education (such as Associate Degree Nursing to a Bachelor's Degree Nursing).
- Large shares of graduates from a particular program are already employed and complete education to retain or advance in their current profession.

2. Do any local conditions conflict with the indications provided by the data (for example, is a new business opening in your region next year)?

Tip: Weigh quantitative and anecdotal information appropriately. Anecdotal information can be very powerful, but it has the potential to be misleading or one-sided. Likewise, quantitative data may be weak in providing the deeper insights necessary for decision-making.

3. What other data can inform your decisions?

Tip: Consider things not currently included in **LMI**wise, such as the number of students enrolled in this program at other institutions or the job placement rates of these graduates.

Provide Your Own Interpretation of Demand and Supply Data Together (Example)

Current Demand for Actuaries is high and some positions for Actuaries are available, including the Northeast region of Minnesota. Although there are quite a few openings advertised in the past 30 days, most require, in addition to the bachelor's level education, several years of experience within and outside the specific role of actuary, and status of "Fellow" in the Society of Actuaries, earned through certification examinations.

There is no requirement that students graduate from an "Actuarial Science" program to become qualified. Individuals prepared in Applied Mathematics, Statistics, and Economics may study and take exam preparation classes directly from the Society of Actuaries, if they wish to follow this career path. The large numbers of graduates in multiple fields of study indicates sufficient supply to meet current and projected need; therefore, a new BS in Actuary Science program does not appear to be justified at this time.

Other options:

- Consider the addition of emphases that introduce actuarial skills within current program offerings to encourage interest in the field.
- Add internship options to current Applied Mathematics, Statistics, Finance, and Economics programs we offer to introduce students to this occupation.
- Consider a graduate certificate offering that prepares students for the certification exams (can we offer this less expensively than the SOA?)
- Create an Actuary club for students as an extracurricular offering.

DEFINITIONS

AWARD LEVEL CATEGORIES.

Award level categories are as follows:

- Up to 1 Year: includes sub-baccalaureate degrees of less than one year;
- Over 1 & under 4: includes sub-baccalaureate awards of at least 1, but less than 2 academic years; and associate degrees;
- 4 Years: includes bachelor's degrees;
- Graduate level: awards include master's degrees, post-master's graduate certificates, and doctoral degrees.

CAREER CLUSTER OR CAREER PATHWAY.

Sixteen career clusters and their related pathways have been developed by the National Career Clusters Framework. Each career cluster represents a distinct grouping of occupations and industries based on the knowledge and skills they require.

CURRENT DEMAND.

Based on the "Occupations in Demand" (OID) indicator, this is a composite measure of current demand based on job vacancies, employment size, and unemployment in the occupation.

EMPLOYMENT.

Employment estimates are based on a semi-annual survey of Minnesota employers. This data covers full- and part-time paid workers who are paid a wage or salary, workers on paid leave, workers temporarily assigned to other units, paid owners, officers, and staff of incorporated firms. Self-employed, contract workers, unpaid family workers, and workers on unpaid leave are excluded.

ENTRY-LEVEL EDUCATION.

Based on estimates from the U.S. Bureau of Labor Statistics, entry-level education conveys the minimum level of education needed to qualify for an occupation. Minnesota's minimum education level may differ somewhat.

MEDIAN WAGE.

Wages are based on a semi-annual survey of Minnesota employers. The employment data covers full- or part-time paid workers who are paid a wage or salary, workers on paid leave, workers temporarily assigned to other units, paid owners, officers, and staff of incorporated firms. Self-employed, contract workers, unpaid family workers, and workers on unpaid leave are excluded.

OCCUPATION NAME OR SOC CODE.

The list of occupations comes from the U.S. Department of Labor's [Standard Occupational Classification](#) system. There are 840 occupations spanning all types of work activities. Each occupation has a six digit code, title, and definition. For example, 29-1141 is the code for Registered Nurse.

OCCUPATION-PROGRAM SETS.

Defined groups of occupations and programs sharing supply. Often, one program is associated with one occupation (e.g., dental hygienists). Sometimes supply for one occupation may be provided by several educational programs, and other times multiple educational programs supply multiple occupations.

PROGRAM GRADUATES.

Program graduates are counts of people who have completed these programs during recent academic years. The data comes from the national Integrated Postsecondary Education System. Data for Universities of Capella, Walden and Phoenix have been removed because they report their nationwide data at their Minnesota corporate headquarters.

PROGRAM NAME OR CIP CODE.

The list of programs comes from the [Classification of Instructional Programs](#) through the U.S. Department of Education. Each of the approximately 1,600 programs has a six digit code, a title, and a definition. For example, 51.0602 is the code for Dental Hygiene/Hygienist.

PROJECTED ANNUAL OPENINGS.

A measure of future demand, based on ten-year occupational projections calculated by the Minnesota Department of Employment and Economic Development. This number includes openings due to both growth and the need to replace workers who leave the field.

PROJECTED GROWTH RATE.

A measure of future demand, based on ten-year occupational projections calculated by the Minnesota Department of Employment and Economic Development. This measure compares projected growth in this occupation to the average projected growth.

LMIWISE DATA SOURCES

Data Indicator	Source
Employment and Wages	<p>Occupational Employment Statistics is a federal-state program administered by the Bureau of Labor Statistics and state agencies. Employment and wage estimates for 800 occupation classifications come from a semiannual survey of 6,000 employers in Minnesota, drawn from the universe of nonfarm employers covered by the state's unemployment insurance program. Employment estimates are produced annually, while wages are updated quarterly. Both sets of estimates are produced at the state and six regional planning areas.</p> <p>This data source includes full- or part-time paid workers who are paid a wage or salary, workers on paid leave, workers temporarily assigned to other units, paid owners, officers, and staff of incorporated firms. Self-employed, contract workers, unpaid family workers, and workers on unpaid leave are excluded.</p>
Projected Annual Openings and Projected Growth Rates	<p>Employment Projections are developed based on a national trend analysis model. Minnesota's industry and occupational mix are accounted for in the development of projections using Minnesota's Current Employment Statistics data and Occupational Employment Statistics staffing pattern data. Projections are compiled for both the state and for six regional planning areas. These 10-year forecasts are updated every other year: state projections in even number years, and regional projections in odd number years.</p>
Current Demand	<p>Occupations in Demand list current career opportunities in a region as determined by regularly updated local labor market demand data. The Occupations in ranks occupations based on short-term demand for jobs locally. It is calculated on the basis of the Job Vacancy Survey, Occupational Employment Statistics and unemployment insurance applicant data. Occupations in Demand lists are updated annually.</p>
Entry-Level Education	<p>The level of education is a national indicator of the minimum education that is typically needed for entry into each occupation. This indicator is developed by the U.S. Bureau of Labor Statistics Employment Projections program. Educational requirements may vary within an occupation, and Minnesota's minimal education requirements may differ from national standards.</p>
Program Graduates	<p>The Integrated Postsecondary Education Data System (IPEDS) is a nationwide reporting system for higher education. One of IPEDS' many data streams is a report of the number of program graduates (graduates) by program (CIP code) for each institution. Data reported by December for a prior school year is usually published in the winter/spring about one year following the year of graduation.</p> <p>The number of graduates for a program or institution is reported at the location of the institution's official address. An institution may not be located in your region but some programs may be delivered on campuses that are part of your region. The opposite could also be true. Use your local knowledge to properly interpret IPEDS data in this regard.</p> <p>Phoenix, Walden and Capella are nationwide online institutions but their graduate data are reported at their corporate headquarters in Minnesota.</p> <p>A new program is unlikely to produce graduates during its first years of operation. This situation may under-indicate supply that will eventually be produced by other institutions.</p>

ADDITIONAL DATA SOURCES

Quantitative data such as the information provided in LMIwise can be greatly enhanced with additional data sources that reflect local, occupational, and/or anecdotal nuances. For example, it may be that the data in LMIwise cannot zero in on the exact region your program serves. Or perhaps local employers are aware of specific trends not reflected in the quantitative findings. The strongest analyses will consider both quantitative data from LMIwise and additional quantitative and qualitative data sources to round out the picture.

1. PROGRAM INVENTORIES

Use program inventories as a quick method to identify available programs.

One option is to use the interactive MnSCU system inventory, which has numerous filters and reports:

<http://www.academicaffairs.mnscu.edu/academicprograms/index.html> (click on “Program Inventory”)

For non-MnSCU institutions, contact an institution directly (or view their website). The Minnesota Office of Higher Education <http://www.ohe.state.mn.us/> (click on licensure and registration) provides lists of institutions that must be licensed or registered in Minnesota.

Which institutions must be licensed?

Private Career School Licensure is required for most private schools and training firms that offer occupational programs below the associate level in Minnesota.

Which institutions must register?

Degree-Granting Institutional Registration is required for most postsecondary institutions that are private institutions, out-of-state public institutions, that grant degrees exclusively at the associate level or above, or use the terms “academy,” “college,” “institute,” or “university” in their names.

As a single data source, view all institutions and their programs using the IPEDS Data Center:

<http://nces.ed.gov/ipeds/datacenter/Default.aspx>. This method is described in the student interest handbook mentioned below. See the student interest indicator regarding program inventories or graduates.

2. WANTED ANALYTICS

Wanted Analytics and its companion product, Help Wanted Online, are rich sources of data for online job postings, a measure of current occupational demand. Both products require a license to use. Some MnSCU campuses and other organizations have purchased licenses for this product. Pilot tests conducted in 2014 as part of The Itasca Project may lead to broader deployment of Wanted Analytics.

3. EMSI

Economic Modeling Specialists, Inc. is a licensed-based tool that allows users to investigate additional supply and demand data based on customized regions and analyses. EMSI also offers consulting services. Pilot tests conducted in 2014 as part of The Itasca Project may lead to broader deployment of EMSI.

4. DEED

In 2014 the Minnesota Department of Employment and Economic Development deployed a website: <http://mn.gov/deed/data/data-tools/> with information, including:

- Current Monthly Employment (CES)
- Employment Outlook Projections
- Graduate Employment Outcomes
- Job Skills Transfer Assessment Tool
- Job Vacancy Survey (JVS)
- Local Area Unemployment Statistics (LAUS)
- Occupational Staffing Patterns
- Regional Labor Market Data Tool
- Unemployment Insurance Statistics

5. STUDENT INTEREST

Refer to the Student Interest Assessment Handbook for a variety of data collection methods and sources. This is posted on the MnSCU system office academic programs website:

<http://www.academicaffairs.mnscu.edu/academicprograms/index.html> (click on Program Planning)

6. GRADUATE EMPLOYMENT OUTCOMES

Use this DEED tool to find out how many recent Minnesota graduates found Minnesota jobs one and two years after graduation. It also shows the median wages earned and the top industries where graduates found jobs. You can search by year, location, award type, institution type, and instructional program. Reports will be updated with a new cohort of graduates each year:

<https://apps.deed.state.mn.us/lmi/etd/default.aspx>

7. CERTIFICATIONS AND APPRENTICES

Industry credentials employers may expect job seekers to have earned, and identification of fields of study where apprenticeships are expected. [CAREERwise Education](#)

8. JOB OPENINGS

Employment opportunities in Minnesota <http://www.Minnesotaworks.net>

9. ACCREDITING AGENCIES

Find the name of an accreditation agency. Once identified, you can search for a specific accrediting agency websites to learn more about standards and other information about member institutions and programs. [U.S. Department of Education](#)

10. OTHER SOURCES

Consult professional or industry publications and obtain advice from a related program advisory committee.