

STANDING COMMITTEES

Academic and Student Affairs Committee

Workforce Preparation and Graduation Outcomes

INFORMATION

This item is for information only. It was deferred from the April Board meeting.

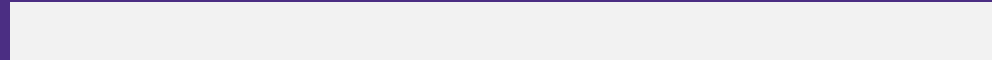
BACKGROUND

In response to Student Regent Kaitlyn Zhou's presentation at the May 2019 Board of Regents meeting (<https://s3-us-west-2.amazonaws.com/uw-s3-cdn/wp-content/uploads/sites/12/2019/05/02165533/05-2019-A-1.pdf>), Vice Provost Reid will update the Regents on workforce preparation and graduation outcomes on the basis of a new machine learning-based study by AstrumU (<https://www.astrumu.com/>).

Attachment

Connecting Academic Experiences to Careers

Connecting Academic Experience to Careers



Philip Reid, Vice Provost Academic & Student Affairs

June Regents' Meeting, 2020



Student Journey: To, Through, and Beyond

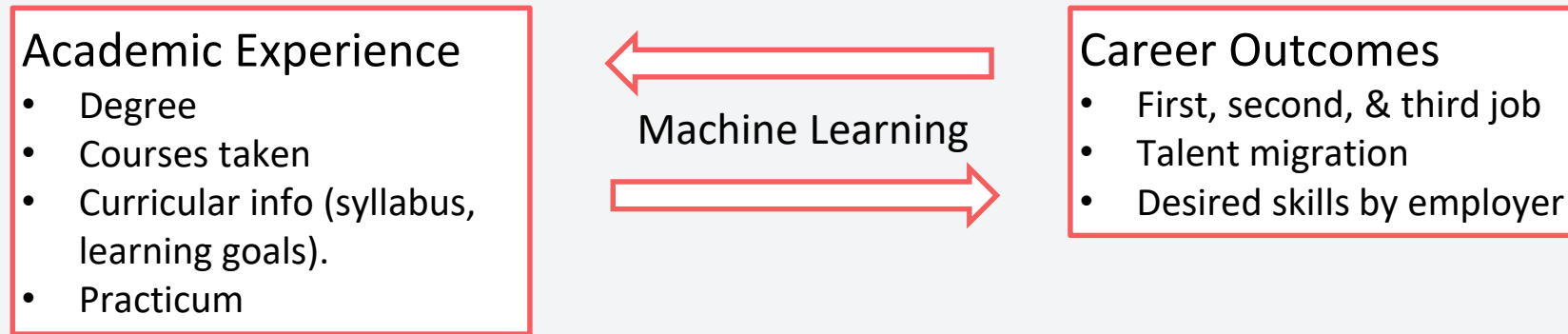
- Enrollment Management Task Force recommendation: Develop a strategy to help students with their UW “journey”.



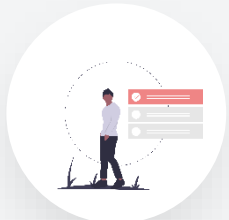
- A significant part of this journey is connecting student interests with academic opportunities and careers after graduation.

Connecting Academic Experiences and Careers

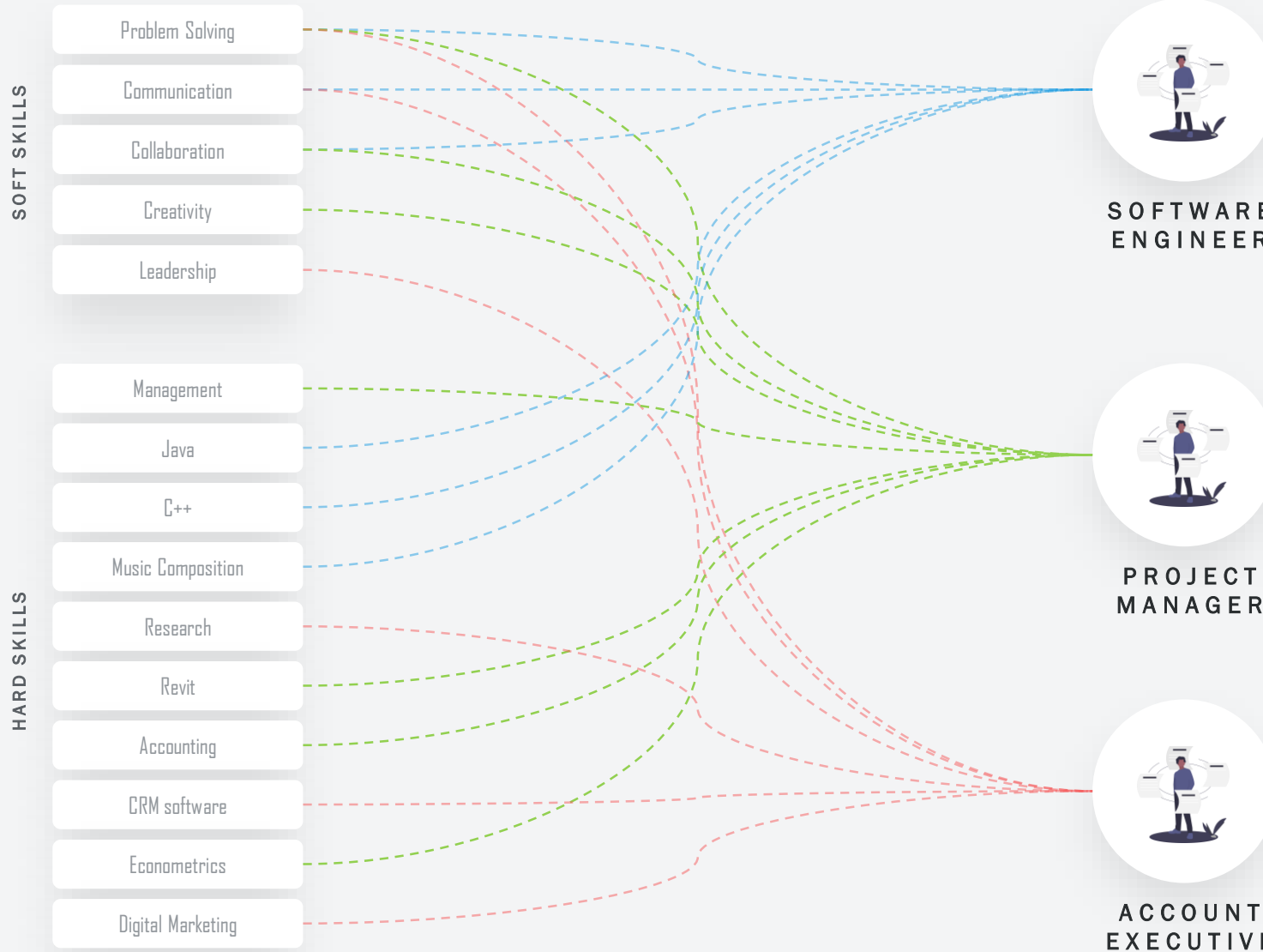
Idea:



- 10 years of academic data (for graduates from 2008 to 2018) and career outcome data (UWAA and LinkedIn) connected through machine learning performed by AstrumU.
- Output consisted of a visualization tools for exploration of how students transition from degree to career. Also provides insight into degrees and skills that employers are seeking.



SKILLS



SOFTWARE ENGINEER



PROJECT MANAGER



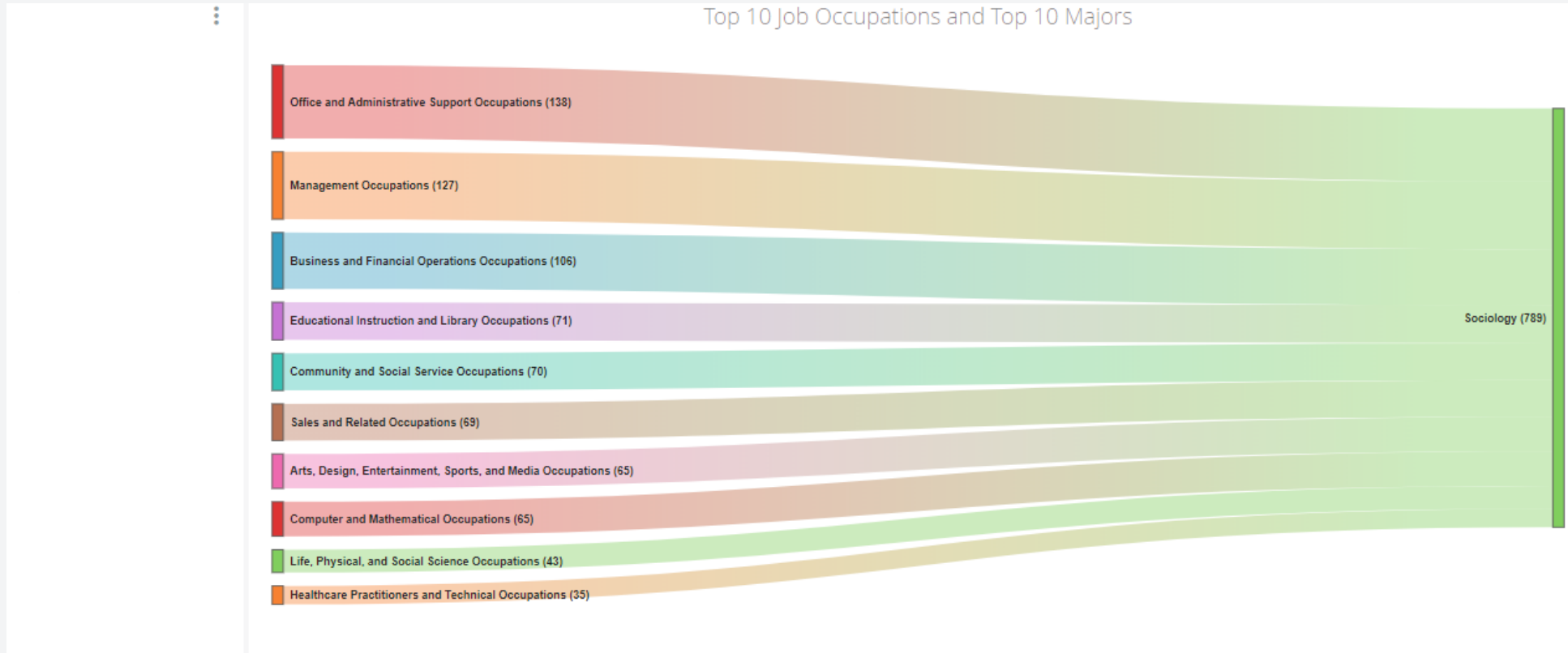
ACCOUNT EXECUTIVE



NORDSTROM



Example: Arts & Sciences/Sociology

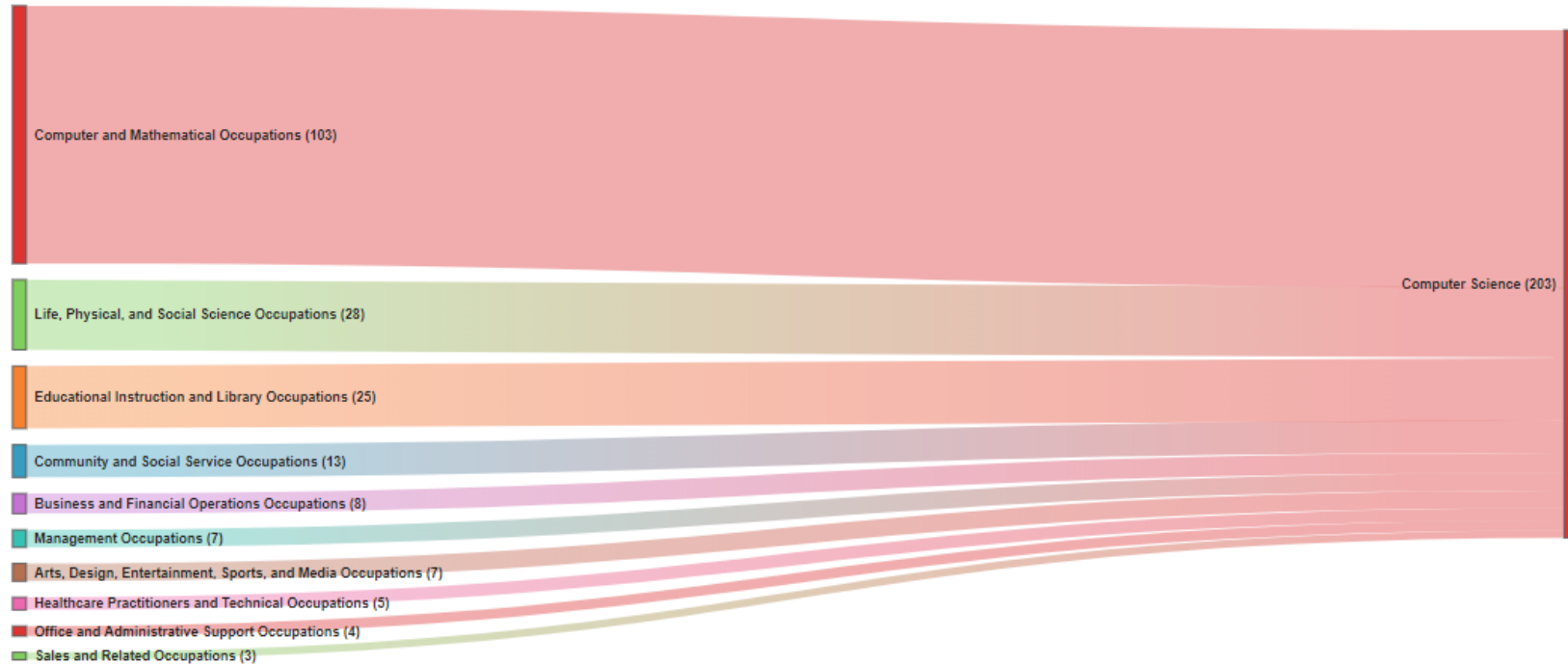


KPIs of Major & 1st Occupation Combinations

| | 1st Occupation | Major | Graduates | Average GPA | Double Major | Internships | Study Abroad | Research |
|----|---------------------------------|-----------|-----------|-------------|--------------|-------------|--------------|----------|
| 1 | Office and Administrative ... | Sociology | 138 | 3.08 | 23.19% | 2.90% | 0.00% | 13.04% |
| 2 | Management Occupations | Sociology | 127 | 3.05 | 15.75% | 3.94% | 0.00% | 14.17% |
| 3 | Business and Financial Op... | Sociology | 106 | 3.12 | 18.87% | 1.89% | 0.94% | 17.92% |
| 4 | Educational Instruction an... | Sociology | 71 | 3.22 | 26.76% | 0.00% | 0.00% | 19.72% |
| 5 | Community and Social Ser... | Sociology | 70 | 3.14 | 28.57% | 1.43% | 0.00% | 15.71% |
| 6 | Sales and Related Occupa... | Sociology | 69 | 2.98 | 18.84% | 2.90% | 0.00% | 11.59% |
| 7 | Arts, Design, Entertainme... | Sociology | 65 | 3.21 | 30.77% | 0.00% | 0.00% | 18.46% |
| 8 | Computer and Mathemati... | Sociology | 65 | 3.03 | 13.85% | 0.00% | 0.00% | 20.00% |
| 9 | Life, Physical, and Social S... | Sociology | 43 | 3.09 | 23.26% | 2.33% | 0.00% | 13.95% |
| 10 | Food Preparation and Ser... | Sociology | 43 | 2.99 | 18.60% | 16.28% | 0.00% | 11.63% |

Example: Arts & Sciences/Computer Science

Top 10 Job Occupations and Top 10 Majors



KPIs of Major & 1st Occupation Combinations

| | 1st Occupation | Major | Graduates | Average GPA | Double Major | Internships | Study Abroad | Research |
|----|---------------------------------|------------------|-----------|-------------|--------------|-------------|--------------|----------|
| 1 | Computer and Mathemati... | Computer Science | 103 | 3.52 | 28.16% | 0.00% | 0.00% | 24.27% |
| 2 | Life, Physical, and Social S... | Computer Science | 28 | 3.59 | 35.71% | 0.00% | 0.00% | 42.86% |
| 3 | Educational Instruction an... | Computer Science | 25 | 3.66 | 40.00% | 4.00% | 0.00% | 28.00% |
| 4 | Community and Social Ser... | Computer Science | 13 | 3.43 | 15.38% | 0.00% | 0.00% | 7.69% |
| 5 | Architecture and Engineer... | Computer Science | 11 | 3.55 | 0.00% | 0.00% | 9.09% | 27.27% |
| 6 | Production Occupations | Computer Science | 10 | 3.48 | 0.00% | 0.00% | 0.00% | 30.00% |
| 7 | Business and Financial Op... | Computer Science | 8 | 3.51 | 37.50% | 0.00% | 0.00% | 12.50% |
| 8 | Management Occupations | Computer Science | 7 | 3.55 | 14.29% | 0.00% | 0.00% | 0.00% |
| 9 | Arts, Design, Entertainme... | Computer Science | 7 | 3.58 | 28.57% | 0.00% | 0.00% | 0.00% |
| 10 | Personal Care and Service... | Computer Science | 5 | 3.50 | 40.00% | 0.00% | 0.00% | 40.00% |

UW Pathways to Industry

Top Roles – Top Programs – Top Skills



993

UW alumni represented
through Career Pathways

SOFTWARE ENGINEER

TOP SOFT SKILLS

- + problem solving
- + communication
- + community contribution

TOP TECH SKILLS

- + java/java script
- + programming
- + mathematics

TOP UW PATHWAY PROGRAMS

- + computer science
- + computer engineering

AVG. GPA

3.62

PROGRAM MANAGER

TOP SOFT SKILLS

- + problem solving
- + communication
- + leadership

TOP TECH SKILLS

- + java/java script
- + research
- + software development

TOP UW PATHWAY PROGRAMS

- + MBA
- + human-computer interaction
- + computer science

AVG. GPA

3.41

UX DESIGNER

TOP SOFT SKILLS

- + problem solving
- + communication
- + community contribution

TOP TECH SKILLS

- + adobe creative suite
- + google sketchup
- + computer aided design

TOP UW PATHWAY PROGRAMS

- + human-centered design
- + industrial design

AVG. GPA

3.71

UW Pathways to Industry

Top Roles – Top Programs – Top Skills

NORDSTROM

>300

UW alumni represented
through Career Pathways

ASSOCIATE SALES

TOP SOFT SKILLS

- + communication
- + problem solving
- + community contribution

TOP TECH SKILLS

- + research
- + economics
- + eviews

TOP UW PATHWAY PROGRAMS

- + communication
- + art history
- + psychology

AVG. GPA

3.28

DEPARTMENT MANAGER

TOP SOFT SKILLS

- + communication
- + problem solving
- + leadership

TOP TECH SKILLS

- + economics
- + research
- + music composition

TOP UW PATHWAY PROGRAMS

- + business administration
- + marketing
- + communication

AVG. GPA

3.10

MANAGEMENT

TOP SOFT SKILLS

- + communication
- + problem solving
- + creativity

TOP TECH SKILLS

- + java
- + political science
- + econometrics

TOP UW PATHWAY PROGRAMS

- + communication
- + arts, media & culture
- + political science

AVG. GPA

3.13

UW Pathways to Industry

Top Roles – Top Programs – Top Skills



810

UW alumni represented
through Career Pathways

SOFTWARE ENGINEER

TOP SOFT SKILLS

- + problem solving
- + communication

TOP TECH SKILLS

- + java/java script
- + programming
- + mathematics

TOP UW PATHWAY PROGRAMS

- + computer science
- + electrical engineering
- + human-computer interaction

AVG. GPA

3.47

STRUCTURAL ANALYSIS ENGINEER

TOP SOFT SKILLS

- + problem solving
- + communication
- + leadership

TOP TECH SKILLS

- + matlab
- + mathematics
- + programming

TOP UW PATHWAY PROGRAMS

- + MBA
- + aeronautical engineering
- + mechanical engineering

AVG. GPA

3.49

MANUFACTURING ENGINEER

TOP SOFT SKILLS

- + problem solving
- + leadership
- + collaboration

TOP TECH SKILLS

- + solidworks
- + matlab
- + mathematics

TOP UW PATHWAY PROGRAMS

- + material science
- + aeronautical engineering
- + civil engineering

AVG. GPA

3.34

UW Pathways to Industry

Top Roles – Top Programs – Top Skills



790

UW alumni represented
through Career Pathways

SOFTWARE DEV. ENGINEER

TOP SOFT SKILLS

- + problem solving
- + communication
- + leadership

TOP TECH SKILLS

- + java/java script
- + programming
- + C++

TOP UW PATHWAY PROGRAMS

- + computer science
- + computer engineering

AVG. GPA

3.58

FINANCE ANALYST

TOP SOFT SKILLS

- + problem solving
- + communication
- + leadership

TOP TECH SKILLS

- + economics
- + finance
- + accounting

TOP UW PATHWAY PROGRAMS

- + MBA
- + finance
- + accounting

AVG. GPA

3.49

RECRUITING COORDINATOR

TOP SOFT SKILLS

- + communication
- + problem solving
- + leadership

TOP TECH SKILLS

- + research
- + economics
- + evIEWS

TOP UW PATHWAY PROGRAMS

- + communication
- + sociology
- + asian studies

AVG. GPA

3.28

UW Pathways to Industry

Top Roles – Top Programs – Top Skills



>300

UW alumni represented
through Career Pathways

CUSTOMER SERVICE

TOP SOFT SKILLS

- + communication
- + problem solving
- + leadership

TOP TECH SKILLS

- + brand marketing
- + research
- + economics

TOP UW PATHWAY PROGRAMS

- + history
- + criminal justice
- + marketing

AVG. GPA

3.04

CONSULTANT

TOP SOFT SKILLS

- + problem solving
- + communication

TOP TECH SKILLS

- + corporate finance
- + economics
- + applied mathematics

TOP UW PATHWAY PROGRAMS

- + MBA

AVG. GPA

TBD

What's Next?

- Identify key “soft skills” and build experiences and opportunities for students to develop those skills.
- Outreach to industry. Are these data consistent with their experiences with our graduates?
- Create a resource for students to explore connections between curricular/co-curricular experiences and careers.
- Helping industry identify students demonstrating a curricular/co-curricular “trajectory” consistent with successful employment in their organization.

