



MADISON MSA

PROMISING CREDENTIALS

ALIGNING DUAL ENROLLMENT WITH HEALTH CARE LABOR MARKET NEEDS

PREPARED BY

Leah Moschella
Senior Program Manager
JFF

Julia di Bonaventura
Program Manager
JFF

FOREWORD

Great Lakes College & Career Pathways Partnership

Funded by the Joyce Foundation, the Great Lakes College and Career Pathways Partnership (GLCCPP) supports four Great Lakes communities in building high-quality college and career pathways that equip students—particularly historically marginalized students or underrepresented groups—to thrive in college, career, and beyond. The Joyce Foundation created this funding opportunity in 2015 as one strategy to improve the educational and employment outcomes of residents in the Great Lakes region. Its approach is to identify, document, and scale programmatic and policy innovations.

Based on their dedicated leadership, strong K-12 and postsecondary partnerships, vision for enhancing college and career pathway systems, student population needs, and high employer involvement, the Joyce Foundation chose the following communities for this opportunity:

- The Central Ohio / Greater Columbus area
- Madison, Wisconsin
- Northwest Chicago suburbs, Illinois
- Rockford, Illinois

The Joyce Foundation also designated three national leaders in college and career pathway development to provide strategic technical assistance to these regions as they build and expand their pathway systems: JFF's Pathways to Prosperity team, ConnectEd- The National Center for College and Career Readiness, and the Education Systems Center at Northern Illinois University.

Through GLCCPP, these four regions are bridging stakeholders across secondary, postsecondary, and workforce systems to align education with career opportunities in high-demand industries. In each region, pathways are collaboratively designed to include a variety of college and career preparation strategies, including work-based learning and early college credit. The aim is to enable students to pursue a two- or four-year degree and obtain a credential that has value in the labor market.

Promising Credentials & Program of Study Analysis

JFF works with regions to reverse-engineer grades 9 through 14-plus pathways from the labor market to in-demand postsecondary credentials to dual enrollment offerings at the high school level. This process begins with an analysis of the regional labor market and postsecondary certificates and degrees, which reveals postsecondary credentials that are particularly sought after in the labor market. JFF coined the term “promising credentials,” which refers to

postsecondary credentials that lead to occupations that are in-demand, offer a family-supporting wage, and provide opportunity for growth within the industry.

JFF then analyzes and maps the programs of study for each postsecondary credential to identify the highest-leverage courses that should be included in a grades 9 through 14-plus (9-14+) pathway program. JFF developed the phrases “door opener dual enrollment” and “strategic dual enrollment” courses, which are high-leverage, nonremedial, core academic and technical dual enrollment courses for high school students who have not yet matriculated into a formal degree program.

Door opener dual enrollment courses are college-level courses that provide high school students with foundational industry exposure and are required by the highest quantity of credentials within a career pathway. These courses provide the most postsecondary credentialing options for students. Strategic dual enrollment courses are college-level courses for high school students that apply to credential requirements and lead to specific labor market-aligned, high-growth, high-wage careers within an industry. As they are aligned with promising credentials, strategic courses accelerate a student on a pathway to a particular high-demand career in the labor market. Both door opener and strategic dual enrollment courses are important tools that young people can leverage as they move along pathways from high school, through college, and into careers.

INTRODUCTION

In Madison, Wisconsin, many stakeholders are working together to help young people achieve their educational and career goals and build a thriving regional economy by crafting 9-14+ career pathways. This community of stakeholders, called the Anchor team, includes cross-sector representation from the Madison Metropolitan School District (MMSD), Madison Area Technical College, the Greater Madison Chamber of Commerce, UW Health, and the South Central Wisconsin Workforce Development Board, as well as employer partners led by UW Health. The Anchor team identified health care as a promising sector to focus on as they develop 9-14+ career pathways.

Educational stakeholders at both the postsecondary and secondary level use labor market information to design relevant programs of study that put Madison's students on track for high-growth, high-wage careers. MMSD students can take dual enrollment courses to earn college credit at Madison Area Technical College as part of their core high school requirements. This opportunity can accelerate students on a path to careers that offer growth and high wages.

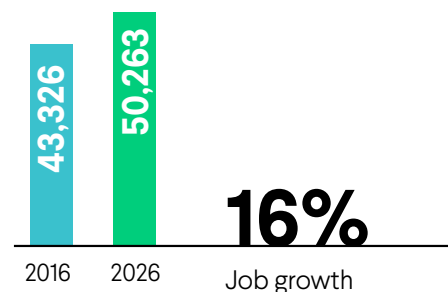
HEALTH CARE IN MADISON

Health care has proven to be a high-demand, labor market-aligned industry with opportunities for career advancement and family-supporting wages. Data from EMSI and the US Bureau of Labor Statistics indicate that Madison's health care industry is growing, with 50,263 jobs projected by 2026, up 16 percent compared to 2016 levels. This is an increase of nearly 7,000 health care positions in the Madison, Wisconsin Metropolitan Statistical Area (Madison MSA).

The median annual salary in the health care industry in Madison is \$50,046, less than the median household income of \$56,464.¹ In Madison, the living wage is \$11.52 per hour for a single adult and \$24.97 per hour for a single adult who supports one child.²

Most of the top 10 growing health care occupations are in nursing, nursing support, health care administration, or clerical positions (see Table 1 below). However, only two of these top 10 occupations, registered nurses and physicians, offer family-supporting wages. While nursing support

Labor Market Snapshot



\$11.52

Living hourly wage
for single adult



\$24.97

Living hourly wage
for single adult
supporting one child

occupations like personal care aide and home health aide are expected to grow significantly, these jobs offer very low wages. Fortunately, the health care industry in Madison is robust and offers a wide array of promising careers that are aligned with the Madison Area Technical College health science program of study.

Table 1: Top 10 Health Care Occupations in Madison MSA, by Job Growth³

Description	Employed in Industry (2016)	Employed in Industry (2026)	# Change	% Change	Median Hourly Earnings	Typical Entry-Level Education
Personal Care Aides	6,113	7,286	1,173	19%	\$10.86	No formal educational credential
Registered Nurses	4,143	4,728	585	14%	\$35.74	Bachelor's degree
Home Health Aides	1,095	1,575	480	44%	\$13.16	No formal educational credential
Medical Assistants	1,347	1,610	263	20%	\$17.12	Postsecondary nondegree award
Nursing Assistants	2,309	2,549	240	10%	\$14.79	Postsecondary nondegree award
Licensed Practical and Vocational Nurses	658	821	163	25%	\$21.80	Postsecondary nondegree award
Physicians and Surgeons, All Other	1,168	1,319	151	13%	\$124.82	Doctoral or professional degree
Medical Secretaries	589	740	151	26%	\$17.82	High school diploma or equivalent
Office Clerks, General	994	1,103	109	11%	\$16.77	High school diploma or equivalent
Social and Human Service Assistants	654	745	91	14%	\$13.98	High school diploma or equivalent

Source: 2016.1—QCEW Employees, Non-QCEW Employees, Self-Employed, and Extended Proprietor

Promising Health Care Credentials in Madison

Students in Madison who are interested in the health science field can enroll in Madison Area Technical College to earn a certificate, associate's in applied science (AAS) degree, associate's in arts (AA) degree, or associate's in science (AS) degree. Depending on which certificate or degree they pursue, students who participate in Madison's dual enrollment program will graduate with widely varying prospects for local employment and wages (see Table 2).

Table 2:
Health Science Offerings at Madison Area Technical College by Job Growth⁴

Certificate or Degree Conferred	Occupation Option	Employed in Industry 2016	Employed in Industry 2026	# Change	Median Hourly Earnings	Typical Entry-Level Education
Associate Degree Nursing (RN)	Registered Nurses	7,295	8,119	824	\$35.74	Bachelor's Degree
Medical Assistant (Technical Diploma)	Medical Assistants	1,577	1,868	290	\$17.12	Postsecondary Nondegree Award
Nursing Assistant (Technical Diploma)	Certified Nursing Assistant	2,309	2,549	240	\$14.79	Postsecondary Nondegree Award
Medical Receptionist Certificate	Receptionists and Information Clerks	1,197	1,415	218	\$13.80	High School Diploma or Equivalent
Healthcare Receptionist (Embedded Technical Diploma)	Receptionists and Information Clerks	1,197	1,415	218	\$13.80	High School Diploma or Equivalent
Medical Administrative Specialist (AS)	Medical Secretaries	770	949	179	\$17.82	High School Diploma or Equivalent
Medical Billing Specialist (Technical Diploma)	Billing and Posting Clerks	568	726	157	\$18.86	High School Diploma or Equivalent

Associate Degree Nursing (RN)	Licensed Practical and Licensed Vocational Nurses	989	1,139	149	\$21.80	Postsecondary Nondegree Award
Paramedic (Embedded Technical Diploma)	Emergency Medical Technicians and Paramedics	793	885	92	\$15.63	Postsecondary Nondegree Award
Emergency Medical Technician (Technical Diploma)	Emergency Medical Technicians and Paramedics	793	885	92	\$15.63	Postsecondary Nondegree Award
Paramedic Technician (AS)	Emergency Medical Technicians and Paramedics	793	885	92	\$15.63	Postsecondary Nondegree Award
Medical Laboratory Technician (AAS)	Medical and Clinical Laboratory Technicians	611	703	92	\$22.39	Associate's Degree
Human Services Associate (AS)	Social and Human Service Assistants	654	745	91	\$13.98	High School Diploma or Equivalent
Healthcare Management Certificate	First-Line Supervisors of Office and Administrative Support Workers	444	527	83	\$26.17	High School Diploma or Equivalent
Medical Coding Specialist (Technical Diploma)	Medical Records and Health Information Technicians	654	736	82	\$20.11	Postsecondary Nondegree Award
Dental Hygienist (AS)	Dental Hygienists	674	740	66	\$31.69	Associate's Degree
Radiography (AS)	Radiologic Technologists	363	409	46	\$27.54	Associate's Degree
Physical Therapist Assistant (AS)	Physical Therapist Assistants	127	161	34	\$22.42	Associate's Degree

Surgical Technologist (Technical Diploma)	Surgical Technologists	235	266	32	\$25.36	Postsecondary Nondegree Award
Respiratory Therapist (AS)	Respiratory Therapists	219	249	30	\$29.20	Associate's Degree
Clinical Ophthalmic Assistant Certificate	Opticians, Dispensing	139	165	26	\$16.93	High School Diploma or Equivalent
Optometric Technician (Technical Diploma)	Opticians, Dispensing	139	165	26	\$16.93	High School Diploma or Equivalent
Occupational Therapy Assistant (AAS)	Occupational Therapy Assistants	175	198	23	\$21.46	Associate's Degree
Fitness and Wellness Specialist (Technical Diploma)	Fitness Trainers and Aerobics Instructors	17	21	4	\$18.34	High School Diploma or Equivalent

Source: 2016.1—QCEW Employees, Non-QCEW Employees, Self-Employed, and Extended

For example, a nursing assistant (technical diploma) could lead to a career as a certified nursing assistant, a job with growing demand both in Madison and across the country. However, the median hourly wage for a certified nursing assistant in Madison is just \$14.79. While a nursing assistant (technical diploma) could be a stepping stone to other jobs that offer higher wages and opportunities for professional growth and advancement, the certificate alone does not offer a clear route to economic advancement or a viable career ladder in the industry.

A vital goal of 9-14+ career pathway development is to ensure that all young people can access educational opportunities that prepare them for personal and professional success. JFF developed the term “promising credentials” to refer to postsecondary credentials that lead to careers that are in-demand, offer a family-supporting wage, and provide opportunity for growth within an industry.

From a regional labor market perspective, some degree and certificate programs in health science at Madison Area Technical College are considered promising credentials and are well-suited for 9-14+ pathway development. Encouragingly, Madison Area Technical College offers several promising credentials (see Table 3 and following detail, below).

Table 3: Promising Credentials at Madison Area Technical College

Degree Conferred	Occupation Option	Employed in Industry (2016)	Employed in Industry (2026)	# Change	Median Hourly Earnings	Typical Entry-Level Education
Associate Degree Nursing (RN)	Registered Nurses	7,295	8,119	824	\$35.74	Bachelor's Degree
Associate Degree Nursing (RN)	Licensed Practical and Licensed Vocational Nurses	989	1,139	149	\$21.80	Postsecondary Nondegree Award
Medical Laboratory Technician (AAS)	Medical and Clinical Laboratory Technicians	611	703	92	\$22.39	Associate's Degree
Healthcare Management Certificate	First-Line Supervisors of Office and Administrative Support Workers	444	527	83	\$26.17	High School Diploma or Equivalent
Dental Hygienist (AS)	Dental Hygienists	674	740	66	\$31.69	Associate's Degree
Radiography (AS)	Radiologic Technologists	363	409	46	\$27.54	Associate's Degree

Source: 2016.1—QCEW Employees, Non-QCEW Employees, Self-Employed, and Extended Proprietors

Associate's Degree in Nursing (RN)

An associate degree in nursing (RN) could lead to a career as a registered nurse, which offers a median hourly wage of \$35.74. In Madison, however, employers typically prefer that entry-level registered nurses have a bachelor's degree in nursing (BSN). While some health care institutions may hire graduates of Madison College who have an associate's degree in nursing, graduates of this program are more likely to be hired as licensed practical or vocational nurses. These positions offer a median hourly wage of \$21.80, which is just under the family-supporting wage in Madison. Demand for both registered nurses and licensed practical or vocational nurses is growing in Madison. Graduates of the Madison College program can also go on to pursue a BSN at Franklin University, Marquette University, or the University of Wisconsin, among many others.

Medical Laboratory Technician AAS

A medical laboratory technician AAS could lead to a career as a medical and clinical laboratory technician, which offers a median hourly wage of \$22.39, just under the family-supporting wage in Madison. Graduates can also transfer to a number of four-year institutions in Wisconsin that offer a medical technology program. Students who graduate with a bachelor's of science in medical technology can go on to work as a medical technologist or a medical laboratory scientist. Medical technologist jobs in Madison offer an hourly wage of \$28.62. With additional education or work experience, graduates can go on to become clinical laboratory scientists, medical microbiologists, and clinical research associates, among many others.

Healthcare Management Certificate

A healthcare management certificate could lead to a career as a supervisor of office or administrative support workers, which offers a median hourly wage of \$26.17. These supervisor jobs are projected to grow in the region, adding 83 new jobs by 2026. Additionally, the field offers a variety of educational opportunities and career pathways in health care administration. A student could gain an additional degree from a two- or four-year institution in healthcare management and be eligible for health service manager positions at a median hourly wage of \$45.83.

Dental Hygienist AS

A dental hygienist AS could lead to a career as a dental hygienist, with a median hourly wage of \$31.69. Dental hygienist jobs are projected to grow in the Madison region, though at a slower rate than other health care careers. While they do not offer many options for career advancement, dental hygienist positions are considered “lifetime jobs,” as dental hygienists tend to stay in the field for a long time, thanks to high stability and wages.

Radiography AS

A radiography AS could lead to a career as a radiologic technologist, which offers a median hourly wage of \$27.54. Radiologic technologist jobs are growing in the Madison region (though, like dental hygienists, at a slower rate than other careers in the industry), and there are many opportunities for advancement and specialization within the field of radiography. Radiologic technologists can continue their education to specialize in a variety of disciplines including mammography, sonography, and nuclear medicine.

Aligning Dual Enrollment with Promising Credentials

Madison, Wisconsin, is uniquely situated to help all high school students obtain promising credentials in the health sciences due to a dedicated program within Madison Metropolitan School District, called Personalized Pathways. The Personalized Pathways program provides educational experiences in small learning communities that connect academic coursework to a

health-related theme, along with project-based and experiential learning. Personalized Pathways provides an opportunity for participating students to enroll in college-level coursework related to the career pathway theme. Through a robust partnership with Madison Area Technical College, Madison high school students who meet school requirements and academic prerequisites can take dual enrollment courses to earn college credit as part of their high school course requirements. This can accelerate students on a path to achieve a postsecondary credential with value in the current and future regional labor market.

Taking strategic coursework will not only lead individual students to a postsecondary credential in health care in Madison, but support stakeholders in building 9-14+ pathways that lead to labor market-aligned promising credentials. It is important to acknowledge that dual credit enrollment requires readiness in math and English for a student to matriculate directly in a postsecondary degree program.

To reach an accelerated pathway to a promising career in Madison, students must successfully complete the requirements for both their high school diploma and the college-level degree. At Madison Area Technical College, several technical health science courses are particularly well-suited to be offered as dual enrollment courses (see Chart 1 below). Courses that are required across multiple programs of study and lead to a health science credential are highly strategic. These should be embedded in pathways as part of students' dual credit course sequence while in high school.

Students who take college-level coursework while in high school have not matriculated into a specific degree program yet. For this reason, it is beneficial for them to enroll in courses that provide a broad, foundational opportunity and open doors to many options for further education beyond high school. JFF coined the term “door opener dual enrollment courses” to identify courses that lead to multiple credentials.

At Madison Area Technical College, 12 technical courses qualify as door opener dual enrollment courses because they lead to a variety of credentials within the health care industry (highlighted in blue in Chart 1). These 12 door opener dual enrollment courses open many possibilities across all health science credentials at Madison Area Technical College. The Written Communications and General Anatomy and Physiology courses lead to the highest number of credentials overall. However, as previously discussed, not all credentials lead to high-growth occupations with family-supporting wages in the Madison

Door Opener Dual Enrollment Courses Definition

College-level courses for high school students that provide foundational industry exposure and apply to the highest number of options for postsecondary credentials within a career pathway. They are especially beneficial for students who are interested in an industry but do not know what specific career they want to pursue.

region. By taking these door opener dual enrollment courses, students unlock options for themselves. They can continue their education; transition to entry-level work; attain labor market-aligned, promising credentials; and ultimately set a trajectory toward a successful and sustaining career.

The 12 door opener dual enrollment courses offered at Madison Area Technical College are:

- Written Communication
- General Anatomy and Physiology
- Psychology of Human Relationships
- Speech
- Developmental Psychology
- Contemporary American Society
- General Microbiology
- Medical Terminology
- Intro to Psychology
- Medical Language for Business Professionals
- Medical Administration Procedures
- Intro to Diversity Studies

Four credentials align with promising careers in Madison: associate’s degree in nursing (RN); medical laboratory technician, AAS; healthcare management certificate; dental hygienist, AS; and radiography, AS (see Chart 2). These courses are significant because they both fulfil the requirements for a high quantity of credentials, and lead to labor market-aligned, promising careers.

For example, while the course Psychology of Human Relationships opens doors to five credentials, only one of these credentials (medical laboratory technician AAS) aligns with a promising career in Madison, based on local labor market information. Although Intro to Diversity Studies applies to four credentials, it is not required by any of the promising credentials identified. Similarly, Medical Administration Procedures and Medical Language for Business Professionals are door opener courses that lead to four credentials, but are only required in the healthcare management certificate program.

While door opener dual enrollment courses offer a strong technical foundation for students that lead to multiple entry-level industry certifications or stackable credentials, it is also important to analyze a program of study through the lens of the labor market. This enables stakeholders to identify what JFF calls “strategic dual enrollment courses.” Strategic dual enrollment courses lead to the greatest number of promising credentials as identified by regional labor market information.

Strategic Dual Enrollment Courses Definition

College-level courses taken by students in high school that fulfill requirements for credentials that lead to high-growth, high-wage careers.

In Madison, strategic dual enrollment courses are General Anatomy and Physiology, Written Communications, Speech, Developmental Psychology, and General Microbiology, all of which are courses required by three of five promising credentials in Madison (see Chart 2).

SUMMARY

Education and industry stakeholders in Madison, Wisconsin, are engaged in strong partnerships to identify and design 9-14+ pathways that lead to occupations with career advancement opportunities and family-supporting wages. To design high-quality college and career pathways, it is important to clearly define and determine coursework that leads directly to credentials with value in the regional labor market.

In Madison, students can access a number of promising credentials in health sciences (see Recommended Courses and Credentials, below). In determining which courses to take, guidance counselors and students should consider not only their interests but also which courses are most likely to put them on a path to a high-demand, high-wage career. While door opener dual enrollment courses such as Medical Language for Business Professionals provide foundational exposure for a significant number of health care credentials at Madison Area Technical College, recommended strategic dual enrollment courses, such as General Anatomy and Physiology, lead students more directly to labor market-aligned credentials.

Recommended Health Science Courses and Credentials in Madison, Wisconsin

Promising Credentials	Door Opener Dual Enrollment Courses	Strategic Dual Enrollment Courses
Associate's Degree Nursing (RN)	General Anatomy and Physiology	General Anatomy and Physiology
Medical Laboratory Technician (AAS)	Psychology of Human Relationships	Developmental Psychology
Healthcare Management Certificate	Developmental Psychology	General Microbiology
Dental Hygienist (AS)	Contemporary American Society	Speech
Radiography (AS)	General Microbiology	Written Communications
	Medical Terminology Intro to Psychology Medical Language for Business Professionals Medical Administration Procedures Intro to Diversity Studies	Psychology of Human Relationships

RECOMMENDATIONS

To effectively design pathways that lead young people to successful careers requires a much broader approach than just aligning coursework with labor market information. The following recommendations are important for continued refinement and implementation of health science pathways in Madison, Wisconsin, and for any community engaged in similar work.

1. Adapt 9-14+ health science pathway programs of study to prioritize door opener dual enrollment courses that provide foundational industry exposure and ensure students have many options when they transition to postsecondary. When appropriate, incorporate strategic dual enrollment courses, which increase students' opportunity to earn credentials or degrees that launch high-wage, high-growth careers.
2. Identify and adapt postsecondary health science programs of study to increase the credential applicability of foundational door opener dual enrollment courses.
3. To support students through multiple stages of academic and career development, identify and pursue strategic opportunities to align and streamline industry-recognized credentials to stackable associate's degree-level credentials. Every step must align with promising careers in the region.
4. Provide training for guidance counselors and advisors to review degree opportunities, strategic dual enrollment, and labor market information with students. Ensure that support staff have the resources to communicate career growth, wage data, and course outcomes directly to students. Embed labor market discussions into sustained career advising.
5. Vet data and program outcomes with regional industry leaders to determine in-demand labor market needs that cannot be identified by external evaluations. Work with industry leaders to identify in-demand employability and technical competencies.
6. Develop systems for career exploration that incorporate student interest, passion, and career exposure to help youth make informed choices about their futures.
7. Conduct further analysis to account for students who relocate, including job opportunities in neighboring labor markets.
8. Identify barriers, particularly those faced by historically marginalized populations, to enrollment in dual credit courses. The goal is to increase the number of students who can access strategic dual credit coursework. This includes providing early supports for academic readiness in English and math.



JFF is a national nonprofit that drives transformation in the American workforce and education systems. For 35 years, JFF has led the way in designing innovative and scalable solutions that create access to economic advancement for all.

In 2012, building upon interest and demand at the state and national levels for better secondary-postsecondary technical pathway systems, JFF launched Pathways to Prosperity. PtoP is a partnership with the Harvard Graduate School of Education and state, regional, and local stakeholders from across education, employers, and government, with the long-term goal of creating systems of secondary through postsecondary career pathways that serve most students. PtoP focuses on five implementation levers: grades 9 through 14-plus integrated college and career pathways, career information and advising systems, employer engagement and work-based learning, effective intermediaries, and supportive state policy and leadership. PtoP currently works with 15 states and over 60 regions across the country to ensure that all young people—including lower-income young people—have the skills and credentials needed to succeed in our economy.

This Report

The recommendations in this report were informed by analysis of regional labor market information, a survey of the Madison Area Technical College Health Science programs of study, and conversations with local stakeholders from secondary, postsecondary, and workforce institutions. The labor market information reflects data from EMSI, the US Bureau of Labor Statistics, and real-time Burning Glass data for the Madison, Wisconsin, Metropolitan Statistical Area. Credential and course data in this report reflect information collected from a course audit JFF conducted in February of 2018. Living wage data is from the MIT Living Wage Calculator (<http://livingwage.mit.edu>). In this report, a family-supporting wage is defined as a living wage for a single adult who supports one child.

ENDNOTES

¹ U.S. Census Bureau, n.d., <https://www.census.gov/>.census.gov

² “Living Wage Calculator,” Massachusetts Institute of Technology, 2018, <http://livingwage.mit.edu/>

³ Wages highlighted in red are wages below a living wage for a single adult supporting one child.

⁴ Associated occupation options in Tables 2 and 3 were sourced from credential overviews on the Madison Area Technical College website. The credential overviews provide information about potential occupation options following degree conferment.

⁵ Chart 1 does not reflect all of the Madison Area Technical College Health Science credential offerings. Technical Pathway Courses with an asterisk (e.g., “Written Communications*”) indicate courses that are part of the Universal Credit Transfer Agreement and are transferable between all University of Wisconsin System institutions and Wisconsin Technical College System districts. For more information, see: “Universal Credit Transfer Agreement (UCTA),” University of Wisconsin System, 2018, <https://www.wisconsin.edu/transfer/universal-transfer/>.